

Men's 400m Hurdles Touchdown Times - by athletics meeting

LAST UPDATE: 4-Oct-24

2024 Memorial van damme (Brussels, BEL)

FINAL

date 14-Sep-24

Omega Timing (2023) - diamond league race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
dos Santos, Alison (BRA) (2 time	time	5.72	9.38	13.14	16.86	20.84		24.92	29.14	33.42	37.83	42.44		47.93	6 / 1			
	reaction time	0.151	interval					4.08	4.22	4.28	4.41	4.61	5.49			11.46	12.28	13.30
	velocity	7.87	9.56	9.31	9.41	8.79		8.58	8.29	8.18	7.94	7.59	7.29	8.35		9.16	8.55	7.89
	H1 lead leg	L	strides	20	13	12	12	12	13	13	13	13	16	149				
Samba, Abderrahman (QAT) time	time	5.73	9.47	13.25	16.96	20.88		25.00	29.19	33.57	38.09	42.75		48.20	4 / 2			
	reaction time	0.170	interval					4.12	4.19	4.38	4.52	4.66	5.45			11.41	12.23	13.56
	velocity	7.85	9.36	9.26	9.43	8.93		8.50	8.35	7.99	7.74	7.51	7.34	8.30		9.20	8.59	7.74
	H1 lead leg	R	strides	21	13	13	13	13	13	14	14	14	17.2	158.2				
Mägi, Rasmus (EST) (1992) time	time	5.88	9.62	13.45	17.25	21.27		25.38	29.57	33.93	38.40	42.97		48.26	8 / 3			
	reaction time	0.160	interval					4.11	4.19	4.36	4.47	4.57	5.29			11.65	12.32	13.40
	velocity	7.65	9.36	9.14	9.21	8.71		8.52	8.35	8.03	7.83	7.66	7.56	8.29		9.01	8.52	7.84
	H1 lead leg	R	strides	20	13	13	13	13	13	14	14	14	17	157				
Allen, CJ (USA) (1995) time	time	5.73	9.46	13.32	17.17	21.16		25.23	29.39	33.76	38.40	43.10		48.68	3 / 4			
	reaction time	0.144	interval					4.07	4.16	4.37	4.64	4.70	5.58			11.70	12.22	13.71
	velocity	7.85	9.38	9.07	9.09	8.77		8.60	8.41	8.01	7.54	7.45	7.17	8.22		8.97	8.59	7.66
	H1 lead leg	L	strides	20	13	13	13	13	13	14	15	14	17.5	158.5				
Clarke, Roshawn (JAM) (200 time	time	5.59	9.20	12.96	16.75	20.67		24.78	29.03	33.39	38.25	43.07		49.08	5 / 5			
	reaction time	0.176	interval					4.11	4.25	4.36	4.86	4.82	6.01			11.47	12.28	14.04
	velocity	8.05	9.70	9.31	9.23	8.93		8.52	8.24	8.03	7.20	7.26	6.66	8.15		9.15	8.55	7.48
	H1 lead leg	R	strides	21	13	13	13	14	14	15	16	15	18.7	165.7				
James-King, Malik (JAM) (19 time	time	6.00	9.74	13.58	17.40	21.44		25.68	30.06	34.51	39.08	43.74		49.37	7 / 6			
	reaction time	0.153	interval					4.24	4.38	4.45	4.57	4.66	5.63			11.70	12.66	13.68
	velocity	7.50	9.36	9.11	9.16	8.66		8.25	7.99	7.87	7.66	7.51	7.10	8.10		8.97	8.29	7.68
	H1 lead leg	R	strides	22	14	14	14	15	15	15	15	15	18	171				
Drummond, Gerald (CRC) (1 time	time	5.79	9.54	13.35	17.23	21.36		25.65	30.08	34.64	39.26	44.03		49.63	1 / 7			
	reaction time	0.221	interval					4.29	4.43	4.56	4.62	4.77	5.60			11.82	12.85	13.95
	velocity	7.77	9.33	9.19	9.02	8.47		8.16	7.90	7.68	7.58	7.34	7.14	8.06		8.88	8.17	7.53
	H1 lead leg	R	strides	21	14	14	14	14	14	15	15	15	18	168				
Happio, Wilfried (FRA) (199 time	time	5.80	9.50	13.34	17.15	21.18		25.34	29.74	34.42	39.39	44.39		50.19	2 / 8			
	reaction time	0.151	interval					4.16	4.40	4.68	4.97	5.00	5.80			11.68	12.59	14.65
	velocity	7.76	9.46	9.11	9.19	8.68		8.41	7.95	7.48	7.04	7.00	6.90	7.97		8.99	8.34	7.17
	H1 lead leg	L	strides	20	13	13	13	13	13	14	14	15	18	159				

2024 Weltklasse (Zürich, SUI)

FINAL

date 05-Sep-24

Omega Timing (2023) - diamond league race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Clarke, Roshawn (JAM) (200 time	time	5.67	9.31	12.99	16.73	20.55		24.53	28.65	32.92	37.39	42.02		47.49	3 / 1			
	reaction time	0.177	interval					3.98	4.12	4.27	4.47	4.63	5.47			11.24	11.92	13.37
	velocity	7.94	9.62	9.51	9.36	9.16		8.79	8.50	8.20	7.83	7.56	7.31	8.42		9.34	8.81	7.85
	H1 lead leg	R	strides	21	13	14		14	14	14	15	15	19	139				
Samba, Abderrahman (QAT) time	time	5.73	9.39	13.05	16.80	20.63		24.58	28.72	33.04	37.57	42.18		47.58	4 / 2			
	reaction time	0.177	interval					3.95	4.14	4.32	4.53	4.61	5.40			11.24	11.92	13.46
	velocity	7.85	9.56	9.56	9.33	9.14		8.86	8.45	8.10	7.73	7.59	7.41	8.41		9.34	8.81	7.80
	H1 lead leg	R	strides	21	13	13		13	13	13	14	14	17.2	131.2				
Mägi, Rasmus (EST) (1992) time	time	5.89	9.59	13.39	17.21	21.14		25.16	29.35	33.76	38.28	42.81		48.02	8 / 3			
	reaction time	0.175	interval					4.02	4.19	4.41	4.52	4.53	5.21			11.55	12.14	13.46
	velocity	7.64	9.46	9.21	9.16	8.91		8.71	8.35	7.94	7.74	7.73	7.68	8.33		9.09	8.65	7.80
	H1 lead leg	R	strides	20	13	13		13	13	14	14	14	17	117				
Ducos, Clement (FRA) (2001 time	time	5.72	9.28	12.91	16.65	20.54		24.54	28.78	33.14	37.57	42.30		48.02	5 / 4			
	reaction time	0.162	interval					4.00	4.24	4.36	4.43	4.73	5.72			11.26	12.13	13.52
	velocity	7.87	9.83	9.64	9.36	9.00		8.75	8.25	8.03	7.90	7.40	6.99	8.33		9.33	8.66	7.77
	H1 lead leg	L	strides	20	13	13	13	13	14	14	15	15	18	161				
Allen, CJ (USA) (1995) time	time	5.78	9.50	13.28	17.15	21.09		25.10	29.18	33.46	37.94	42.58		48.20	2 / 5			
	reaction time	0.131	interval					4.01	4.08	4.28	4.48	4.64	5.62			11.59	12.03	13.40
	velocity	7.79	9.41	9.26	9.04	8.88		8.73	8.58	8.18	7.81	7.54	7.12	8.30		9.06	8.73	7.84
	H1 lead leg	L	strides	20	13	13		13	13	14	15	15	17.7	118.7				
Drummond, Gerald (CRC) (1 time	time	5.74	9.44	13.17	16.97	21.00		25.22	29.64	34.32	39.14	44.01		49.59	7 / 6			
	reaction time	0.168	interval					4.22	4.42	4.68	4.82	4.87	5.58			11.56	12.67	14.37
	velocity	7.84	9.46	9.38	9.21	8.68		8.29	7.92	7.48	7.26	7.19	7.17	8.07		9.08	8.29	7.31
	H1 lead leg	R	strides	20	13	14		14	14	15	15	15	105					

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

Bonvin, Julien (SUI) (1999)	time	5.84	9.51	13.24	17.11	21.10	25.27	29.69	34.33	39.19	44.17		50.04	1 / 7				
	reaction time	0.176	interval	3.67	3.73	3.87	3.99	4.17	4.42	4.64	4.86	4.98	5.87		11.59	12.58	14.48	
			velocity	7.71	9.54	9.38	9.04	8.77	8.39	7.92	7.54	7.20	7.03	6.81	7.99	9.06	8.35	7.25
	H1 lead leg	L	strides	21	13		13		13	14	14	15	15	118				
dos Santos, Alison (BRA) (2011)	time	5.77	9.39	13.07	16.80	20.73								dnf	6 / --			
	reaction time	0.153	interval	3.62	3.68	3.73	3.93								11.34			
			velocity	7.80	9.67	9.51	9.38	8.91							9.26			
	H1 lead leg	L	strides	20	13	12	12	12						69				

2024 Kamila Skolimowska Memorial (Silesia, POL)

FINAL

date 25-Aug-24

Omega Timing (2023) - diamond league race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1992)	time	5.64	9.26	12.93	16.66	20.49	24.44	28.54	32.71	37.00	41.58		46.95	8 / 1				
	reaction time	0.154	interval	3.62	3.67	3.73	3.83	3.95	4.10	4.17	4.29	4.58	5.37		11.23	11.88	13.04	
			velocity	7.98	9.67	9.54	9.38	9.14	8.86	8.54	8.39	8.16	7.64	7.45	8.52	9.35	8.84	8.05
	H1 lead leg	L	strides	20	13	13	13	13	13	13	13	13	15	17.7	156.7			
Ducos, Clement (FRA) (2001)	time	5.78	9.37	13.01	16.76	20.60	24.54	28.71	33.03	37.40	41.95		47.42	5 / 2				
	reaction time	0.179	interval	3.59	3.64	3.75	3.84	3.94	4.17	4.32	4.37	4.55	5.47	PB	11.23	11.95	13.24	
			velocity	7.79	9.75	9.62	9.33	9.11	8.88	8.39	8.10	8.01	7.69	7.31	8.44	9.35	8.79	7.93
	H1 lead leg	L	strides	20	13	13	13	13	13	14	14	15	15	18	161			
Samba, Abderrahman (QAT) (2003)	time	5.75	9.43	13.14	16.97	20.89	24.96	29.28	33.51	37.91	42.43		47.69	7 / 3				
	reaction time	0.203	interval	3.68	3.71	3.83	3.92	4.07	4.32	4.23	4.40	4.52	5.26		11.46	12.31	13.15	
			velocity	7.83	9.51	9.43	9.14	8.93	8.60	8.10	8.27	7.95	7.74	7.60	8.39	9.16	8.53	7.98
	H1 lead leg	R	strides	21	13	13	13	13	13	13	13	13	14	17	156			
Clarke, Roshawn (JAM) (2001)	time	5.64	9.31	13.04	16.77	20.84			33.52	37.92	42.43		47.74	6 / 4				
	reaction time	0.188	interval	3.67	3.73	3.73	4.07		12.68	4.40	4.51	5.31		11.53				
			velocity	7.98	9.54	9.38	9.38	8.60	8.28	7.95	7.76	7.53	8.38	9.11	9.11			
	H1 lead leg	R	strides	21	13	13	13	13	14	14	14	14	15	18	162			
Mägi, Rasmus (EST) (1992)	time	5.89	9.57	13.25	17.04	20.92	25.00	29.29	33.73	38.17	42.66		47.97	9 / 5				
	reaction time	0.178	interval	3.68	3.68	3.79	3.88	4.08	4.29	4.44	4.44	4.49	5.31		11.35	12.25	13.37	
			velocity	7.64	9.51	9.51	9.23	9.02	8.58	8.16	7.88	7.88	7.80	7.53	8.34	9.25	8.57	7.85
	H1 lead leg	R	strides	20	13	13	13	13	13	13		14	17	129				
Lima, Matheus (BRA) (2003)	time	5.96	9.69	13.45	17.30	21.30	25.42	29.71	34.06	38.47	42.95		48.12	4 / 6				
	reaction time	0.175	interval	3.73	3.76	3.85	4.00	4.12	4.29	4.35	4.41	4.48	5.17	PB	11.61	12.41	13.24	
			velocity	7.55	9.38	9.31	9.09	8.75	8.50	8.16	8.05	7.94	7.81	7.74	8.31	9.04	8.46	7.93
	H1 lead leg	L	strides	20	13	13	13	13	13	13	13	14	14	16.2	155.2			
Akçam, Berke (TUR) (2002)	time	5.96	9.72	13.50	17.36	21.34	25.41	29.72	34.06	38.56	43.21		48.58	3 / 7				
	reaction time	0.162	interval	3.76	3.78	3.86	3.98	4.07	4.31	4.34	4.50	4.65	5.37		11.62	12.36	13.49	
			velocity	7.55	9.31	9.26	9.07	8.79	8.60	8.12	8.06	7.78	7.53	7.45	8.23	9.04	8.50	7.78
	H1 lead leg	L	strides	21	13	13	13	13	13	14	14	15	15	18.5	162.5			
Müller, Vit (CZE) (1996)	time	5.88	9.58	13.37	17.26	21.24	25.31	29.60	34.19	38.93	43.68		49.20	1 / 8				
	reaction time	0.163	interval	3.70	3.79	3.89	3.98	4.07	4.29	4.59	4.74	4.75	5.52		11.66	12.34	14.08	
			velocity	7.65	9.46	9.23	9.00	8.79	8.60	8.16	7.63	7.38	7.37	7.25	8.13	9.01	8.51	7.46
	H1 lead leg	L	strides	20	13	13	13	13	13		14	15	17.5	131.5				
Hyde, Jaheel (JAM) (1997)	time	5.76	9.55	13.53	17.57	21.77	26.14	30.68	35.30	39.97	44.68		50.57	2 / 9				
	reaction time	0.151	interval	3.79	3.98	4.04	4.20	4.37	4.54	4.62	4.67	4.71	5.89		12.22	13.11	14.00	
			velocity	7.81	9.23	8.79	8.66	8.33	8.01	7.71	7.58	7.49	7.43	6.79	7.91	8.59	8.01	7.50
	H1 lead leg	L	strides	22	14	14	14	14	14	14	14	14		134				

2024 Olympic Games (Paris, FRA)

FINAL

date 09-Aug-24

Paris 2024 Olympic Games - Results Book (2024)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.62	9.21	12.82	16.50	20.32	24.15	28.02	32.02	36.39	40.96		46.46	8 / 1				
	reaction time	0.171	interval	3.59	3.61	3.68	3.82	3.83	3.87	4.00	4.37	4.57	5.50		10.88	11.52	12.94	
			velocity	8.01	9.75	9.70	9.51	9.16	9.14	9.04	8.75	8.01	7.66	7.27	8.61	9.65	9.11	8.11
	H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	14	17	155			
Warholm, Karsten (NOR) (1992)	time	5.51	9.09	12.73	16.41	20.18	24.03	27.99	32.15	36.58	41.44		47.06	7 / 2				
	reaction time	0.152	interval	3.58	3.64	3.68	3.77	3.85	3.96	4.16	4.43	4.86	5.62		10.90	11.58	13.45	
			velocity	8.17	9.78	9.62	9.51	9.28	9.09	8.84	8.41	7.90	7.20	7.12	8.50	9.63	9.07	7.81
	H1 lead leg	L	strides	20	13	13	13	13	13	13	13	13	15	18	157			
dos Santos, Alison (BRA) (2011)	time	5.72	9.30	12.96	16.66	20.44	24.35	28.42	32.65	37.09	41.68		47.26	3 / 3				
	reaction time	0.167	interval	3.58	3.66	3.70	3.78	3.91	4.07	4.23	4.44	4.59	5.58		10.94	11.76	13.26	
			velocity	7.87	9.78	9.56	9.46	9.26	8.95	8.60	8.27	7.88	7.63	7.17	8.46	9.60	8.93	7.92
	H1 lead leg	L	strides	20	13	12	12	12	12	13	13	13	13	16.5	137.5			
Ducos, Clement (FRA) (2001)	time	5.69	9.25	12.91	16.62	20.47	24.49	28.68	32.99	37.60	42.29		47.76	5 / 4				
	reaction time	0.162	interval	3.56	3.66	3.71	3.85	4.02	4.19	4.31	4.61	4.69	5.47		10.93	12.06	13.61	

	velocity	7.91	9.83	9.56	9.43	9.09	8.71	8.35	8.12	7.59	7.46	7.31	8.38	9.61	8.71	7.71
H1 lead leg	L	strides	20	13	13	13	14	14	15	15	15	18	150			
McMaster, Kyron (IVB) (1997)	time	5.64	9.24	12.93	16.67	20.55	24.53	28.69	33.07	37.65	42.27		47.79	6 / 5		
reaction time	0.143	interval	3.60	3.69	3.74	3.88	3.98	4.16	4.38	4.58	4.62	5.52		11.03	12.02	13.58
	velocity	7.98	9.72	9.49	9.36	9.02	8.79	8.41	7.99	7.64	7.58	7.25	8.37	9.52	8.74	7.73
H1 lead leg	L	strides	21	13	13	13	13	14	14	14	14	17	159			
Samba, Abderrahman (QAT)	time	5.74	9.48	13.28	17.11	20.98	24.99	29.16	33.52	38.14	42.67		47.98	2 / 6		
reaction time	0.169	interval	3.74	3.80	3.83	3.87	4.01	4.17	4.36	4.62	4.53	5.31		11.37	12.05	13.51
	velocity	7.84	9.36	9.21	9.14	9.04	8.73	8.39	8.03	7.58	7.73	7.53	8.34	9.23	8.71	7.77
H1 lead leg	R	strides	21	13	13	13	13	13	13	14	14	17	144			
Mägi, Rasmus (EST) (1992)	time	5.95	9.66	13.43	17.20	21.08	25.09	29.24	33.54	38.02	42.53		52.53	4 / 7		
reaction time	0.175	interval	3.71	3.77	3.77	3.88	4.01	4.15	4.30	4.48	4.51	10.00		11.25	12.04	13.29
	velocity	7.56	9.43	9.28	9.28	9.02	8.73	8.43	8.14	7.81	7.76	4.00	7.61	9.33	8.72	7.90
H1 lead leg	R	strides	20	13	13	13	13	13	13	14	14	126				
Clarke, Roshawn (JAM) (200)	time	5.54	9.13	12.77	16.46	20.30	24.31	28.42	32.73	37.25	42.03		dnf	9 / --		
reaction time	0.195	interval	3.59	3.64	3.69	3.84	4.01	4.11	4.31	4.52	4.78			10.92	11.96	13.61
	velocity	8.12	9.75	9.62	9.49	9.11	8.73	8.52	8.12	7.74	7.32			9.62	8.78	7.71
H1 lead leg	R	strides	21	14	13	13	14	14	15	15	15	147				

Semi-Final 3

date 07-Aug-24

Paris 2024 Olympic Games - Results Book (2024)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.68	9.31	12.97	16.64	20.48	24.42	28.46	32.67	37.23	42.08		47.85	5 / 1				
reaction time	0.155	interval	3.63	3.66	3.67	3.84	3.94	4.04	4.21	4.56	4.85	5.77			10.96	11.82	13.62	
	velocity	7.92	9.64	9.56	9.54	9.11	8.88	8.66	8.31	7.68	7.22	6.93	8.36	9.58	8.88	7.71		
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	14	17	155					
Clarke, Roshawn (JAM) (200)	time	5.71	9.48	13.18	16.88	20.74	24.84	29.01	33.40	38.06	42.78		48.34	8 / 2				
reaction time	0.184	interval	3.77	3.70	3.70	3.86	4.10	4.17	4.39	4.66	4.72	5.56			11.17	12.13	13.77	
	velocity	7.88	9.28	9.46	9.46	9.07	8.54	8.39	7.97	7.51	7.42	7.19	8.27	9.40	8.66	7.63		
H1 lead leg	L	strides	22	13	13	13	14	14	15	15	15	18	165					
Happio, Wilfried (FRA) (1998)	time	5.73	9.33	12.95	16.65	20.53	24.59	28.85	33.39	38.20	43.03		48.66	7 / 3				
reaction time	0.156	interval	3.60	3.62	3.70	3.88	4.06	4.26	4.54	4.81	4.83	5.63			10.92	12.20	14.18	
	velocity	7.85	9.72	9.67	9.46	9.02	8.62	8.22	7.71	7.28	7.25	7.10	8.22	9.62	8.61	7.40		
H1 lead leg	L	strides	20	13	13	13	13	13	13	15	15	18	159					
Lima, Matheus (BRA) (2003)	time	5.93	9.73	13.51	17.34	21.38	25.48	29.65	34.05	38.80	43.56		49.08	6 / 4				
reaction time	0.191	interval	3.80	3.78	3.83	4.04	4.10	4.17	4.40	4.75	4.76	5.52			11.41	12.31	13.91	
	velocity	7.59	9.21	9.26	9.14	8.66	8.54	8.39	7.95	7.37	7.35	7.25	8.15	9.20	8.53	7.55		
H1 lead leg	L	strides	21	13	13	13	13	13	13	14	14	17	157					
Mukhobe, Wiseman (KEN) (2007)	time	5.82	9.51	13.36	17.21	21.28	25.47	29.83	34.35	39.04	43.74		49.22	4 / 5				
reaction time	0.217	interval	3.69	3.85	3.85	4.07	4.19	4.36	4.52	4.69	4.70	5.48			11.39	12.62	13.91	
	velocity	7.73	9.49	9.09	9.09	8.60	8.35	8.03	7.74	7.46	7.45	7.30	8.13	9.22	8.32	7.55		
H1 lead leg	R	strides	22	14	14	14	14	14	15	15	15	19	170					
Bengtström, Carl (SWE) (2007)	time	5.80	9.57	13.43	17.31	21.34	25.58	30.00	34.59	39.33	44.13		49.56	3 / 6				
reaction time	0.201	interval	3.77	3.86	3.88	4.03	4.24	4.42	4.59	4.74	4.80	5.43			11.51	12.69	14.13	
	velocity	7.76	9.28	9.07	9.02	8.68	8.25	7.92	7.63	7.38	7.29	7.37	8.07	9.12	8.27	7.43		
H1 lead leg	L	strides	22	14	14	14	15	15	15	15	15	18.7	171.7					
Drummond, Gerald (CRC) (1997)	time	5.81	9.55	13.42	17.35	21.43	25.71	30.02	34.61	39.35	44.21		49.68	2 / 7				
reaction time	0.219	interval	3.74	3.87	3.93	4.08	4.28	4.31	4.59	4.74	4.86	5.47			11.54	12.67	14.19	
	velocity	7.75	9.36	9.04	8.91	8.58	8.18	8.12	7.63	7.38	7.20	7.31	8.05	9.10	8.29	7.40		
H1 lead leg	L	strides	21	14	14	14	14	14	15	15	15	18	168					
Chalmers, Alastair (GBR) (2007)	time	5.78	9.48	13.19	16.97	20.92	25.11	29.53	34.22	38.80	43.43		56.52	9 / 7				
reaction time	0.149	interval	3.70	3.71	3.78	3.95	4.19	4.42	4.69	4.98	5.27	7.09			11.19	12.56	19.90	
	velocity	7.79	9.46	9.43	9.26	8.86	8.35	7.92	7.46	7.03	6.62	5.64	7.08	9.38	8.36	5.28		
H1 lead leg	L	strides	20	13	13	13	14	15				101						

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		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
McMaster, Kyron (IVB) (1997)	time	5.70	9.33	13.07	16.86	20.74	24.77	28.95	33.40	37.92	42.49		48.15	4 / 1				
reaction time	0.160	interval	3.63	3.74	3.79	3.88	4.03	4.18	4.45	4.52	4.57	5.66			11.16	12.09	13.54	
	velocity	7.89	9.64	9.36	9.23	9.02	8.68	8.37	7.87	7.74	7.66	7.07	8.31	9.41	8.68	7.75		
H1 lead leg	L	strides	21	13	13	13	13	14	14	14	14	18	160					
Mägi, Rasmus (EST) (1992)	time	5.94	9.69	13.49	17.36	21.33	25.37	29.57	33.97	38.42	42.89		48.16	7 / 2				
reaction time	0.156	interval	3.75	3.80	3.87	3.97	4.04	4.20	4.40	4.45	4.47	5.27			11.42	12.21	13.32	
	velocity	7.58	9.33	9.21	9.04	8.82	8.66	8.33	7.95	7.87	7.83	7.59	8.31	9.19	8.60	7.88		
H1 lead leg	R	strides	20	13	13	13	13	14	14	14	14	17	158					
Samba, Abderrahman (QAT)	time	5.78	9.51	13.25	17.02	20.90	24.91	29.13	33.58	38.23	42.86		48.20	5 / 3				

reaction time	0.216	interval		3.73	3.74	3.77	3.88		4.01	4.22	4.45	4.65	4.63	5.34		11.24	12.11	13.73
		velocity		7.79	9.38	9.36	9.28	9.02	8.73	8.29	7.87	7.53	7.56	7.49	8.30	9.34	8.67	7.65
H1 lead leg	L	strides		21	13	13	13	13	13	13	13	14	14	17.5	157.5			
Allen, CJ (USA) (1995)		time		5.68	9.35	13.14	16.97	20.88	24.84	28.99	33.33	37.93	42.69		48.44	8 / 4		
reaction time	0.154	interval		3.67	3.79	3.83	3.91		3.96	4.15	4.34	4.60	4.76	5.75		11.29	12.02	13.70
		velocity		7.92	9.54	9.23	9.14	8.95	8.84	8.43	8.06	7.61	7.35	6.96	8.26	9.30	8.74	7.66
H1 lead leg	L	strides		20	13	13	13	13	13	13	14	15	15	17.7	159.7			
Agyekum, Emil (GER) (1999)		time		6.00	9.73	13.52	17.32	21.21	25.24	29.47	33.94	38.58	43.27		48.78	3 / 5		
reaction time	0.219	interval		3.73	3.79	3.80	3.89		4.03	4.23	4.47	4.64	4.69	5.51		11.32	12.15	13.80
		velocity		7.50	9.38	9.23	9.21	9.00	8.68	8.27	7.83	7.54	7.46	7.26	8.20	9.28	8.64	7.61
H1 lead leg	L	strides		20			13	13	13	14	14	15	15	18	135			
Sibilio, Alessandro (ITA) (1999)		time		5.87	9.60	13.36	17.19	21.12	25.25	29.67	34.20	38.77	43.38		48.79	9 / 6		
reaction time	0.151	interval		3.73	3.76	3.83	3.93		4.13	4.42	4.53	4.57	4.61	5.41		11.32	12.48	13.71
		velocity		7.67	9.38	9.31	9.14	8.91	8.47	7.92	7.73	7.66	7.59	7.39	8.20	9.28	8.41	7.66
H1 lead leg	R	strides		21	13	13	13	13	13	14			15	19	134			
James-King, Malik (JAM) (1999)		time		6.00	9.77	13.46	17.19	21.09	25.13	29.29	33.60	38.08	42.65		48.85	6 / 7		
reaction time	0.222	interval		3.77	3.69	3.73	3.90		4.04	4.16	4.31	4.48	4.57	6.20		11.19	12.10	13.36
		velocity		7.50	9.28	9.49	9.38	8.97	8.66	8.41	8.12	7.81	7.66	6.45	8.19	9.38	8.68	7.86
H1 lead leg	R	strides		22	14	14	14	14	15	15	15	15	15	19	172			
Akçam, Berke (TUR) (2002)		time		5.83	9.48	13.21	17.01	20.88	24.91	29.23	33.78	38.50	43.32		49.12	2 / 8		
reaction time	0.158	interval		3.65	3.73	3.80	3.87		4.03	4.32	4.55	4.72	4.82	5.80		11.18	12.22	14.09
		velocity		7.72	9.59	9.38	9.21	9.04	8.68	8.10	7.69	7.42	7.26	6.90	8.14	9.39	8.59	7.45
H1 lead leg	L	strides		21			13	13	13	14	14	15	15	19	137			

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				H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1999)		time		5.69	9.22	12.84	16.54	20.39	24.33	28.41	32.68	37.34	42.11		47.67	7 / 1				
reaction time	0.279	interval		3.53	3.62	3.70	3.85		3.94	4.08	4.27	4.66	4.77	5.56		10.85	11.87	13.70		
		velocity		7.91	9.92	9.67	9.46	9.09	8.88	8.58	8.20	7.51	7.34	7.19	8.39	9.68	8.85	7.66		
H1 lead leg	L	strides		20	13	13	13	13	13	13	13	15	15	17.2	158.2					
Ducos, Clement (FRA) (2001)		time		5.71	9.28	12.90	16.61	20.46	24.51	28.75	33.08	37.61	42.27		47.85	6 / 2				
reaction time	0.173	interval		3.57	3.62	3.71	3.85		4.05	4.24	4.33	4.53	4.66	5.58		10.90	12.14	13.52		
		velocity		7.88	9.80	9.67	9.43	9.09	8.64	8.25	8.08	7.73	7.51	7.17	8.36	9.63	8.65	7.77		
H1 lead leg	L	strides		20	13	13	13	13	14	14	15	15	15	18	163					
dos Santos, Alison (BRA) (2002)		time		5.76	9.37	12.98	16.69	20.61	24.66	28.81	33.11	37.61	42.30		47.95	9 / 3				
reaction time	0.210	interval		3.61	3.61	3.71	3.92		4.05	4.15	4.30	4.50	4.69	5.65		10.93	12.12	13.49		
		velocity		7.81	9.70	9.70	9.43	8.93	8.64	8.43	8.14	7.78	7.46	7.08	8.34	9.61	8.66	7.78		
H1 lead leg	L	strides		20	13	12	12	12	12	13	13	13	13	17	150					
Bassitt, Trevor (USA) (1998)		time		5.87	9.59	13.38	17.14	21.04	25.08	29.25	33.57	38.19	42.88		48.29	2 / 4				
reaction time	0.182	interval		3.72	3.79	3.76	3.90		4.04	4.17	4.32	4.62	4.69	5.41		11.27	12.11	13.63		
		velocity		7.67	9.41	9.23	9.31	8.97	8.66	8.39	8.10	7.58	7.46	7.39	8.28	9.32	8.67	7.70		
H1 lead leg	R	strides		20			13	13	13	13	13	14	14	16.5	129.5					
Nathaniel, Ezekiel (NGR) (2002)		time		5.76	9.43	13.13	16.89	20.85	24.98	29.16	33.51	38.22	43.08		48.65	5 / 5				
reaction time	0.170	interval		3.67	3.70	3.76	3.96		4.13	4.18	4.35	4.71	4.86	5.57		11.13	12.27	13.92		
		velocity		7.81	9.54	9.46	9.31	8.84	8.47	8.37	8.05	7.43	7.20	7.18	8.22	9.43	8.56	7.54		
H1 lead leg	R	strides		21	13	13	13	13	13	13	13	14	14	17	157					
Smidt, Nick (NED) (1997)		time		5.85	9.50	13.25	17.03	20.93	25.05	29.36	33.80	38.64	43.64		49.61	4 / 6				
reaction time	0.215	interval		3.65	3.75	3.78	3.90		4.12	4.31	4.44	4.84	5.00	5.97		11.18	12.33	14.28		
		velocity		7.69	9.59	9.33	9.26	8.97	8.50	8.12	7.88	7.23	7.00	6.70	8.06	9.39	8.52	7.35		
H1 lead leg	L	strides		20	13	13	13	13	13	14	14	14	15	18	160					
Hyde, Jaheel (JAM) (1997)		time		5.64	9.26	12.92	16.70	20.69	24.82	29.16	33.66	38.50	43.62		50.03	8 / 7				
reaction time	0.239	interval		3.62	3.66	3.78	3.99		4.13	4.34	4.50	4.84	5.12	6.41		11.06	12.46	14.46		
		velocity		7.98	9.67	9.56	9.26	8.77	8.47	8.06	7.78	7.23	6.84	6.24	8.00	9.49	8.43	7.26		
H1 lead leg	L	strides		22	13	13	13	13	14	14	14	15		131						
Abuaku, Joshua (GER) (1999)		time		5.83	9.54	13.34	17.17	21.16	25.35	29.76	34.39	39.23	44.22		50.19	3 / 8				
reaction time	0.186	interval		3.71	3.80	3.83	3.99		4.19	4.41	4.63	4.84	4.99	5.97		11.34	12.59	14.46		
		velocity		7.72	9.43	9.21	9.14	8.77	8.35	7.94	7.56	7.23	7.01	6.70	7.97	9.26	8.34	7.26		
H1 lead leg	L	strides		20			13	13	13	14	14	15	15	117						

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				H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Akçam, Berke (TUR) (2002)		time		5.79	9.43	13.14	16.92	20.83	24.92	29.21	33.71	38.43	43.20		48.72	5 / 1				
reaction time	0.146	interval		3.64	3.71	3.78	3.91		4.09	4.29	4.50	4.72	4.77	5.52		11.13	12.29	13.99		
		velocity		7.77	9.62	9.43	9.26	8.95	8.56	8.16	7.78	7.42	7.34	7.25	8.21	9.43	8.54	7.51		
H1 lead leg	L	strides		21	13	13	13	13	13	14	14	15	15	18.5	162.5					

Abuaku, Joshua (GER) (1996)	time	5.74	9.38	13.10	16.88	20.83	25.06	29.40	33.96	38.63	43.36		48.87	6 / 2				
	reaction time	0.159	interval	3.64	3.72	3.78	3.95	4.23	4.34	4.56	4.67	4.73	5.51		11.14	12.52	13.96	
			velocity	7.84	9.62	9.41	9.26	8.86	8.27	8.06	7.68	7.49	7.40	7.26	8.18	9.43	8.39	7.52
	H1 lead leg	L	strides	20	13	13	13	13	13	14	14	15	15	18.5	161.5			
Bonvin, Julien (SUI) (1999)	time	5.76	9.43	13.20	17.07	21.01	25.15	29.50	34.01	38.69	43.45		49.08	3 / 3				
	reaction time	0.165	interval	3.67	3.77	3.87	3.94	4.14	4.35	4.51	4.68	4.76	5.63		11.31	12.43	13.95	
			velocity	7.81	9.54	9.28	9.04	8.88	8.45	8.05	7.76	7.48	7.35	7.10	8.15	9.28	8.45	7.53
	H1 lead leg	L	strides	21	13	13	13	13	13	14	14	15	15	18.5	162.5			
Xie Zhiyu (CHN) (2000)	time	6.02	9.86	13.70	17.66	21.68	25.90	30.18	34.65	39.29	44.04		49.59	8 / 4				
	reaction time	0.224	interval	3.84	3.84	3.96	4.02	4.22	4.28	4.47	4.64	4.75	5.55		11.64	12.52	13.86	
			velocity	7.48	9.11	9.11	8.84	8.71	8.29	8.18	7.83	7.54	7.37	7.21	8.07	9.02	8.39	7.58
	H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	17.5	133.5				
Nuñez, Yeral (DOM) (2003)	time	5.83	9.49	13.28	17.34	21.36	25.60	29.89	34.44	39.17	44.21		53.68	7 / 5				
	reaction time	0.204	interval	3.66	3.79	4.06	4.02	4.24	4.29	4.55	4.73	5.04	9.47		11.51	12.55	14.32	
			velocity	7.72	9.56	9.23	8.62	8.71	8.25	8.16	7.69	7.40	6.94	4.22	7.45	9.12	8.37	7.33
	H1 lead leg	L	strides	20	13	14	14	14	14	14	15	15	15	148				

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		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Bengtström, Carl (SWE) (2016)	time	5.78	9.53	13.38	17.31	21.37	25.54	29.80	34.11	38.66	43.32		48.63	8 / 1				
	reaction time	0.171	interval	3.75	3.85	3.93	4.06	4.17	4.26	4.31	4.55	4.66	5.31		11.53	12.49	13.52	
			velocity	7.79	9.33	9.09	8.91	8.62	8.39	8.22	8.12	7.69	7.51	7.53	8.23	9.11	8.41	7.77
	H1 lead leg	L	strides	20	14	14	14	14	15	15	15	15	19	170				
Drummond, Gerald (CRC) (1996)	time	5.78	9.54	13.44	17.38	21.45	25.66	29.91	34.37	38.97	43.62		48.78	4 / 2				
	reaction time	0.216	interval	3.76	3.90	3.94	4.07	4.21	4.25	4.46	4.60	4.65	5.16		11.60	12.53	13.71	
			velocity	7.79	9.31	8.97	8.88	8.60	8.31	8.24	7.85	7.61	7.53	7.75	8.20	9.05	8.38	7.66
	H1 lead leg	L	strides	21	14	14	14	14	14	14	15	15	18	168				
Ntweng, Victor (BOT) (1995)	time	5.76	9.54	13.40	17.26	21.22	25.36	29.58	34.06	38.68	43.36		48.88	5 / 3				
	reaction time	0.168	interval	3.78	3.86	3.86	3.96	4.14	4.22	4.48	4.62	4.68	5.52		11.50	12.32	13.78	
			velocity	7.81	9.26	9.07	8.84	8.45	8.29	7.81	7.58	7.48	7.25	8.18	9.13	8.52	7.62	
	H1 lead leg	R	strides	20	13	13	13	13	13	14	14	14	17	157				
Guček, Matic Ian (SLO) (2003)	time	5.86	9.63	13.48	17.40	21.43	25.56	29.82	34.26	38.88	43.57		49.06	7 / 4				
	reaction time	0.146	interval	3.77	3.85	3.92	4.03	4.13	4.26	4.44	4.62	4.69	5.49		11.54	12.42	13.75	
			velocity	7.68	9.28	9.09	8.93	8.68	8.47	8.22	7.88	7.58	7.46	7.29	8.15	9.10	8.45	7.64
	H1 lead leg	R	strides	22	14	14	14	14	14	14	15	15	18.5	169.5				
Preis, Constantin (GER) (1996)	time	6.09	9.93	13.81	17.81	21.96	28.26	30.69	35.32	40.10	44.97		51.02	6 / 5				
	reaction time	0.218	interval	3.84	3.88	4.00	4.15	6.30	2.43	4.63	4.78	4.87	6.05		11.72	12.88	14.28	
			velocity	7.39	9.11	9.02	8.75	8.43	5.56	14.40	7.56	7.32	7.19	6.61	7.84	8.96	8.15	7.35
	H1 lead leg	L	strides	21	13	13	14	14	15	15	15	15	15	150				

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		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Bassitt, Trevor (USA) (1998)	time	5.83	9.49	13.26	17.13	21.05	25.09	29.30	33.71	38.35	43.20		48.64	6 / 1				
	reaction time	0.177	interval	3.66	3.77	3.87	3.92	4.04	4.21	4.41	4.64	4.85	5.44		11.30	12.17	13.90	
			velocity	7.72	9.56	9.28	9.04	8.93	8.66	8.31	7.94	7.54	7.22	7.35	8.22	9.29	8.63	7.55
	H1 lead leg	R	strides	20	13	13	13	13	13	13	13	14	14	16	155			
Agyekum, Emil (GER) (1999)	time	5.95	9.65	13.36	17.13	20.97	24.98	29.20	33.78	38.48	43.26		48.67	4 / 2				
	reaction time	0.194	interval	3.70	3.71	3.77	3.84	4.01	4.22	4.58	4.70	4.78	5.41		11.18	12.07	14.06	
			velocity	7.56	9.46	9.43	9.28	9.11	8.73	8.29	7.64	7.45	7.32	7.39	8.22	9.39	8.70	7.47
	H1 lead leg	L	strides	20	13	13	13	13	13	13	15	15	18	161				
Müller, Vit (CZE) (1996)	time	5.90	9.61	13.38	17.22	21.13	25.15	29.35	33.96	38.74	43.53		48.96	7 / 3				
	reaction time	0.157	interval	3.71	3.77	3.84	3.91	4.02	4.20	4.61	4.78	4.79	5.43		11.32	12.13	14.18	
			velocity	7.63	9.43	9.28	9.11	8.95	8.71	8.33	7.59	7.32	7.31	7.37	8.17	9.28	8.66	7.40
	H1 lead leg	L	strides	20	13	13	13	13	13	13	14	14	15	18	159			
Edlund, Oskar (SWE) (2002)	time	5.83	9.49	13.29	17.13	21.09	25.23	29.58	34.23	38.87	43.51		48.99	8 / 4				
	reaction time	0.168	interval	3.66	3.80	3.84	3.96	4.14	4.35	4.65	4.64	4.64	5.48		11.30	12.45	13.93	
			velocity	7.72	9.56	9.21	9.11	8.84	8.45	8.05	7.53	7.54	7.54	7.30	8.16	9.29	8.43	7.54
	H1 lead leg	L	strides	21	13	13	13	13	13	14	14	15	18	162				
Ogawa, Daiki (JPN) (2003)	time	5.84	9.67	13.57	17.57	21.62	25.82	30.13	34.60	39.18	43.85		49.25	3 / 5				
	reaction time	0.136	interval	3.83	3.90	4.00	4.05	4.20	4.31	4.47	4.58	4.67	5.40		11.73	12.56	13.72	
			velocity	7.71	9.14	8.97	8.75	8.64	8.33	8.12	7.83	7.64	7.49	7.41	8.12	8.95	8.36	7.65
	H1 lead leg	L	strides	21	14	14	14	14	14	14	15	15	19	169				
Hemeida, Bassem (QAT) (2016)	time	5.93	9.75	13.70	17.62	21.66	25.94	30.34	34.93	39.56	44.31		49.64	2 / 6				
	reaction time	0.146	interval	3.82	3.95	3.92	4.04	4.28	4.40	4.59	4.63	4.75	5.33		11.69	12.72	13.97	
			velocity	7.59	9.16	8.86	8.93	8.66	8.18	7.95	7.63	7.56	7.37	7.50	8.06	8.98	8.25	7.52
	H1 lead leg	R	strides	21		13	13	13	14	14	14	14	18	135				

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			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
James-King, Malik (JAM) (19	time		5.94	9.64	13.38	17.08	20.93		25.04	29.31	33.71	38.32	42.90		48.21	2 / 1			
	reaction time	0.150		3.70	3.74	3.70	3.85		4.11	4.27	4.40	4.61	4.58	5.31			11.14	12.23	13.59
			velocity	7.58	9.46	9.36	9.46	9.09	8.52	8.20	7.95	7.59	7.64	7.53	8.30		9.43	8.59	7.73
	H1 lead leg	R	strides	22	14	14	14	14	14	15	15	16	15	18	171				
Lima, Matheus (BRA) (2003)	time		6.09	9.91	13.78	17.71	21.76		26.01	30.35	34.72	39.22	43.77		48.90	6 / 2			
	reaction time	0.180		3.82	3.87	3.93	4.05		4.25	4.34	4.37	4.50	4.55	5.13			11.62	12.64	13.42
			velocity	7.39	9.16	9.04	8.91	8.64	8.24	8.06	8.01	7.78	7.69	7.80	8.18		9.04	8.31	7.82
	H1 lead leg	L	strides	20	13	13	13	13	13	13	13	13	14	17	155				
Chalmers, Alastair (GBR) (20	time		5.87	9.57	13.30	17.12	21.12		25.29	29.67	34.19	38.88	43.57		48.98	9 / 3			
	reaction time	0.179		3.70	3.73	3.82	4.00		4.17	4.38	4.52	4.69	4.69	5.41			11.25	12.55	13.90
			velocity	7.67	9.46	9.38	9.16	8.75	8.39	7.99	7.74	7.46	7.46	7.39	8.17		9.33	8.37	7.55
	H1 lead leg	L	strides	20	13	13	13	13	14	14	15	15	15	18	163				
Abuaku, Joshua (GER) (1996)	time		5.77	9.42	13.14	16.94	20.90		25.06	29.42	33.98	38.67	43.49		49.00	7 / 4			
	reaction time	0.151		3.65	3.72	3.80	3.96		4.16	4.36	4.56	4.69	4.82	5.51			11.17	12.48	14.07
			velocity	7.80	9.59	9.41	9.21	8.84	8.41	8.03	7.68	7.46	7.26	7.26	8.16		9.40	8.41	7.46
	H1 lead leg	L	strides	20	13	13	13	13	13	14	14	14	14	18	159				
Akcam, Berke (TUR) (2002)	time		5.92	9.67	13.50	17.38	21.36		25.51	29.95	34.46	39.22	43.96		49.48	3 / 5			
	reaction time	0.143		3.75	3.83	3.88	3.98		4.15	4.44	4.51	4.76	4.74	5.52			11.46	12.57	14.01
			velocity	7.60	9.33	9.14	9.02	8.79	8.43	7.88	7.76	7.35	7.38	7.25	8.08		9.16	8.35	7.49
	H1 lead leg	L	strides	21	13	13	13	13	13	14	14	15	15	18.2	162.2				
Toyoda, Ken (JPN) (2002)	time		5.89	9.78	13.81	17.85	21.98		26.39	30.95	35.68	40.64	45.86		53.62	4 / 6			
	reaction time	0.136		3.89	4.03	4.04	4.13		4.41	4.56	4.73	4.96	5.22	7.76			11.96	13.10	14.91
			velocity	7.64	9.00	8.68	8.66	8.47	7.94	7.68	7.40	7.06	6.70	5.15	7.46		8.78	8.02	7.04
	H1 lead leg	R	strides	20	13	13	13	13	13	15	15	15	15	130					
Abakar, Ismail Doudai (QAT)	time		5.79	9.45	13.24	17.07									dnf	8 / --			
	reaction time	0.177		3.66	3.79	3.83											11.28		
			velocity	7.77	9.56	9.23	9.14										9.31		
	H1 lead leg	L	strides	20	13	13	13							59					
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			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Clarke, Roshawn (JAM) (200	time		5.66	9.30	13.04	16.87	20.79		24.95	29.12	33.53	38.18	42.81		48.17	8 / 1			
	reaction time	0.191		3.64	3.74	3.83	3.92		4.16	4.17	4.41	4.65	4.63	5.36			11.21	12.25	13.69
			velocity	7.95	9.62	9.36	9.14	8.93	8.41	8.39	7.94	7.53	7.56	7.46	8.30		9.37	8.57	7.67
	H1 lead leg	R	strides	21	13	14	13	13	14	14	15	15	15	18	165				
Nathaniel, Ezekiel (NGR) (20	time		5.84	9.46	13.15	16.93	20.85		25.00	29.32	33.82	38.51	43.10		48.38	3 / 2			
	reaction time	0.181		3.62	3.69	3.78	3.92		4.15	4.32	4.50	4.69	4.59	5.28			11.09	12.39	13.78
			velocity	7.71	9.67	9.49	9.26	8.93	8.43	8.10	7.78	7.46	7.63	7.58	8.27		9.47	8.47	7.62
	H1 lead leg	R	strides	21	13	13	13	13	13	13	14	14	14	17	158				
Happio, Wilfried (FRA) (1996)	time		5.73	9.30	12.95	16.73	20.67		24.74	29.06	33.56	38.39	43.07		48.42	7 / 3			
	reaction time	0.152		3.57	3.65	3.78	3.94		4.07	4.32	4.50	4.83	4.68	5.35			11.00	12.33	14.01
			velocity	7.85	9.80	9.59	9.26	8.88	8.60	8.10	7.78	7.25	7.48	7.48	8.26		9.55	8.52	7.49
	H1 lead leg	L	strides	20	13	13	13	13	13	13	13	15	15	17.7	158.7				
Sibilio, Alessandro (ITA) (19	time		5.93	9.72	13.56	17.48	21.44		25.54	29.83	34.27	38.82	43.36		48.43	4 / 4			
	reaction time	0.157		3.79	3.84	3.92	3.96		4.10	4.29	4.44	4.55	4.54	5.07			11.55	12.35	13.53
			velocity	7.59	9.23	9.11	8.93	8.84	8.54	8.16	7.88	7.69	7.71	7.89	8.26		9.09	8.50	7.76
	H1 lead leg	R	strides	21	13	13	13	13	13	14	14	15	15	18	162				
Mukhobe, Wiseman (KEN) (time		5.68	9.28	13.01	16.86	20.89		25.06	29.32	33.81	38.41	43.06		48.58	5 / 5			
	reaction time	0.198		3.60	3.73	3.85	4.03		4.17	4.26	4.49	4.60	4.65	5.52			11.18	12.46	13.74
			velocity	7.92	9.72	9.38	9.09	8.68	8.39	8.22	7.80	7.61	7.53	7.25	8.23		9.39	8.43	7.64
	H1 lead leg	R	strides	21	14	14	13	14	14	15	15	15	15	19	169				
Smidt, Nick (NED) (1997)	time		5.93	9.70	13.50	17.39	21.37		25.47	29.72	34.15	38.63	43.24		48.64	9 / 6			
	reaction time	0.168		3.77	3.80	3.89	3.98		4.10	4.25	4.43	4.48	4.61	5.40			11.46	12.33	13.52
			velocity	7.59	9.28	9.21	9.00	8.79	8.54	8.24	7.90	7.81	7.59	7.41	8.22		9.16	8.52	7.77
	H1 lead leg	L	strides	20	13	13	13	13	13	14	14	14	14	17.5	158.5				
Drummond, Gerald (CRC) (1	time		5.70	9.36	13.13	17.04	21.07		25.24	29.52	34.07	38.70	43.44		48.80	6 / 7			
	reaction time	0.213		3.66	3.77	3.91	4.03		4.17	4.28	4.55	4.63	4.74	5.36			11.34	12.48	13.92
			velocity	7.89	9.56	9.28	8.95	8.68	8.39	8.18	7.69	7.56	7.38	7.46	8.20		9.26	8.41	7.54
	H1 lead leg	L	strides	20	14	14	14	14	14	14	15	15	15	18	167				
Preis, Constantin (GER) (196	time		6.06	9.85	13.76	17.82	21.96		26.20	30.63	35.23	39.90	44.58		49.99	2 / 8			
	reaction time	0.221		3.79	3.91	4.06	4.14		4.24	4.43	4.60	4.67	4.68	5.41			11.76	12.81	13.95
			velocity	7.43	9.23	8.95	8.62	8.45	8.25	7.90	7.61	7.49	7.48	7.39	8.00		8.93	8.20	7.53

H1 lead leg L strides 20 13 14 14 14 14 14 15 15 133

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		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Mägi, Rasmus (EST) (1992)	time	5.98	9.78	13.57	17.43	21.39		25.48	29.70	34.16	38.74	43.34		48.62	5 / 1			
	reaction time	0.196	interval	3.80	3.79	3.86	3.96	4.09	4.22	4.46	4.58	4.60	5.28			11.45	12.27	13.64
	velocity	7.53	9.21	9.23	9.07	8.84		8.56	8.29	7.85	7.64	7.61	7.58	8.23		9.17	8.56	7.70
	H1 lead leg	R	strides	20	13	13	13	13	13	13	14	14	17	156				
Allen, CJ (USA) (1995)	time	5.68	9.39	13.17	17.06	21.02		25.06	29.23	33.63	38.23	43.05		48.64	6 / 2			
	reaction time	0.144	interval	3.71	3.78	3.89	3.96	4.04	4.17	4.40	4.60	4.82	5.59			11.38	12.17	13.82
	velocity	7.92	9.43	9.26	9.00	8.84		8.66	8.39	7.95	7.61	7.26	7.16	8.22		9.23	8.63	7.60
	H1 lead leg	L	strides	20	13	13	13	13	13	14	15	15	17.7	159.7				
dos Santos, Alison (BRA) (2011)	time	5.82	9.54	13.27	17.04	20.96		25.03	29.27	33.65	38.23	42.97		48.75	2 / 3			
	reaction time	0.165	interval	3.72	3.73	3.77	3.92	4.07	4.24	4.38	4.58	4.74	5.78			11.22	12.23	13.70
	velocity	7.73	9.41	9.38	9.28	8.93		8.60	8.25	7.99	7.64	7.38	6.92	8.21		9.36	8.59	7.66
	H1 lead leg	L	strides	20	13	12	12	12	13	13	13	13	16.7	149.7				
Agyekum, Emil (GER) (1999)	time	6.07	9.84	13.59	17.42	21.36		25.50	29.86	34.51	39.23	44.08		49.38	9 / 4			
	reaction time	0.207	interval	3.77	3.75	3.83	3.94	4.14	4.36	4.65	4.72	4.85	5.30			11.35	12.44	14.22
	velocity	7.41	9.28	9.33	9.14	8.88		8.45	8.03	7.53	7.42	7.22	7.55	8.10		9.25	8.44	7.38
	H1 lead leg	L	strides	20	13	13	13	13	13	13	14	15	17.7	130.7				
Ntweng, Victor (BOT) (1995)	time	5.79	9.66	13.47	17.24	21.23		25.39	29.78	34.46	39.21	44.05		49.59	3 / 5			
	reaction time	0.138	interval	3.87	3.81	3.77	3.99	4.16	4.39	4.68	4.75	4.84	5.54			11.45	12.54	14.27
	velocity	7.77	9.04	9.19	9.28	8.77		8.41	7.97	7.48	7.37	7.23	7.22	8.07		9.17	8.37	7.36
	H1 lead leg	R	strides	20	13	13	13	13	14	14	15	15	17	160				
Bonvin, Julien (SUI) (1999)	time	5.80	9.53	13.25	17.08	21.08		25.33	29.79	34.43	39.22	44.12		49.82	8 / 6			
	reaction time	0.167	interval	3.73	3.72	3.83	4.00	4.25	4.46	4.64	4.79	4.90	5.70			11.28	12.71	14.33
	velocity	7.76	9.38	9.41	9.14	8.75		8.24	7.85	7.54	7.31	7.14	7.02	8.03		9.31	8.26	7.33
	H1 lead leg	L	strides	21	13	13	13	14	14	15	15	18	134					
Tsutsue, Kaito (JPN) (1998)	time	5.83	9.61	13.39	17.25	21.32		25.61	30.06	34.79	39.74	44.73		50.50	7 / 7			
	reaction time	0.149	interval	3.78	3.78	3.86	4.07	4.29	4.45	4.73	4.95	4.99	5.77			11.42	12.81	14.67
	velocity	7.72	9.26	9.26	9.07	8.60		8.16	7.87	7.40	7.07	7.01	6.93	7.92		9.19	8.20	7.16
	H1 lead leg	R	strides	21	13	13	13	14	14	15	15	15	116					
Copello, Yasmani (TUR) (1991)	time	5.98	9.73	13.50	17.34	21.36		25.58	30.08	34.80	39.76	44.86		50.72	4 / 8			
	reaction time	0.224	interval	3.75	3.77	3.84	4.02	4.22	4.50	4.72	4.96	5.10	5.86			11.36	12.74	14.78
	velocity	7.53	9.33	9.28	9.11	8.71		8.29	7.78	7.42	7.06	6.86	6.83	7.89		9.24	8.24	7.10
	H1 lead leg	R	strides	20	13	13	13	13	14	14	15	15	19	162				

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		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1992)	time	5.62	9.14	12.80	16.55	20.41		24.38	28.47	32.76	37.47	42.24		47.57	5 / 1			
	reaction time	0.148	interval	3.52	3.66	3.75	3.86	3.97	4.09	4.29	4.71	4.77	5.33			10.93	11.92	13.77
	velocity	8.01	9.94	9.56	9.33	9.07		8.82	8.56	8.16	7.43	7.34	7.50	8.41		9.61	8.81	7.63
	H1 lead leg	L	strides	20	13	13	13	13	13	13	15	15	17	158				
Ducos, Clement (FRA) (2001)	time	5.70	9.20	12.77	16.45	20.29		24.34	28.61	33.01	37.55	42.20		47.69	9 / 2			
	reaction time	0.157	interval	3.50	3.57	3.68	3.84	4.05	4.27	4.40	4.54	4.65	5.49	PB		10.75	12.16	13.59
	velocity	7.89	10.00	9.80	9.51	9.11		8.64	8.20	7.95	7.71	7.53	7.29	8.39		9.77	8.63	7.73
	H1 lead leg	L	strides	20	13	13	13	14	14	15	15	15	18	163				
Samba, Abderrahman (QAT) (2003)	time	5.92	9.67	13.44	17.38	21.34		25.29	29.44	33.84	38.40	42.99		48.35	7 / 3			
	reaction time	0.182	interval	3.75	3.77	3.94	3.96	3.95	4.15	4.40	4.56	4.59	5.36			11.46	12.06	13.55
	velocity	7.60	9.33	9.28	8.88	8.84		8.86	8.43	7.95	7.68	7.63	7.46	8.27		9.16	8.71	7.75
	H1 lead leg	R	strides	21	13	12	12	13	13	13	14	14	17	155				
Nuñez, Yeral (DOM) (2003)	time	5.82	9.44	13.11	16.89	20.85		25.00	29.37	33.87	38.42	43.05		48.67	8 / 4			
	reaction time	0.187	interval	3.62	3.67	3.78	3.96	4.15	4.37	4.50	4.55	4.63	5.62			11.07	12.48	13.68
	velocity	7.73	9.67	9.54	9.26	8.84		8.43	8.01	7.78	7.69	7.56	7.12	8.22		9.49	8.41	7.68
	H1 lead leg	L	strides	21	13	13	13	14	14	15	15	15	18	164				
Bassitt, Trevor (USA) (1998)	time	5.90	9.64	13.49	17.41	21.40		25.52	29.77	34.25	39.02	43.77		49.38	4 / 5			
	reaction time	0.185	interval	3.74	3.85	3.92	3.99	4.12	4.25	4.48	4.77	4.75	5.61			11.51	12.36	14.00
	velocity	7.63	9.36	9.09	8.93	8.77		8.50	8.24	7.81	7.34	7.37	7.13	8.10		9.12	8.50	7.50
	H1 lead leg	R	strides	20	13	13	13	13	13	13	14	14	16.5	155.5				
Müller, Vit (CZE) (1996)	time	5.91	9.57	13.29	17.09	21.02		25.15	29.50	34.18	39.03	43.88		49.44	2 / 6			
	reaction time	0.150	interval	3.66	3.72	3.80	3.93	4.13	4.35	4.68	4.85	4.85	5.56			11.18	12.41	14.38
	velocity	7.61	9.56	9.41	9.21	8.91		8.47	8.05	7.48	7.22	7.22	7.19	8.09		9.39	8.46	7.30
	H1 lead leg	L	strides	20	13	13	13	13	13	14	14	15	17.2	158.2				
Edlund, Oskar (SWE) (2002)	time	5.81	9.40	13.11	16.90	20.88		25.06	29.49	34.14	38.98	43.88		49.74	6 / 7			
	reaction time	0.188	interval	3.59	3.71	3.79	3.98	4.18	4.43	4.65	4.84	4.90	5.86			11.09	12.59	14.39

	velocity	7.75	9.75	9.43	9.23	8.79		8.37	7.90	7.53	7.23	7.14	6.83	8.04		9.47	8.34	7.30
H1 lead leg	L	strides	21	13	13	13	13	13	14	14	15	15	18	162				
Xie Zhiyu (CHN) (2000)	time	5.94	9.64	13.50	17.42	21.46		25.62	29.99	34.60	39.37	44.26		49.90	3 / 8			
reaction time	0.191	interval		3.70	3.86	3.92	4.04	4.16	4.37	4.61	4.77	4.89	5.64			11.48	12.57	14.27
	velocity	7.58	9.46	9.07	8.93	8.66		8.41	8.01	7.59	7.34	7.16	7.09	8.02		9.15	8.35	7.36
H1 lead leg	L	strides	21	13	13	13	13	13	14	14	14	14	17.2	159.2				

Heat 1

date 05-Aug-24

Paris 2024 Olympic Games - Results Book (2024)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.88	9.62	13.37	17.25	21.31		25.44	29.51	33.73	38.22	42.97		48.82	7 / 1			
reaction time	0.190	interval		3.74	3.75	3.88	4.06	4.13	4.07	4.22	4.49	4.75	5.85			11.37	12.26	13.46
	velocity	7.65	9.36	9.33	9.02	8.62		8.47	8.60	8.29	7.80	7.37	6.84	8.19		9.23	8.56	7.80
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	14	14	17	156				
Hyde, Jaheel (JAM) (1997)	time	5.72	9.40	13.16	17.05	21.09		25.30	29.58	34.03	38.73	43.55		49.08	6 / 2			
reaction time	0.175	interval		3.68	3.76	3.89	4.04	4.21	4.28	4.45	4.70	4.82	5.53			11.33	12.53	13.97
	velocity	7.87	9.51	9.31	9.00	8.66		8.31	8.18	7.87	7.45	7.26	7.23	8.15		9.27	8.38	7.52
H1 lead leg	L	strides	22	13	13	13	13	14	14	14	15	15	18	164				
McMaster, Kyron (IVB) (1997)	time	5.71	9.37	13.13	16.94	20.86		25.01	29.38	34.00	38.82	43.71		49.24	2 / 3			
reaction time	0.166	interval		3.66	3.76	3.81	3.92	4.15	4.37	4.62	4.82	4.89	5.53			11.23	12.44	14.33
	velocity	7.88	9.56	9.31	9.19	8.93		8.43	8.01	7.58	7.26	7.16	7.23	8.12		9.35	8.44	7.33
H1 lead leg	L	strides	21	13	13	13	13	13	14	14	14	14	17	159				
Bengtström, Carl (SWE) (20)	time	5.80	9.55	13.42	17.42	21.50		25.76	30.12	34.66	39.36	44.05		49.34	4 / 4			
reaction time	0.172	interval		3.75	3.87	4.00	4.08	4.26	4.36	4.54	4.70	4.69	5.29			11.62	12.70	13.93
	velocity	7.76	9.33	9.04	8.75	8.58		8.22	8.03	7.71	7.45	7.46	7.56	8.11		9.04	8.27	7.54
H1 lead leg	L	strides	22	14	14	14	14	15	15	15	15	15	19	172				
Hemeida, Bassem (QAT) (20)	time	5.89	9.62	13.43	17.32	21.35		25.66	30.18	34.87	39.66	44.39		49.82	5 / 5			
reaction time	0.141	interval		3.73	3.81	3.89	4.03	4.31	4.52	4.69	4.79	4.73	5.43			11.43	12.86	14.21
	velocity	7.64	9.38	9.19	9.00	8.68		8.12	7.74	7.46	7.31	7.40	7.37	8.03		9.19	8.16	7.39
H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	15	18	164				
Ogawa, Daiki (JPN) (2003)	time	5.94	9.76	13.65	17.66	21.80		26.05	30.45	35.03	39.75	44.62		50.21	8 / 6			
reaction time	0.174	interval		3.82	3.89	4.01	4.14	4.25	4.40	4.58	4.72	4.87	5.59			11.72	12.79	14.17
	velocity	7.58	9.16	9.00	8.73	8.45		8.24	7.95	7.64	7.42	7.19	7.16	7.97		8.96	8.21	7.41
H1 lead leg	L	strides	21	14	14	14	14	14	14	15	15	15	15	150				
Guček, Matic Ian (SLO) (2003)	time	5.97	9.70	13.45	17.33	21.32		25.50	29.88	34.49	39.34	44.41		50.30	3 / 7			
reaction time	0.147	interval		3.73	3.75	3.88	3.99	4.18	4.38	4.61	4.85	5.07	5.89			11.36	12.55	14.53
	velocity	7.54	9.38	9.33	9.02	8.77		8.37	7.99	7.59	7.22	6.90	6.79	7.95		9.24	8.37	7.23
H1 lead leg	R	strides	24	14	14	14	14	14	14	15	15	15	19.5	172.5				

2024 Japanese National High School Championships (Fukuoka, JPN)

FINAL

date 30-Jul-24

Takashima (2024) - national high school sports festival - biomechanics data

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kikuta, Kyo (JPN) (2006)	time	5.97	9.93	13.93	18.12	22.31		26.58	31.01	35.52	40.06	44.86		50.14	7 / 1			
reaction time	0.179	interval		3.96	4.00	4.19	4.19	4.27	4.43	4.51	4.54	4.80	5.28			12.15	12.89	13.85
	velocity	7.54	8.84	8.75	8.35	8.35		8.20	7.90	7.76	7.71	7.29	7.58	7.98		8.64	8.15	7.58
H1 lead leg		strides	21	15	15	15	15	15	15	15	17	17	21	181				
Hashimoto, Yu (JPN) (2006)	time	6.07	9.86	13.73	17.83	21.89		26.14	30.53	35.10	39.77	44.71		50.46	8 / 2			
reaction time	0.207	interval		3.79	3.87	4.10	4.06	4.25	4.39	4.57	4.67	4.94	5.75	PB		11.76	12.70	14.18
	velocity	7.41	9.23	9.04	8.54	8.62		8.24	7.97	7.66	7.49	7.09	6.96	7.93		8.93	8.27	7.40
H1 lead leg		strides	21	14	14	14	14	15	15	15	15	15	21	173				
Kasai, Yuki (JPN) (2006)	time	6.22	10.21	14.33	18.55	22.76		26.93	31.33	35.94	40.67	45.68		51.54	4 / 3			
reaction time	0.217	interval		3.99	4.12	4.22	4.21	4.17	4.40	4.61	4.73	5.01	5.86			12.33	12.78	14.35
	velocity	7.23	8.77	8.50	8.29	8.31		8.39	7.95	7.59	7.40	6.99	6.83	7.76		8.52	8.22	7.32
H1 lead leg		strides	20	15	15	15	15	15	15	15	15	15	18	173				
Shirahige, Reiji (JPN) (2006)	time	6.21	10.19	14.31	18.60	22.87		27.16	31.65	36.37	41.27	46.26		51.72	5 / 4			
reaction time	0.186	interval		3.98	4.12	4.29	4.27	4.29	4.49	4.72	4.90	4.99	5.46			12.39	13.05	14.61
	velocity	7.25	8.79	8.50	8.16	8.20		8.16	7.80	7.42	7.14	7.01	7.33	7.73		8.47	8.05	7.19
H1 lead leg		strides	21	15	15	15	15	15	15	15	15	15	19	175				
Kawakami, Daichi (JPN) (200)	time	6.34	10.41	14.56	18.87	23.26		27.66	32.13	36.85	41.71	46.65		52.32	3 / 5			
reaction time	0.240	interval		4.07	4.15	4.31	4.39	4.40	4.47	4.72	4.86	4.94	5.67			12.53	13.26	14.52
	velocity	7.10	8.60	8.43	8.12	7.97		7.95	7.83	7.42	7.20	7.09	7.05	7.65		8.38	7.92	7.23
H1 lead leg		strides	20	14	14	14	14	15	15	15	15	15	18	169				
Nakanishi, Teruki (JPN) (200)	time	6.34	10.48	14.66	19.10	23.46		27.88	32.45	37.10	41.89	46.83		52.54	6 / 6			
reaction time	0.192	interval		4.14	4.18	4.44	4.36	4.42	4.57	4.65	4.79	4.94	5.71			12.76	13.35	14.38
	velocity	7.10	8.45	8.37	7.88	8.03		7.92	7.66	7.53	7.31	7.09	7.01	7.61		8.23	7.87	7.30
H1 lead leg		strides	21	15	15	15	15	15	15	15	15	15	19	175				

Watanabe, Shun (JPN) (2006	time	6.36	10.39	14.50	18.75	23.09	27.46	32.13	37.05	42.09	47.18		52.87	2 / 7			
reaction time	0.277	interval	4.03	4.11	4.25	4.34	4.37	4.67	4.92	5.04	5.09	5.69			12.39	13.38	15.05
		velocity	7.08	8.68	8.52	8.24	8.06	8.01	7.49	7.11	6.94	6.88	7.03	7.57	8.47	7.85	6.98
H1 lead leg		strides	23	15	15	15	15	15	15	17	17	17	20	184			
Yamamoto, Yuya (JPN) (2006	time	6.44	10.48	14.65	18.97	23.27	27.59	31.93	36.30	40.77	45.51		53.48	9 / 8			
reaction time	0.237	interval	4.04	4.17	4.32	4.30	4.32	4.34	4.37	4.47	4.74	7.97			12.53	12.96	13.58
		velocity	6.99	8.66	8.39	8.10	8.14	8.10	8.06	8.01	7.83	7.38	5.02	7.48	8.38	8.10	7.73
H1 lead leg		strides	21	15	15	15	15	15	15	15	15	15	19	175			

2024 London Athletics Meet (London, GBR)

FINAL

date 20-Jul-24

Omega Timing (2024) - diamond league race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
dos Santos, Alison (BRA) (2016	time	5.82	9.42	13.04	16.69	20.50	24.51	28.68	32.92	37.30	41.80		47.18	6 / 1				
reaction time	0.178	interval	3.60	3.62	3.65	3.81	4.01	4.17	4.24	4.38	4.50	5.38			10.87	11.99	13.12	
		velocity	7.73	9.72	9.67	9.59	9.19	8.73	8.39	8.25	7.99	7.78	7.43	8.48	9.66	8.76	8.00	
H1 lead leg	L	strides	20	13	12	12	12			13	13	13	16.2	124.2				
Clarke, Roshawn (JAM) (2001	time	5.64	9.30	13.10	16.91	20.79	24.84	29.08	33.34	37.81	42.35		47.63	3 / 2				
reaction time	0.187	interval	3.66	3.80	3.81	3.88	4.05	4.24	4.26	4.47	4.54	5.28			11.27	12.17	13.27	
		velocity	7.98	9.56	9.21	9.19	9.02	8.64	8.25	8.22	7.83	7.71	7.58	8.40	9.32	8.63	7.91	
H1 lead leg	R	strides	21	13	13	13	13	14	14	14	15	15	18	163				
Abakar, Ismail Doudai (QAT) (1996	time	5.78	9.36	13.00	16.68	20.55	24.66	28.77	33.05	37.51	42.15		47.72	8 / 3				
reaction time	0.198	interval	3.58	3.64	3.68	3.87	4.11	4.11	4.28	4.46	4.64	5.57	PB		10.90	12.09	13.38	
		velocity	7.79	9.78	9.62	9.51	9.04	8.52	8.52	8.18	7.85	7.54	7.18	8.38	9.63	8.68	7.85	
H1 lead leg	L	strides	20	13	13	13	13			13	13	14	17.2	129.2				
McMaster, Kyron (IVB) (1997	time	5.73	9.40	13.19	16.98	20.90	24.94	29.09	33.38	37.90	42.43		47.81	5 / 4				
reaction time	0.150	interval	3.67	3.79	3.79	3.92	4.04	4.15	4.29	4.52	4.53	5.38			11.25	12.11	13.34	
		velocity	7.85	9.54	9.23	9.23	8.93	8.66	8.43	8.16	7.74	7.73	7.43	8.37	9.33	8.67	7.87	
H1 lead leg	L	strides	21	13	13	13	13	13	13	13	14	14	17	157				
Happio, Wilfried (FRA) (1996	time	5.84	9.49	13.19	16.95	20.82	24.87	29.08	33.43	38.06	42.90		48.26	4 / 5				
reaction time	0.153	interval	3.65	3.70	3.76	3.87	4.05	4.21	4.35	4.63	4.84	5.36			11.11	12.13	13.82	
		velocity	7.71	9.59	9.46	9.31	9.04	8.64	8.31	8.05	7.56	7.23	7.46	8.29	9.45	8.66	7.60	
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	14	14	17.2	156.2				
Allen, CJ (USA) (1995)	time	5.74	9.37	13.11	16.95	20.86	24.90	29.11	33.42	38.03	42.78		48.49	7 / 6				
reaction time	0.146	interval	3.63	3.74	3.84	3.91	4.04	4.21	4.31	4.61	4.75	5.71			11.21	12.16	13.67	
		velocity	7.84	9.64	9.36	9.11	8.95	8.66	8.31	8.12	7.59	7.37	7.01	8.25	9.37	8.63	7.68	
H1 lead leg	L	strides	20	13	13	13	13			14			18	104				
Drummond, Gerald (CRC) (1996	time	5.77	9.53	13.37	17.31	21.38	25.62	29.94	34.39	38.97	43.60		48.89	1 / 7				
reaction time	0.205	interval	3.76	3.84	3.94	4.07	4.24	4.32	4.45	4.58	4.63	5.29			11.54	12.63	13.66	
		velocity	7.80	9.31	9.11	8.88	8.60	8.25	8.10	7.87	7.64	7.56	7.56	8.18	9.10	8.31	7.69	
H1 lead leg	L	strides	21	14	14	14	14			15	15	15	18	140				
Chalmers, Alastair (GBR) (2001	time	5.86	9.61	13.44	17.33	21.30	25.51	29.86	34.46	39.16	43.88		49.52	2 / 8				
reaction time	0.153	interval	3.75	3.83	3.89	3.97	4.21	4.35	4.60	4.70	4.72	5.64			11.47	12.53	14.02	
		velocity	7.68	9.33	9.14	9.00	8.82	8.31	8.05	7.61	7.45	7.42	7.09	8.08	9.15	8.38	7.49	
H1 lead leg	L	strides	20	13	13	13	13			15			18	105				

2024 Herculis Meeting International d'Athlétisme (Monaco, MON)

FINAL

date 12-Jul-24

Omega Timing (2024) - diamond league race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.68	9.25	12.88	16.55	20.33	24.40	28.55	32.71	37.00	41.45		46.67	5 / 1				
reaction time	0.188	interval	3.57	3.63	3.67	3.78	4.07	4.15	4.16	4.29	4.45	5.22			10.87	12.00	12.90	
		velocity	7.92	9.80	9.64	9.54	9.26	8.60	8.43	8.41	8.16	7.87	7.66	8.57	9.66	8.75	8.14	
H1 lead leg	R	strides	20	13	13	12	13	14	13	13	13	13	17	154				
Warholm, Karsten (NOR) (1996	time	5.66	9.20	12.79	16.48	20.31	24.25	28.30	32.50	36.88	41.41		46.73	7 / 2				
reaction time	0.164	interval	3.54	3.59	3.69	3.83	3.94	4.05	4.20	4.38	4.53	5.32			10.82	11.82	13.11	
		velocity	7.95	9.89	9.75	9.49	9.14	8.88	8.64	8.33	7.99	7.73	7.52	8.56	9.70	8.88	8.01	
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	13	15	18	157				
dos Santos, Alison (BRA) (2016	time	5.72	9.23	12.78	16.44	20.22	24.25	28.41	32.69	37.08	41.63		47.18	6 / 3				
reaction time	0.161	interval	3.51	3.55	3.66	3.78	4.03	4.16	4.28	4.39	4.55	5.55			10.72	11.97	13.22	
		velocity	7.87	9.97	9.86	9.56	9.26	8.68	8.41	8.18	7.97	7.69	7.21	8.48	9.79	8.77	7.94	
H1 lead leg	L	strides	20	13	12	12	12	13	13	13	13	13	17	151				
James-King, Malik (JAM) (1996	time	6.02	9.78	13.47	17.22	21.01	25.00	29.06	33.22	37.52	42.00		47.73	3 / 4				
reaction time	0.150	interval	3.76	3.69	3.75	3.79	3.99	4.06	4.16	4.30	4.48	5.73			11.20	11.84	12.94	
		velocity	7.48	9.31	9.49	9.33	9.23	8.77	8.62	8.41	8.14	7.81	6.98	8.38	9.38	8.87	8.11	
H1 lead leg	L	strides	23	14	14	14	14	14		15	15	15	19.5	157.5				
Samba, Abderrahman (QAT) (1996	time	5.83	9.54	13.28	17.14	21.18	25.33	29.55	33.92	38.47	43.08		48.27	8 / 5				
reaction time	0.179	interval	3.71	3.74	3.86	4.04	4.15	4.22	4.37	4.55	4.61	5.19			11.31	12.41	13.53	

	velocity	7.72	9.43	9.36	9.07	8.66		8.43	8.29	8.01	7.69	7.59	7.71	8.29		9.28	8.46	7.76
H1 lead leg	R	strides	21	13	13	13	13	13	13	13	13	14	17	156				
Allen, CJ (USA) (1995)	time	5.77	9.48	13.28	17.11	21.03		25.09	29.26	33.61	38.10	42.80		48.28	2 / 6			
reaction time	0.160	interval	3.71	3.80	3.83	3.92		4.06	4.17	4.35	4.49	4.70	5.48		11.34	12.15	13.54	
	velocity	7.80	9.43	9.21	9.14	8.93		8.62	8.39	8.05	7.80	7.45	7.30	8.29		9.26	8.64	7.75
H1 lead leg	L	strides	20	13	13	13	13	13		14	15	15	17.7	146.7				
Happio, Wilfried (FRA) (1998)	time	5.92	9.61	13.35	17.12	21.02		25.11	29.31	33.68	38.36	43.06		48.37	1 / 7			
reaction time	0.161	interval	3.69	3.74	3.77	3.90		4.09	4.20	4.37	4.68	4.70	5.31		11.20	12.19	13.75	
	velocity	7.60	9.49	9.36	9.28	8.97		8.56	8.33	8.01	7.48	7.45	7.53	8.27		9.38	8.61	7.64
H1 lead leg	L	strides	20	13	13	13	13	13		13	14	14	17.2	143.2				
Dean, Caleb (USA) (2001)	time	5.82	9.52	13.24	16.96	20.80		24.86	29.17	33.67	38.25	42.94		48.46	4 / 8			
reaction time	0.174	interval	3.70	3.72	3.72	3.84		4.06	4.31	4.50	4.58	4.69	5.52		11.14	12.21	13.77	
	velocity	7.73	9.46	9.41	9.41	9.11		8.62	8.12	7.78	7.64	7.46	7.25	8.25		9.43	8.60	7.63
H1 lead leg	R	strides	21	13	13	13	13	13	14	14	15	15	17.7	161.7				

2024 Meeting de Paris (Paris, FRA)

FINAL

date 07-Jul-24

Omega Timing (2024) - diamond league race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
dos Santos, Alison (BRA) (2019)	time	5.70	9.33	12.99	16.75	20.63		24.63	28.78	33.07	37.53	42.22		47.78	6 / 1			
reaction time	0.168	interval	3.63	3.66	3.76	3.88		4.00	4.15	4.29	4.46	4.69	5.56		11.05	12.03	13.44	
	velocity	7.89	9.64	9.56	9.31	9.02		8.75	8.43	8.16	7.85	7.46	7.19	8.37		9.50	8.73	7.81
H1 lead leg	L	strides	20	13	12	12	12	12	13	13	13	13	16.7	149.7				
Mägi, Rasmus (EST) (1992)	time	5.83	9.62	13.50	17.36	21.24		25.23	29.34	33.62	38.15	42.66		47.95	3 / 2			
reaction time	0.168	interval	3.79	3.88	3.86	3.88		3.99	4.11	4.28	4.53	4.51	5.29		11.53	11.98	13.32	
	velocity	7.72	9.23	9.02	9.07	9.02		8.77	8.52	8.18	7.73	7.76	7.56	8.34		9.11	8.76	7.88
H1 lead leg	R	strides	20	13	13	13	13			13	14	14	17	130				
James-King, Malik (JAM) (1998)	time	5.92	9.69	13.44	17.28	21.34		25.42	29.60	34.00	38.39	42.89		48.37	7 / 3			
reaction time	0.172	interval	3.77	3.75	3.84	4.06		4.08	4.18	4.40	4.39	4.50	5.48		11.36	12.32	13.29	
	velocity	7.60	9.28	9.33	9.11	8.62		8.58	8.37	7.95	7.97	7.78	7.30	8.27		9.24	8.52	7.90
H1 lead leg	R	strides	22	14	14	14	14	14	15	15	15	15	18	170				
Happio, Wilfried (FRA) (1998)	time	5.69	9.32	13.04	16.87	20.79		24.85	29.03	33.42	38.16	43.00		48.56	5 / 4			
reaction time	0.151	interval	3.63	3.72	3.83	3.92		4.06	4.18	4.39	4.74	4.84	5.56		11.18	12.16	13.97	
	velocity	7.91	9.64	9.41	9.14	8.93		8.62	8.37	7.97	7.38	7.23	7.19	8.24		9.39	8.63	7.52
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	14	15	18	158				
Drummond, Gerald (CRC) (1998)	time	5.62	9.29	13.08	16.96	20.94		25.08	29.27	33.76	38.33	43.05		48.68	2 / 5			
reaction time	0.217	interval	3.67	3.79	3.88	3.98		4.14	4.19	4.49	4.57	4.72	5.63		11.34	12.31	13.78	
	velocity	8.01	9.54	9.23	9.02	8.79		8.45	8.35	7.80	7.66	7.42	7.10	8.22		9.26	8.53	7.62
H1 lead leg	L	strides	21	14	14	14	14			15	15	15	18	140				
Bengtström, Carl (SWE) (2019)	time	5.71	9.46	13.40	17.32	21.23		25.35	29.64	34.03	38.63	43.31		48.68	4 / 6			
reaction time	0.179	interval	3.75	3.94	3.92	3.91		4.12	4.29	4.39	4.60	4.68	5.37		11.61	12.32	13.67	
	velocity	7.88	9.33	8.88	8.93	8.95		8.50	8.16	7.97	7.61	7.48	7.45	8.22		9.04	8.52	7.68
H1 lead leg	L	strides	22	14	14	14	14			15	15	15	19	142				
Abakar, Ismail Doudai (QAT) (2019)	time	5.75	9.49	13.34	17.23	21.10		25.18	29.44	33.82	38.31	42.98		48.79	1 / 7			
reaction time	0.192	interval	3.74	3.85	3.89	3.87		4.08	4.26	4.38	4.49	4.67	5.81		11.48	12.21	13.54	
	velocity	7.83	9.36	9.09	9.00	9.04		8.58	8.22	7.99	7.80	7.49	6.88	8.20		9.15	8.60	7.75
H1 lead leg	L	strides	20	13	13	13	13			13	13	15	17.2	130.2				
Akçam, Berke (TUR) (2002)	time	5.84	9.80	13.82	17.74	21.82		26.00	30.31	34.69	39.25	43.81		49.23	8 / 8			
reaction time	0.144	interval	3.96	4.02	3.92	4.08		4.18	4.31	4.38	4.56	4.56	5.42		11.90	12.57	13.50	
	velocity	7.71	8.84	8.71	8.93	8.58		8.37	8.12	7.99	7.68	7.68	7.38	8.13		8.82	8.35	7.78
H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	15	146					

2024 USA Olympic Trials (Eugene, OR)

FINAL

date 30-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.62	9.21	12.96	16.94	20.81	22.46	24.59	28.43	32.49	36.81	41.28		46.46	7 / 1			
reaction time		interval	3.59	3.75	3.98	3.87		3.78	3.84	4.06	4.32	4.47	5.18		11.32	11.49	12.85	
	velocity	8.01	9.75	9.33	8.79	9.04	8.90	9.26	9.11	8.62	8.10	7.83	7.72	8.61		9.28	9.14	8.17
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	13	16.5	153.5				
Allen, CJ (USA) (1995)	time	5.66	9.33	13.17	17.08	20.96	22.65	24.84	28.84	33.15	37.63	42.24		47.81	8 / 2			
reaction time		interval	3.67	3.84	3.91	3.88		3.88	4.00	4.31	4.48	4.61	5.57		11.42	11.76	13.40	
	velocity	7.95	9.54	9.11	8.95	9.02	8.83	9.02	8.75	8.12	7.81	7.59	7.18	8.37		9.19	8.93	7.84
H1 lead leg	L	strides	20	13	13	13	13	13	14	14	14	14	18	159				
Bassitt, Trevor (USA) (1998)	time	5.79	9.47	13.21	17.07	21.00	22.70	24.89	29.03	33.38	37.91	42.49		47.82	6 / 3			
reaction time		interval	3.68	3.74	3.86	3.93		3.89	4.14	4.35	4.53	4.58	5.33		11.28	11.96	13.46	
	velocity	7.77	9.51	9.36	9.07	8.91	8.81	9.00	8.45	8.05	7.73	7.64	7.50	8.36		9.31	8.78	7.80
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	14	14	17	156				

Robinson, Chris (USA) (200)	time	5.78	9.34	13.01	16.74	20.53	22.30	24.59	28.95	33.35	37.92	42.45		47.96	4 / 4			
	reaction time		3.56	3.67	3.73	3.79		4.06	4.36	4.40	4.57	4.53	5.51			10.96	12.21	13.50
	velocity	7.79	9.83	9.54	9.38	9.23	8.97	8.62	8.03	7.95	7.66	7.73	7.26	8.34		9.58	8.60	7.78
	H1 lead leg	R	13	13	13	13		14	14	15	15	15	18.5	143.5				
Smith, James (USA) (2000)	time	5.91	9.70	13.65	17.62	21.70	23.49	25.91	30.18	34.54	39.13	43.67		49.18	1 / 5			
	reaction time		3.79	3.95	3.97	4.08		4.21	4.27	4.36	4.59	4.54	5.51			11.71	12.56	13.49
	velocity	7.61	9.23	8.86	8.82	8.58	8.51	8.31	8.20	8.03	7.63	7.71	7.26	8.13		8.97	8.36	7.78
	H1 lead leg	L	21	13	13	13	13	14	14	15	15	15	18	164				
Bailey, Aldrich (USA) (1994)	time	5.75	9.47	13.28	17.15	21.05	22.86	25.20	29.52	34.29	39.12	43.83		49.73	3 / 6			
	reaction time		3.72	3.81	3.87	3.90		4.15	4.32	4.77	4.83	4.71	5.90			11.40	12.37	14.31
	velocity	7.83	9.41	9.19	9.04	8.97	8.75	8.43	8.10	7.34	7.25	7.43	6.78	8.04		9.21	8.49	7.34
	H1 lead leg	L	21	13	13	13	13	13	14	14	14	14	17.5	159.5				
Kendziera, Dave (USA) (1994)	time	5.78	9.41	13.29	17.16	21.06	22.82	25.13	29.31	33.83	38.68	43.65		49.84	2 / 7			
	reaction time		3.63	3.88	3.87	3.90		4.07	4.18	4.52	4.85	4.97	6.19			11.38	12.15	14.34
	velocity	7.79	9.64	9.02	9.04	8.97	8.76	8.60	8.37	7.74	7.22	7.04	6.46	8.03		9.23	8.64	7.32
	H1 lead leg	R	20	13	13	13	13	13	13	14	15	16	18	161				
Rosser, Khallifah (USA) (199)	time	6.00	9.92	13.59	17.54	21.65	23.47	25.77	30.26	35.17	40.48	45.76		53.18	9 / 8			
	reaction time		3.92	3.67	3.95	4.11		4.12	4.49	4.91	5.31	5.28	7.42			11.54	12.72	15.50
	velocity	7.50	8.93	9.54	8.86	8.52	8.52	8.50	7.80	7.13	6.59	6.63	5.39	7.52		9.10	8.25	6.77
	H1 lead leg	R	20	13	13	13	13	13	13	15	15	15	115					
Dean, Caleb (USA) (2001)	time	5.63	9.26	12.97	16.74	20.55	22.35	24.59	28.85	33.38				dnf	5 / --			
	reaction time		3.63	3.71	3.77	3.81		4.04	4.26	4.53						11.11	12.11	
	velocity	7.99	9.64	9.43	9.28	9.19	8.95	8.66	8.22	7.73						9.45	8.67	
	H1 lead leg	R	20	13	13	13	13	13	14	14				113				

Semi-Final 3

date 28-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.74	9.26	12.90	16.79	20.74	22.56	24.76	28.86	33.15	37.62	42.24		47.97	7 / 1			
	reaction time		3.52	3.64	3.89	3.95		4.02	4.10	4.29	4.47	4.62	5.73			11.05	12.07	13.38
	velocity	7.84	9.94	9.62	9.00	8.86	8.87	8.71	8.54	8.16	7.83	7.58	6.98	8.34		9.50	8.70	7.85
	H1 lead leg	R	20	13	13	13	13	13	13	13	13	13	17	154				
Allen, CJ (USA) (1995)	time	5.86	9.46	13.10	16.92	20.83	22.61	24.77	28.92	33.34	37.89	42.52		48.16	5 / 2			
	reaction time		3.60	3.64	3.82	3.91		3.94	4.15	4.42	4.55	4.63	5.64			11.06	12.00	13.60
	velocity	7.68	9.72	9.62	9.16	8.95	8.85	8.88	8.43	7.92	7.69	7.56	7.09	8.31		9.49	8.75	7.72
	H1 lead leg	L	20	13	13	13	13	13	13	14	14	15	17.2	158.2				
Bailey, Aldrich (USA) (1994)	time	5.87	9.58	13.32	17.09	21.01	22.79	25.01	29.26	33.83	38.63	43.20		48.69	6 / 3			
	reaction time		3.71	3.74	3.77	3.92		4.00	4.25	4.57	4.80	4.57	5.49			11.22	12.17	13.94
	velocity	7.67	9.43	9.36	9.28	8.93	8.78	8.75	8.24	7.66	7.29	7.66	7.29	8.22		9.36	8.63	7.53
	H1 lead leg	L	21	13	13	13	13	13	13	14	14	14	17	158				
Kendziera, Dave (USA) (1994)	time	5.90	9.58	13.34	17.21	21.08	22.91	25.24	29.53	34.05	38.86	43.58		49.22	8 / 4			
	reaction time		3.68	3.76	3.87	3.87		4.16	4.29	4.52	4.81	4.72	5.64	PB		11.31	12.32	14.05
	velocity	7.63	9.51	9.31	9.04	9.04	8.73	8.41	8.16	7.74	7.28	7.42	7.09	8.13		9.28	8.52	7.47
	H1 lead leg	R	13	13	13	13	13	13	13	14	14	14	17.5	137.5				
Shirley, Aaron (USA) (2001)	time	5.95	9.69	13.57	17.40	21.48	23.31	25.60	30.05	34.59	39.49	44.26		49.58	9 / 5			
	reaction time		3.74	3.88	3.83	4.08		4.12	4.45	4.54	4.90	4.77	5.32	PB		11.45	12.65	14.21
	velocity	7.56	9.36	9.02	9.14	8.58	8.58	8.50	7.87	7.71	7.14	7.34	7.52	8.07		9.17	8.30	7.39
	H1 lead leg	L	14	14	14	14	14	14	14	14	16	15	18	147				
Burrell, Sean (USA) (2002)	time	5.97	9.81	13.78	17.84	21.87	23.77	26.11	30.55	35.16	39.80	44.44		50.26	4 / 6			
	reaction time		3.84	3.97	4.06	4.03		4.24	4.44	4.61	4.64	4.64	5.82			11.87	12.71	13.89
	velocity	7.54	9.11	8.82	8.62	8.68	8.41	8.25	7.88	7.59	7.54	7.54	6.87	7.96		8.85	8.26	7.56
	H1 lead leg	L	22	14	14	14	14	15	15	15	15	15	18	171				
Matthews, Brian (USA) (200)	time	5.90	9.73	13.63	17.61	21.62	23.56	26.06	30.58	35.35	40.26	45.09		50.83	2 / 7			
	reaction time		3.83	3.90	3.98	4.01		4.44	4.52	4.77	4.91	4.83	5.74			11.71	12.97	14.51
	velocity	7.63	9.14	8.97	8.79	8.73	8.49	7.88	7.74	7.34	7.13	7.25	6.97	7.87		8.97	8.10	7.24
	H1 lead leg	R	24	15	15	15	15	15	16	16	16	17	21.5	185.5				
Romig, Cole (USA) (2002)	time	6.27	10.36	14.50	18.76	23.02	24.91	27.43	31.84	36.46	41.15	45.91		51.22	1 / 8			
	reaction time		4.09	4.14	4.26	4.26		4.41	4.41	4.62	4.69	4.76	5.31			12.49	13.08	14.07
	velocity	7.18	8.56	8.45	8.22	8.22	8.03	7.94	7.94	7.58	7.46	7.35	7.53	7.81		8.41	8.03	7.46
	H1 lead leg	L	23	15	15	15	15	15	15	15	15	15	18.2	176.2				
McAlvey, Jared (USA) (2001)	time	5.88	9.69	13.58	17.56	21.55	23.47	25.84	30.31	35.03	39.98	45.16		51.78	3 / 9			
	reaction time		3.81	3.89	3.98	3.99		4.29	4.47	4.72	4.95	5.18	6.62			11.68	12.75	14.85
	velocity	7.65	9.19	9.00	8.79	8.77	8.52	8.16	7.83	7.42	7.07	6.76	6.04	7.72		8.99	8.24	7.07
	H1 lead leg	L	21	14	14	14	14	14	15	15	15	15	19	170				

Semi-Final 2

date 28-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Dean, Caleb (USA) (2001)	time	5.81	9.50	13.25	17.04	20.94	22.61	24.83	29.27	33.84	38.56	43.44		48.92	7 / 1				
	reaction time		interval	3.69	3.75	3.79	3.90		3.89	4.44	4.57	4.72	4.88	5.48		11.23	12.23	14.17	
		velocity	7.75	9.49	9.33	9.23	8.97	8.85	9.00	7.88	7.66	7.42	7.17	7.30	8.18		9.35	8.59	7.41
	H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	15	17.7	163.7				
Rosser, Khalfifah (USA) (199)	time	5.93	9.65	13.40	17.35	21.39	23.12	25.39	29.79	34.38	39.16	44.01		49.72	6 / 2				
	reaction time		interval	3.72	3.75	3.95	4.04		4.00	4.40	4.59	4.78	4.85	5.71		11.42	12.44	14.22	
		velocity	7.59	9.41	9.33	8.86	8.66	8.65	8.75	7.95	7.63	7.32	7.22	7.01	8.05		9.19	8.44	7.38
	H1 lead leg	R	strides	20	13	13	13	13	14	14	14	14	15	17.5	160.5				
Nilsson, Vance (USA) (2005)	time	6.02	9.79	13.63	17.60	21.63	23.44	25.75	30.20	34.93	39.74	44.49		49.77	8 / 3				
	reaction time		interval	3.77	3.84	3.97	4.03		4.12	4.45	4.73	4.81	4.75	5.28	PB	11.58	12.60	14.29	
		velocity	7.48	9.28	9.11	8.82	8.68	8.53	8.50	7.87	7.40	7.28	7.37	7.58	8.04		9.07	8.33	7.35
	H1 lead leg	R	strides	20	13	13	13	13	13	13	14	14	15	17	158				
Fields, Ryan (USA) (2000)	time	6.02	9.91	13.86	17.86	22.15	24.05	26.42	30.90	35.62	40.44	45.22		50.78	5 / 4				
	reaction time		interval	3.89	3.95	4.00	4.29		4.27	4.48	4.72	4.82	4.78	5.56		11.84	13.04	14.32	
		velocity	7.48	9.00	8.86	8.75	8.16	8.32	8.20	7.81	7.42	7.26	7.32	7.19	7.88		8.87	8.05	7.33
	H1 lead leg	R	strides	21	14	14	15	15	15	15	15	15	15	18	172				
Sherman, Alex (USA) (2003)	time	6.14	9.99	14.04	18.14	22.16	24.16	26.56	31.14	35.97	40.85	45.73		51.33	4 / 5				
	reaction time		interval	3.85	4.05	4.10	4.02		4.40	4.58	4.83	4.88	4.88	5.60		12.00	13.00	14.59	
		velocity	7.33	9.09	8.64	8.54	8.71	8.28	7.95	7.64	7.25	7.17	7.17	7.14	7.79		8.75	8.08	7.20
	H1 lead leg	R	strides	22	14	14	14	14	15	15	15	15	15	18.5	171.5				
Elder, Clayton (USA) (2001)	time	6.14	10.15	14.16	18.20	22.26	24.15	26.64	31.09	35.89	40.79	45.75		51.72	1 / 6				
	reaction time		interval	4.01	4.01	4.04	4.06		4.38	4.45	4.80	4.90	4.96	5.97		12.06	12.89	14.66	
		velocity	7.33	8.73	8.73	8.66	8.62	8.28	7.99	7.87	7.29	7.14	7.06	6.70	7.73		8.71	8.15	7.16
	H1 lead leg	L	strides	24	16	15	15	15	16	16	17	17	17	20.2	188.2				
Birchman, Jonathan (USA) (2001)	time	5.98	9.89	13.98	18.07	22.34	24.24	26.45	31.13	35.84	40.75	45.82		51.86	9 / 7				
	reaction time		interval	3.91	4.09	4.09	4.27		4.11	4.68	4.71	4.91	5.07	6.04		12.09	13.06	14.69	
		velocity	7.53	8.95	8.56	8.56	8.20	8.25	8.52	7.48	7.43	7.13	6.90	6.62	7.71		8.68	8.04	7.15
	H1 lead leg	L	strides	21	14	14	14	14	14	15	15	15	15	18	169				
Woodell, Jameson (USA) (2001)	time	6.09	9.98	14.03	18.22	22.62	24.60	27.20	31.93	36.85	41.98	46.98		52.77	2 / 8				
	reaction time		interval	3.89	4.05	4.19	4.40		4.58	4.73	4.92	5.13	5.00	5.79		12.13	13.71	15.05	
		velocity	7.39	9.00	8.64	8.35	7.95	8.13	7.64	7.40	7.11	6.82	7.00	6.91	7.58		8.66	7.66	6.98
	H1 lead leg	L	strides	22	14	14	14	14	15	15	15	15	15	138					
Schneider, Drake (USA) (199)	time	5.93	9.67	13.62	17.70	21.90	23.85	26.24	30.75	35.71	41.37	47.11		53.77	3 / 9				
	reaction time		interval	3.74	3.95	4.08	4.20		4.34	4.51	4.96	5.66	5.74	6.66		11.77	13.05	16.36	
		velocity	7.59	9.36	8.86	8.58	8.33	8.39	8.06	7.76	7.06	6.18	6.10	6.01	7.44		8.92	8.05	6.42
	H1 lead leg	R	strides	20	13	13	13	13	13	14	16	17	16	148					

Semi-Final 1

date 28-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Bassitt, Trevor (USA) (1998)	time	5.91	9.62	13.40	17.27	21.26	23.03	25.26	29.47	33.88	38.58	43.38		49.02	8 / 1				
	reaction time		interval	3.71	3.78	3.87	3.99		4.00	4.21	4.41	4.70	4.80	5.64		11.36	12.20	13.91	
		velocity	7.61	9.43	9.26	9.04	8.77	8.68	8.75	8.31	7.94	7.45	7.29	7.09	8.16		9.24	8.61	7.55
	H1 lead leg	R	strides	13	13	13	13	13	13	13	13	14	14	16	135				
Robinson, Chris (USA) (200)	time	5.91	9.58	13.32	17.14	20.97	22.72	25.01	29.44	34.06	38.87	43.64		49.34	5 / 2				
	reaction time		interval	3.67	3.74	3.82	3.83		4.04	4.43	4.62	4.81	4.77	5.70		11.23	12.30	14.20	
		velocity	7.61	9.54	9.36	9.16	9.14	8.80	8.66	7.90	7.58	7.28	7.34	7.02	8.11		9.35	8.54	7.39
	H1 lead leg	R	strides	21	13	13	13	13	14	14	14	15	15	18.5	163.5				
Smith, James (USA) (2000)	time	5.99	9.75	13.58	17.49	21.48	23.34	25.54	30.03	34.57	39.23	43.83		49.43	6 / 3				
	reaction time		interval	3.76	3.83	3.91	3.99		4.06	4.49	4.54	4.66	4.60	5.60		11.50	12.54	13.80	
		velocity	7.51	9.31	9.14	8.95	8.77	8.57	8.62	7.80	7.71	7.51	7.61	7.14	8.09		9.13	8.37	7.61
	H1 lead leg	L	strides	21	13	13	13	13	13	14	14	15	15	18	162				
Long, Corde (USA) (2002)	time	6.02	9.79	13.58	17.45	21.48	23.31	25.68	30.13	34.73	39.54	44.27		50.05	7 / 4				
	reaction time		interval	3.77	3.79	3.87	4.03		4.20	4.45	4.60	4.81	4.73	5.78		11.43	12.68	14.14	
		velocity	7.48	9.28	9.23	9.04	8.68	8.58	8.33	7.87	7.61	7.28	7.40	6.92	7.99		9.19	8.28	7.43
	H1 lead leg	L	strides		13	13	13	13	13	13	13	14	14	16.5	136.5				
Hartman, Samuel (USA) (199)	time	6.16	9.99	13.87	17.84	21.73	23.56	25.78	30.13	34.93	39.84	44.72		50.50	3 / 5				
	reaction time		interval	3.83	3.88	3.97	3.89		4.05	4.35	4.80	4.91	4.88	5.78		11.68	12.29	14.59	
		velocity	7.31	9.14	9.02	8.82	9.00	8.49	8.64	8.05	7.29	7.13	7.17	6.92	7.92		8.99	8.54	7.20
	H1 lead leg	R	strides		13	13	13	13	13	13	15	15	15	18.2	141.2				
Hamm, Shareez (USA) (1998)	time	6.02	9.80	13.75	17.79	21.94	23.82	26.38	30.97	35.64	40.34	45.09		51.02	1 / 6				
	reaction time		interval	3.78	3.95	4.04	4.15		4.44	4.59	4.67	4.70	4.75	5.93		11.77	13.18	14.12	
		velocity	7.48	9.26	8.86	8.66	8.43	8.40	7.88	7.63	7.49	7.45	7.37	6.75	7.84		8.92	7.97	7.44
	H1 lead leg	L	strides	22	14	14	14	14	14	15	15	15	16	19	172				

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

Brinkley, Chris (USA) (2003)	time	5.93	9.74	13.62	17.65	21.91	23.73	26.12	30.67	35.40	40.37	45.12	51.20	9 / 7			
	reaction time		3.81	3.88	4.03	4.26		4.21	4.55	4.73	4.97	4.75	6.08		11.72	13.02	14.45
	velocity	7.59	9.19	9.02	8.68	8.22	8.43	8.31	7.69	7.40	7.04	7.37	6.58	7.81	8.96	8.06	7.27
	H1 lead leg	L	13	13	14	14		15	15	15	15	15	19	148			
Matulonis, Ryan (USA) (2004)	time	5.91	9.70	13.55	17.53	21.58	23.57	25.95	30.55	35.31	40.21	45.42	51.30	4 / 8			
	reaction time		3.79	3.85	3.98	4.05		4.37	4.60	4.76	4.90	5.21	5.88		11.62	13.02	14.87
	velocity	7.61	9.23	9.09	8.79	8.64	8.49	8.01	7.61	7.35	7.14	6.72	6.80	7.80	9.04	8.06	7.06
	H1 lead leg	L	21	13	13	13	13	14	14	14	15	16	18	164			
Cavanaugh, Caleb (USA) (2019)	time	5.87	9.67	13.62	17.68	21.75	23.85	26.14	30.87	35.78	41.12	46.38	53.06	2 / 9			
	reaction time		3.80	3.95	4.06	4.07		4.39	4.73	4.91	5.34	5.26	6.68		11.81	13.19	15.51
	velocity	7.67	9.21	8.86	8.62	8.60	8.39	7.97	7.40	7.13	6.55	6.65	5.99	7.54	8.89	7.96	6.77
	H1 lead leg	R	22	13	14	14	14	15	15	15	16	16	19	173			

Heat 5

date 27-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Allen, CJ (USA) (1995)	time	5.67	9.36	13.33	17.36	21.43	23.17	25.42	29.69	34.18	38.93	43.79		50.08	8 / 1			
	reaction time		3.69	3.97	4.03	4.07		3.99	4.27	4.49	4.75	4.86	6.29			11.69	12.33	14.10
	velocity	7.94	9.49	8.82	8.68	8.60	8.63	8.77	8.20	7.80	7.37	7.20	6.36	7.99		8.98	8.52	7.45
	H1 lead leg	L	20	13	13	13	13	13	13	14	14	15	18	159				
Kendziera, Dave (USA) (1994)	time	5.84	9.56	13.52	17.56	21.62	23.48	25.83	30.28	35.05	39.98	44.96		50.72	3 / 2			
	reaction time		3.72	3.96	4.04	4.06		4.21	4.45	4.77	4.93	4.98	5.76			11.72	12.72	14.68
	velocity	7.71	9.41	8.84	8.66	8.62	8.52	8.31	7.87	7.34	7.10	7.03	6.94	7.89		8.96	8.25	7.15
	H1 lead leg	R	20	13	13	13	13	13	13	14	14	15	18	159				
Matulonis, Ryan (USA) (2004)	time	5.79	9.54	13.42	17.49	21.76	23.74	26.27	30.85	35.61	40.49	45.14		50.73	6 / 3			
	reaction time		3.75	3.88	4.07	4.27		4.51	4.58	4.76	4.88	4.65	5.59			11.70	13.36	14.29
	velocity	7.77	9.33	9.02	8.60	8.20	8.42	7.76	7.64	7.35	7.17	7.53	7.16	7.88		8.97	7.86	7.35
	H1 lead leg	L	20	13	13	13	14	14	14	14	15	15	18	163				
Sherman, Alex (USA) (2003)	time	6.04	9.91	13.80	17.88	22.00	23.89	26.34	30.92	35.65	40.47	45.26		50.76	5 / 4			
	reaction time		3.87	3.89	4.08	4.12		4.34	4.58	4.73	4.82	4.79	5.50			11.84	13.04	14.34
	velocity	7.45	9.04	9.00	8.58	8.50	8.37	8.06	7.64	7.40	7.26	7.31	7.27	7.88		8.87	8.05	7.32
	H1 lead leg	R	22	14	14	14	14	14	15	15	15	15	18.7	170.7				
Matthews, Brian (USA) (2001)	time	5.92	9.81	13.80	17.88	22.05	23.96	26.39	30.94	35.67	40.43	45.18		50.81	4 / 5			
	reaction time		3.89	3.99	4.08	4.17		4.34	4.55	4.73	4.76	4.75	5.63	PB		11.96	13.06	14.24
	velocity	7.60	9.00	8.77	8.58	8.39	8.35	8.06	7.69	7.40	7.35	7.37	7.10	7.87		8.78	8.04	7.37
	H1 lead leg	R	24	15	15	15	15	15	16	16	17	17	21	186				
Hamm, Shareez (USA) (1998)	time	6.00	9.76	13.67	17.78	22.08	23.96	26.52	31.28	35.88	40.50	45.29		50.92	7 / 6			
	reaction time		3.76	3.91	4.11	4.30		4.44	4.76	4.60	4.62	4.79	5.63			11.78	13.50	14.01
	velocity	7.50	9.31	8.95	8.52	8.14	8.35	7.88	7.35	7.61	7.58	7.31	7.10	7.86		8.91	7.78	7.49
	H1 lead leg	L	22	14	14	14	14	14	15	15	15	15	19	171				
Branker, Xavier (USA) (2005)	time	6.14	10.16	14.23	18.28	22.83	24.91	27.41	31.93	36.58	41.42	46.13		51.77	9 / 7			
	reaction time		4.02	4.07	4.05	4.55		4.58	4.52	4.65	4.84	4.71	5.64			12.14	13.65	14.20
	velocity	7.33	8.71	8.60	8.64	7.69	8.03	7.64	7.74	7.53	7.23	7.43	7.09	7.73		8.65	7.69	7.39
	H1 lead leg	L	13	13	13	15	15	15	15	15	15	15	17.2	146.2				

Heat 4

date 27-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Bassitt, Trevor (USA) (1998)	time	5.96	9.67	13.62	17.60	21.61	23.38	25.72	30.11	34.72	39.63	44.49		50.29	7 / 1			
	reaction time		3.71	3.95	3.98	4.01		4.11	4.39	4.61	4.91	4.86	5.80			11.64	12.51	14.38
	velocity	7.55	9.43	8.86	8.79	8.73	8.55	8.52	7.97	7.59	7.13	7.20	6.90	7.95		9.02	8.39	7.30
	H1 lead leg	R	20	13	13	13	13	13	13	14	14	14	16.2	156.2				
Bailey, Aldrich (USA) (1994)	time	5.98	9.72	13.59	17.55	21.53	23.37	25.70	30.10	34.89	39.71	44.72		50.41	3 / 2			
	reaction time		3.74	3.87	3.96	3.98		4.17	4.40	4.79	4.82	5.01	5.69			11.57	12.55	14.62
	velocity	7.53	9.36	9.04	8.84	8.79	8.56	8.39	7.95	7.31	7.26	6.99	7.03	7.93		9.08	8.37	7.18
	H1 lead leg	L	21	13	13	13	13	13	13	14	14	14	17	158				
Birchman, Jonathan (USA) (time)	time	6.12	10.09	14.20	18.47	22.66	24.48	26.85	31.25	35.88	40.63	45.30		50.68	6 / 3			
	reaction time		3.97	4.11	4.27	4.19		4.19	4.40	4.63	4.75	4.67	5.38			12.35	12.78	14.05
	velocity	7.35	8.82	8.52	8.20	8.35	8.17	8.35	7.95	7.56	7.37	7.49	7.43	7.89		8.50	8.22	7.47
	H1 lead leg	L	21	14	14	14	14	14	15	15	15	15	18	169				
Hartman, Samuel (USA) (199)	time	6.17	10.05	14.00	17.96	21.96	23.74	26.04	30.40	35.13	39.89	45.09		50.98	9 / 4			
	reaction time		3.88	3.95	3.96	4.00		4.08	4.36	4.73	4.76	5.20	5.89			11.79	12.44	14.69
	velocity	7.29	9.02	8.86	8.84	8.75	8.42	8.58	8.03	7.40	7.35	6.73	6.79	7.85		8.91	8.44	7.15
	H1 lead leg	R	21	13	13	13	13	13	14	14	14	15	19	162				
Schneider, Drake (USA) (199)	time	5.87	9.57	13.40	17.49	21.62	23.47	25.82	30.39	35.17	40.18	45.41		51.50	5 / 5			
	reaction time		3.70	3.83	4.09	4.13		4.20	4.57	4.78	5.01	5.23	6.09			11.62	12.90	15.02
	velocity	7.67	9.46	9.14	8.56	8.47	8.52	8.33	7.66	7.32	6.99	6.69	6.57	7.77		9.04	8.14	6.99

H1 lead leg	R	strides	20	13	13	13	13	13	13	14	14	14	15	18	160				
Reemtsma, Will (USA) (2001)	time		6.15	10.08	14.22	18.48	22.81	24.71	27.16	31.77	36.70	41.60	46.57		52.39	8 / 6			
reaction time	interval			3.93	4.14	4.26	4.33		4.35	4.61	4.93	4.90	4.97	5.82			12.33	13.29	14.80
	velocity		7.32	8.91	8.45	8.22	8.08	8.09	8.05	7.59	7.10	7.14	7.04	6.87	7.64		8.52	7.90	7.09
H1 lead leg	L	strides	21	14	14	14	14		15	15	16	15			138				
Williams, Robert (USA) (200)	time		6.09	9.80	13.73	17.70	21.70	23.58	26.01	30.84	35.95	41.43	46.85		53.52	4 / 4			
reaction time	interval			3.71	3.93	3.97	4.00		4.31	4.83	5.11	5.48	5.42	6.67			11.61	13.14	16.01
	velocity		7.39	9.43	8.91	8.82	8.75	8.48	8.12	7.25	6.85	6.39	6.46	6.00	7.47		9.04	7.99	6.56
H1 lead leg	R	strides	20	13	13	13	13		14	15	16	16	15		148				

Heat 3

date 27-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Dean, Caleb (USA) (2001)	time		5.82	9.42	13.09	16.88	20.68	22.45	24.77	29.17	33.85	38.79	43.61		49.45	8 / 1			
reaction time	interval			3.60	3.67	3.79	3.80		4.09	4.40	4.68	4.94	4.82	5.84			11.06	12.29	14.44
	velocity		7.73	9.72	9.54	9.23	9.21	8.91	8.56	7.95	7.48	7.09	7.26	6.85	8.09		9.49	8.54	7.27
H1 lead leg	R	strides	21	13	13	13	13		14	14	14	16	15	18	164				
Nilsson, Vance (USA) (2005)	time		6.03	9.85	13.69	17.60	21.62	23.45	25.79	30.12	34.70	39.56	44.44		50.13	9 / 2			
reaction time	interval			3.82	3.84	3.91	4.02		4.17	4.33	4.58	4.86	4.88	5.69	PB		11.57	12.52	14.32
	velocity		7.46	9.16	9.11	8.95	8.71	8.53	8.39	8.08	7.64	7.20	7.17	7.03	7.98		9.08	8.39	7.33
H1 lead leg	R	strides	20	13	13	13	13		13	13	13	15	15	17	158				
Burrell, Sean (USA) (2002)	time		5.97	9.86	13.86	17.91	22.01	23.88	26.23	30.68	35.34	40.15	44.88		50.76	6 / 3			
reaction time	interval			3.89	4.00	4.05	4.10		4.22	4.45	4.66	4.81	4.73	5.88			11.94	12.77	14.20
	velocity		7.54	9.00	8.75	8.64	8.54	8.38	8.29	7.87	7.51	7.28	7.40	6.80	7.88		8.79	8.22	7.39
H1 lead leg	L	strides	22	14	14	14	14		15	15	15	15	15	18	171				
Woodell, Jameson (USA) (21)	time		6.18	10.05	14.02	18.22	22.54	24.51	27.01	31.50	36.29	41.06	45.63		50.90	5 / 4			
reaction time	interval			3.87	3.97	4.20	4.32		4.47	4.49	4.79	4.77	4.57	5.27			12.04	13.28	14.13
	velocity		7.28	9.04	8.82	8.33	8.10	8.16	7.83	7.80	7.31	7.34	7.66	7.59	7.86		8.72	7.91	7.43
H1 lead leg	L	strides	22	14	14	14	14		15	15	15	15	15	18	171				
Cavanaugh, Caleb (USA) (20)	time		6.02	9.87	13.92	18.01	22.15	24.04	26.56	31.07	35.84	40.76	45.65		51.50	3 / 5			
reaction time	interval			3.85	4.05	4.09	4.14		4.41	4.51	4.77	4.92	4.89	5.85			11.99	13.06	14.58
	velocity		7.48	9.09	8.64	8.56	8.45	8.32	7.94	7.76	7.34	7.11	7.16	6.84	7.77		8.76	8.04	7.20
H1 lead leg	R	strides	22	14	14	14	14		15	15	15	15	15	18	171				
Hackett, Darek (USA) (2002)	time		5.85	9.71	13.48	17.49	21.54	23.43	25.81	30.36	35.24	40.32	45.78		52.78	7 / 6			
reaction time	interval			3.86	3.77	4.01	4.05		4.27	4.55	4.88	5.08	5.46	7.00			11.64	12.87	15.42
	velocity		7.69	9.07	9.28	8.73	8.64	8.54	8.20	7.69	7.17	6.89	6.41	5.71	7.58		9.02	8.16	6.81
H1 lead leg	L	strides	24	15	14	14	14		14	15	15	16	16	20.5	177.5				
Guillaume, Jacques (USA) (21)	time		6.12	9.83	13.69	17.60	21.52	23.42	25.84	30.40	35.50	40.69	45.76		55.09	4 / 2			
reaction time	interval			3.71	3.86	3.91	3.92		4.32	4.56	5.10	5.19	5.07	9.33	DQ		11.48	12.80	15.36
	velocity		7.35	9.43	9.07	8.95	8.93	8.54	8.10	7.68	6.86	6.74	6.90	4.29	7.26		9.15	8.20	6.84
H1 lead leg	L	strides	21	13	13	13	13		14	15	16	16			134				

Heat 2

date 27-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Robinson, Chris (USA) (200)	time		6.00	9.72	13.47	17.28	21.19	22.94	25.32	29.78	34.40	39.01	43.78		49.54	7 / 1			
reaction time	interval			3.72	3.75	3.81	3.91		4.13	4.46	4.62	4.61	4.77	5.76			11.28	12.50	14.00
	velocity		7.50	9.41	9.33	9.19	8.95	8.72	8.47	7.85	7.58	7.59	7.34	6.94	8.07		9.31	8.40	7.50
H1 lead leg	R	strides	20	13	13	13	13			15	15	15	15	18.2	150.2				
Rosser, Khalfifah (USA) (199)	time		5.91	9.67	13.50	17.40	21.36	23.14	25.35	29.67	34.32	39.06	43.95		49.93	6 / 2			
reaction time	interval			3.76	3.83	3.90	3.96		3.99	4.32	4.65	4.74	4.89	5.98			11.49	12.27	14.28
	velocity		7.61	9.31	9.14	8.97	8.84	8.64	8.77	8.10	7.53	7.38	7.16	6.69	8.01		9.14	8.56	7.35
H1 lead leg	R	strides	20	13	13	13	13		13	13	14	14	15	17.5	158.5				
Fields, Ryan (USA) (2000)	time		6.10	10.05	14.07	17.95	22.12	24.05	26.42	30.83	35.44	40.11	44.90		50.50	9 / 3			
reaction time	interval			3.95	4.02	3.88	4.17		4.30	4.41	4.61	4.67	4.79	5.60			11.85	12.88	14.07
	velocity		7.38	8.86	8.71	9.02	8.39	8.32	8.14	7.94	7.59	7.49	7.31	7.14	7.92		8.86	8.15	7.46
H1 lead leg	R	strides		14	14	13	14		14	15	15			18	117				
Brinkley, Chris (USA) (2003)	time		6.13	9.92	13.87	17.84	21.90	23.83	26.15	30.59	35.40	40.14	44.96		50.71	4 / 4			
reaction time	interval			3.79	3.95	3.97	4.06		4.25	4.44	4.81	4.74	4.82	5.75			11.71	12.75	14.37
	velocity		7.34	9.23	8.86	8.82	8.62	8.39	8.24	7.88	7.28	7.38	7.26	6.96	7.89		8.97	8.24	7.31
H1 lead leg	L	strides	22	13	13	13	14				15	15	15	19	139				
McAlvey, Jared (USA) (2001)	time		6.06	9.98	13.92	17.99	22.18	24.04	26.34	30.83	35.54	40.25	45.14		50.91	8 / 5			
reaction time	interval			3.92	3.94	4.07	4.19		4.16	4.49	4.71	4.71	4.89	5.77			11.93	12.84	14.31
	velocity		7.43	8.93	8.88	8.60	8.35	8.32	8.41	7.80	7.43	7.43	7.16	6.93	7.86		8.80	8.18	7.34
H1 lead leg	L	strides	21	14	14	14	14		14	15	15			18.5	139.5				
Romig, Cole (USA) (2002)	time		6.34	10.41	14.46	18.61	22.88	24.83	27.26	31.78	36.44	41.08	45.75		51.01	5 / 6			
reaction time	interval			4.07	4.05	4.15	4.27		4.38	4.52	4.66	4.64	4.67	5.26			12.27	13.17	13.97

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

	velocity	7.10	8.60	8.64	8.43	8.20	8.05	7.99	7.74	7.51	7.54	7.49	7.60	7.84	8.56	7.97	7.52
H1 lead leg	L	strides	22	15	15	15	15			15	15	15	19	146			

Henson (2024) - Athlete First: 2024 year end hurdle report

Heat 1

date 27-Jun-24

USATF and Karmarush (2024) - USA Olympic trials results and race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.86	9.62	13.48	17.56	21.57	23.40	25.64	29.71	34.03	38.57	43.38		49.56	7 / 1			
	reaction time		interval													11.70	12.15	13.67
	velocity	7.68	9.31	9.07	8.58	8.73	8.55	8.60	8.60	8.10	7.71	7.28	6.47	8.07		8.97	8.64	7.68
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	14	17.5	155.5				
Smith, James (USA) (2000)	time	6.10	9.96	13.87	17.86	21.91	23.79	26.10	30.53	35.08	39.73	44.39		50.28	6 / 2			
	reaction time		interval													11.76	12.67	13.86
	velocity	7.38	9.07	8.95	8.77	8.64	8.41	8.35	7.90	7.69	7.53	7.51	6.79	7.96		8.93	8.29	7.58
H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	15	18	164				
Long, Corde (USA) (2002)	time	6.20	10.03	13.90	17.97	22.15		26.47	31.13	35.73	40.50	45.20		50.42	8 / 3			Henson (2024)
	reaction time		interval													11.77	13.16	14.07
	velocity	7.26	9.14	9.04	8.60	8.37		8.10	7.51	7.61	7.34	7.45	7.66	7.93		8.92	7.98	7.46
H1 lead leg	L	strides	21	13	13	13	13	13	14	14	14	14	16.2	158.2				
Shirley, Aaron (USA) (2001)	time	6.10	9.90	13.85	17.84	21.86	23.64	25.99	30.39	34.93	40.17	45.03		50.44	4 / 4			
	reaction time		interval													11.74	12.55	14.64
	velocity	7.38	9.21	8.86	8.77	8.71	8.46	8.47	7.95	7.71	6.68	7.20	7.39	7.93		8.94	8.37	7.17
H1 lead leg	L	strides	21	14	14	14	14	14	14	16	16	15	18	170				
Elder, Clayton (USA) (2001)	time	6.03	9.86	13.72	17.60	21.71	23.61	25.99	30.51	35.37	40.38	45.65		51.98	9 / 5			
	reaction time		interval													11.57	12.91	15.14
	velocity	7.46	9.14	9.07	9.02	8.52	8.47	8.18	7.74	7.20	6.99	6.64	6.32	7.70		9.08	8.13	6.94
H1 lead leg	R	strides	23	15	15	15	16	16	16	17	17	18	21	189				
Langford, Noah (USA) (1999)	time	6.01	9.74	13.63	17.49	21.49	23.33	25.73	30.21	34.97	39.90	45.10		53.27	3 / 6			
	reaction time		interval													11.48	12.72	14.89
	velocity	7.49	9.38	9.00	9.07	8.75	8.57	8.25	7.81	7.35	7.10	6.73	4.90	7.51		9.15	8.25	7.05
H1 lead leg	R	strides	21	13	13	13	13	13	15	15	15	15	146					

2024 European Athletics Championships (Roma, ITA)

FINAL

date 11-Jun-24

European Athletics (2024) - 2024 european athletics championships - results book

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1988)	time	5.62	9.12	12.81	16.51	20.35		24.24	28.21	32.36	36.93	41.56		46.98	8 / 1			
	reaction time	0.184	interval													10.89	11.70	13.35
	velocity	8.01	10.00	9.49	9.46	9.11		9.00	8.82	8.43	7.66	7.56	7.38	8.51		9.64	8.97	7.87
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	14	14	18	157				
Sibilio, Alessandro (ITA) (1994)	time	5.78	9.49	13.20	16.96	20.86		24.78	28.91	33.23	37.78	42.21		47.50	7 / 2			
	reaction time	0.174	interval													11.18	11.95	13.30
	velocity	7.79	9.43	9.43	9.31	8.97		8.93	8.47	8.10	7.69	7.90	7.56	8.42		9.39	8.79	7.89
H1 lead leg	R	strides	21	13	13	13	13	13	14	14	15	15	18	136				
Bengtström, Carl (SWE) (2000)	time	5.77	9.50	13.27	17.09	21.18		25.31	29.54	33.84	38.28	42.72		47.94	9 / 3			
	reaction time	0.167	interval													11.32	12.45	13.18
	velocity	7.80	9.38	9.28	9.16	8.56		8.47	8.27	8.14	7.88	7.88	7.66	8.34		9.28	8.43	7.97
H1 lead leg	L	strides	22	14	14	14	14	15	15	15	15	19	142					
Mägi, Rasmus (EST) (1992)	time	5.83	9.54	13.38	17.19	21.12		25.15	29.25	33.65	38.22	42.73		48.13	5 / 4			
	reaction time	0.138	interval													11.36	12.06	13.48
	velocity	7.72	9.43	9.11	9.19	8.91		8.68	8.54	7.95	7.66	7.76	7.41	8.31		9.24	8.71	7.79
H1 lead leg	R	strides	20	13	13	13	13	13	13	14	14	14	17.2	144.2				
Akçam, Berke (TUR) (2002)	time	5.84	9.56	13.43	17.25	21.21		25.26	29.38	33.72	38.23	42.82		48.17	6 / 5			
	reaction time	0.172	interval													11.41	12.13	13.44
	velocity	7.71	9.41	9.04	9.16	8.84		8.64	8.50	8.06	7.76	7.63	7.48	8.30		9.20	8.66	7.81
H1 lead leg	L	strides	21	13	13	13	13	13	14	14	15	15	19	150				
Agyekum, Emil (GER) (1999)	time	5.93	9.60	13.34	17.23	21.15		25.19	29.34	33.74	38.40	43.05		48.42	3 / 6			
	reaction time	0.179	interval													11.30	12.11	13.71
	velocity	7.59	9.54	9.36	9.00	8.93		8.66	8.43	7.95	7.51	7.53	7.45	8.26		9.29	8.67	7.66
H1 lead leg	L	strides	20	13	13	13	13	13	13	14	14	15	17.5	145.5				
Guček, Matic Ian (SLO) (2003)	time	5.84	9.63	13.48	17.36	21.40		25.44	29.73	34.11	38.76	43.40		48.87	2 / 7			
	reaction time	0.158	interval													11.52	12.37	13.67
	velocity	7.71	9.23	9.09	9.02	8.66		8.66	8.16	7.99	7.53	7.54	7.31	8.18		9.11	8.49	7.68
H1 lead leg	R	strides	22	14	14	14	14	14	14	15	15	15	18.7	155.7				
Smidt, Nick (NED) (1997)	time	5.74	9.43	13.23	17.05	21.01		25.10	29.39	33.79	38.61	43.55		49.43	4 / 8			
	reaction time	0.182	interval													11.31	12.34	14.16
	velocity	7.84	9.49	9.21	9.16	8.84		8.56	8.16	7.95	7.26	7.09	6.80	8.09		9.28	8.51	7.42
H1 lead leg	L	strides	21	13	13	13	13	14	14	14	15	15	18	150				

Semi-Final 3

date 10-Jun-24

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		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Sibilio, Alessandro (ITA) (1991)	time	5.83	9.59	13.45	17.20	20.98		24.92	29.18	33.44	38.08	42.69		48.07	7 / 1			
	reaction time	0.161	interval	3.76	3.86	3.75	3.78	3.94	4.26	4.26	4.64	4.61	5.38			11.37	11.98	13.51
	velocity	7.72	9.31	9.07	9.33	9.26		8.88	8.22	8.22	7.54	7.59	7.43	8.32		9.23	8.76	7.77
	H1 lead leg		strides											0				
Akçam, Berke (TUR) (2002)	time	5.87	9.66	13.50	17.36	21.28		25.36	29.60	33.89	38.40	42.93		48.14	4 / 2			
	reaction time	0.160	interval	3.79	3.84	3.86	3.92	4.08	4.24	4.29	4.51	4.53	5.21			11.49	12.24	13.33
	velocity	7.67	9.23	9.11	9.07	8.93		8.58	8.25	8.16	7.76	7.73	7.68	8.31		9.14	8.58	7.88
	H1 lead leg		strides											0				
Guček, Matic Ian (SLO) (2003)	time	5.86	9.59	13.42	17.23	21.12		25.18	29.34	33.60	38.17	42.85		48.34	8 / 3			
	reaction time	0.186	interval	3.73	3.83	3.81	3.89	4.06	4.16	4.26	4.57	4.68	5.49	NR PB		11.37	12.11	13.51
	velocity	7.68	9.38	9.14	9.19	9.00		8.62	8.41	8.22	7.66	7.48	7.29	8.27		9.23	8.67	7.77
	H1 lead leg		strides											0				
Agyekum, Emil (GER) (1999)	time	5.97	9.68	13.53	17.35	21.24		25.26	29.33	33.67	38.27	42.94		48.36	6 / 4			
	reaction time	0.197	interval	3.71	3.85	3.82	3.89	4.02	4.07	4.34	4.60	4.67	5.42	PB		11.38	11.98	13.61
	velocity	7.54	9.43	9.09	9.16	9.00		8.71	8.60	8.06	7.61	7.49	7.38	8.27		9.23	8.76	7.71
	H1 lead leg		strides											0				
Happio, Wilfried (FRA) (1991)	time	5.83	9.59	13.46	17.33	21.29		25.36	29.55	33.84	38.51	43.18		48.55	5 / 5			
	reaction time	0.168	interval	3.76	3.87	3.87	3.96	4.07	4.19	4.29	4.67	4.67	5.37			11.50	12.22	13.63
	velocity	7.72	9.31	9.04	9.04	8.84		8.60	8.35	8.16	7.49	7.49	7.45	8.24		9.13	8.59	7.70
	H1 lead leg		strides											0				
Müller, Vít (CZE) (1996)	time	5.94	9.70	13.55	17.38	21.32		25.38	29.75	34.27	38.87	43.59		49.25	9 / 6			
	reaction time	0.197	interval	3.76	3.85	3.83	3.94	4.06	4.37	4.52	4.60	4.72	5.66			11.44	12.37	13.84
	velocity	7.58	9.31	9.09	9.14	8.88		8.62	8.01	7.74	7.61	7.42	7.07	8.12		9.18	8.49	7.59
	H1 lead leg		strides											0				
Delgado, Jesús David (ESP)	time	6.03	9.81	13.71	17.70	21.72		25.85	30.19	34.64	39.29	43.88		49.38	3 / 7			
	reaction time	0.271	interval	3.78	3.90	3.99	4.02	4.13	4.34	4.45	4.65	4.59	5.50			11.67	12.49	13.69
	velocity	7.46	9.26	8.97	8.77	8.71		8.47	8.06	7.87	7.53	7.63	7.27	8.10		9.00	8.41	7.67
	H1 lead leg		strides											0				
Thid, David (SWE) (2003)	time	5.86	9.63	13.63	17.66	21.73		25.91	30.19	34.65	39.31	43.91		49.52	2 / 8			
	reaction time	0.150	interval	3.77	4.00	4.03	4.07	4.18	4.28	4.46	4.66	4.60	5.61	PB		11.80	12.53	13.72
	velocity	7.68	9.28	8.75	8.68	8.60		8.37	8.18	7.85	7.51	7.61	7.13	8.08		8.90	8.38	7.65
	H1 lead leg		strides											0				

Semi-Final 2

date 10-Jun-24

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		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Mägi, Rasmus (EST) (1992)	time	5.88	9.54	13.41	17.32	21.30		25.44	29.60	33.91	38.55	43.17		48.43	7 / 1			
	reaction time	0.185	interval	3.66	3.87	3.91	3.98	4.14	4.16	4.31	4.64	4.62	5.26			11.44	12.28	13.57
	velocity	7.65	9.56	9.04	8.95	8.79		8.45	8.41	8.12	7.54	7.58	7.60	8.26		9.18	8.55	7.74
	H1 lead leg		strides											0				
Bengtström, Carl (SWE) (2011)	time	5.80	9.50	13.40	17.35	21.47		25.65	29.91	34.16	38.74	43.36		48.51	8 / 2			
	reaction time	0.182	interval	3.70	3.90	3.95	4.12	4.18	4.26	4.25	4.58	4.62	5.15			11.55	12.56	13.45
	velocity	7.76	9.46	8.97	8.86	8.50		8.37	8.22	8.24	7.64	7.58	7.77	8.25		9.09	8.36	7.81
	H1 lead leg		strides											0				
Chalmers, Alastair (GBR) (2011)	time	5.76	9.43	13.22	16.97	21.00		25.13	29.47	33.87	38.60	43.28		48.76	9 / 3			
	reaction time	0.162	interval	3.67	3.79	3.75	4.03	4.13	4.34	4.40	4.73	4.68	5.48	PB		11.21	12.50	13.81
	velocity	7.81	9.54	9.23	9.33	8.68		8.47	8.06	7.95	7.40	7.48	7.30	8.20		9.37	8.40	7.60
	H1 lead leg		strides											0				
Abuaku, Joshua (GER) (1991)	time	5.82	9.55	13.38	17.24	21.26		25.56	29.87	34.32	39.14	43.80		49.13	5 / 4			
	reaction time	0.170	interval	3.73	3.83	3.86	4.02	4.30	4.31	4.45	4.82	4.66	5.33			11.42	12.63	13.93
	velocity	7.73	9.38	9.14	9.07	8.71		8.14	8.12	7.87	7.26	7.51	7.50	8.14		9.19	8.31	7.54
	H1 lead leg		strides											0				
Fernández, Sérgio (ESP) (1991)	time	5.84	9.53	13.42	17.33	21.38		25.54	29.86	34.37	39.06	43.82		49.34	4 / 5			
	reaction time	0.163	interval	3.69	3.89	3.91	4.05	4.16	4.32	4.51	4.69	4.76	5.52			11.49	12.53	13.96
	velocity	7.71	9.49	9.00	8.95	8.64		8.41	8.10	7.76	7.46	7.35	7.25	8.11		9.14	8.38	7.52
	H1 lead leg		strides											0				
de Jesús, Mikael Antonio (PUR) (1991)	time	5.96	9.67	13.50	17.52	21.63		25.97	30.46	34.90	39.58	44.33		49.72	2 / 6			
	reaction time	0.164	interval	3.71	3.83	4.02	4.11	4.34	4.49	4.44	4.68	4.75	5.39			11.56	12.94	13.87
	velocity	7.55	9.43	9.14	8.71	8.52		8.06	7.80	7.88	7.48	7.37	7.42	8.05		9.08	8.11	7.57
	H1 lead leg		strides											0				
Bertoncelli, Giacomo (ITA) (1991)	time	5.95	9.80	13.86	17.94	22.09		26.31	30.65	35.07	39.70	44.44		49.83	3 / 7			
	reaction time	0.158	interval	3.85	4.06	4.08	4.15	4.22	4.34	4.42	4.63	4.74	5.39			11.99	12.71	13.79
	velocity	7.56	9.09	8.62	8.58	8.43		8.29	8.06	7.92	7.56	7.38	7.42	8.03		8.76	8.26	7.61
	H1 lead leg		strides											0				

Copello, Yasmani (TUR) (1997)	time	6.00	9.71	13.61	17.54	21.61	25.91	30.44	34.94	39.88	44.83		50.57	6 / 8			
	reaction time	0.244	interval	3.71	3.90	3.93	4.07	4.30	4.53	4.50	4.94	4.95	5.74		11.54	12.90	14.39
	velocity	7.50	9.43	8.97	8.91	8.60	8.14	7.73	7.78	7.09	7.07	6.97	7.91		9.10	8.14	7.30
	H1 lead leg		strides										0				

Semi-Final 1

date 10-Jun-24

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		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1992)	time	5.65	9.20	12.96	16.75	20.71	24.83	28.99	33.27	37.97	42.74		48.75	8 / 1				
	reaction time	0.185	interval	3.55	3.76	3.79	3.96	4.12	4.16	4.28	4.70	4.77	6.01		11.10	12.24	13.75	
	velocity	7.96	9.86	9.31	9.23	8.84	8.50	8.41	8.18	7.45	7.34	6.66	8.21		9.46	8.58	7.64	
	H1 lead leg		strides										0					
Smidt, Nick (NED) (1997)	time	5.88	9.63	13.48	17.28	21.31	25.55	29.95	34.44	39.28	44.05		49.57	5 / 2				
	reaction time	0.171	interval	3.75	3.85	3.80	4.03	4.24	4.40	4.49	4.84	4.77	5.52		11.40	12.67	14.10	
	velocity	7.65	9.33	9.09	9.21	8.68	8.25	7.95	7.80	7.23	7.34	7.25	8.07		9.21	8.29	7.45	
	H1 lead leg		strides										0					
Barr, Thomas (IRL) (1992)	time	5.92	9.67	13.48	17.34	21.37	25.59	30.25	34.74	39.49	44.21		49.61	4 / 3				
	reaction time	0.166	interval	3.75	3.81	3.86	4.03	4.22	4.66	4.49	4.75	4.72	5.40		11.42	12.91	13.96	
	velocity	7.60	9.33	9.19	9.07	8.68	8.29	7.51	7.80	7.37	7.42	7.41	8.06		9.19	8.13	7.52	
	H1 lead leg		strides										0					
Preis, Constantin (GER) (1997)	time	6.11	9.96	13.93	17.94	22.05	26.33	30.82	35.34	40.02	44.59		49.68	7 / 4				
	reaction time	0.226	interval	3.85	3.97	4.01	4.11	4.28	4.49	4.52	4.68	4.57	5.09		11.83	12.88	13.77	
	velocity	7.36	9.09	8.82	8.73	8.52	8.18	7.80	7.74	7.48	7.66	7.86	8.05		8.88	8.15	7.63	
	H1 lead leg		strides										0					
Bonvin, Julien (SUI) (1999)	time	5.75	9.38	13.12	16.92	20.91	25.17	29.85	34.56	39.47	44.29		49.95	3 / 5				
	reaction time	0.170	interval	3.63	3.74	3.80	3.99	4.26	4.68	4.71	4.91	4.82	5.66		11.17	12.93	14.44	
	velocity	7.83	9.64	9.36	9.21	8.77	8.22	7.48	7.43	7.13	7.26	7.07	8.01		9.40	8.12	7.27	
	H1 lead leg		strides										0					
Lambruchi, Mario (ITA) (1999)	time	5.84	9.61	13.44	17.43	21.60	26.05	30.71	35.15	39.86	44.56		50.03	9 / 6				
	reaction time	0.147	interval	3.77	3.83	3.99	4.17	4.45	4.66	4.44	4.71	4.70	5.47		11.59	13.28	13.85	
	velocity	7.71	9.28	9.14	8.77	8.39	7.87	7.51	7.88	7.43	7.45	7.31	8.00		9.06	7.91	7.58	
	H1 lead leg		strides										0					
Bánóczy, Árpád (HUN) (2002)	time	5.88	9.63	13.49	17.39	21.47	25.69	30.25	34.85	39.61	44.53		50.14	2 / 7				
	reaction time	0.193	interval	3.75	3.86	3.90	4.08	4.22	4.56	4.60	4.76	4.92	5.61		11.51	12.86	14.28	
	velocity	7.65	9.33	9.07	8.97	8.58	8.29	7.68	7.61	7.35	7.11	7.13	7.98		9.12	8.16	7.35	
	H1 lead leg		strides										0					
Nezir, İsmail (TUR) (2003)	time	6.14	10.08	14.10	18.18	22.41	26.79	31.38	36.08	40.90	45.71		51.29	6 / 8				
	reaction time	0.180	interval	3.94	4.02	4.08	4.23	4.38	4.59	4.70	4.82	4.81	5.58		12.04	13.20	14.33	
	velocity	7.33	8.88	8.71	8.58	8.27	7.99	7.63	7.45	7.26	7.28	7.17	7.80		8.72	7.95	7.33	
	H1 lead leg		strides										0					

Heat 3

date 09-Jun-24

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		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Lambruchi, Mario (ITA) (1999)	time	5.88	9.63	13.56	17.47	21.52	25.72	30.09	34.77	39.69	44.48		49.74	8 / 1				
	reaction time	0.208	interval	3.75	3.93	3.91	4.05	4.20	4.37	4.68	4.92	4.79	5.26		11.59	12.62	14.39	
	velocity	7.65	9.33	8.91	8.95	8.64	8.33	8.01	7.48	7.11	7.31	7.60	8.04		9.06	8.32	7.30	
	H1 lead leg		strides										0					
Thid, David (SWE) (2003)	time	5.87	9.68	13.79	17.95	22.12	26.43	30.82	35.29	39.97	44.57		49.81	7 / 2				
	reaction time	0.198	interval	3.81	4.11	4.16	4.17	4.31	4.39	4.47	4.68	4.60	5.24	PB	12.08	12.87	13.75	
	velocity	7.67	9.19	8.52	8.41	8.39	8.12	7.97	7.83	7.48	7.61	7.63	8.03		8.69	8.16	7.64	
	H1 lead leg		strides										0					
Bánóczy, Árpád (HUN) (2002)	time	5.94	9.69	13.63	17.67	21.77	25.99	30.41	34.87	39.63	44.38		49.95	6 / 3				
	reaction time	0.217	interval	3.75	3.94	4.04	4.10	4.22	4.42	4.46	4.76	4.75	5.57		11.73	12.74	13.97	
	velocity	7.58	9.33	8.88	8.66	8.54	8.29	7.92	7.85	7.35	7.37	7.18	8.01		8.95	8.24	7.52	
	H1 lead leg		strides										0					
Fernández, Sérgio (ESP) (1997)	time	5.90	9.69	13.58	17.61	21.62	25.81	30.20	34.78	39.77	44.58		49.98	2 / 4				
	reaction time	0.176	interval	3.79	3.89	4.03	4.01	4.19	4.39	4.58	4.99	4.81	5.40		11.71	12.59	14.38	
	velocity	7.63	9.23	9.00	8.68	8.73	8.35	7.97	7.64	7.01	7.28	7.41	8.00		8.97	8.34	7.30	
	H1 lead leg		strides										0					
Brand, Dany (SUI) (1996)	time	6.05	9.84	13.70	17.72	21.82	26.09	30.45	34.96	39.81	44.63		49.99	3 / 5				
	reaction time	0.214	interval	3.79	3.86	4.02	4.10	4.27	4.36	4.51	4.85	4.82	5.36		11.67	12.73	14.18	
	velocity	7.44	9.23	9.07	8.71	8.54	8.20	8.03	7.76	7.22	7.26	7.46	8.00		9.00	8.25	7.40	
	H1 lead leg		strides										0					
Holub, Krzysztof (POL) (2001)	time	6.00	9.77	13.77	17.74	21.86	26.23	30.87	35.22	40.18	44.98		50.42	5 / 6				
	reaction time	0.160	interval	3.77	4.00	3.97	4.12	4.37	4.64	4.35	4.96	4.80	5.44		11.74	13.13	14.11	
	velocity	7.50	9.28	8.75	8.82	8.50	8.01	7.54	8.05	7.06	7.29	7.35	7.93		8.94	8.00	7.44	

		European Athletics (2024) - 2024 european athletics championships - results book																	
		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
H1 lead leg	strides															0			
Tuček, Martin (CZE) (1995)	time	6.09	9.96	13.92	18.00	22.14		26.45	30.91	35.47	40.34	45.34		51.27	9 / 7				
reaction time	0.216	interval	3.87	3.96	4.08	4.14		4.31	4.46	4.56	4.87	5.00	5.93			11.91	12.91	14.43	
		velocity	7.39	9.04	8.84	8.58	8.45	8.12	7.85	7.68	7.19	7.00	6.75	7.80		8.82	8.13	7.28	
H1 lead leg	strides															0			
Haapalainen, Jere (FIN) (2004)	time	5.98	9.86	13.84	17.95	22.19		26.52	31.01	35.70	40.91	46.16		52.18	4 / 8				
reaction time	0.217	interval	3.88	3.98	4.11	4.24		4.33	4.49	4.69	5.21	5.25	6.02			11.97	13.06	15.15	
		velocity	7.53	9.02	8.79	8.52	8.25	8.08	7.80	7.46	6.72	6.67	6.64	7.67		8.77	8.04	6.93	
H1 lead leg	strides															0			
Heat 2	date	09-Jun-24																	
Akçam, Berke (TUR) (2002)	time	5.84	9.63	13.47	17.38	21.39		25.52	29.86	34.47	39.20	43.91		49.32	4 / 1				
reaction time	0.161	interval	3.79	3.84	3.91	4.01		4.13	4.34	4.61	4.73	4.71	5.41			11.54	12.48	14.05	
		velocity	7.71	9.23	9.11	8.95	8.73	8.47	8.06	7.59	7.40	7.43	7.39	8.11		9.10	8.41	7.47	
H1 lead leg	strides															0			
Bonvin, Julien (SUI) (1999)	time	5.78	9.44	13.15	17.01	21.04		25.29	29.82	34.37	39.11	43.91		49.41	3 / 2				
reaction time	0.188	interval	3.66	3.71	3.86	4.03		4.25	4.53	4.55	4.74	4.80	5.50			11.23	12.81	14.09	
		velocity	7.79	9.56	9.43	9.07	8.68	8.24	7.73	7.69	7.38	7.29	7.27	8.10		9.35	8.20	7.45	
H1 lead leg	strides															0			
Chalmers, Alastair (GBR) (2011)	time	5.76	9.46	13.23	17.10	21.22		25.62	30.10	34.76	39.53	44.28		49.71	7 / 3				
reaction time	0.146	interval	3.70	3.77	3.87	4.12		4.40	4.48	4.66	4.77	4.75	5.43			11.34	13.00	14.18	
		velocity	7.81	9.46	9.28	9.04	8.50	7.95	7.81	7.51	7.34	7.37	7.37	8.05		9.26	8.08	7.40	
H1 lead leg	strides															0			
Delgado, Jesús David (ESP) (2000)	0.216	no information available												49.82	2 / 4				
Smolka, Adam (CZE) (1998)	time	5.96	9.79	13.69	17.71	21.85		26.20	30.69	35.17	39.88	44.66		50.48	5 / 5				
reaction time	0.208	interval	3.83	3.90	4.02	4.14		4.35	4.49	4.48	4.71	4.78	5.82			11.75	12.98	13.97	
		velocity	7.55	9.14	8.97	8.71	8.45	8.05	7.80	7.81	7.43	7.32	6.87	7.92		8.94	8.09	7.52	
H1 lead leg	strides															0			
Lehtonen, Toumas (FIN) (1991)	time	5.95	9.87	13.92	18.02	22.29		26.70	31.17	35.70	40.36	45.02		50.50	8 / 6				
reaction time	0.190	interval	3.92	4.05	4.10	4.27		4.41	4.47	4.53	4.66	4.66	5.48			12.07	13.15	13.85	
		velocity	7.56	8.93	8.64	8.54	8.20	7.94	7.83	7.73	7.51	7.51	7.30	7.92		8.70	7.98	7.58	
H1 lead leg	strides															0			
Köhldorfer, Leo (AUT) (2001)	time	5.92	9.73	13.63	17.65	21.83		26.17	30.69	35.39	40.37	45.42		51.52	9 / 7				
reaction time	0.198	interval	3.81	3.90	4.02	4.18		4.34	4.52	4.70	4.98	5.05	6.10			11.73	13.04	14.73	
		velocity	7.60	9.19	8.97	8.71	8.37	8.06	7.74	7.45	7.03	6.93	6.56	7.76		8.95	8.05	7.13	
H1 lead leg	strides															0			
Baluch, Matej (SVK) (2000)	time	5.91	9.69	13.56	17.59	21.73		25.96	30.38	35.07	40.80	46.01		52.17	6 / 8				
reaction time	0.216	interval	3.78	3.87	4.03	4.14		4.23	4.42	4.69	5.73	5.21	6.16			11.68	12.79	15.63	
		velocity	7.61	9.26	9.04	8.68	8.45	8.27	7.92	7.46	6.11	6.72	6.49	7.67		8.99	8.21	6.72	
H1 lead leg	strides															0			
Heat 1	date	09-Jun-24																	
Barr, Thomas (IRL) (1992)	0.147	no information available												49.31	5 / 1				
Müller, Vit (CZE) (1996)	time	5.92	9.64	13.56	17.45	21.47		25.57	29.94	34.48	39.21	44.01		49.38	6 / 2				
reaction time	0.196	interval	3.72	3.92	3.89	4.02		4.10	4.37	4.54	4.73	4.80	5.37			11.53	12.49	14.07	
		velocity	7.60	9.41	8.93	9.00	8.71	8.54	8.01	7.71	7.40	7.29	7.45	8.10		9.11	8.41	7.46	
H1 lead leg	strides															0			
Bertoncelli, Giacomo (ITA) (1991)	time	5.91	9.76	13.80	18.00	22.22		26.50	30.73	35.18	39.73	44.19		49.41	4 / 3				
reaction time	0.155	interval	3.85	4.04	4.20	4.22		4.28	4.23	4.45	4.55	4.46	5.22			12.09	12.73	13.46	
		velocity	7.61	9.09	8.66	8.33	8.29	8.18	8.27	7.87	7.69	7.85	7.66	8.10		8.68	8.25	7.80	
H1 lead leg	strides															0			
de Jesús, Mikael Antonio (PUR) (1991)	time	6.01	9.73	13.53	17.45	21.54		25.82	30.11	34.54	39.11	43.81		49.41	9 / 4				
reaction time	0.201	interval	3.72	3.80	3.92	4.09		4.28	4.29	4.43	4.57	4.70	5.60			11.44	12.66	13.70	
		velocity	7.49	9.41	9.21	8.93	8.56	8.18	8.16	7.90	7.66	7.45	7.14	8.10		9.18	8.29	7.66	
H1 lead leg	strides															0			
Kostić, Nikola (SRB) (2004)	time	5.90	9.66	13.61	17.72	21.92		26.33	30.72	35.29	39.99	44.78		50.48	2 / 5				
reaction time	0.142	interval	3.76	3.95	4.11	4.20		4.41	4.39	4.57	4.70	4.79	5.70			11.82	13.00	14.06	
		velocity	7.63	9.31	8.86	8.52	8.33	7.94	7.97	7.66	7.45	7.31	7.02	7.92		8.88	8.08	7.47	
H1 lead leg	strides															0			
Levantinos, Dimitris (GRE) (1987)	time	6.07	9.91	14.09	18.25	22.46		26.79	31.19	35.71	40.51	45.41		51.13	8 / 6				
reaction time	0.171	interval	3.84	4.18	4.16	4.21		4.33	4.40	4.52	4.80	4.90	5.72			12.18	12.94	14.22	
		velocity	7.41	9.11	8.37	8.41	8.31	8.08	7.95	7.74	7.29	7.14	6.99	7.82		8.62	8.11	7.38	

Bengtström, Carl (SWE) (2011)	time	5.96	9.77	13.53	17.30	21.26	25.47	29.76	34.19	38.76	43.47	48.72	6 / 4				
reaction time	0.182	interval	3.81	3.76	3.77	3.96	4.21	4.29	4.43	4.57	4.71	5.25		11.34	12.46	13.71	
		velocity	7.55	9.19	9.31	9.28	8.84	8.31	8.16	7.90	7.66	7.43	7.62	8.21	9.26	8.43	7.66
H1 lead leg	L	strides	24	14	14	14	14	15	15	15	15	19	174				
Mägi, Rasmus (EST) (1992)	time	6.06	9.76	13.60	17.40	21.33	25.36	29.60	34.06	38.66	43.33	48.72	3 / 5				
reaction time	0.147	interval	3.70	3.84	3.80	3.93	4.03	4.24	4.46	4.60	4.67	5.39		11.34	12.20	13.73	
		velocity	7.43	9.46	9.11	9.21	8.91	8.68	8.25	7.85	7.61	7.49	7.42	8.21	9.26	8.61	7.65
H1 lead leg	R	strides	21	13	13	13	13	13	13	14	14	14	17.7	158.7			
Gucek, Matic Ian (SLO) (2003)	time	5.97	9.76	13.53	17.40	21.46	25.63	29.96	34.50	39.06	43.76	49.13	8 / 6				
reaction time	0.151	interval	3.79	3.77	3.87	4.06	4.17	4.33	4.54	4.56	4.70	5.37		11.43	12.56	13.80	
		velocity	7.54	9.23	9.28	9.04	8.62	8.39	8.08	7.71	7.68	7.45	7.45	8.14	9.19	8.36	7.61
H1 lead leg	R	strides	22	14	14	14	14	14	14	15	15	15	18.5	169.5			
Samba, Abderrahmane (QAT) (2007)	time	6.10	10.00	13.93	17.80	21.76	25.90	30.17	34.53	39.46	44.07	49.69	2 / 7				
reaction time	0.187	interval	3.90	3.93	3.87	3.96	4.14	4.27	4.36	4.93	4.61	5.62		11.70	12.37	13.90	
		velocity	7.38	8.97	8.91	9.04	8.84	8.45	8.20	8.03	7.10	7.59	7.12	8.05	8.97	8.49	7.55
H1 lead leg	L	strides	20	13	13	13	13	13	14	15	15	14	18	161			
Hemeida, Bassem (QAT) (2010)	time	6.00	9.83		21.76		25.90	30.17	34.53	39.46	44.07	50.38	1 / 8				
reaction time	0.154	interval	3.83		11.93		4.14	4.27	4.36	4.93	4.61	5.42				14.28	
		velocity	7.50	9.14	8.80		8.45	8.20	8.03	7.10	7.59	7.38	7.94				7.35
H1 lead leg	R	strides	21	13			13	14	15	15	14	18	96				

2024 Bislett Games (Oslo, NOR) (TV Analysis)

FINAL

date 30-May-24

Henson (2024) - Athlete First: 2024 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
dos Santos, Alison (BRA) (2011)	time	5.77	9.37	12.98	16.58	20.38		24.39	28.42	32.63	36.90	41.37		46.63	5 / 1			
reaction time	0.182	interval	3.60	3.61	3.60	3.80		4.01	4.03	4.21	4.27	4.47	5.26			10.81	11.84	12.95
		velocity	7.80	9.72	9.70	9.72	9.21	8.73	8.68	8.31	8.20	7.83	7.60	8.58		9.71	8.87	8.11
H1 lead leg	L	strides	20	13	12	12	12	12	13	13	13	13	16.5	149.5				
Warholm, Karsten (NOR) (1990)	time	5.70	9.21	12.81	16.45	20.22		24.19	28.19	32.40	36.83	41.37		46.70	7 / 2			
reaction time	0.157	interval	3.51	3.60	3.64	3.77		3.97	4.00	4.21	4.43	4.54	5.33			10.75	11.74	13.18
		velocity	7.89	9.97	9.72	9.62	9.28	8.82	8.75	8.31	7.90	7.71	7.50	8.57		9.77	8.94	7.97
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	14	14	18	157				
McMaster, Kyron (IVB) (1997)	time	5.74	9.21	13.18	16.95	21.02		25.16	29.43	33.93	38.50	43.07		48.49	6 / 3			
reaction time	0.145	interval	3.47	3.97	3.77	4.07		4.14	4.27	4.50	4.57	4.57	5.42			11.21	12.48	13.64
		velocity	7.84	10.09	8.82	9.28	8.60	8.45	8.20	7.78	7.66	7.66	7.38	8.25		9.37	8.41	7.70
H1 lead leg	L	strides	21	13	13	13	13	13	13	14	14	14	141					
Mägi, Rasmus (EST) (1992)	time	5.97	9.61	13.31	17.15	21.15		25.22	29.53	34.00	38.54	43.21		48.56	8 / 4			
reaction time	0.213	interval	3.64	3.70	3.84	4.00		4.07	4.31	4.47	4.54	4.67	5.35			11.18	12.38	13.68
		velocity	7.54	9.62	9.46	9.11	8.75	8.60	8.12	7.83	7.71	7.49	7.48	8.24		9.39	8.48	7.68
H1 lead leg	R	strides	21	13	13	13	13	13	13	14	14	14	141					
Abuaku, Joshua (GER) (1996)	time	5.91	9.58	13.38	17.25	21.32		25.52		34.40	39.14	43.95		49.37	3 / 5			
reaction time	0.173	interval	3.67	3.80	3.87	4.07		4.20		8.88	4.74	4.81	5.42			11.34		
		velocity	7.61	9.54	9.21	9.04	8.60	8.33		7.88	7.38	7.28	7.38	8.10		9.26		
H1 lead leg	L	strides	20	13	13	13	13	13			15	15	115					
Allen, CJ (USA) (1995)	time	5.84	9.51	13.18	16.98	20.95		25.12	29.33	33.87	38.60	43.51		49.42	4 / 6			
reaction time	0.154	interval	3.67	3.67	3.80	3.97		4.17	4.21	4.54	4.73	4.91	5.91			11.14	12.35	14.18
		velocity	7.71	9.54	9.54	9.21	8.82	8.39	8.31	7.71	7.40	7.13	6.77	8.09		9.43	8.50	7.40
H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	15	146					
Bakketun, Andreas Haara (NOR) (1990)	time	5.87	9.57	13.41	17.38		25.99		35.53	40.54				51.32	1 / 7			
reaction time	0.174	interval	3.70	3.84	3.97		8.61		9.54	5.01						11.51		
		velocity	7.67	9.46	9.11	8.82	8.13		7.34	6.99				7.79		9.12		
H1 lead leg	R	strides	21	14	14	14				15				78				
Hemeida, Bassem (QAT) (2010)	time	6.00	9.77	13.71	17.62		26.16		35.53	40.54				52.41	2 / 8			
reaction time	0.171	interval	3.77	3.94	3.91		8.54		9.37	5.01						11.62		
		velocity	7.50	9.28	8.88	8.95	8.20		7.47	6.99				7.63		9.04		
H1 lead leg	R	strides	21	13	13	14				15				76				

2024 Prefontaine Classic (Eugene, OR)

FINAL

date 25-May-24

Omega Timing (2024) - diamond league race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Drummond, Gerald (CRC) (1990)	time	5.79	9.57	13.44	17.28	21.19		25.30	29.46	33.85	38.46	43.16		48.56	8 / 1			
reaction time	0.211	interval	3.78	3.87	3.84	3.91		4.11	4.16	4.39	4.61	4.70	5.40			11.49	12.18	13.70
		velocity	7.77	9.26	9.04	9.11	8.95	8.52	8.41	7.97	7.59	7.45	7.41	8.24		9.14	8.62	7.66
H1 lead leg		strides			14	14	14	14	14	15	15	15	115					
Mägi, Rasmus (EST) (1992)	time	6.00	9.81	13.74	17.63	21.54		25.59	29.78	34.23	38.81	43.43		48.85	7 / 2			
reaction time	0.209	interval	3.81	3.93	3.89	3.91		4.05	4.19	4.45	4.58	4.62	5.42			11.63	12.15	13.65

H1 lead leg	velocity	7.50	9.19	8.91	9.00	8.95	8.64	8.35	7.87	7.64	7.58	7.38	8.19	9.03	8.64	7.69
	strides			13	13	13	13	13	14	14	14		107			
Allen, CJ (USA) (1995)	time	5.70	9.45	13.40	17.31	21.24	25.24	29.38	33.76	38.41	43.24		48.99	6 / 3		
reaction time	0.114 interval		3.75	3.95	3.91	3.93	4.00	4.14	4.38	4.65	4.83	5.75		11.61	12.07	13.86
	velocity	7.89	9.33	8.86	8.95	8.91	8.75	8.45	7.99	7.53	7.25	6.96	8.16	9.04	8.70	7.58
H1 lead leg	strides			13	13	13	13	13	14	15	15		109			
Clarke, Roshawn (JAM) (200)	time	5.63	9.33	13.19	16.99	20.96	24.99	29.13	33.54	38.28	43.16		49.07	5 / 4		
reaction time	0.186 interval		3.70	3.86	3.80	3.97	4.03	4.14	4.41	4.74	4.88	5.91		11.36	12.14	14.03
	velocity	7.99	9.46	9.07	9.21	8.82	8.68	8.45	7.94	7.38	7.17	6.77	8.15	9.24	8.65	7.48
H1 lead leg	strides			14	14	14	14	14	15	16	15		116			
James-King, Malik (JAM) (19)	time	6.07	10.00	14.03	18.06	22.19	26.40	30.68	35.09	39.66	44.20		49.51	3 / 5		
reaction time	0.144 interval		3.93	4.03	4.03	4.13	4.21	4.28	4.41	4.57	4.54	5.31		11.99	12.62	13.52
	velocity	7.41	8.91	8.68	8.68	8.47	8.31	8.18	7.94	7.66	7.71	7.53	8.08	8.76	8.32	7.77
H1 lead leg	L strides	23	15	15	14		15	15	15	15	15		142			
Bassitt, Trevor (USA) (1998)	time	5.96	9.87	13.92	17.93	21.97	26.11	30.36	34.78	39.40	44.16		49.62	4 / 6		
reaction time	0.187 interval		3.91	4.05	4.01	4.04	4.14	4.25	4.42	4.62	4.76	5.46		11.97	12.43	13.80
	velocity	7.55	8.95	8.64	8.73	8.66	8.45	8.24	7.92	7.58	7.35	7.33	8.06	8.77	8.45	7.61
H1 lead leg	R strides	21	14	13	13	13	13	13	13	14	14		141			
Hyde, Jaheel (JAM) (1997)	time	5.79	9.68	13.70	17.65	21.63	25.81	30.10	34.60	39.29	44.07		49.83	9 / 7		
reaction time	0.188 interval		3.89	4.02	3.95	3.98	4.18	4.29	4.50	4.69	4.78	5.76		11.86	12.45	13.97
	velocity	7.77	9.00	8.71	8.86	8.79	8.37	8.16	7.78	7.46	7.32	6.94	8.03	8.85	8.43	7.52
H1 lead leg	strides			14	14	14	14	14	14	15	15		114			

2024 Shimane High School Championships (Izumo, JPN)

FINAL

date 25-May-24

Shimizu (2024) - shimane high school championships 2024 - biomechanics data analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
宮村優樹	time	6.88	11.37	15.72	20.18	24.87		29.77	34.87	40.05	45.47	51.22		57.10	6 / 1			
reaction time	interval		4.49	4.35	4.46	4.69		4.90	5.10	5.18	5.42	5.75	5.88			13.30	14.69	16.35
	velocity	6.54	7.80	8.05	7.85	7.46		7.14	6.86	6.76	6.46	6.09	6.80	7.01		7.89	7.15	6.42
H1 lead leg	strides	22	15	15	15	15		15	17	17	17	17	22	187				
山浦悠貴	time	7.43	12.60	17.38	22.12	26.92		32.12	37.13	42.37	47.62	52.95		58.48	7 / 2			
reaction time	interval		5.17	4.78	4.74	4.80		5.20	5.01	5.24	5.25	5.33	5.53			14.69	15.01	15.82
	velocity	6.06	6.77	7.32	7.38	7.29		6.73	6.99	6.68	6.67	6.57	7.23	6.84		7.15	7.00	6.64
H1 lead leg	strides	23	16	15	15	15		16	16	16	17	17	19	185				
山根想大	time	6.88	11.45	15.95	20.52	25.28		30.15	35.30	40.57	46.12	52.18		58.49	8 / 3			
reaction time	interval		4.57	4.50	4.57	4.76		4.87	5.15	5.27	5.55	6.06	6.31			13.64	14.78	16.88
	velocity	6.54	7.66	7.78	7.66	7.35		7.19	6.80	6.64	6.31	5.78	6.34	6.84		7.70	7.10	6.22
H1 lead leg	strides	23	15	15	15	15		15	17	17	16	18	20	186				
南木謙	time	7.08	11.92	16.62	21.33	26.23		31.28	36.40	41.68	47.18	52.98		58.99	5 / 4			
reaction time	interval		4.84	4.70	4.71	4.90		5.05	5.12	5.28	5.50	5.80	6.01			14.25	15.07	16.58
	velocity	6.36	7.23	7.45	7.43	7.14		6.93	6.84	6.63	6.36	6.03	6.66	6.78		7.37	6.97	6.33
H1 lead leg	strides	23	17	15	15	15		15	17	17	17	19	22	192				
基田和也	time	7.20	12.10	17.00	21.87	26.78		31.87	36.93	42.02	47.42	53.10		59.39	9 / 5			
reaction time	interval		4.90	4.90	4.87	4.91		5.09	5.06	5.09	5.40	5.68	6.29			14.67	15.06	16.17
	velocity	6.25	7.14	7.14	7.19	7.13		6.88	6.92	6.88	6.48	6.16	6.36	6.74		7.16	6.97	6.49
H1 lead leg	strides	23	17	17	17	17		17	17	17	17	18	22	199				

2024 Trond Mohn Games (Bergen, NOR) (300m Hurdles) (TV Analysis)

FINAL

date 22-May-24

Henson (2024) - Athlete First: 2024 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (19)	time	6.21	9.61	13.20	16.83	20.60		24.53	28.56					33.28	7 / 1			
reaction time	interval		3.40	3.59	3.63	3.77		3.93	4.03				4.72			10.62	11.73	
	velocity	7.25	10.29	9.75	9.64	9.28		8.91	8.68				8.47	9.01		9.89	8.95	
H1 lead leg	L strides	22	13	13	13	13		13	13				17	117				
Bakketun, Andreas Haara (NOR) (200)	time	6.42	10.10	14.00	18.03			26.43	30.70					35.42	6 / 2			
reaction time	interval		3.68	3.90	4.03			8.40	4.27				4.72	PB		11.61	12.67	
	velocity	7.01	9.51	8.97	8.68			8.33	8.20				8.47	8.47		9.04	8.29	
H1 lead leg	R strides	24	13	14	14				15				17.7	97.7				

2024 USATF LA Grand Prix (Los Angeles, CA) (TV Analysis)

FINAL

date 18-May-24

Henson (2024) - Athlete First: 2024 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.84	9.51	13.18	16.95	20.75			28.56	32.60	36.87	41.41		46.64	5 / 1			
reaction time	0.207 interval		3.67	3.67	3.77	3.80			7.81	4.04	4.27	4.54	5.23			11.11	11.61	12.85
	velocity	7.71	9.54	9.54	9.28	9.21			8.96	8.66	8.20	7.71	7.65	8.58		9.45	9.04	8.17
H1 lead leg	R strides	20	13	13	13	13				13	13	13	17	128				
Clarke, Roshawn (JAM) (200)	time	5.84	9.51	13.18	16.98	20.98			29.29	33.60	38.10	42.74		48.11	6 / 2			

reaction time	0.245	interval		3.67	3.67	3.80	4.00		8.31	4.31	4.50	4.64	5.37		11.14	12.31	13.45			
		velocity		7.71	9.54	9.54	9.21	8.75		8.42	8.12	7.78	7.54	7.45	8.31	9.43	8.53	7.81		
H1 lead leg	R	strides		21	13	13	13	14		14	15	15	18.2	136.2						
McMaster, Kyron (IVB) (1997)		time		5.87	9.51	13.28	17.05	21.02		29.26	33.66	38.20	42.94		48.51	7 / 3				
reaction time	0.220	interval			3.64	3.77	3.77	3.97		8.24	4.40	4.54	4.74	5.57		11.18	12.21	13.68		
		velocity			7.67	9.62	9.28	9.28	8.82		8.50	7.95	7.71	7.38	7.18	8.25	9.39	8.60	7.68	
H1 lead leg	L	strides			21	13	13	13	13		14	14	14	17.2	132.2					
Drummond, Gerald (CRC) (1997)		time		5.97	9.74	13.61	17.50	21.52		25.66	29.93	34.33	38.93	43.71		48.97	1 / 4			
reaction time	0.245	interval			3.77	3.87	3.89	4.02		4.14	4.27	4.40	4.60	4.78	5.26		11.53	12.43	13.78	
		velocity			7.54	9.28	9.04	9.00	8.71		8.45	8.20	7.95	7.61	7.32	7.60	8.17	9.11	8.45	7.62
H1 lead leg	L	strides			21	14	14	14	14		14	14	15	15	18	168				
Bassitt, Trevor (USA) (1998)		time		6.03	9.84	13.64	17.51	21.58		29.99	34.46	39.07	43.84		49.01	8 / 5				
reaction time	0.218	interval			3.81	3.80	3.87	4.07		8.41	4.47	4.61	4.77	5.17		11.48	12.48	13.85		
		velocity			7.46	9.19	9.21	9.04	8.60		8.32	7.83	7.59	7.34	7.74	8.16	9.15	8.41	7.58	
H1 lead leg	R	strides			21	13	13	13	13		13	14	14	16.5	130.5					

2024 Seashore Doha Meeting (Doha, QAT)

FINAL

date 10-May-24

Omega Timing (2024) - diamond league race analysis

				H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
dos Santos, Alison (BRA) (2019)		time		5.67	9.24	12.89	16.61	20.53		24.58	28.66	32.88	37.18	41.61		46.86	5 / 1			
reaction time	0.148	interval			3.57	3.65	3.72	3.92		4.05	4.08	4.22	4.30	4.43	5.25			10.94	12.05	12.95
		velocity			7.94	9.80	9.59	9.41	8.93		8.64	8.58	8.29	8.14	7.90	7.62	8.54	9.60	8.71	8.11
H1 lead leg	L	strides			20	13	12	12	13		13	13	13	13	13	16.2	151.2			
Allen, CJ (USA) (1995)		time		5.63	9.27	12.97	16.79	20.72		24.73	28.87	33.28	37.87	42.66		48.39	6 / 2			
reaction time	0.139	interval			3.64	3.70	3.82	3.93		4.01	4.14	4.41	4.59	4.79	5.73			11.16	12.08	13.79
		velocity			7.99	9.62	9.46	9.16	8.91		8.73	8.45	7.94	7.63	7.31	6.98	8.27	9.41	8.69	7.61
H1 lead leg	L	strides			20	13	13	13	13		13	13	14	14	15	17.5	158.5			
Happio, Wilfried (FRA) (1996)		time		5.80	9.50	13.28	17.16	21.19		25.31	29.53	33.98	38.72	43.54		49.10	4 / 3			
reaction time	0.151	interval			3.70	3.78	3.88	4.03		4.12	4.22	4.45	4.74	4.82	5.56			11.36	12.37	14.01
		velocity			7.76	9.46	9.26	9.02	8.68		8.50	8.29	7.87	7.38	7.26	7.19	8.15	9.24	8.49	7.49
H1 lead leg	L	strides			20	13	13	13	13		13		15	15	17.7	132.7				
Kendziera, David (USA) (1999)		time		5.81	9.52	13.30	17.16	21.15		25.29	29.59	34.13	38.79	43.57		49.29	8 / 4			
reaction time	0.165	interval			3.71	3.78	3.86	3.99		4.14	4.30	4.54	4.66	4.78	5.72			11.35	12.43	13.98
		velocity			7.75	9.43	9.26	9.07	8.77		8.45	8.14	7.71	7.51	7.32	6.99	8.12	9.25	8.45	7.51
H1 lead leg	R	strides			20	13	13	13	13		13	13	14	14	14	18	158			
Rosser, Khalifah (USA) (1999)		time		5.74	9.44	13.14	17.00	20.98		25.17	29.60	34.28	39.11	44.08		49.88	7 / 5			
reaction time	0.153	interval			3.70	3.70	3.86	3.98		4.19	4.43	4.68	4.83	4.97	5.80			11.26	12.60	14.48
		velocity			7.84	9.46	9.46	9.07	8.79		8.35	7.90	7.48	7.25	7.04	6.90	8.02	9.33	8.33	7.25
H1 lead leg	R	strides			20	13	13	13	13		13		15	15	17.7	132.7				
Smidt, Nick (NED) (1997)		time		5.97	9.76	13.66	17.65	21.80		26.17	30.54	35.10	39.80	44.50		49.97	1 / 6			
reaction time	0.194	interval			3.79	3.90	3.99	4.15		4.37	4.37	4.56	4.70	4.70	5.47			11.68	12.89	13.96
		velocity			7.54	9.23	8.97	8.77	8.43		8.01	8.01	7.68	7.45	7.45	7.31	8.00	8.99	8.15	7.52
H1 lead leg	L	strides			20	13	13	13	13		14		15	15	18	134				
Abakar, Ismail Doudai (QAT) (2019)		time		5.97	9.89	14.00	18.18	22.52		26.95	31.34	35.78	40.33	44.95		50.34	3 / 7			
reaction time	0.167	interval			3.92	4.11	4.18	4.34		4.43	4.39	4.44	4.55	4.62	5.39			12.21	13.16	13.61
		velocity			7.54	8.93	8.52	8.37	8.06		7.90	7.97	7.88	7.69	7.58	7.42	7.95	8.60	7.98	7.71
H1 lead leg	L	strides			20	13	13	13	13		13		13	13	16.5	140.5				
Copello, Yasmani (TUR) (1996)		time		5.98	9.82	13.80	17.81	22.01		26.40	30.92	35.93	40.47	45.26		50.97	2 / 8			
reaction time	0.222	interval			3.84	3.98	4.01	4.20		4.39	4.52	5.01	4.54	4.79	5.71			11.83	13.11	14.34
		velocity			7.53	9.11	8.79	8.73	8.33		7.97	7.74	6.99	7.71	7.31	7.01	7.85	8.88	8.01	7.32
H1 lead leg	R	strides			20	13	13	13	13		13		15	15	18	133				

FINAL - West Asian date 10-May-24

Omega Timing (2024) - diamond league race analysis

				H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Ibrahim, Marc Anthony (LBN) (2019)		time		5.34	9.35	13.42	17.45	21.60		26.06	30.62	35.30	40.10	44.89		49.84	5 / 1			
reaction time	0.173	interval			4.01	4.07	4.03	4.15		4.46	4.56	4.68	4.80	4.79	4.95			12.11	13.17	14.27
		velocity			8.43	8.73	8.60	8.68	8.43		7.85	7.68	7.48	7.29	7.31	8.08	8.03	8.67	7.97	7.36
H1 lead leg		strides													0					
Pirjahan, Mahdi (IRI) (1999)		time		6.34	10.08	14.00	18.10	22.33		26.50	30.85	35.28	39.82	44.48		50.60	6 / 2			
reaction time	0.166	interval			3.74	3.92	4.10	4.23		4.17	4.35	4.43	4.54	4.66	6.12			11.76	12.75	13.63
		velocity			7.10	9.36	8.93	8.54	8.27		8.39	8.05	7.90	7.71	7.51	6.54	7.91	8.93	8.24	7.70
H1 lead leg		strides													0					
Aldirawi, Ahmed Jamal (IRQ) (2019)		time		5.95	9.90	14.08	18.23	22.55		27.00	31.60	36.36	41.13	46.02		51.69	4 / 3			
reaction time	0.209	interval			3.95	4.18	4.15	4.32		4.45	4.60	4.76	4.77	4.89	5.67	PB		12.28	13.37	14.42
		velocity			7.56	8.86	8.37	8.43	8.10		7.87	7.61	7.35	7.34	7.16	7.05	7.74	8.55	7.85	7.28
H1 lead leg		strides													0					

2023 Prefontaine Classic (Eugene, OR)

FINAL

date 16-Sep-23

Omega Timing (2023) - diamond league race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.74	9.40	13.10	16.86	20.68		24.61	28.60	32.70	36.97	41.36		46.39	5 / 1			
	reaction time	0.154	interval	3.66	3.70	3.76	3.82	3.93	3.99	4.10	4.27	4.39	5.03			11.12	11.74	12.76
	velocity	7.84	9.56	9.46	9.31	9.16		8.91	8.77	8.54	8.20	7.97	7.95	8.62		9.44	8.94	8.23
	H1 lead leg	R	strides	20	13	13	12	12	13	13	13	13	17	152				
Warholm, Karsten (NOR) (1992)	time	5.59	9.17	12.80	16.46	20.22		24.10	28.12	32.37	36.62	41.18		46.53	7 / 2			
	reaction time	0.135	interval	3.58	3.63	3.66	3.76	3.88	4.02	4.25	4.25	4.56	5.35			10.87	11.66	13.06
	velocity	8.05	9.78	9.64	9.56	9.31		9.02	8.71	8.24	8.24	7.68	7.48	8.60		9.66	9.01	8.04
	H1 lead leg	L	strides	20	13	13	13	13	13	13	13	15	18	157				
McMaster, Kyron (IVB) (1997)	time	5.58	9.11	12.71	16.42	20.29		24.26	28.35	32.59	37.11	41.75		47.31	6 / 3			
	reaction time	0.133	interval	3.53	3.60	3.71	3.87	3.97	4.09	4.24	4.52	4.64	5.56			10.84	11.93	13.40
	velocity	8.06	9.92	9.72	9.43	9.04		8.82	8.56	8.25	7.74	7.54	7.19	8.45		9.69	8.80	7.84
	H1 lead leg	L	strides	21	13	13	12	13	13	13	14	14	17	156				
dos Santos, Alison (BRA) (2000)	time	5.79	9.49	13.20	16.94	20.84		24.85	28.98	33.26	37.65	42.12		47.44	4 / 4			
	reaction time	0.172	interval	3.70	3.71	3.74	3.90	4.01	4.13	4.28	4.39	4.47	5.32			11.15	12.04	13.14
	velocity	7.77	9.46	9.43	9.36	8.97		8.73	8.47	8.18	7.97	7.83	7.52	8.43		9.42	8.72	7.99
	H1 lead leg	L	strides	20		12	12	12	13	13	13	13	16	124				
Happio, Wilfried (FRA) (1994)	time	5.88	9.56	13.26	17.03	20.93		24.96	29.07	33.36	37.91	42.52		47.83	3 / 5			
	reaction time	0.173	interval	3.68	3.70	3.77	3.90	4.03	4.11	4.29	4.55	4.61	5.31			11.15	12.04	13.45
	velocity	7.65	9.51	9.46	9.28	8.97		8.68	8.52	8.16	7.69	7.59	7.53	8.36		9.42	8.72	7.81
	H1 lead leg	L	strides	20		13	13	13	13	13	15	15	18	133				
Vaillant, Ludvy (FRA) (1995)	time	5.85	9.49	13.18	16.88	20.67		24.61	28.73	33.04	37.54	42.26		47.93	1 / 6			
	reaction time	0.138	interval	3.64	3.69	3.70	3.79	3.94	4.12	4.31	4.50	4.72	5.67			11.03	11.85	13.53
	velocity	7.69	9.62	9.49	9.46	9.23		8.88	8.50	8.12	7.78	7.42	7.05	8.35		9.52	8.86	7.76
	H1 lead leg	R	strides	21		13	13	13	14	14	14	14	18	134				
Mägi, Rasmus (EST) (1992)	time	5.96	9.70	13.46	17.26	21.18		25.26	29.46	33.82	38.28	42.74		47.99	9 / 7			
	reaction time	0.155	interval	3.74	3.76	3.80	3.92	4.08	4.20	4.36	4.46	4.46	5.25			11.30	12.20	13.28
	velocity	7.55	9.36	9.31	9.21	8.93		8.58	8.33	8.03	7.85	7.85	7.62	8.34		9.29	8.61	7.91
	H1 lead leg	R	strides	21		13	13	13	13	14			87					
Bassitt, Trevor (USA) (1998)	time	5.89	9.70	13.54	17.53	21.61		25.76	29.99	34.34	38.81	43.29		48.42	8 / 8			
	reaction time	0.154	interval	3.81	3.84	3.99	4.08	4.15	4.23	4.35	4.47	4.48	5.13			11.64	12.46	13.30
	velocity	7.64	9.19	9.11	8.77	8.58		8.43	8.27	8.05	7.83	7.81	7.80	8.26		9.02	8.43	7.89
	H1 lead leg	R	strides	20	13	13	13	13	13	13			111					
Allen, CJ (USA) (1995)	time	5.70	9.33	13.05	16.85	20.75		24.77	28.94	33.31	37.93	42.73		48.62	2 / 9			
	reaction time	0.137	interval	3.63	3.72	3.80	3.90	4.02	4.17	4.37	4.62	4.80	5.89			11.15	12.09	13.79
	velocity	7.89	9.64	9.41	9.21	8.97		8.71	8.39	8.01	7.58	7.29	6.79	8.23		9.42	8.68	7.61
	H1 lead leg	L	strides	20		13	13	13	14	14	14	14	115					

2023 Weltklasse (Zürich, SUI)

FINAL

date 31-Aug-23

Omega Timing (2023) - diamond league race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
McMaster, Kyron (IVB) (1997)	time	5.56	9.05	12.66	16.39	20.25		24.26	28.39	32.72	37.25	41.90		47.27	6 / 1			
	reaction time	0.149	interval	3.49	3.61	3.73	3.86	4.01	4.13	4.33	4.53	4.65	5.37			10.83	12.00	13.51
	velocity	8.09	10.03	9.70	9.38	9.07		8.73	8.47	8.08	7.73	7.53	7.45	8.46		9.70	8.75	7.77
	H1 lead leg	L	strides	21	13	13	13	13	13	14	14	14	17.2	158.2				
Warholm, Karsten (NOR) (1992)	time	5.63	9.23	12.94	16.69	20.55		24.50	28.55	32.78	37.30	41.91		47.30	7 / 2			
	reaction time	0.169	interval	3.60	3.71	3.75	3.86	3.95	4.05	4.23	4.52	4.61	5.39			11.06	11.86	13.36
	velocity	7.99	9.72	9.43	9.33	9.07		8.86	8.64	8.27	7.74	7.59	7.42	8.46		9.49	8.85	7.86
	H1 lead leg	L	strides	20	13	13	13	13	13	13	15	15	18	159				
dos Santos, Alison (BRA) (2000)	time	5.80	9.39	13.04	16.77	20.66		24.66	28.84	33.18	37.66	42.22		47.62	5 / 3			
	reaction time	0.162	interval	3.59	3.65	3.73	3.89	4.00	4.18	4.34	4.48	4.56	5.40			10.97	12.07	13.38
	velocity	7.76	9.75	9.59	9.38	9.00		8.75	8.37	8.06	7.81	7.68	7.41	8.40		9.57	8.70	7.85
	H1 lead leg	L	strides	20	13		12	12	13			13	16.2	99.2				
Allen, CJ (USA) (1995)	time	5.64	9.23	12.94	16.74	20.64		24.63	28.73	33.07	37.63	42.36		48.28	3 / 4			
	reaction time	0.141	interval	3.59	3.71	3.80	3.90	3.99	4.10	4.34	4.56	4.73	5.92			11.10	11.99	13.63
	velocity	7.98	9.75	9.43	9.21	8.97		8.77	8.54	8.06	7.68	7.40	6.76	8.29		9.46	8.76	7.70
	H1 lead leg	L	strides	20	13		13	13	13			14	18	104				
Happio, Wilfried (FRA) (1994)	time	6.09	9.69	13.37	17.16	21.08		25.15	29.33	33.73	38.35	43.05		48.42	2 / 5			
	reaction time	0.469	interval	3.60	3.68	3.79	3.92	4.07	4.18	4.40	4.62	4.70	5.37			11.07	12.17	13.72
	velocity	7.39	9.72	9.51	9.23	8.93		8.60	8.37	7.95	7.58	7.45	7.45	8.26		9.49	8.63	7.65
	H1 lead leg	L	strides	20	13		13	13	13			15	17.2	104.2				
Bassitt, Trevor (USA) (1998)	time	5.83	9.55	13.33	17.13	21.09		25.27	29.55	34.02	38.72	43.62		49.39	8 / 6			

reaction time	0.171	interval	3.72	3.78	3.80	3.96	4.18	4.28	4.47	4.70	4.90	5.77		11.30	12.42	14.07	
		velocity	7.72	9.41	9.26	9.21	8.84	8.37	8.18	7.83	7.45	6.93	8.10		9.29	8.45	7.46
H1 lead leg	R	strides	20	13	13	13	13	13	13	13				111			
Bonvin, Julien (SUI) (1999)	time		5.76	9.44	13.22	17.10	21.12	25.37	29.85	34.53	39.50	44.57		50.34	1 / 7		
reaction time	0.149	interval	3.68	3.78	3.88	4.02	4.25	4.48	4.68	4.97	5.07	5.77		11.34	12.75	14.72	
		velocity	7.81	9.51	9.26	9.02	8.71	8.24	7.81	7.48	7.04	6.90	6.93	7.95	9.26	8.24	7.13
H1 lead leg	L	strides	21	13		13		14	14				75				
Clarke, Roshawn (JAM) (200)	time		5.70	9.48	13.31	17.18	21.21	26.79						dnf	4 / --		
reaction time	0.175	interval	3.78	3.83	3.87	4.03	5.58							11.48			
		velocity	7.89	9.26	9.14	9.04	8.68	6.27						9.15			
H1 lead leg	L	strides	22	14		14							50				

2023 World Athletics Championships (Budapest, HUN) (TV Analysis)

FINAL

date 23-Aug-23

Henson (2023) - Athlete First: 2023 year end hurdle report

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1991)	time	5.81	9.46	12.90	16.52	20.29	24.25	28.29	32.50	36.93	41.61		46.89	7 / 1			
reaction time	0.171	interval	3.65	3.44	3.62	3.77	3.96	4.04	4.21	4.43	4.68	5.28			10.71	11.77	13.32
		velocity	7.75	9.59	10.17	9.67	9.28	8.84	8.66	8.31	7.90	7.48	7.58	8.53	9.80	8.92	7.88
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	15	18	157				
McMaster, Kyron (IVB) (1997)	time	5.67	9.33	12.80	16.45	20.26	24.28	28.39	32.78	37.33	41.98		47.34	8 / 2			
reaction time	0.151	interval	3.66	3.47	3.65	3.81	4.02	4.11	4.39	4.55	4.65	5.36			10.78	11.94	13.59
		velocity	7.94	9.56	10.09	9.59	9.19	8.71	8.52	7.97	7.69	7.53	7.46	8.45	9.74	8.79	7.73
H1 lead leg	L	strides	21	13	13	13	13	13	13	14	14	14	17.7	158.7			
Benjamin, Rai (USA) (1997)	time	5.64	9.37	12.81	16.42	20.29	24.26	28.31	32.59	37.13	41.98		47.56	6 / 3			
reaction time	0.168	interval	3.73	3.44	3.61	3.87	3.97	4.05	4.28	4.54	4.85	5.58			10.78	11.89	13.67
		velocity	7.98	9.38	10.17	9.70	9.04	8.82	8.64	8.18	7.71	7.22	7.17	8.41	9.74	8.83	7.68
H1 lead leg	R	strides	20	13	12	12	12	13	13	13	13	14	17	152			
Clarke, Roshawn (JAM) (200)	time	5.71	9.46	12.97	16.65	20.52		28.96	33.40	37.97	42.68		48.07	5 / 4			
reaction time	0.164	interval	3.75	3.51	3.68	3.87		8.44	4.44	4.57	4.71	5.39			10.94	12.31	13.72
		velocity	7.88	9.33	9.97	9.51	9.04	8.29	7.88	7.66	7.43	7.42	8.32		9.60	8.53	7.65
H1 lead leg	R	strides	21	13	13	13	13	14	15	15	15	18.2	150.2				
dos Santos, Alison (BRA) (2011)	time	5.81	9.56	12.96	16.62	20.49	24.48	28.60	32.90	37.55	42.21		48.10	9 / 5			
reaction time	0.164	interval	3.75	3.40	3.66	3.87	3.99	4.12	4.30	4.65	4.66	5.89			10.81	11.98	13.61
		velocity	7.75	9.33	10.29	9.56	9.04	8.77	8.50	8.14	7.53	7.51	6.79	8.32	9.71	8.76	7.71
H1 lead leg	L	strides	20	13	12	12	12	12	13	13	14	14	17.2	152.2			
Bassitt, Trevor (USA) (1998)	time	5.93	9.78	13.33	17.05	20.92		29.16	33.56	38.20	42.98		48.22	3 / 6			
reaction time	0.164	interval	3.85	3.55	3.72	3.87		8.24	4.40	4.64	4.78	5.24			11.12	12.11	13.82
		velocity	7.59	9.09	9.86	9.41	9.04	8.50	7.95	7.54	7.32	7.63	8.30		9.44	8.67	7.60
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	14	17	129				
Mägi, Rasmus (EST) (1992)	time	6.04	9.86	13.45	17.18	21.09		29.36	33.83	38.41	43.09		48.33	4 / 7			
reaction time	0.161	interval	3.82	3.59	3.73	3.91		8.27	4.47	4.58	4.68	5.24			11.14	12.18	13.73
		velocity	7.45	9.16	9.75	9.38	8.95	8.46	7.83	7.64	7.48	7.63	8.28		9.43	8.62	7.65
H1 lead leg	R	strides	21	13	13	13	13	14	14	14	14	17.2	132.2				
Abuaku, Joshua (GER) (1996)	time	5.97	9.83	13.45	17.22	21.13		29.56	34.03	38.64	43.34		48.53	2 / 8			
reaction time	0.156	interval	3.86	3.62	3.77	3.91		8.43	4.47	4.61	4.70	5.19			11.25	12.34	13.78
		velocity	7.54	9.07	9.67	9.28	8.95	8.30	7.83	7.59	7.45	7.71	8.24		9.33	8.51	7.62
H1 lead leg	L	strides	20	13		13	13		14	14	14	18	119				

Semi-Final 3

date 21-Aug-23

Henson (2023) - Athlete First: 2023 year end hurdle report

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1991)	time	5.77	9.44	13.08	16.61	20.42	24.36	28.42	32.63	37.25	41.97		47.09	5 / 1			
reaction time	0.162	interval	3.67	3.64	3.53	3.81	3.94	4.06	4.21	4.62	4.72	5.12			10.84	11.81	13.55
		velocity	7.80	9.54	9.62	9.92	9.19	8.88	8.62	8.31	7.58	7.42	7.81	8.49	9.69	8.89	7.75
H1 lead leg	L	strides	20	13	13	13	13	13	13	15	15	17	158				
Clarke, Roshawn (JAM) (200)	time	5.77	9.48	13.08	16.61	20.42	24.49	28.66	33.01	37.54	42.14		47.34	7 / 2			
reaction time	0.198	interval	3.71	3.60	3.53	3.81	4.07	4.17	4.35	4.53	4.60	5.20	WJR		10.84	12.05	13.48
		velocity	7.80	9.43	9.72	9.92	9.19	8.60	8.39	8.05	7.73	7.61	7.69	8.45	9.69	8.71	7.79
H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	15	18.5	164.5			
Bassitt, Trevor (USA) (1998)	time	5.87	9.71	13.41	17.08	20.92	24.87	29.00	33.28		42.37		47.38	9 / 3			
reaction time	0.187	interval	3.84	3.70	3.67	3.84	3.95	4.13	4.28		9.09	5.01	PB		11.21	11.92	13.37
		velocity	7.67	9.11	9.46	9.54	9.11	8.86	8.47	8.18		7.70	7.98	8.44	9.37	8.81	7.85
H1 lead leg	R	strides	20	13	13	13	13	13	13	13		17	128				
Abuaku, Joshua (GER) (1996)	time	5.90	9.68	13.31	16.92	20.79	24.83	29.19	33.63		43.01		48.39	8 / 4			
reaction time	0.179	interval	3.78	3.63	3.61	3.87	4.04	4.36	4.44		9.38	5.38			11.02	12.27	13.82
		velocity	7.63	9.26	9.64	9.70	9.04	8.66	8.03	7.88		7.46	7.43	8.27	9.53	8.56	7.60
H1 lead leg	L	strides	20	13	13	13	13	13	14	14		18	131				

Sibilio, Alessandro (ITA) (1991)	time	5.99	9.94	17.55	21.45		29.83	34.30	43.79	48.43	2 / 5				
	reaction time	0.152	interval	3.95	7.61	3.90	8.38	4.47	9.49	4.64		11.56	12.28	13.96	
	velocity	7.51	8.86	9.20	8.97		8.35	7.83	7.38	8.62		9.08	8.55	7.52	
	H1 lead leg	R	strides	21	13	13		15		18		80			
Copello, Yasmani (TUR) (1991)	time	5.97	9.77	17.23	21.12		29.57	34.03	38.64	43.25	48.66	3 / 6			
	reaction time	0.220	interval	3.80	7.46	3.89	8.45	4.46	4.61	5.41		11.26	12.34	13.68	
	velocity	7.54	9.21	9.38	9.00		8.29	7.84	7.59	7.59	8.22	9.33	8.51	7.67	
	H1 lead leg	R	strides	20	13	13		14	14	14	17.5	105.5			
Happio, Wilfried (FRA) (1991)	time	5.94	9.67	13.31	16.91	20.72	24.66	28.76	33.40	43.31	48.83	6 / 7			
	reaction time	0.176	interval	3.73	3.64	3.60	3.81	3.94	4.10	4.64	9.91	5.52	10.97	11.85	14.55
	velocity	7.58	9.38	9.62	9.72	9.19	8.88	8.54	7.54	7.06	7.25	8.19	9.57	8.86	7.22
	H1 lead leg	L	strides	20	13	13	13	13	14		17.7	129.7			
Drummond, Gerald (CRC) (1991)	time	5.93	9.81	17.48	21.59		30.39	34.86	44.24	49.31	4 / 8				
	reaction time	0.169	interval	3.88	7.67	4.11	8.80	4.47	9.38	5.07		11.55	12.91	13.85	
	velocity	7.59	9.02	9.13	8.52		7.95	7.83	7.46	7.89	8.11	9.09	8.13	7.58	
	H1 lead leg	L	strides	21	14	14		16		18	83				

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		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.77	9.54	13.08	16.92	20.82	24.82	28.93	33.21	37.61	42.14		47.24	7 / 1				
	reaction time	0.169	interval	3.77	3.54	3.84	3.90	4.00	4.11	4.28	4.40	4.53	5.10		11.15	12.01	13.21	
	velocity	7.80	9.28	9.89	9.11	8.97	8.75	8.52	8.18	7.95	7.73	7.84	8.47		9.42	8.74	7.95	
	H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	16.5	153.5				
dos Santos, Alison (BRA) (2000)	time	5.87	9.61	13.24	16.78	20.65	24.76	29.00	33.28	37.65	42.17		47.38	8 / 2				
	reaction time	0.182	interval	3.74	3.63	3.54	3.87	4.11	4.24	4.28	4.37	4.52	5.21		10.91	12.22	13.17	
	velocity	7.67	9.36	9.64	9.89	9.04	8.52	8.25	8.18	8.01	7.74	7.68	8.44		9.62	8.59	7.97	
	H1 lead leg	L	strides	20	13	12	12	13	13	13	13	13	16.2	150.2				
Vaillant, Ludvy (FRA) (1995)	time	5.90	9.64	13.31	16.85	20.68	24.69	28.87	33.35	37.94	42.88		48.48	6 / 3				
	reaction time	0.194	interval	3.74	3.67	3.54	3.83	4.01	4.18	4.48	4.59	4.94	5.60		10.95	12.02	14.01	
	velocity	7.63	9.36	9.54	9.89	9.14	8.73	8.37	7.81	7.63	7.09	7.14	8.25		9.59	8.74	7.49	
	H1 lead leg	R	strides	21	13	13	13	13	14	14	14	15	18	161				
Kurokawa, Kazuki (JPN) (2000)	time	5.77	9.47	13.21	16.88	20.89	25.09	29.33	33.81	38.44	43.21		48.58	5 / 4				
	reaction time	0.144	interval	3.70	3.74	3.67	4.01	4.20	4.24	4.48	4.63	4.77	5.37	PB	11.11	12.45	13.88	
	velocity	7.80	9.46	9.36	9.54	8.73	8.33	8.25	7.81	7.56	7.34	7.45	8.23		9.45	8.43	7.56	
	H1 lead leg	L	strides	21	13	13	13	14	14	15	15	15	19	165				
Agyekum, Emil (GER) (1999)	time	6.10	9.98	13.68	17.28	21.12		29.56	34.06	38.70	43.41		48.71	3 / 5				
	reaction time	0.196	interval	3.88	3.70	3.60	3.84	8.44	4.50	4.64	4.71	5.30	PB		11.18	12.28	13.85	
	velocity	7.38	9.02	9.46	9.72	9.11		8.29	7.78	7.54	7.43	7.55	8.21		9.39	8.55	7.58	
	H1 lead leg	L	strides	21	13	13	13		14	15	15	18	135					
Mukhobe, Wiseman Were (KSA) (1991)	time	5.94	9.81	13.61	17.35	21.55	25.82	30.26	34.83		44.01		49.40	9 / 6				
	reaction time	0.196	interval	3.87	3.80	3.74	4.20	4.27	4.44	4.57	9.18	5.39			11.41	12.91	13.75	
	velocity	7.58	9.04	9.21	9.36	8.33	8.20	7.88	7.66		7.63	7.42	8.10		9.20	8.13	7.64	
	H1 lead leg	R	strides	22	14	14	14	14	15		19	125						
Xie Zhiyu (CHN) (2000)	time	6.14	10.11	13.98	17.82	21.89		30.56	35.07		44.48		49.57	2 / 7				
	reaction time	0.189	interval	3.97	3.87	3.84	4.07	8.67	4.51		9.41	5.09			11.68	12.74	13.92	
	velocity	7.33	8.82	9.04	9.11	8.60		8.07	7.76		7.44	7.86	8.07		8.99	8.24	7.54	
	H1 lead leg	L	strides	21	13	13	13		14		17	91						
Bonvin, Julien (SUI) (1999)	time	5.90	9.67	13.38	17.05	20.99	25.29	29.66	34.30	39.11	44.08		49.75	4 / 8				
	reaction time	0.175	interval	3.77	3.71	3.67	3.94	4.30	4.37	4.64	4.81	4.97	5.67		11.15	12.61	14.42	
	velocity	7.63	9.28	9.43	9.54	8.88	8.14	8.01	7.54	7.28	7.04	7.05	8.04		9.42	8.33	7.28	
	H1 lead leg	L	strides	20	13	13	13	14	14	15	15	18	148					

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		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
McMaster, Kyron (IVB) (1997)	time	5.73	9.46	13.06	16.63	20.53	24.56	28.67	33.01	37.52	42.17		47.72	8 / 1				
	reaction time	0.168	interval	3.73	3.60	3.57	3.90	4.03	4.11	4.34	4.51	4.65	5.55		10.90	12.04	13.50	
	velocity	7.85	9.38	9.72	9.80	8.97	8.68	8.52	8.06	7.76	7.53	7.21	8.38		9.63	8.72	7.78	
	H1 lead leg	L	strides	21	13	13	13	13	13	13	14	14	17	157				
Mägi, Rasmus (EST) (1992)	time	6.07	10.03	13.77	17.53	21.43	25.50	29.68	34.03		43.13		48.30	7 / 2				
	reaction time	0.180	interval	3.96	3.74	3.76	3.90	4.07	4.18	4.35	9.10	5.17			11.46	12.15	13.45	
	velocity	7.41	8.84	9.36	9.31	8.97	8.60	8.37	8.05		7.69	7.74	8.28		9.16	8.64	7.81	
	H1 lead leg	R	strides	21	13	13	13	13	13	14		17.5	130.5					
Allen, CJ (USA) (1995)	time	5.83	9.73	13.43	17.07	20.93	25.00	29.23	33.56	38.17	42.96		48.44	6 / 3				
	reaction time	0.152	interval	3.90	3.70	3.64	3.86	4.07	4.23	4.33	4.61	4.79	5.48		11.24	12.16	13.73	
	velocity	7.72	8.97	9.46	9.62	9.07	8.60	8.27	8.08	7.59	7.31	7.30	8.26		9.34	8.63	7.65	

H1 lead leg	L	strides	20	13	13	13	13	13	14	14	14	14	17.2	158.2				
Hyde, Jaheel (JAM) (1997)	time		5.73	9.43	13.08	16.63	20.50	24.63	28.86	33.36	38.00	42.86		48.49	5 / 4			
reaction time	0.150	interval		3.70	3.65	3.55	3.87	4.13	4.23	4.50	4.64	4.86	5.63			10.90	12.23	14.00
		velocity		7.85	9.46	9.59	9.86	9.04	8.47	8.27	7.78	7.54	7.20	7.10	8.25	9.63	8.59	7.50
H1 lead leg	L	strides	22	13	13	13	13	14	14	14	14	15	18.7	163.7				
Watrin, Julien (BEL) (1992)	time		5.90	9.66	13.43	17.13	21.00	25.13	29.46	34.16	38.83	43.55		48.94	3 / 5			
reaction time	0.205	interval		3.76	3.77	3.70	3.87	4.13	4.33	4.70	4.67	4.72	5.39			11.23	12.33	14.09
		velocity		7.63	9.31	9.28	9.46	9.04	8.47	8.08	7.45	7.49	7.42	7.42	8.17	9.35	8.52	7.45
H1 lead leg	R	strides	20	13	13	13	13	13		14	15	15	18	147				
Nathaniel, Ezekiel (NGR) (2019)	time		6.06	9.97	13.63	17.33	21.26	25.40	29.73	34.23		43.67		49.22	9 / 6			
reaction time	0.209	interval		3.91	3.66	3.70	3.93	4.14	4.33	4.50		9.44	5.55			11.27	12.40	13.94
		velocity		7.43	8.95	9.56	9.46	8.91	8.45	8.08	7.78		7.42	7.21	8.13	9.32	8.47	7.53
H1 lead leg	R	strides	21	13	13	13	13	13	14	14			17	131				
Hemeida, Bassem (QAT) (2019)	time		5.96	9.80	13.63	17.36	21.26	25.50	29.83	34.40	39.06	43.97		49.50	4 / 7			
reaction time	0.172	interval		3.84	3.83	3.73	3.90	4.24	4.33	4.57	4.66	4.91	5.53			11.40	12.47	14.14
		velocity		7.55	9.11	9.14	9.38	8.97	8.25	8.08	7.66	7.51	7.13	7.23	8.08	9.21	8.42	7.43
H1 lead leg	R	strides	21	13	14	13	13	14		14	14	15	17.7	148.7				

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			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time		5.83	9.60	13.46	17.37	21.23	25.33	29.40	33.66	38.23	42.96		48.35	5 / 1				
reaction time	0.176	interval		3.77	3.86	3.91	3.86	4.10	4.07	4.26	4.57	4.73	5.39				11.54	12.03	13.56
		velocity		7.72	9.28	9.07	8.95	9.07	8.54	8.60	8.22	7.66	7.40	7.42	8.27	9.10	8.73	7.74	
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	13	13	16.7	153.7				
Hyde, Jaheel (JAM) (1997)	time		5.80	9.46	13.23	17.00	20.83	25.03	29.26	33.80	38.40	43.20		48.63	9 / 2				
reaction time	0.182	interval		3.66	3.77	3.77	3.83	4.20	4.23	4.54	4.60	4.80	5.43				11.20	12.26	13.94
		velocity		7.76	9.56	9.28	9.28	9.14	8.33	8.27	7.71	7.61	7.29	7.37	8.23	9.38	8.56	7.53	
H1 lead leg	L	strides	22	13	13	13	13	14	14	14	14	15	18	163					
Kurokawa, Kazuki (JPN) (2019)	time		5.73	9.46	13.20	17.00	20.83	25.03	29.36	33.83	38.46	43.23		48.71	3 / 3				
reaction time	0.158	interval		3.73	3.74	3.80	3.83	4.20	4.33	4.47	4.63	4.77	5.48				11.27	12.36	13.87
		velocity		7.85	9.38	9.36	9.21	9.14	8.33	8.08	7.83	7.56	7.34	7.30	8.21	9.32	8.50	7.57	
H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	15	18.7	164.7					
Drummond, Gerald (CRC) (1999)	time		5.86	9.76	13.63	17.60	21.58	25.74	30.03	34.46		43.60		48.73	8 / 4				
reaction time	0.220	interval		3.90	3.87	3.97	3.98	4.16	4.29	4.43		9.14	5.13				11.74	12.43	13.57
		velocity		7.68	8.97	9.04	8.82	8.79	8.41	8.16	7.90		7.66	7.80	8.21	8.94	8.45	7.74	
H1 lead leg	L	strides	21	14	14	14	14	14	14	15			18	138					
Copello, Yasmani (TUR) (1999)	time		6.00	9.83	13.66	17.56	21.50	25.63	29.96	34.40	38.93	43.56		48.92	6 / 5				
reaction time	0.244	interval		3.83	3.83	3.90	3.94	4.13	4.33	4.44	4.53	4.63	5.36				11.56	12.40	13.60
		velocity		7.50	9.14	9.14	8.97	8.88	8.47	8.08	7.88	7.73	7.56	7.46	8.18	9.08	8.47	7.72	
H1 lead leg	R	strides	20	13	13	13	13	13	14	14	14	14	17.5	158.5					
Agyekum, Emil (GER) (1999)	time		6.16		13.83		21.43		29.86	34.33	39.03	43.76		49.00	1 / 6				
reaction time	0.232	interval			7.67		7.60		8.43	4.47	4.70	4.73	5.24						13.90
		velocity			7.31		9.13		8.30	7.83	7.45	7.40	7.63	8.16					7.55
H1 lead leg	R	strides	20					13		14	15	15	18	95					

Heat 4

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			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Abuaku, Joshua (GER) (1999)	time		6.03	9.83	13.50	17.27	21.03	25.10		33.77	38.36	43.03		48.32	5 / 1				
reaction time	0.207	interval		3.80	3.67	3.77	3.76	4.07		8.67	4.59	4.67	5.29	PB			11.24		
		velocity		7.46	9.21	9.54	9.28	9.31	8.60	8.07	7.63	7.49	7.56	8.28	9.34				
H1 lead leg	L	strides	20	13	13	13	13	13			14	14	18	131					
Allen, CJ (USA) (1995)	time		5.90	9.73	13.50	17.36	21.13	25.17		33.70	38.23	42.90		48.36	9 / 2				
reaction time	0.167	interval		3.83	3.77	3.86	3.77	4.04		8.53	4.53	4.67	5.46				11.46		
		velocity		7.63	9.14	9.28	9.07	9.28	8.66	8.21	7.73	7.49	7.33	8.27	9.16				
H1 lead leg	L	strides	20	13	13	13	13	13			14	14	17	130					
Clarke, Roshawn (JAM) (2000)	time		5.83	9.70	13.53	17.53	21.43	25.46	29.67	33.90	38.36	43.06		48.39	3 / 3				
reaction time	0.183	interval		3.87	3.83	4.00	3.90	4.03	4.21	4.23	4.46	4.70	5.33				11.70	12.14	13.39
		velocity		7.72	9.04	9.14	8.75	8.97	8.68	8.31	8.27	7.85	7.45	7.50	8.27	8.97	8.65	7.84	
H1 lead leg	L	strides	22	14	14	13	14	14	14	14	15	15	18.2	167.2					
Nathaniel, Ezekiel (NGR) (2019)	time		6.10	10.03	13.83	17.56	21.33	25.33	29.53	33.90	38.53	43.23		48.47	8 / 4				
reaction time	0.210	interval		3.93	3.80	3.73	3.77	4.00	4.20	4.37	4.63	4.70	5.24				11.46	11.97	13.70
		velocity		7.38	8.91	9.21	9.38	9.28	8.75	8.33	8.01	7.56	7.45	7.63	8.25	9.16	8.77	7.66	
H1 lead leg	R	strides	21	13	13	13	13	13	13	14	14	14	17	158					
Watrin, Julien (BEL) (1992)	time		5.93	9.70	13.46	17.30	21.06	25.07		33.63	38.27	43.10		48.72	6 / 5				
reaction time	0.230	interval		3.77	3.76	3.84	3.76	4.01		8.56	4.64	4.83	5.62				11.37		

	velocity	7.59	9.28	9.31	9.11	9.31	8.73	8.18	7.54	7.25	7.12	8.21	9.23
H1 lead leg	R strides	20	13	13	13	13	13		14	14	19	132	
Lambrugh, Mario (ITA) (199)	time	5.90	9.86	13.66	17.56	21.40	25.53	34.40	39.03	43.73		49.05	1 / 6
reaction time	0.129 interval		3.96	3.80	3.90	3.84	4.13	8.87	4.63	4.70	5.32	11.66	
	velocity	7.63	8.84	9.21	8.97	9.11	8.47	7.89	7.56	7.45	7.52	8.15	9.01
H1 lead leg	R strides	22	14	14	14	14	14		15	15	18.5	140.5	

Heat 3

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		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Happio, Wilfried (FRA) (199)	time	5.93	9.80	13.60	17.43	21.23		25.26	29.46	33.80	38.53	43.36		48.63	4 / 1			
reaction time	0.172 interval		3.87	3.80	3.83	3.80		4.03	4.20	4.34	4.73	4.83	5.27			11.50	12.03	13.90
	velocity	7.59	9.04	9.21	9.14	9.21		8.68	8.33	8.06	7.40	7.25	7.59	8.23		9.13	8.73	7.55
H1 lead leg	L strides	20	13	13	13	13		13	13	13	15	15	17	158				
Warholm, Karsten (NOR) (19)	time	5.86	9.66	13.40	17.20	20.93		24.93	29.13	33.44	38.20	43.13		48.76	3 / 2			
reaction time	0.166 interval		3.80	3.74	3.80	3.73		4.00	4.20	4.31	4.76	4.93	5.63			11.34	11.93	14.00
	velocity	7.68	9.21	9.36	9.21	9.38		8.75	8.33	8.12	7.35	7.10	7.10	8.20		9.26	8.80	7.50
H1 lead leg	L strides	20	13	13	13	13		13	13	13	15	15	17	158				
Hemeida, Bassem (QAT) (20)	time	6.03	9.93	13.90	17.73	21.66		25.83	30.23	34.72	39.47	44.20		49.50	2 / 3			
reaction time	0.156 interval		3.90	3.97	3.83	3.93		4.17	4.40	4.49	4.75	4.73	5.30			11.70	12.50	13.97
	velocity	7.46	8.97	8.82	9.14	8.91		8.39	7.95	7.80	7.37	7.40	7.55	8.08		8.97	8.40	7.52
H1 lead leg	R strides	21	13	13	13	14		14	14	14	14	14	17	161				
Sibilio, Alessandro (ITA) (19)	time	6.10	10.06	13.93	17.86	21.74		25.86	30.30	34.83	39.39	44.06		49.50	5 / 4			
reaction time	0.178 interval		3.96	3.87	3.93	3.88		4.12	4.44	4.53	4.56	4.67	5.44			11.76	12.44	13.76
	velocity	7.38	8.84	9.04	8.91	9.02		8.50	7.88	7.73	7.68	7.49	7.35	8.08		8.93	8.44	7.63
H1 lead leg	R strides	21	13	13	13	13		13	15	15	15	15	18	164				

Heat 2

date 20-Aug-23

Henson (2023) - Athlete First: 2023 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
McMaster, Kyron (IVB) (1997)	time	5.80	9.50		16.83			24.70	28.90	33.33	38.00	42.90		48.47	4 / 1			
reaction time	0.156 interval		3.70		7.33			7.87	4.20	4.43	4.67	4.90	5.57			11.03	12.07	14.00
	velocity	7.76	9.46		9.55			8.89	8.33	7.90	7.49	7.14	7.18	8.25		9.52	8.70	7.50
H1 lead leg	L strides	21	13	13					13	14	14	14	17.2	119.2				
Mägi, Rasmus (EST) (1992)	time	6.20	10.06	13.70	17.60	21.63		25.70	29.93	34.33	38.86	43.46		48.58	7 / 2			
reaction time	0.205 interval		3.86	3.64	3.90	4.03		4.07	4.23	4.40	4.53	4.60	5.12			11.40	12.33	13.53
	velocity	7.26	9.07	9.62	8.97	8.68		8.60	8.27	7.95	7.73	7.61	7.81	8.23		9.21	8.52	7.76
H1 lead leg	R strides	21	13	13	13	13		13	13	14	14	14	17	158				
Bassitt, Trevor (USA) (1998)	time	5.97	9.73		17.23	21.13		25.23	29.47	33.90	38.60	43.43		48.73	8 / 3			
reaction time	0.164 interval		3.76		7.50	3.90		4.10	4.24	4.43	4.70	4.83	5.30			11.26	12.24	13.96
	velocity	7.54	9.31		9.33	8.97		8.54	8.25	7.90	7.45	7.25	7.55	8.21		9.33	8.58	7.52
H1 lead leg	R strides	20	13		13			13	13	13	14	14	16.2	129.2				
Mukhobe, Wiseman Were (K)	time	5.93			17.63			25.83		34.63	39.23	43.83		49.10	1 / 4			
reaction time	0.199 interval				11.70			8.20		8.80	4.60	4.60	5.27			11.70		
	velocity	7.59			8.97			8.54		7.95	7.61	7.61	7.59	8.15		8.97		
H1 lead leg	R strides	20									15	15	19	69				

Heat 1

date 20-Aug-23

Henson (2023) - Athlete First: 2023 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
dos Santos, Alison (BRA) (2)	time	5.93	9.77	13.47		20.93		24.93	29.16	33.53	38.03	42.86		48.12	2 / 1			
reaction time	0.167 interval		3.84	3.70		7.46		4.00	4.23	4.37	4.50	4.83	5.26					13.70
	velocity	7.59	9.11	9.46		9.38		8.75	8.27	8.01	7.78	7.25	7.60	8.31				7.66
H1 lead leg	L strides	20	13	12				12		13	13	14	16.2	113.2				
Vaillant, Ludvy (FRA) (1995)	time	5.83	9.60	13.23	16.80	20.63		24.60	28.80	33.23	37.76	42.60		48.27	3 / 2			
reaction time	0.182 interval		3.77	3.63	3.57	3.83		3.97	4.20	4.43	4.53	4.84	5.67			10.97	12.00	13.80
	velocity	7.72	9.28	9.64	9.80	9.14		8.82	8.33	7.90	7.73	7.23	7.05	8.29		9.57	8.75	7.61
H1 lead leg	R strides	21	13	13	13	13		13	14	14	14	14	17.7	159.7				
Bonvin, Julien (SUI) (1999)	time	5.96	9.73	13.46	17.13	21.13		25.40	29.73	34.23	38.97			49.19	5 / 3			
reaction time	0.188 interval		3.77	3.73	3.67	4.00		4.27	4.33	4.50	4.74		10.22			11.17	12.60	
	velocity	7.55	9.28	9.38	9.54	8.75		8.20	8.08	7.78	7.38		7.34	8.13		9.40	8.33	
H1 lead leg	L strides	21	13	13	13	13		14	14	15	15		131					
Xie Zhiyu (CHN) (2000)	time	6.16	10.13	13.96		21.86		26.06	30.46	34.93	39.53	44.23		49.40	8 / 4			
reaction time	0.207 interval		3.97	3.83		7.90		4.20	4.40	4.47	4.60	4.70	5.17					13.77
	velocity	7.31	8.82	9.14		8.86		8.33	7.95	7.83	7.61	7.45	7.74	8.10				7.63
H1 lead leg	L strides	21	13	13				13	14	14	14		17	119				

2023 Japanese National High School Championships (Sapporo, JPN)**FINAL**

date 04-Aug-23

Takashima (2023) - national high school sports festival - biomechanics data

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Shimoda, Hayato (JPN) (200)	time	6.04	9.81	13.66	17.47	21.42		25.61	29.96	34.52	39.36	44.36		50.14	7 / 1			

reaction time	0.187	interval	3.77	3.85	3.81	3.95	4.19	4.35	4.56	4.84	5.00	5.78		11.43	12.49	14.40	
		velocity	7.45	9.28	9.09	9.19	8.86	8.35	8.05	7.68	7.23	7.00	6.92	7.98	9.19	8.41	7.29
H1 lead leg		strides	21	15	15	15	15	15	15	17	17	21	181				
Fuchigami, Syota (JPN) (200	time	6.02	9.81	13.65	17.62	21.62	25.84	30.21	34.73	39.49	44.54		50.64	6 / 2			
reaction time	0.221	interval	3.79	3.84	3.97	4.00	4.22	4.37	4.52	4.76	5.05	6.10		11.60	12.59	14.33	
		velocity	7.48	9.23	9.11	8.82	8.75	8.29	8.01	7.74	7.35	6.93	6.56	7.90	9.05	8.34	7.33
H1 lead leg		strides	21	14	14	14	14	15	15	15	15	15	21	173			
Hashimoto, Ryosei (JPN)	time	6.17	10.23	14.36	18.50	22.72	27.08	31.50	36.00	40.66	45.40		50.74	4 / 3			
reaction time	0.206	interval	4.06	4.13	4.14	4.22	4.36	4.42	4.50	4.66	4.74	5.34		12.33	13.00	13.90	
		velocity	7.29	8.62	8.47	8.45	8.29	8.03	7.92	7.78	7.51	7.38	7.49	7.88	8.52	8.08	7.55
H1 lead leg		strides	20	15	15	15	15	15	15	15	15	15	18	173			
Shimura, Takeshi (JPN) (200	time	6.14	10.24	14.71	19.00	23.39	27.84	32.37	36.90	41.61	46.40		51.93	9 / 4			
reaction time	0.217	interval	4.10	4.47	4.29	4.39	4.45	4.53	4.53	4.71	4.79	5.53		12.86	13.37	14.03	
		velocity	7.33	8.54	7.83	8.16	7.97	7.87	7.73	7.73	7.43	7.31	7.23	7.70	8.16	7.85	7.48
H1 lead leg		strides	21	15	15	15	15	15	15	15	15	19	175				
Tokuda, Hayao (JPN)	time	6.21	10.16	14.26	18.44	22.77	27.28	31.98	36.80	41.76	46.58		51.94	5 / 5			
reaction time	0.227	interval	3.95	4.10	4.18	4.33	4.51	4.70	4.82	4.96	4.82	5.36		12.23	13.54	14.60	
		velocity	7.25	8.86	8.54	8.37	8.08	7.76	7.45	7.26	7.06	7.26	7.46	7.70	8.59	7.75	7.19
H1 lead leg		strides	20	14	14	14	14	15	15	15	15	15	18	169			
徳嶋 力也	time	6.27	10.34	14.63	19.00	23.49	28.04	32.60	37.39	42.31	47.25		52.54	8 / 6			
reaction time	0.251	interval	4.07	4.29	4.37	4.49	4.55	4.56	4.79	4.92	4.94	5.29		12.73	13.60	14.65	
		velocity	7.18	8.60	8.16	8.01	7.80	7.69	7.68	7.31	7.11	7.09	7.56	7.61	8.25	7.72	7.17
H1 lead leg		strides	21	15	15	15	15	15	15	15	15	19	175				
Nakano, Sota (JPN)	time	6.32	10.39	14.55	18.74	23.06	27.61	32.30	37.19	42.21	47.33		52.80	3 / 7			
reaction time	0.249	interval	4.07	4.16	4.19	4.32	4.55	4.69	4.89	5.02	5.12	5.47		12.42	13.56	15.03	
		velocity	7.12	8.60	8.41	8.35	8.10	7.69	7.46	7.16	6.97	6.84	7.31	7.58	8.45	7.74	6.99
H1 lead leg		strides	23	15	15	15	15	15	15	17	17	17	20	184			
Kinoshita, Seita (JPN)	time	6.32	10.41	14.61	18.95	23.41	27.98	32.67	37.50	42.48	47.50		52.93	2 / 8			
reaction time	0.277	interval	4.09	4.20	4.34	4.46	4.57	4.69	4.83	4.98	5.02	5.43		12.63	13.72	14.83	
		velocity	7.12	8.56	8.33	8.06	7.85	7.66	7.46	7.25	7.03	6.97	7.37	7.56	8.31	7.65	7.08
H1 lead leg		strides	21	15	15	15	15	15	15	15	15	19	175				

2023 Herculis Meeting International d'Athlétisme (Monaco, MON)

FINAL

date 21-Jul-23

Omega Timing (2023) - diamond league race analysis

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (19	time	5.55	9.05	12.62	16.26	20.02		23.95	28.03	32.24	36.65	41.21		46.51	7 / 1				
reaction time	0.146	interval	3.50	3.57	3.64	3.76		3.93	4.08	4.21	4.41	4.56	5.30				10.71	11.77	13.18
		velocity	8.11	10.00	9.80	9.62	9.31		8.91	8.58	8.31	7.94	7.68	7.55	8.60		9.80	8.92	7.97
H1 lead leg	L	strides	20	13	13	13	13		13	13	13	13	15	17.7	156.7				
dos Santos, Alison (BRA) (2	time	5.71	9.26	12.88	16.52	20.34		24.30	28.43	32.71	37.15	41.99		47.66	6 / 2				
reaction time	0.169	interval	3.55	3.62	3.64	3.82		3.96	4.13	4.28	4.44	4.84	5.67				10.81	11.91	13.56
		velocity	7.88	9.86	9.67	9.62	9.16		8.84	8.47	8.18	7.88	7.23	7.05	8.39		9.71	8.82	7.74
H1 lead leg	L	strides	20	13	12	12	12		12	13	13	13	14	17	151				
Allen, CJ (USA) (1995)	time	5.64	9.25	12.92	16.67	20.54		24.53	28.66	32.99	37.55	42.29		47.84	5 / 3				
reaction time	0.148	interval	3.61	3.67	3.75	3.87		3.99	4.13	4.33	4.56	4.74	5.55				11.03	11.99	13.63
		velocity	7.98	9.70	9.54	9.33	9.04		8.77	8.47	8.08	7.68	7.38	7.21	8.36		9.52	8.76	7.70
H1 lead leg	L	strides	20	13	13	13			13	14	14	15		115					
Vaillant, Ludvy (FRA) (1995)	time	5.73	9.32	12.98	16.74	20.61		24.63	28.82	33.23	37.76	42.39		47.85	2 / 4				
reaction time	0.158	interval	3.59	3.66	3.76	3.87		4.02	4.19	4.41	4.53	4.63	5.46	PB			11.01	12.08	13.57
		velocity	7.85	9.75	9.56	9.31	9.04		8.71	8.35	7.94	7.73	7.56	7.33	8.36		9.54	8.69	7.74
H1 lead leg	R	strides	21	13	13	13			14	14	14	14	18	134					
Happio, Wilfried (FRA) (199	time	5.80	9.44	13.14	16.91	20.82		24.89	29.09	33.44	38.09	42.79		48.25	4 / 5				
reaction time	0.149	interval	3.64	3.70	3.77	3.91		4.07	4.20	4.35	4.65	4.70	5.46				11.11	12.18	13.70
		velocity	7.76	9.62	9.46	9.28	8.95		8.60	8.33	8.05	7.53	7.45	7.33	8.29		9.45	8.62	7.66
H1 lead leg	L	strides	20	13	13	13			13	13	15	15		115					
Smidt, Nick (NED) (1997)	time	5.83	9.53	13.26	17.07	21.03		25.16	29.40	33.80	38.34	43.04		48.57	8 / 6				
reaction time	0.167	interval	3.70	3.73	3.81	3.96		4.13	4.24	4.40	4.54	4.70	5.53				11.24	12.33	13.64
		velocity	7.72	9.46	9.38	9.19	8.84		8.47	8.25	7.95	7.71	7.45	7.23	8.24		9.34	8.52	7.70
H1 lead leg	L	strides	21	13	13	13	13		14	14	14	14	14	143					
Rosser, Khallifah (USA) (199	time	5.73	9.31	12.98	16.73	20.59		24.65	28.93	33.46	38.13	43.00		48.71	1 / 7				
reaction time	0.172	interval	3.58	3.67	3.75	3.86		4.06	4.28	4.53	4.67	4.87	5.71				11.00	12.20	14.07
		velocity	7.85	9.78	9.54	9.33	9.07		8.62	8.18	7.73	7.49	7.19	7.01	8.21		9.55	8.61	7.46
H1 lead leg	R	strides	21	13	13	13			14	14	14	14		116					
Sibilio, Alessandro (ITA) (19	time	5.76	9.43	13.21	17.00									dnf	3 / --				

Happio, Wilfried (FRA) (199t	time	5.79	9.44	13.12	16.88	20.80	24.86	29.12	33.68	38.71	43.77		49.67	6 / 5			
reaction time	0.151 interval		3.65	3.68	3.76	3.92	4.06	4.26	4.56	5.03	5.06	5.90			11.09	12.24	14.65
	velocity	7.77	9.59	9.51	9.31	8.93	8.62	8.22	7.68	6.96	6.92	6.78	8.05		9.47	8.58	7.17
H1 lead leg	L strides	20	13		13	13	13	13	14	15	15		129				
Vaillant, Ludvy (FRA) (1995)	time	5.85	9.54	13.26	17.03	20.92	25.02	29.34	34.01	38.83	43.78		49.91	4 / 6			
reaction time	0.199 interval		3.69	3.72	3.77	3.89	4.10	4.32	4.67	4.82	4.95	6.13			11.18	12.31	14.44
	velocity	7.69	9.49	9.41	9.28	9.00	8.54	8.10	7.49	7.26	7.07	6.53	8.01		9.39	8.53	7.27
H1 lead leg	R strides	21	13		13	13	13	14		14	15		116				
Edlund, Oskar (SWE) (2002)	time	5.97	9.80	13.73	17.69	21.72	25.95	30.42	35.04	39.80	44.57		50.35	1 / 7			
reaction time	0.177 interval		3.83	3.93	3.96	4.03	4.23	4.47	4.62	4.76	4.77	5.78			11.72	12.73	14.15
	velocity	7.54	9.14	8.91	8.84	8.68	8.27	7.83	7.58	7.35	7.34	6.92	7.94		8.96	8.25	7.42
H1 lead leg	L strides	21	13		13	13	13			15	15		103				
Copello, Yasmani (TUR) (19t	time	5.97	9.76	13.61	17.44	21.42	25.58	30.00	34.66	39.61	44.61		50.59	2 / 8			
reaction time	0.186 interval		3.79	3.85	3.83	3.98	4.16	4.42	4.66	4.95	5.00	5.98			11.47	12.56	14.61
	velocity	7.54	9.23	9.09	9.14	8.79	8.41	7.92	7.51	7.07	7.00	6.69	7.91		9.15	8.36	7.19
H1 lead leg	R strides	20	13		13	13	13	14		15	15		116				

2023 Bislett Games (Oslo, NOR)

FINAL

date 15-Jun-23

Omega Timing (2023) - diamond league race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1t	time	5.59	9.16	12.76	16.41	20.17	24.05	28.07	32.27	36.63	41.20		46.52	7 / 1				
reaction time	0.162 interval		3.57	3.60	3.65	3.76	3.88	4.02	4.20	4.36	4.57	5.32			10.82	11.66	13.13	
	velocity	8.05	9.80	9.72	9.59	9.31	9.02	8.71	8.33	8.03	7.66	7.52	8.60		9.70	9.01	8.00	
H1 lead leg	L strides	20	13	13	13	13	13	13	13	13	13	15	17.7	156.7				
Allen, CJ (USA) (1995)	time	5.64	9.28	12.99	16.80	20.68	24.64	28.75	33.09	37.50	42.06		47.58	6 / 2				
reaction time	0.170 interval		3.64	3.71	3.81	3.88	3.96	4.11	4.34	4.41	4.56	5.52	PB		11.16	11.95	13.31	
	velocity	7.98	9.62	9.43	9.19	9.02	8.84	8.52	8.06	7.94	7.68	7.25	8.41		9.41	8.79	7.89	
H1 lead leg	L strides	22	13	13	13	13	13	14	14	14	14	17	160					
Happio, Wilfried (FRA) (199t	time	5.82	9.47	13.16	16.95	20.88	24.93	29.11	33.48	38.00	42.70		48.13	5 / 3				
reaction time	0.159 interval		3.65	3.69	3.79	3.93	4.05	4.18	4.37	4.52	4.70	5.43			11.13	12.16	13.59	
	velocity	7.73	9.59	9.49	9.23	8.91	8.64	8.37	8.01	7.74	7.45	7.37	8.31		9.43	8.63	7.73	
H1 lead leg	L strides	20			13	13	13			13	15	17	104					
Vaillant, Ludvy (FRA) (1995)	time	5.69	9.23	12.88	16.65	20.57	24.66	28.94	33.43	38.09	42.89		48.59	2 / 4				
reaction time	0.155 interval		3.54	3.65	3.77	3.92	4.09	4.28	4.49	4.66	4.80	5.70			10.96	12.29	13.95	
	velocity	7.91	9.89	9.59	9.28	8.93	8.56	8.18	7.80	7.51	7.29	7.02	8.23		9.58	8.54	7.53	
H1 lead leg	R strides	21			13	13	13			14	14	17.7	105.7					
Bassitt, Trevor (USA) (1998)	time	5.72	9.40	13.20	17.04	21.00	25.07	29.27	33.60	38.31	43.05		48.63	4 / 5				
reaction time	0.185 interval		3.68	3.80	3.84	3.96	4.07	4.20	4.33	4.71	4.74	5.58			11.32	12.23	13.78	
	velocity	7.87	9.51	9.21	9.11	8.84	8.60	8.33	8.08	7.43	7.38	7.17	8.23		9.28	8.59	7.62	
H1 lead leg	R strides	20			13	13	13			14	13		86					
Rosser, Khallifah (USA) (199t	time	5.71	9.31	12.97	16.74	20.67	24.79	29.09	33.54	38.25	43.09		48.87	3 / 6				
reaction time	0.172 interval		3.60	3.66	3.77	3.93	4.12	4.30	4.45	4.71	4.84	5.78			11.03	12.35	14.00	
	velocity	7.88	9.72	9.56	9.28	8.91	8.50	8.14	7.87	7.43	7.23	6.92	8.18		9.52	8.50	7.50	
H1 lead leg	R strides	21			13	13	13			15	15		90					
Lahoulou, Abdelmalik (ALG)	time	5.94	9.59	13.26	17.04	20.97	25.07	29.40	33.90	38.57	43.47		49.27	8 / 7				
reaction time	0.178 interval		3.65	3.67	3.78	3.93	4.10	4.33	4.50	4.67	4.90	5.80			11.10	12.36	14.07	
	velocity	7.58	9.59	9.54	9.26	8.91	8.54	8.08	7.78	7.49	7.14	6.90	8.12		9.46	8.50	7.46	
H1 lead leg	L strides	22	13	13	13	13	14			15		103						
Watrin, Julien (BEL) (1992)	time	5.80	9.44	13.24	17.10	21.04	25.21	29.58	34.10	38.87	43.71		49.45	1 / 8				
reaction time	0.209 interval		3.64	3.80	3.86	3.94	4.17	4.37	4.52	4.77	4.84	5.74			11.30	12.48	14.13	
	velocity	7.76	9.62	9.21	9.07	8.88	8.39	8.01	7.74	7.34	7.23	6.97	8.09		9.29	8.41	7.43	
H1 lead leg	R strides	20			13	13	15			14	15		90					

2023 NCAA Championships (Austin, TX) (TV Analysis)

FINAL

date 09-Jun-23

Henson (2023) - Athlete First: 2023 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Robinson, Chris (USA) (200t	time	5.89	9.53	13.25	17.20	21.20	25.36	29.66	34.06	38.42	42.89		48.12	6 / 1				
reaction time	interval		3.64	3.72	3.95	4.00	4.16	4.30	4.40	4.36	4.47	5.23	PB		11.31	12.46	13.23	
	velocity	7.64	9.62	9.41	8.86	8.75	8.41	8.14	7.95	8.03	7.83	7.65	8.31		9.28	8.43	7.94	
H1 lead leg	R strides	21	13	13	14	14	14	14	15	15	15	18.2	166.2					
Long, Corde (USA) (2002)	time	5.99	9.71	13.56	17.46	21.54	25.76	30.28	34.62	39.09	43.49		48.53	5 / 2				
reaction time	interval		3.72	3.85	3.90	4.08	4.22	4.52	4.34	4.47	4.40	5.04	PB		11.47	12.82	13.21	
	velocity	7.51	9.41	9.09	8.97	8.58	8.29	7.74	8.06	7.83	7.95	7.94	8.24		9.15	8.19	7.95	
H1 lead leg	L strides	21	13	13	13	13	13	14	14	14	13	16.7	157.7					
Nathaniel, Ezekiel (NGR) (20t	time	5.99	9.69	13.50	17.33	21.30	25.39	29.66	34.06	38.66	43.39		48.54	8 / 3				
reaction time	interval		3.70	3.81	3.83	3.97	4.09	4.27	4.40	4.60	4.73	5.15			11.34	12.33	13.73	

	velocity	7.51	9.46	9.19	9.14	8.82		8.56	8.20	7.95	7.61	7.40	7.77	8.24		9.26	8.52	7.65
H1 lead leg	R	strides	21	13	13	13	13	13	13	13	14	14	17.7	157.7				
Dean, Caleb (USA) (2001)	time	5.76	9.47	13.28	17.17	21.17		25.39	29.80	34.30	38.80	43.26		48.56	7 / 4			
reaction time	interval		3.71	3.81	3.89	4.00		4.22	4.41	4.50	4.50	4.46	5.30		11.41	12.63	13.46	
	velocity	7.81	9.43	9.19	9.00	8.75		8.29	7.94	7.78	7.78	7.85	7.55	8.24		9.20	8.31	7.80
H1 lead leg	R	strides	21	13	13	13	13	13	14	14	15	14	18.2	161.2				
Griffith, Rasheeme (BAR) (2001)	time	6.05	9.74	13.60	17.52	21.54		30.06	34.48	39.09	43.91		49.17	3 / 5				
reaction time	interval		3.69	3.86	3.92	4.02		8.52	4.42	4.61	4.82	5.26		11.47	12.54	13.85		
	velocity	7.44	9.49	9.07	8.93	8.71		8.22	7.92	7.59	7.26	7.60	8.14		9.15	8.37	7.58	
H1 lead leg	L	strides	21	13	13	13	13	13	14	14	15	18	147					
Cavanaugh, Caleb (USA) (2001)	time	5.85	9.50	13.30	17.18	21.17		25.39	29.86	34.47	39.10	43.84		49.20	9 / 6			
reaction time	interval		3.65	3.80	3.88	3.99		4.22	4.47	4.61	4.63	4.74	5.36		11.33	12.68	13.98	
	velocity	7.69	9.59	9.21	9.02	8.77		8.29	7.83	7.59	7.56	7.38	7.46	8.13		9.27	8.28	7.51
H1 lead leg	R	strides	20	13	13	13	13	13	15	15	15	15	17.7	162.7				
Elliott, Cass (USA) (2000)	time	6.14	9.89	13.80	17.76	21.89		30.43	34.88	39.39	44.01		49.21	2 / 7				
reaction time	interval		3.75	3.91	3.96	4.13		8.54	4.45	4.51	4.62	5.20		11.62	12.67	13.58		
	velocity	7.33	9.33	8.95	8.84	8.47		8.20	7.87	7.76	7.58	7.69	8.13		9.04	8.29	7.73	
H1 lead leg	L	strides	21	14	14	14	14	14	15	15	16	18.5	141.5					
Smith, James (USA) (2000)	time	5.99	9.76	13.60	17.48	21.50		25.74	30.03	34.47	39.00	43.76		49.21	4 / 8			
reaction time	interval		3.77	3.84	3.88	4.02		4.24	4.29	4.44	4.53	4.76	5.45	PB	11.49	12.55	13.73	
	velocity	7.51	9.28	9.11	9.02	8.71		8.25	8.16	7.88	7.73	7.35	7.34	8.13		9.14	8.37	7.65
H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	15	18.2	164.2				
Saddler, Craig (USA) (2000)	time	5.96	9.54	13.38	17.31	21.40		30.25	34.85	39.46	44.27		49.70	1 / 9				
reaction time	interval		3.58	3.84	3.93	4.09		8.85	4.60	4.61	4.81	5.43		11.35	12.94	14.02		
	velocity	7.55	9.78	9.11	8.91	8.56		7.91	7.61	7.59	7.28	7.37	8.05		9.25	8.11	7.49	
H1 lead leg	R	strides	21	13	13	13	13	13	15	15	15	17	135					

2023 Meeting de Paris (Paris, FRA)

FINAL

date 09-Jun-23

Omega Timing (2023) - diamond league race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Allen, CJ (USA) (1995)	time	5.72	9.43	13.27	17.20	21.14		25.08	29.10	33.34	37.78	42.36		47.92	7 / 1			
reaction time	0.138 interval		3.71	3.84	3.93	3.94		3.94	4.02	4.24	4.44	4.58	5.56			11.48	11.90	13.26
	velocity	7.87	9.43	9.11	8.91	8.88		8.88	8.71	8.25	7.88	7.64	7.19	8.35		9.15	8.82	7.92
H1 lead leg	L	strides	20	13	13	13	13	13	13	14	14	14	17	157				
Happio, Wilfried (FRA) (1997)	time	5.76	9.37	13.06	16.85	20.77		24.79	28.96	33.32	38.00	42.81		48.26	6 / 2			
reaction time	0.156 interval		3.61	3.69	3.79	3.92		4.02	4.17	4.36	4.68	4.81	5.45			11.09	12.11	13.85
	velocity	7.81	9.70	9.49	9.23	8.93		8.71	8.39	8.03	7.48	7.28	7.34	8.29		9.47	8.67	7.58
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	15	15	18	159				
Bassitt, Trevor (USA) (1998)	time	5.69	9.35	13.18	17.09	21.13		25.19	29.34	33.69	38.22	42.87		48.28	4 / 3			
reaction time	0.164 interval		3.66	3.83	3.91	4.04		4.06	4.15	4.35	4.53	4.65	5.41			11.40	12.25	13.53
	velocity	7.91	9.56	9.14	8.95	8.66		8.62	8.43	8.05	7.73	7.53	7.39	8.29		9.21	8.57	7.76
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	14	17	155				
Vaillant, Ludvy (FRA) (1995)	time	5.74	9.33	12.98	16.76	20.61		24.56	28.70	33.19	37.88	42.72		48.60	2 / 4			
reaction time	0.153 interval		3.59	3.65	3.78	3.85		3.95	4.14	4.49	4.69	4.84	5.88			11.02	11.94	14.02
	velocity	7.84	9.75	9.59	9.26	9.09		8.86	8.45	7.80	7.46	7.23	6.80	8.23		9.53	8.79	7.49
H1 lead leg	R	strides	21	13	13	13	13	13	14	14	14	14	18	160				
McMaster, Kyron (IVB) (1997)	time	5.70	9.31	13.03	16.79	20.66		24.70	28.90	33.35	38.00	42.81		48.65	8 / 5			
reaction time	0.157 interval		3.61	3.72	3.76	3.87		4.04	4.20	4.45	4.65	4.81	5.84			11.09	12.11	13.91
	velocity	7.89	9.70	9.41	9.31	9.04		8.66	8.33	7.87	7.53	7.28	6.85	8.22		9.47	8.67	7.55
H1 lead leg	L	strides	21	13	13	13	13	13	13	14	15	15	17.5	160.5				
Rosser, Khalfiah (USA) (1997)	time	5.74	9.36	13.06	16.85	20.80		24.88	29.09	33.61	38.26	43.09		48.96	3 / 6			
reaction time	0.143 interval		3.62	3.70	3.79	3.95		4.08	4.21	4.52	4.65	4.83	5.87			11.11	12.24	14.00
	velocity	7.84	9.67	9.46	9.23	8.86		8.58	8.31	7.74	7.53	7.25	6.81	8.17		9.45	8.58	7.50
H1 lead leg	R	strides	21	13	13	13	13	13	13	14	14	15	18	160				

2023 FBK Games (Hengelo, NED)

FINAL

date 04-Jun-23

Omega Timing (2023) - continental tour race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Allen, CJ (USA) (1995)	time	5.75	9.46	13.29	17.17	21.12		25.14	29.27	33.59	38.10	42.73		48.24	6 / 1			
reaction time	0.166 interval		3.71	3.83	3.88	3.95		4.02	4.13	4.32	4.51	4.63	5.51			11.42	12.10	13.46
	velocity	7.83	9.43	9.14	9.02	8.86		8.71	8.47	8.10	7.76	7.56	7.26	8.29		9.19	8.68	7.80
H1 lead leg	L	strides	21	13	13	13	13	13	13	14	14	14	17	158				
Smidt, Nick (NED) (1997)	time	5.83	9.55	13.35	17.17	21.08		25.11	29.38	33.82	38.49	43.40		49.17	5 / 2			
reaction time	0.186 interval		3.72	3.80	3.82	3.91		4.03	4.27	4.44	4.67	4.91	5.77			11.34	12.21	14.02
	velocity	7.72	9.41	9.21	9.16	8.95		8.68	8.20	7.88	7.49	7.13	6.93	8.14		9.26	8.60	7.49
H1 lead leg	L	strides	21	13	13	13	13	13	14	14	14	15	18	122				

Abuaku, Joshua (GER) (1996)	time	5.83	9.51	13.27	17.07	21.02	25.23	29.62	34.17	38.87	43.70	49.23	8 / 3			
	reaction time	0.207	interval	3.68	3.76	3.80	4.21	4.39	4.55	4.70	4.83	5.53		11.24	12.55	14.08
	velocity	7.72	9.51	9.31	9.21	8.86	8.31	7.97	7.69	7.45	7.25	7.23		9.34	8.37	7.46
	H1 lead leg	L	strides	20	13	13	13	14	14	15	15	18				
Happio, Wilfried (FRA) (1996)	time	5.85	9.55	13.34	17.23	21.27	25.40	29.68	34.18	38.98	43.79	49.40	7 / 4			
	reaction time	0.158	interval	3.70	3.79	3.89	4.13	4.28	4.50	4.80	4.81	5.61		11.38	12.45	14.11
	velocity	7.69	9.46	9.23	9.00	8.66	8.47	8.18	7.78	7.29	7.28	7.13		9.23	8.43	7.44
	H1 lead leg	L	strides	20	13	13	13	13	13	15	15	17.5				
Barr, Thomas (IRL) (1992)	time	5.95	9.76	13.60	17.50	21.50	25.73	30.15	34.76	39.45	44.11	49.52	2 / 5			
	reaction time	0.167	interval	3.81	3.84	3.90	4.23	4.42	4.61	4.69	4.66	5.41		11.55	12.65	13.96
	velocity	7.56	9.19	9.11	8.97	8.75	8.27	7.92	7.59	7.46	7.51	7.39		9.09	8.30	7.52
	H1 lead leg	L	strides	20	13					14	14	17.7				
Ibañez Guevara, Pablo Andre (ESP) (1992)	time	5.99	9.94	13.93	17.94	21.97	26.21	30.61	35.05	39.63	44.22	49.63	3 / 6			
	reaction time	0.156	interval	3.95	3.99	4.01	4.24	4.40	4.44	4.58	4.59	5.41		11.95	12.67	13.61
	velocity	7.51	8.86	8.77	8.73	8.68	8.25	7.95	7.88	7.64	7.63	7.39		8.79	8.29	7.71
	H1 lead leg	L	strides	21	14					15	15	18.2				
Watrin, Julien (BEL) (1992)	time	5.94	9.66	13.50	17.37	21.40	25.58	30.04	34.64	39.41	44.28	49.92	4 / 7			
	reaction time	0.242	interval	3.72	3.84	3.87	4.18	4.46	4.60	4.77	4.87	5.64		11.43	12.67	14.24
	velocity	7.58	9.41	9.11	9.04	8.68	8.37	7.85	7.61	7.34	7.19	7.09		9.19	8.29	7.37
	H1 lead leg	R	strides	20	13					14	15	18				
Lahoulou, Abdelmalik (ALG) (1992)	time	5.98	9.68	13.48	17.34	21.27	25.42	29.90	34.54	39.40	44.28	49.96	1 / 8			
	reaction time	0.173	interval	3.70	3.80	3.86	4.15	4.48	4.64	4.86	4.88	5.68		11.36	12.56	14.38
	velocity	7.53	9.46	9.21	9.07	8.91	8.43	7.81	7.54	7.20	7.17	7.04		9.24	8.36	7.30
	H1 lead leg	L	strides	22	13					15	15	18				

2023 Japanese National Championships (Osaka, JPN)

FINAL

date 03-Jun-23

Sugimoto (2024) - race analysis of men's and women's 400m hurdles in the 2023 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Ogawa, Daiki (JPN) (2003)	time	6.06	9.93	13.87	17.90	22.04	26.28	30.58	35.07	39.66	44.33	49.52	3 / 1					
	reaction time	0.170	interval	3.87	3.94	4.03	4.24	4.30	4.49	4.59	4.67	5.19		PB		11.84	12.68	13.75
	velocity	7.43	9.04	8.88	8.68	8.45	8.25	8.14	7.80	7.63	7.49	7.71		8.08		8.87	8.28	7.64
	H1 lead leg	L	strides	21	14	14	15	15	15	15	15	20		172				
Yamauchi, Hiromu (JPN) (1991)	time	6.21	10.06	13.98	19.07	22.19	26.36	30.65	35.15	39.72	44.44	49.78	6 / 2					
	reaction time	0.223	interval	3.85	3.92	5.09	4.17	4.29	4.50	4.57	4.72	5.34		8.04		12.86	11.58	13.79
	velocity	7.25	9.09	8.93	6.88	11.22	8.39	8.16	7.78	7.66	7.42	7.49		8.04		8.16	9.07	7.61
	H1 lead leg	L	strides	21	14	14	14	14	15	15	15	19		169				
Kodama, Yusaku (JPN) (2006)	time	5.91	9.63	13.41	17.25	21.37	25.58	29.90	34.37	39.04	44.01	49.83	7 / 3					
	reaction time	0.198	interval	3.72	3.78	3.84	4.21	4.32	4.47	4.67	4.97	5.82		8.03		11.34	12.65	14.11
	velocity	7.61	9.41	9.26	9.11	8.50	8.31	8.10	7.83	7.49	7.04	6.87		8.03		9.26	8.30	7.44
	H1 lead leg	R	strides	21	13	13	14	14	15	15	15	19.7		167.7				
Inoue, Shunta (JPN) (2002)	time	5.92	9.63	13.33	17.13	21.12	25.44	29.91	34.62	39.41	44.39	50.03	5 / 4					
	reaction time	0.211	interval	3.71	3.70	3.80	4.32	4.47	4.71	4.79	4.98	5.64		8.00		11.21	12.78	14.48
	velocity	7.60	9.43	9.46	9.21	8.77	8.10	7.83	7.43	7.31	7.03	7.09		8.00		9.37	8.22	7.25
	H1 lead leg	L	strides	21	13	13	14	14	15	15	15	18		164				
Tsutsue, Kaito (JPN) (1998)	time	6.01	9.73	13.46	17.30	21.32	25.53	29.95	34.60	39.41	44.41	50.07	8 / 5					
	reaction time	0.189	interval	3.72	3.73	3.84	4.21	4.42	4.65	4.81	5.00	5.66		7.99		11.29	12.65	14.46
	velocity	7.49	9.41	9.38	9.11	8.71	8.31	7.92	7.53	7.28	7.00	7.07		7.99		9.30	8.30	7.26
	H1 lead leg	R	strides	21	13	13	14	14	15	15	15	19		165				
Deguchi, Haruto (JPN) (2001)	time	6.14	10.01	13.93	17.93	22.16	26.39	30.81	35.40	40.06	44.88	50.35	2 / 6					
	reaction time	0.216	interval	3.87	3.92	4.00	4.23	4.42	4.59	4.66	4.82	5.47		7.94		11.79	12.88	14.07
	velocity	7.33	9.04	8.93	8.75	8.27	8.27	7.92	7.63	7.51	7.26	7.31		7.94		8.91	8.15	7.46
	H1 lead leg	L	strides	21	13	13	14	14	15	15	15	18		166				
Nakai, Shuta (JPN) (2001)	time	6.27	10.03	13.81	17.72	21.74	25.99	30.43	35.09	39.91	44.89	50.71	9 / 7					
	reaction time	0.222	interval	3.76	3.78	3.91	4.25	4.44	4.66	4.82	4.98	5.82		7.89		11.45	12.71	14.46
	velocity	7.18	9.31	9.26	8.95	8.71	8.24	7.88	7.51	7.26	7.03	6.87		7.89		9.17	8.26	7.26
	H1 lead leg	R	strides	21	13	13	14	14	15	15	15	146						
Kishimoto, Takayuki (JPN) (1997)	time	5.87	9.56	13.35	17.27	21.39	25.66	30.10	34.75	39.62	44.71	50.80	4 / 8					
	reaction time	0.156	interval	3.69	3.79	3.92	4.27	4.44	4.65	4.87	5.09	6.09		7.87		11.40	12.83	14.61
	velocity	7.67	9.49	9.23	8.93	8.50	8.20	7.88	7.53	7.19	6.88	6.57		7.87		9.21	8.18	7.19
	H1 lead leg	R	strides	21	13	13	14	14	14	15	15	19		164				

2023 Japanese U20 National Championships (Osaka, JPN)

FINAL

date 03-Jun-23

Sugimoto (2024) - race analysis of men's and women's 400m hurdles in the 2023 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Imanishi, Ryota (JPN) (2004)	time	6.16	10.01	13.86	17.82	21.91	26.13	30.58	35.19	39.99	44.93	50.94	7 / 1					

reaction time	0.177	interval		3.85	3.85	3.96	4.09		4.22	4.45	4.61	4.80	4.94	6.01	PB	11.66	12.76	14.35
		velocity		7.31	9.09	9.09	8.84	8.56	8.29	7.87	7.59	7.29	7.09	6.66	7.85	9.01	8.23	7.32
H1 lead leg	L	strides		21	14	14	14	14	15	15	15	15	15	18.7	170.7			
Yamada, Nao (JPN) (2004)	time	6.09	9.96	13.96	18.00	22.16		26.38	30.78	35.39	40.47	45.95		51.67	6 / 2			
reaction time	0.213	interval		3.87	4.00	4.04	4.16		4.22	4.40	4.61	5.08	5.48	5.72		11.91	12.78	15.17
		velocity		7.39	9.04	8.75	8.66	8.41	8.29	7.95	7.59	6.89	6.39	6.99	7.74	8.82	8.22	6.92
H1 lead leg	L	strides		23	15	15	15	15	15	15	15	16	18	20.5	182.5			
Shimoda, Hayato (JPN) (2004)	time	6.21	10.09	13.91	17.92	22.06		26.48	31.08	35.99	41.34	46.38		51.72	5 / 3			
reaction time	0.189	interval		3.88	3.82	4.01	4.14		4.42	4.60	4.91	5.35	5.04	5.34		11.71	13.16	15.30
		velocity		7.25	9.02	9.16	8.73	8.45	7.92	7.61	7.13	6.54	6.94	7.49	7.73	8.97	7.98	6.86
H1 lead leg	L	strides		22	15	15	15	15	15	15	17	17	17	20	183			
Masui, Koki (JPN) (2004)	time	6.14	10.06	14.10	18.20	22.51		26.88	31.43	36.32	41.44	46.75		52.37	3 / 4			
reaction time	0.182	interval		3.92	4.04	4.10	4.31		4.37	4.55	4.89	5.12	5.31	5.62	PB	12.06	13.23	15.32
		velocity		7.33	8.93	8.66	8.54	8.12	8.01	7.69	7.16	6.84	6.59	7.12	7.64	8.71	7.94	6.85
H1 lead leg	L	strides		21	14	14	14	14	15	15	15	16	16	19.7	173.7			
Yanagita, Kiyoto (JPN) (2004)	time	6.14	10.01	14.01	18.10	22.32		26.63	31.18	35.97	40.97	46.33		52.56	8 / 5			
reaction time	0.180	interval		3.87	4.00	4.09	4.22		4.31	4.55	4.79	5.00	5.36	6.23		11.96	13.08	15.15
		velocity		7.33	9.04	8.75	8.56	8.29	8.12	7.69	7.31	7.00	6.53	6.42	7.61	8.78	8.03	6.93
H1 lead leg	L	strides		21	13	14	14	14	14	15	15	15	16	20	171			
Osida, Syuuna (JPN) (2005)	time	6.39	10.54	14.76	18.97	23.41		27.93	32.68	37.59	42.68	47.90		53.49	9 / 6			
reaction time	0.149	interval		4.15	4.22	4.21	4.44		4.52	4.75	4.91	5.09	5.22	5.59	PB	12.58	13.71	15.22
		velocity		7.04	8.43	8.29	8.31	7.88	7.74	7.37	7.13	6.88	6.70	7.16	7.48	8.35	7.66	6.90
H1 lead leg	R	strides		23	15	15	15	15	15	15	16	17	18	20	184			
Mituyanagi, Haruki (JPN) (2005)	time	6.21	10.16	14.16	18.27	22.56		27.03	31.73	36.77	42.14	47.58		53.52	2 / 7			
reaction time	0.234	interval		3.95	4.00	4.11	4.29		4.47	4.70	5.04	5.37	5.44	5.94		12.06	13.46	15.85
		velocity		7.25	8.86	8.75	8.52	8.16	7.83	7.45	6.94	6.52	6.43	6.73	7.47	8.71	7.80	6.62
H1 lead leg	L	strides		21	14	14	14	14	15	15	17	17	17	20	178			

2023 Shimane High School Championships (Izumo, JPN)

FINAL

date 27-May-23

Shimizu (2023) - shimane high school championships 2023 - biomechanics data analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
品川 侑斗	time	6.57	10.95	15.37	19.92	24.57		29.42	34.33	39.28	44.65	49.92		55.86	5 / 1			
reaction time	interval		4.38	4.42	4.55	4.65		4.85	4.91	4.95	5.37	5.27	5.94			13.35	14.41	15.59
	velocity		6.85	7.99	7.92	7.69	7.53	7.22	7.13	7.07	6.52	6.64	6.73	7.16		7.87	7.29	6.74
H1 lead leg	strides		22	15	15	15	15	15	15	15	17	17	19.3	180.3				
伊藤 昌直	time	6.70	11.13	15.67	20.40	25.28		30.52	35.68	41.18	46.75	52.23		58.32	1 / 2			
reaction time	interval		4.43	4.54	4.73	4.88		5.24	5.16	5.50	5.57	5.48	6.09			13.70	15.28	16.55
	velocity		6.72	7.90	7.71	7.40	7.17	6.68	6.78	6.36	6.28	6.39	6.57	6.86		7.66	6.87	6.34
H1 lead leg	strides		23	16	16	16	16	17	17	17	17	17	20	192				
津森 隆大	time	6.75	11.10	15.57	20.15	25.00		30.22	35.52	40.95	47.10	52.97		59.04	6 / 3			
reaction time	interval		4.35	4.47	4.58	4.85		5.22	5.30	5.43	6.15	5.87	6.07			13.40	15.37	17.45
	velocity		6.67	8.05	7.83	7.64	7.22	6.70	6.60	6.45	5.69	5.96	6.59	6.78		7.84	6.83	6.02
H1 lead leg	strides		22	15	15	15	15	17	17	17	18	18	21.2	190.2				
宮村 優獅	time	6.95	11.53	16.18	21.00	25.88		31.27	36.75	42.30	47.75	53.35		59.11	3 / 4			
reaction time	interval		4.58	4.65	4.82	4.88		5.39	5.48	5.55	5.45	5.60	5.76			14.05	15.75	16.60
	velocity		6.47	7.64	7.53	7.26	7.17	6.49	6.39	6.31	6.42	6.25	6.94	6.77		7.47	6.67	6.33
H1 lead leg	strides		22	15	15	15	15	17	17	17	17	17	22.8	189.8				
新田 大	time	7.00	11.47	16.20	21.08	26.32		31.73	37.08	42.45	47.87	53.23		59.12	2 / 5			
reaction time	interval		4.47	4.73	4.88	5.24		5.41	5.35	5.37	5.42	5.36	5.89			14.08	16.00	16.15
	velocity		6.43	7.83	7.40	7.17	6.68	6.47	6.54	6.52	6.46	6.53	6.79	6.77		7.46	6.56	6.50
H1 lead leg	strides		23	15	15	15	16	18	17	17	17	17	20.4	190.4				
矢野 飛翔	time	6.87	11.60	16.37	21.28	26.30		31.55	37.08	42.70	48.45	54.13		60.33	7 / 6			
reaction time	interval		4.73	4.77	4.91	5.02		5.25	5.53	5.62	5.75	5.68	6.20			14.41	15.80	17.05
	velocity		6.55	7.40	7.34	7.13	6.97	6.67	6.33	6.23	6.09	6.16	6.45	6.63		7.29	6.65	6.16
H1 lead leg	strides		22	15	15	15	15	16	17	17	17	18	17	20	187			

2023 Seiko Golden Grand Prix (Yokohama, JPN)

FINAL

date 21-May-23

Sugimoto (2024) - race analysis of men's and women's 400m hurdles in the 2023 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kodama, Yusaku (JPN) (2006)	time	5.86	9.53	13.30	17.23	21.34		25.53	29.85	34.28	38.77	43.39		48.77	4 / 1			
reaction time	0.180	interval		3.67	3.77	3.93	4.11		4.19	4.32	4.43	4.49	4.62	5.38	PB	11.37	12.62	13.54
		velocity		7.68	9.54	9.28	8.91	8.52	8.35	8.10	7.90	7.80	7.58	7.43	8.20	9.23	8.32	7.75
H1 lead leg	R	strides		21	13	13	13	14	14	15	15	15	19	167				
Kurokawa, Kazuki (JPN) (2006)	time	5.79	9.39	13.11	17.02	21.12		25.36	29.65	34.03	38.64	43.39		49.03	5 / 2			
reaction time	0.141	interval		3.60	3.72	3.91	4.10		4.24	4.29	4.38	4.61	4.75	5.64		11.23	12.63	13.74
		velocity		7.77	9.72	9.41	8.95	8.54	8.25	8.16	7.99	7.59	7.37	7.09	8.16	9.35	8.31	7.64

H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	15	18.5	164.5				
Kishimoto, Takayuki (JPN)	(^c)	time	5.84	9.51	13.31	17.35	21.50	25.71	29.91	34.32	38.97	43.78		49.28	8 / 3			
reaction time	0.138	interval	3.67	3.80	4.04	4.15	4.21	4.20	4.41	4.65	4.81	5.50				11.51	12.56	13.87
		velocity	7.71	9.54	9.21	8.66	8.43	8.31	8.33	7.94	7.53	7.28	7.27	8.12		9.12	8.36	7.57
H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	15	18	164				
Tsutsue, Kaito (JPN) (1998)		time	6.01	9.69	13.46	17.37	21.49	25.68	29.90	34.37	39.04	43.86		49.35	9 / 4			
reaction time	0.219	interval	3.68	3.77	3.91	4.12	4.19	4.22	4.47	4.67	4.82	5.49	PB		11.36	12.53	13.96	
		velocity	7.49	9.51	9.28	8.95	8.50	8.35	8.29	7.83	7.49	7.26	7.29	8.11		9.24	8.38	7.52
H1 lead leg	R	strides	21	13	13	13	14	14	14	15	15	15	18.5	164.5				
Lattin, Amere (USA) (1997)		time	5.86	9.56	13.41	17.32	21.39	25.69	30.06	34.65	39.32	44.13		49.65	6 / 5			
reaction time	0.146	interval	3.70	3.85	3.91	4.07	4.30	4.37	4.59	4.67	4.81	5.52			11.46	12.74	14.07	
		velocity	7.68	9.46	9.09	8.95	8.60	8.14	8.01	7.63	7.49	7.28	7.25	8.06		9.16	8.24	7.46
H1 lead leg	L	strides	20	13	13	13	13	14	14	14	14	14	17	159				
Lahoulou, Abdelmalik (ALG)		time	6.16	9.78	13.51	17.33	21.30	25.38	29.56	34.08	38.96	44.06		49.71	3 / 6			
reaction time	0.195	interval	3.62	3.73	3.82	3.97	4.08	4.18	4.52	4.88	5.10	5.65			11.17	12.23	14.50	
		velocity	7.31	9.67	9.38	9.16	8.82	8.58	8.37	7.74	7.17	6.86	7.08	8.05		9.40	8.59	7.24
H1 lead leg	L	strides	21	13	13	13	13	13	13	14	15	16	18	162				
Chen Chieh (TPE) (1992)		time	6.01	9.76	13.61	17.62	21.72	26.09	30.53	35.04	39.79	44.63		50.13	7 / 7			
reaction time	0.163	interval	3.75	3.85	4.01	4.10	4.37	4.44	4.51	4.75	4.84	5.50			11.61	12.91	14.10	
		velocity	7.49	9.33	9.09	8.73	8.54	8.01	7.88	7.76	7.37	7.23	7.27	7.98		9.04	8.13	7.45
H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	15	18	164				
Nakai, Shuta (JPN) (2001)		time	6.22	10.06	13.96	18.00	22.16	26.48	30.93	35.45	40.24	45.05		50.72	2 / 8			
reaction time	0.174	interval	3.84	3.90	4.04	4.16	4.32	4.45	4.52	4.79	4.81	5.67			11.78	12.93	14.12	
		velocity	7.23	9.11	8.97	8.66	8.41	8.10	7.87	7.74	7.31	7.28	7.05	7.89		8.91	8.12	7.44
H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	15	18	164				

2023 Michitaka Kinami Memorial (Osaka, JPN)**A FINAL**

date 07-May-23

Sugimoto (2024) - race analysis of men's and women's 400m hurdles in the 2023 season

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tsutsue, Kaito (JPN) (1998)	time	6.02	9.86	13.71	17.68	21.82		26.03	30.38	34.73	39.36	44.14		49.54	6 / 1				
reaction time	0.151	interval	3.84	3.85	3.97	4.14		4.21	4.35	4.35	4.63	4.78	5.40	PB		11.66	12.70	13.76	
		velocity	7.48	9.11	9.09	8.82	8.45	8.31	8.05	8.05	7.56	7.32	7.41	8.07		9.01	8.27	7.63	
H1 lead leg		strides	13	13	14	14		14	14	14	14	15		125					
Toyoda, Ken (JPN) (2002)	time	5.86	9.54	13.35	17.18	21.14		25.33	29.75	34.32	39.11	44.04		49.95	7 / 2				
reaction time	0.156	interval	3.68	3.81	3.83	3.96		4.19	4.42	4.57	4.79	4.93	5.91		11.32	12.57	14.29		
		velocity	7.68	9.51	9.19	9.14	8.84	8.35	7.92	7.66	7.31	7.10	6.77	8.01		9.28	8.35	7.35	
H1 lead leg		strides	13	13	13	13		13	13	13	15	15		121					
Kuribayashi, Toshimasa (JPN)	time	6.22	10.19	14.30	18.49	22.71		27.03	31.45	35.87	40.34	45.01		50.43	8 / 3				
reaction time	0.154	interval	3.97	4.11	4.19	4.22		4.32	4.42	4.42	4.47	4.67	5.42		12.27	12.96	13.56		
		velocity	7.23	8.82	8.52	8.35	8.29	8.10	7.92	7.92	7.83	7.49	7.38	7.93		8.56	8.10	7.74	
H1 lead leg		strides	14	14	14	14		15	15	15	15	15		131					

B FINAL

date 07-May-23

Sugimoto (2024) - race analysis of men's and women's 400m hurdles in the 2023 season

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kurokawa, Kazuki (JPN) (2001)	time	5.91	9.61	13.46	17.47	21.59		25.91	30.21	34.73	39.39	44.19		49.81	6 / 1				
reaction time	0.158	interval	3.70	3.85	4.01	4.12		4.32	4.30	4.52	4.66	4.80	5.62		11.56	12.74	13.98		
		velocity	7.61	9.46	9.09	8.73	8.50	8.10	8.14	7.74	7.51	7.29	7.12	8.03		9.08	8.24	7.51	
H1 lead leg		strides	13	13	13	13		14	14	15	15	15		125					
Yamamoto, Tatsuhiro (JPN)	time	6.34	10.29	14.45	18.62	22.86		27.18	31.60	36.12	40.62	45.28		50.45	1 / 2				
reaction time	0.196	interval	3.95	4.16	4.17	4.24		4.32	4.42	4.52	4.50	4.66	5.17		12.28	12.98	13.68		
		velocity	7.10	8.86	8.41	8.39	8.25	8.10	7.92	7.74	7.78	7.51	7.74	7.93		8.55	8.09	7.68	
H1 lead leg		strides	14	14	14	14		14	15	15	15	15		130					
Kawagoe, Hiroya (JPN) (1997)	time	6.09	9.99	14.10	18.25	22.47		26.83	31.26	35.79	40.41	45.13		50.46	2 / 3				
reaction time	0.166	interval	3.90	4.11	4.15	4.22		4.36	4.43	4.53	4.62	4.72	5.33		12.16	13.01	13.87		
		velocity	7.39	8.97	8.52	8.43	8.29	8.03	7.90	7.73	7.58	7.42	7.50	7.93		8.63	8.07	7.57	
H1 lead leg		strides	14	14	14	14		15	15	15	15	15		131					
Kishimoto, Takayuki (JPN)	(^c)	time	5.97	9.81	13.83	17.98	22.31		26.64	31.05	35.62	40.27	45.01		50.49	9 / 4			
reaction time	0.136	interval	3.84	4.02	4.15	4.33		4.33	4.41	4.57	4.65	4.74	5.48		12.01	13.07	13.96		
		velocity	7.54	9.11	8.71	8.43	8.08	8.08	7.94	7.66	7.53	7.38	7.30	7.92		8.74	8.03	7.52	
H1 lead leg		strides	13	13	13	13		14	14	15	15	15		125					

C FINAL

date 07-May-23

Sugimoto (2024) - race analysis of men's and women's 400m hurdles in the 2023 season

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kodama, Yusaku (JPN) (2001)	time	5.97	9.76	13.61	17.58	21.72		25.99	30.40	34.97	39.64	44.51		50.10	6 / 1				
reaction time	0.163	interval	3.79	3.85	3.97	4.14		4.27	4.41	4.57	4.67	4.87	5.59		11.61	12.82	14.11		
		velocity	7.54	9.23	9.09	8.82	8.45	8.20	7.94	7.66	7.49	7.19	7.16	7.98		9.04	8.19	7.44	
H1 lead leg		strides	13	13	13	14		14	15	15	15	15		127					

2023 Shizuoka International Meeting (Fukuroi, JPN)

A FINAL

date 03-May-23

Sugimoto (2024) - race analysis of men's and women's 400m hurdles in the 2023 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kodama, Yusaka (JPN) (2000)	time	5.91	9.71	13.55	17.42	21.47		25.61	29.93	34.34	38.88	43.58		49.01	3 / 1			
	reaction time	0.171	interval	3.80	3.84	3.87	4.05	4.14	4.32	4.41	4.54	4.70	5.43	PB		11.51	12.51	13.65
	velocity	7.61	9.21	9.11	9.04	8.64		8.45	8.10	7.94	7.71	7.45	7.37	8.16		9.12	8.39	7.69
	H1 lead leg	R	strides	21	13	13	14	14	15	15	15	15	19	167				
Nakai, Shuta (JPN) (2001)	time	6.20	9.98	13.82	17.73	21.75		25.95	30.23	34.67	39.28	44.01		49.66	9 / 2			
	reaction time	0.193	interval	3.78	3.84	3.91	4.02	4.20	4.28	4.44	4.61	4.73	5.65	PB		11.53	12.50	13.78
	velocity	7.26	9.26	9.11	8.95	8.71		8.33	8.18	7.88	7.59	7.40	7.08	8.05		9.11	8.40	7.62
	H1 lead leg	R	strides	20	13	13	13	14	14	15	15	15	18	163				
Yamauchi, Hiromu (JPN) (19)	time	6.24	10.19	14.21	18.25	22.33		26.53	30.85	35.30	39.90	44.60		49.99	6 / 3			
	reaction time	0.206	interval	3.95	4.02	4.04	4.08	4.20	4.32	4.45	4.60	4.70	5.39			12.01	12.60	13.75
	velocity	7.21	8.86	8.71	8.66	8.58		8.33	8.10	7.87	7.61	7.45	7.42	8.00		8.74	8.33	7.64
	H1 lead leg	L	strides	21	14	14	14	14	14	15	15	15	19	169				

B FINAL

date 03-May-23

Sugimoto (2024) - race analysis of men's and women's 400m hurdles in the 2023 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kurokawa, Kazuki (JPN) (20)	time	5.91	9.71	13.54	17.43	21.44		25.64	29.88	34.36	38.99	43.71		49.06	5 / 1			
	reaction time	0.191	interval	3.80	3.83	3.89	4.01	4.20	4.24	4.48	4.63	4.72	5.35			11.52	12.45	13.83
	velocity	7.61	9.21	9.14	9.00	8.73		8.33	8.25	7.81	7.56	7.42	7.48	8.15		9.11	8.43	7.59
	H1 lead leg	L	strides	21	13	13	13	14	14	15	15	15	18	164				
Peng Ming-Yang (TPE) (199)	time	6.08	9.80	13.57	17.38	21.31		25.51	29.91	34.50	39.20	44.02		49.36	7 / 2			
	reaction time	0.190	interval	3.72	3.77	3.81	3.93	4.20	4.40	4.59	4.70	4.82	5.34			11.30	12.53	14.11
	velocity	7.40	9.41	9.28	9.19	8.91		8.33	7.95	7.63	7.45	7.26	7.49	8.10		9.29	8.38	7.44
	H1 lead leg	L	strides	21	13	13	13	14	14	15	15	15	18	164				
Kishimoto, Takayuki (JPN) (time	5.90	9.66	13.55	17.48	21.52		25.72	30.14	34.70	39.34	44.11		49.61	9 / 3			
	reaction time	0.152	interval	3.76	3.89	3.93	4.04	4.20	4.42	4.56	4.64	4.77	5.50			11.58	12.66	13.97
	velocity	7.63	9.31	9.00	8.91	8.66		8.33	7.92	7.68	7.54	7.34	7.27	8.06		9.07	8.29	7.52
	H1 lead leg	R	strides	21	13	13	13	14	14	15	15	15	18	164				
Tsutsue, Kaito (JPN) (1998)	time	6.08	9.84	13.75	17.69	21.67		25.80	30.24	34.80	39.48	44.25		49.77	1 / 4			
	reaction time	0.185	interval	3.76	3.91	3.94	3.98	4.13	4.44	4.56	4.68	4.77	5.52			11.61	12.55	14.01
	velocity	7.40	9.31	8.95	8.88	8.79		8.47	7.88	7.68	7.48	7.34	7.25	8.04		9.04	8.37	7.49
	H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	19	163				

C FINAL

date 03-May-23

Sugimoto (2024) - race analysis of men's and women's 400m hurdles in the 2023 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Deguchi, Haruto (JPN) (2001)	time	6.15	10.04	14.05	18.17	22.51		26.75	31.15	35.58	40.11	44.71		50.00	6 / 1			
	reaction time	0.205	interval	3.89	4.01	4.12	4.34	4.24	4.40	4.43	4.53	4.60	5.29			12.02	12.98	13.56
	velocity	7.32	9.00	8.73	8.50	8.06		8.25	7.95	7.90	7.73	7.61	7.56	8.00		8.74	8.09	7.74
	H1 lead leg	L	strides	21	13	13	14	14	15	15	15	15	18	166				

2023 Doha Diamond League (Doha, QAT)

FINAL

date 05-May-23

Omega Timing (2023) - diamond league race analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.63	9.27	12.97	16.86	20.80		24.81	28.99	33.29	37.80	42.42		47.78	6 / 1			
	reaction time	0.169	interval	3.64	3.70	3.89	3.94	4.01	4.18	4.30	4.51	4.62	5.36			11.23	12.13	13.43
	velocity	7.99	9.62	9.46	9.00	8.88		8.73	8.37	8.14	7.76	7.58	7.46	8.37		9.35	8.66	7.82
	H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	17	154				
Allen, CJ (USA) (1995)	time	5.66	9.29	13.06	16.93	20.89		24.94	29.12	33.47	37.96	42.49		47.93	3 / 2			
	reaction time	0.144	interval	3.63	3.77	3.87	3.96	4.05	4.18	4.35	4.49	4.53	5.44	PB		11.27	12.19	13.37
	velocity	7.95	9.64	9.28	9.04	8.84		8.64	8.37	8.05	7.80	7.73	7.35	8.35		9.32	8.61	7.85
	H1 lead leg	L	strides	20	13	13	13	13	13	14	14	14	17	157				
Happio, Wilfried (FRA) (199)	time	5.85	9.55	13.30	17.17	21.14		25.24	29.53	33.96	38.65	43.56		49.12	5 / 3			
	reaction time	0.156	interval	3.70	3.75	3.87	3.97	4.10	4.29	4.43	4.69	4.91	5.56			11.32	12.36	14.03
	velocity	7.69	9.46	9.33	9.04	8.82		8.54	8.16	7.90	7.46	7.13	7.19	8.14		9.28	8.50	7.48
	H1 lead leg	L	strides	20	13	13	13	13	13	13	15	15	18	159				
Rosser, Khalfiah (USA) (199)	time	5.84	9.50	13.29	17.14	21.14		25.32	29.69	34.20	38.85	43.66		49.25	4 / 4			
	reaction time	0.161	interval	3.66	3.79	3.85	4.00	4.18	4.37	4.51	4.65	4.81	5.59			11.30	12.55	13.97
	velocity	7.71	9.56	9.23	9.09	8.75		8.37	8.01	7.76	7.53	7.28	7.16	8.12		9.29	8.37	7.52
	H1 lead leg	R	strides	21	13	13	13	13	14	14	14	14	17.5	159.5				
Bassitt, Trevor (USA) (1998)	time	5.89	9.67	13.54	17.50	21.57		25.77	30.13	34.61	39.32	43.99		49.52	7 / 5			
	reaction time	0.158	interval	3.78	3.87	3.96	4.07	4.20	4.36	4.48	4.71	4.67	5.53			11.61	12.63	13.86
	velocity	7.64	9.26	9.04	8.84	8.60		8.33	8.03	7.81	7.43	7.49	7.23	8.08		9.04	8.31	7.58
	H1 lead leg	R	strides	20	13	13	13	13	13	13	13	14	20	158				
Zazini, Sokwakhana (RSA) (2)	time	5.83	9.46	13.25	17.13	21.12		25.58	30.07	34.69	39.36	44.01		49.74	1 / 6			
	reaction time	0.170	interval	3.63	3.79	3.88	3.99	4.46	4.49	4.62	4.67	4.65	5.73			11.30	12.94	13.94

	velocity	7.72	9.64	9.23	9.02	8.77		7.85	7.80	7.58	7.49	7.53	6.98	8.04		9.29	8.11	7.53
H1 lead leg	L	strides	23	14	14	14	14	15			16	16		126				
Barr, Thomas (IRL) (1992)	time	5.95	9.79	13.71	17.77	21.92		26.26	30.76	35.30	39.89	44.53		49.88	8 / 7			
reaction time	0.159	interval		3.84	3.92	4.06	4.15	4.34	4.50	4.54	4.59	4.64	5.35			11.82	12.99	13.77
	velocity	7.56	9.11	8.93	8.62	8.43		8.06	7.78	7.71	7.63	7.54	7.48	8.02		8.88	8.08	7.63
H1 lead leg	L	strides	20	13	13	13	13	13	14		14	14		127				
Nezir, Ismail (TUR) (2003)	time	6.16	10.10	14.19	18.37	22.62		27.08	31.79	36.37	41.13	45.91		51.40	2 / 8			
reaction time	0.195	interval		3.94	4.09	4.18	4.25	4.46	4.71	4.58	4.76	4.78	5.49			12.21	13.42	14.12
	velocity	7.31	8.88	8.56	8.37	8.24		7.85	7.43	7.64	7.35	7.32	7.29	7.78		8.60	7.82	7.44
H1 lead leg	L	strides	20	13	13	13	13	13		14	14	14		127				

2022 Weltklasse (Zürich, SUI) (TV Analysis)

FINAL

date 08-Sep-22

Henson (2022) - Athlete First: 2022 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
dos Santos, Alison (BRA) (2011)	time	5.70	9.27	12.91	16.58	20.45	21.96	24.36	28.50	32.70	37.10	41.67		46.98	6 / 1			
reaction time	0.155	interval		3.57	3.64	3.67	3.87	3.91	4.14	4.20	4.40	4.57	5.31			10.88	11.92	13.17
	velocity	7.89	9.80	9.62	9.54	9.04	9.11	8.95	8.45	8.33	7.95	7.66	7.53	8.51		9.65	8.81	7.97
H1 lead leg	L	strides	20	13	12	12	12	12	13	13	13	13	16	149				
Rosser, Khalfiah (USA) (1991)	time	5.74	9.27		20.69	22.22	24.66	28.73	32.93	37.47	42.17			47.76	5 / 2			
reaction time	0.169	interval		3.53		11.42		3.97	4.07	4.20	4.54	4.70	5.59					13.44
	velocity	7.84	9.92		9.19	9.00	8.82	8.60	8.33	7.71	7.45	7.16	8.38					7.81
H1 lead leg	R	strides	21	13			13	13	13	14	14	18	119					
Allen, CJ (USA) (1995)	time	5.74	9.41		17.05	20.92	22.43	24.89	28.96	33.30	37.80	42.64		48.21	3 / 3			
reaction time	0.159	interval		3.67		7.64	3.87	3.97	4.07	4.34	4.50	4.84	5.57			11.31	11.91	13.68
	velocity	7.84	9.54		9.16	9.04	8.92	8.82	8.60	8.06	7.78	7.23	7.18	8.30		9.28	8.82	7.68
H1 lead leg	L	strides	20	13		13		13	13	14	14	15	17.5	132.5				
Happio, Wilfried (FRA) (1991)	time	5.87	9.54	13.38	17.32	21.32	22.89	25.46	29.69	34.00	38.71	43.48		48.72	7 / 4			
reaction time	0.130	interval		3.67	3.84	3.94	4.00	4.14	4.23	4.31	4.71	4.77	5.24			11.45	12.37	13.79
	velocity	7.67	9.54	9.11	8.88	8.75	8.74	8.45	8.27	8.12	7.43	7.34	7.63	8.21		9.17	8.49	7.61
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	15	15	17.5	158.5				
Watrin, Julien (BEL) (1992)	time	5.77	9.41		17.15	21.15	22.77	25.29	29.50	33.90	38.60	43.44		49.08	8 / 5			
reaction time	0.183	interval		3.64		7.74	4.00	4.14	4.21	4.40	4.70	4.84	5.64			11.38	12.35	13.94
	velocity	7.80	9.62		9.04	8.75	8.78	8.45	8.31	7.95	7.45	7.23	7.09	8.15		9.23	8.50	7.53
H1 lead leg	R	strides	20	13		13		13	13	14	15	15	17.7	133.7				
Copello, Yasmani (TUR) (1991)	time	5.90	9.54		17.28	21.29	22.88	25.42	29.86	34.29	38.94	43.61		49.10	4 / 6			
reaction time	0.172	interval		3.64		7.74	4.01	4.13	4.44	4.43	4.65	4.67	5.49			11.38	12.58	13.75
	velocity	7.63	9.62		9.04	8.73	8.74	8.47	7.88	7.90	7.53	7.49	7.29	8.15		9.23	8.35	7.64
H1 lead leg	R	strides	20	13		13		13	14	14	14	14	17.5	132.5				
Bonvin, Julien (SUI) (1999)	time	5.77	9.34		16.95	20.89	22.46	24.99	29.43	34.04	38.80	43.84		49.63	2 / 7			
reaction time	0.154	interval		3.57		7.61	3.94	4.10	4.44	4.61	4.76	5.04	5.79			11.18	12.48	14.41
	velocity	7.80	9.80		9.20	8.88	8.90	8.54	7.88	7.59	7.35	6.94	6.91	8.06		9.39	8.41	7.29
H1 lead leg	L	strides	20	13		13		13	14	14	15	15	18.2	135.2				

2022 ISTAF (Berlin, GER) (TV Analysis)

FINAL

date 04-Sep-22

Henson (2022) - Athlete First: 2022 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1989)	time	5.76	9.28	12.88	16.60	20.36		24.32	28.48	32.76	37.24	41.96		47.24	7 / 1			
reaction time	0.139	interval		3.52	3.60	3.72	3.76	3.96	4.16	4.28	4.48	4.72	5.28			10.84	11.88	13.48
	velocity	7.81	9.94	9.72	9.41	9.31		8.84	8.41	8.18	7.81	7.42	7.58	8.47		9.69	8.84	7.79
H1 lead leg	L	strides	20	13	13	13		13	13	13	13	15	18	157				
Vaillant, Ludvy (FRA) (1995)	time	5.88				21.04		25.08	29.40	33.84	38.40	43.04		48.26	6 / 2			
reaction time	0.120	interval				15.16		4.04	4.32	4.44	4.56	4.64	5.22	PB				13.64
	velocity	7.65				9.23		8.66	8.10	7.88	7.68	7.54	7.66	8.29				7.70
H1 lead leg	R	strides	21					13	14	14	14	14	17	107				
Abuaku, Joshua (GER) (1991)	time	5.96				20.92		25.04	29.44	33.92	38.52	43.24		48.55	5 / 3			
reaction time	0.174	interval				14.96		4.12	4.40	4.48	4.60	4.72	5.31	PB				13.80
	velocity	7.55				9.36		8.50	7.95	7.81	7.61	7.42	7.53	8.24				7.61
H1 lead leg	R	strides	20					13	14	14	15	15	18	109				

2022 Memorial van Damme (Brussels, BEL) (TV Analysis)

FINAL

date 02-Sep-22

Henson (2022) - Athlete First: 2022 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
dos Santos, Alison (BRA) (2011)	time	5.80	9.41	13.11	16.88	20.79	22.45	24.79	29.03	33.40	37.87	42.34		47.54	6 / 1			
reaction time	0.210	interval		3.61	3.70	3.77	3.91	2.34	4.24	4.37	4.47	4.47	5.20			11.08	12.15	13.31
	velocity	7.76	9.70	9.46	9.28	8.95	8.91	14.96	8.25	8.01	7.83	7.83	7.69	8.41		9.48	8.64	7.89
H1 lead leg	L	strides	20	13	12	12		12	13	13	13	13	16	149				
Rosser, Khalfiah (USA) (1991)	time	5.87	9.51	13.21		20.89	22.60	24.96	29.09	33.43	37.97	42.57		47.88	4 / 2			

H1 lead leg	L	strides	20	13		13	13	14	14	15	15	18	135						
Watrin, Julien (BEL) (1992)	time		6.02	9.62		17.13	21.02	22.63	25.11	29.44	33.89	38.50	43.36	48.98	2 / 6				
reaction time	0.173	interval		3.60		7.51	3.89		4.09	4.33	4.45	4.61	4.86	5.62		11.11	12.31	13.92	
		velocity		7.48	9.72		9.32	9.00	8.84	8.56	8.08	7.87	7.59	7.20	7.12		9.45	8.53	7.54
H1 lead leg	R	strides	21	13		13	13	14	14	14	15	18	135						
Bonvin, Julien (SUI) (1999)	time		5.77	9.38		17.05	21.10	22.74	25.43	29.88	34.57	39.47	44.52	50.24	1 / 7				
reaction time	0.216	interval		3.61		7.67	4.05		4.33	4.45	4.69	4.90	5.05	5.72		11.28	12.83	14.64	
		velocity		7.80	9.70		9.13	8.64	8.80	8.08	7.87	7.46	7.14	6.93	6.99		9.31	8.18	7.17
H1 lead leg	L	strides	21	13		13	14	14	15	15	15	18	138						
Coroller, Victor (FRA) (1997)	time		5.93	9.79		17.49	21.58	23.21	25.79	30.28	34.82	39.71	44.76	50.46	8 / 8				
reaction time	0.201	interval		3.86		7.70	4.09		4.21	4.49	4.54	4.89	5.05	5.70		11.56	12.79	14.48	
		velocity		7.59	9.07		9.09	8.56	8.62	8.31	7.80	7.71	7.16	6.93	7.02		9.08	8.21	7.25
H1 lead leg	R	strides	21	14		14	14	15	16	16	16	19	145						

2022 Silesia Kamila Skolimowska Memorial (Chorzów, POL) (TV Analysis)

FINAL

date 06-Aug-22

Henson (2022) - Athlete First: 2022 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
dos Santos, Alison (BRA) (2011)	time		5.83	9.50	13.26	17.10	21.03	22.69	25.17	29.50	33.90	38.23	42.63		47.80	6 / 1			
reaction time	0.179	interval		3.67	3.76	3.84	3.93		4.14	4.33	4.40	4.33	4.40	5.17			11.27	12.40	13.13
		velocity		7.72	9.54	9.31	9.11	8.91	8.81	8.45	8.08	7.95	8.08	7.95	7.74		9.32	8.47	8.00
H1 lead leg	L	strides	20	13	12	12	12		12	13	13	13	13	16	149				
Rosser, Khalfiah (USA) (1999)	time		5.87	9.53	13.33	17.17	21.16	22.84		29.36	33.73	38.23	42.86		48.30	4 / 2			
reaction time	0.177	interval		3.66	3.80	3.84	3.99		8.20	4.37	4.50	4.63	5.44				11.30	12.19	13.50
		velocity		7.67	9.56	9.21	9.11	8.77	8.76	8.54	8.01	7.78	7.56	7.35	8.28		9.29	8.61	7.78
H1 lead leg	R	strides	21	13	13		13			14	14	14	18	120					
Happio, Wilfried (FRA) (1996)	time		5.83	9.50	13.26	17.10	21.10	22.80	25.23	29.50	33.93	38.70	43.50		48.74	5 / 3			
reaction time	0.154	interval		3.67	3.76	3.84	4.00		4.13	4.27	4.43	4.77	4.80	5.24			11.27	12.40	14.00
		velocity		7.72	9.54	9.31	9.11	8.75	8.77	8.47	8.20	7.90	7.34	7.29	7.63	8.21	9.32	8.47	7.50
H1 lead leg	L	strides	20	13	13		13		13	13	13	15	15	17.7	145.7				
Lattin, Amere (USA) (1997)	time		5.77	9.43	13.16	17.07	21.03	22.71			34.10	38.73	43.43		48.79	2 / 4			
reaction time	0.147	interval		3.66	3.73	3.91	3.96				13.07	4.63	4.70	5.36			11.30		
		velocity		7.80	9.56	9.38	8.95	8.84	8.81		8.03	7.56	7.45	7.46	8.20		9.29		
H1 lead leg	L	strides	20	13	13		13				14	14	17	104					
Watrin, Julien (BEL) (1992)	time		5.86	9.56	13.30	17.10	21.06	22.73			33.93	38.50	43.23		48.91	3 / 5			
reaction time	0.225	interval		3.70	3.74	3.80	3.96				12.87	4.57	4.73	5.68			11.24		
		velocity		7.68	9.46	9.36	9.21	8.84	8.80		8.16	7.66	7.40	7.04	8.18		9.34		
H1 lead leg	R	strides	21	13	13		13				14	15	18	107					
Allen, CJ (USA) (1995)	time		5.86	9.56	13.50	17.46	21.53	23.21	25.66	29.93	34.30	38.83	43.53		49.01	7 / 6			
reaction time	0.152	interval		3.70	3.94	3.96	4.07		4.13	4.27	4.37	4.53	4.70	5.48			11.60	12.47	13.60
		velocity		7.68	9.46	8.88	8.84	8.60	8.62	8.47	8.20	8.01	7.73	7.45	7.30	8.16	9.05	8.42	7.72
H1 lead leg	L	strides	20	13	13	13	13		13	14	14	15	18	146					
Smidt, Nick (NED) (1997)	time		5.93	9.70	13.53	17.53	21.56	23.28	25.73	30.03		38.90	43.56		49.07	9 / 7			
reaction time	0.154	interval		3.77	3.83	4.00	4.03		4.17	4.30		8.87	4.66	5.51	PB		11.60	12.50	13.53
		velocity		7.59	9.28	9.14	8.75	8.68	8.59	8.39	8.14	7.89	7.51	7.26	8.15		9.05	8.40	7.76
H1 lead leg	L	strides	20	13	13		13		14	14			14	101					
Urbaniak, Sebastian (POL) (2004)	time		5.96	9.83	13.70	17.73	21.73	23.48	25.96	30.36		39.53			49.85	8 / 8			
reaction time	0.160	interval		3.87	3.87	4.03	4.00		4.23	4.40		9.17					11.77	12.63	
		velocity		7.55	9.04	9.04	8.68	8.75	8.52	8.27	7.95	7.63			8.02		8.92	8.31	
H1 lead leg	L	strides	21	14	14	14	14		14	14				105					
Angela, Ramsey (NED) (1999)	time		6.03	9.73	13.70	17.73	21.90	29.90				40.03			50.98	1 / 9			
reaction time	0.188	interval		3.70	3.97	4.03	4.17					18.13					11.70		
		velocity		7.46	9.46	8.82	8.68	8.39	6.69			7.72			7.85		8.97		
H1 lead leg	R	strides	22	15	15		14							66					

2022 Japanese National High School Championships (Naruto, JPN)

FINAL

date 05-Aug-22

Kishima (2022) - national high school championships biomechanics data collection

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Konno, Ryoma (JPN) (2004)	time		6.07	9.93	13.85	17.95	22.13		26.42	30.82	35.25	39.67	44.67		50.46	4 / 1			
reaction time	0.161	interval		3.86	3.92	4.10	4.18		4.29	4.40	4.43	4.42	5.00	5.79			11.88	12.87	13.85
		velocity		7.41	9.07	8.93	8.54	8.37	8.16	7.95	7.90	7.92	7.00	6.91	7.93		8.84	8.16	7.58
H1 lead leg	R	strides	21	15	15	15	15		15	15	15	15	15	19	175				
Hirata, Ai (JPN) (2004)	time		6.15	10.03	14.05	18.08	22.27		26.57	30.98	35.53	40.25	45.20		51.01	5 / 2			
reaction time	0.185	interval		3.88	4.02	4.03	4.19		4.30	4.41	4.55	4.72	4.95	5.81	PB		11.93	12.90	14.22
		velocity		7.32	9.02	8.71	8.68	8.35	8.14	7.94	7.69	7.42	7.07	6.88	7.84		8.80	8.14	7.38
H1 lead leg	R	strides	22	15	15	15	15		15	15	15	15	15	20	177				

Fuchiqami, Syota (JPN) (200	time	6.08	9.98	13.93	18.10	22.42	26.88	31.38	36.02	40.73	45.53	51.03	6 / 3				
reaction time	0.186	interval	3.90	3.95	4.17	4.32	4.46	4.50	4.64	4.71	4.80	5.50		12.02	13.28	14.15	
		velocity	7.40	8.97	8.86	8.39	8.10	7.85	7.78	7.54	7.43	7.29	7.27	7.84	8.74	7.91	7.42
H1 lead leg	R	strides	22	14	14	14	14	15	15	15	15	15	19.5	172.5			
Yamada, Nao (JPN) (2004)	time	6.18	10.18	14.28	18.40	22.62	26.90	31.33	35.95	40.90	45.85	51.48	3 / 4				
reaction time	0.184	interval	4.00	4.10	4.12	4.22	4.28	4.43	4.62	4.95	4.95	5.63		12.22	12.93	14.52	
		velocity	7.28	8.75	8.54	8.50	8.29	8.18	7.90	7.58	7.07	7.10	7.77	8.59	8.12	7.23	
H1 lead leg	L	strides	23	15	15	15	15	15	15	15	17	17	20	182			
Muto, Yuhi (JPN) (2004)	time	6.47	10.43	14.48	18.67	23.03	27.52	32.05	36.63	41.62	46.57	52.14	8 / 5				
reaction time	0.199	interval	3.96	4.05	4.19	4.36	4.49	4.53	4.58	4.99	4.95	5.57		12.20	13.38	14.52	
		velocity	6.96	8.84	8.64	8.35	8.03	7.80	7.73	7.64	7.01	7.07	7.18	7.67	8.61	7.85	7.23
H1 lead leg	R	strides	22	15	15	15	15	15	15	15	15	17	159				
Maruyama, Tomoyo (JPN) (2	time	6.17	10.22	14.27	18.52	22.95	27.48	32.02	36.77	41.65	46.73	52.86	7 / 6				
reaction time	0.187	interval	4.05	4.05	4.25	4.43	4.53	4.54	4.75	4.88	5.08	6.13		12.35	13.50	14.71	
		velocity	7.29	8.64	8.64	8.24	7.90	7.73	7.71	7.37	7.17	6.89	6.53	7.57	8.50	7.78	7.14
H1 lead leg	R	strides	22	15	15	15	15	15	15	15	17	17	161				
Shimura, Takeshi (JPN) (200	time	6.17	10.12	14.40	18.80	23.33	28.10	32.93	37.88	42.85	47.88	53.35	2 / 7				
reaction time	0.138	interval	3.95	4.28	4.40	4.53	4.77	4.83	4.95	4.97	5.03	5.47		12.63	14.13	14.95	
		velocity	7.29	8.86	8.18	7.95	7.73	7.34	7.25	7.07	7.04	6.96	7.31	7.50	8.31	7.43	7.02
H1 lead leg	R	strides	22	15	15	15	15	15	15	15	15	15	157				
Imanishi, Ryota (JPN) (2004)	time	6.27	10.18	14.08	18.27	22.67	27.15	31.73	36.55	41.65	47.10	54.00	9 / 8				
reaction time	0.181	interval	3.91	3.90	4.19	4.40	4.48	4.58	4.82	5.10	5.45	6.90		12.00	13.46	15.37	
		velocity	7.18	8.95	8.97	8.35	7.95	7.81	7.64	7.26	6.86	6.42	5.80	7.41	8.75	7.80	6.83
H1 lead leg	L	strides	22	14	14	15	15	15	15	15	16	16	156				

2022 World Athletics Championships (Eugene, OR)

FINAL

date 19-Jul-22

Wamani (2023) - race analysis of men's and women's 400m hurdles in the 2022 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
dos Santos, Alison (BRA) (2	time	5.71	9.26	12.81	16.38	20.12	21.67	24.01	28.11	32.33	36.69	41.07	46.29	46.29	6 / 1			
reaction time	0.141	interval	3.55	3.55	3.57	3.74	3.89	4.10	4.22	4.36	4.38	5.22	CR NR		10.67	11.73	12.96	
		velocity	7.88	9.86	9.86	9.80	9.36	9.23	9.00	8.54	8.29	8.03	7.99	7.66	8.64	9.84	8.95	8.10
H1 lead leg	L	strides	20	13	12	12	12	12	13	13	13	13	16.2	149.2				
Benjamin, Rai (USA) (1997)	time	5.76	9.33	13.03	16.75	20.45	21.97	24.32	28.38	32.60	36.94	41.47	46.89	46.89	3 / 2			
reaction time	0.157	interval	3.57	3.70	3.72	3.70	3.87	4.06	4.22	4.34	4.53	5.42			10.99	11.63	13.09	
		velocity	7.81	9.80	9.46	9.41	9.46	9.10	9.04	8.62	8.29	8.06	7.73	7.38	8.53	9.55	9.03	8.02
H1 lead leg	R	strides	20	13	13	13	12	12	13	13	13	13	16.5	151.5				
Bassitt, Trevor (USA) (1998)	time	5.86	9.54	13.21	16.90	20.69	22.28	24.72	28.98	33.30	37.77	42.33	47.39	47.39	8 / 3			
reaction time	0.147	interval	3.68	3.67	3.69	3.79	4.03	4.26	4.32	4.47	4.56	5.06	PB		11.04	12.08	13.35	
		velocity	7.68	9.51	9.54	9.49	9.23	8.98	8.68	8.22	8.10	7.83	7.68	7.91	8.44	9.51	8.69	7.87
H1 lead leg	R	strides	20	13	13	12	12	13	13	13	13	13	16.2	151.2				
Happio, Wilfried (FRA) (199	time	5.79	9.33	12.95	16.58	20.34	21.86	24.26	28.50	32.83	37.49	42.18	47.41	47.41	5 / 4			
reaction time	0.134	interval	3.54	3.62	3.63	3.76	3.92	4.24	4.33	4.66	4.69	5.23	PB		10.79	11.92	13.68	
		velocity	7.77	9.89	9.67	9.64	9.31	9.15	8.93	8.25	8.08	7.51	7.46	7.65	8.44	9.73	8.81	7.68
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	15	15	18	159				
Rosser, Khalfiah (USA) (199	time	5.89	9.59	13.38	17.15	21.02	22.60	24.99	29.16	33.48	38.00	42.59	47.88	47.88	1 / 5			
reaction time	0.176	interval	3.70	3.79	3.77	3.87	3.97	4.17	4.32	4.52	4.59	5.29			12.01	13.43		
		velocity	7.64	9.46	9.23	9.28	9.04	8.85	8.82	8.39	8.10	7.74	7.63	7.56	8.35	8.74	7.82	
H1 lead leg		strides	13	13	13	13	13	13	13	14	14	14	17.5	137.5				
Hyde, Jaheel (JAM) (1997)	time	5.71	9.26	12.86	16.52	20.25	21.86	24.27	28.40	32.83	37.47	42.33	48.03	48.03	7 / 6			
reaction time	0.149	interval	3.55	3.60	3.66	3.73	4.02	4.13	4.43	4.64	4.86	5.70	PB		10.81	11.88	13.93	
		velocity	7.88	9.86	9.72	9.56	9.38	9.15	8.71	8.47	7.90	7.54	7.20	7.02	8.33	9.71	8.84	7.54
H1 lead leg	L	strides	22	13	13	13	13	14	14	15	15	15	18.2	165.2				
Warholm, Karsten (NOR) (1	time	5.71	9.19	12.71	16.32	19.99	21.50	23.81	27.96	32.48	37.35	42.38	48.42	48.42	4 / 7			
reaction time	0.140	interval	3.48	3.52	3.61	3.67	3.82	4.15	4.52	4.87	5.03	6.04			10.61	11.64	14.42	
		velocity	7.88	10.06	9.94	9.70	9.54	9.30	9.16	8.43	7.74	7.19	6.96	6.62	8.26	9.90	9.02	7.28
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	15	15	18.5	161.5				
Mägi, Rasmus (EST) (1992)	time	5.99	9.71	13.50	17.27	21.12	22.71	25.14	29.45	33.87	38.52	43.28	48.92	48.92	2 / 8			
reaction time	0.140	interval	3.72	3.79	3.77	3.85	4.02	4.31	4.42	4.65	4.76	5.64			11.28	12.18	13.83	
		velocity	7.51	9.41	9.23	9.28	9.09	8.81	8.71	8.12	7.92	7.53	7.35	7.09	8.18	9.31	8.62	7.59
H1 lead leg	R	strides	13	13	13	13	13	13	13	14	14	15	18	139				

Wamani (2023) - race analysis of men's and women's 400m hurdles in the 2022 season

Henson (2022) - Athlete First: 2022 year end hurdle report (TV Analysis)

Semi-Final 3

date 17-Jul-22

Warholm, Karsten (NOR) (1	time	5.63	9.10	12.86	16.40	20.20	21.83	24.13	28.30	32.66	37.40	42.20	48.00	48.00	5 / 1			
reaction time	0.169	interval	3.47	3.76	3.54	3.80	3.93	4.17	4.36	4.74	4.80	5.80			10.77	11.90	13.90	
		velocity	7.99	10.09	9.31	9.89	9.21	9.16	8.91	8.39	8.03	7.38	7.29	6.90	8.33	9.75	8.82	7.55

H1 lead leg	L	strides	20	13	13	13	13	13	13	13	13	15	15	17.7	158.7					
Happio, Wilfried (FRA) (1998)	time		5.76	9.40	13.20	16.90	20.76	22.44	24.80	29.06	33.46	38.07	42.73		48.14	6 / 2		Henson (2022)		
reaction time	0.136	interval		3.64	3.80	3.70	3.86		4.04	4.26	4.40	4.61	4.66	5.41	PB		11.14	12.16 13.67		
		velocity		7.81	9.62	9.21	9.46	9.07	8.91	8.66	8.22	7.95	7.59	7.51	7.39	8.31		9.43	8.63 7.68	
H1 lead leg	L	strides	20	13	13	13	13		13	13	13	15	15	18	159					
Rosser, Khalfifah (USA) (1999)	time		5.73	9.36	13.17	16.87	20.70	22.41		28.93	33.47	38.00	42.73		48.34	3 / 3		Henson (2022)		
reaction time	0.141	interval		3.63	3.81	3.70	3.83			8.23	4.54	4.53	4.73	5.61			11.14	12.06 13.80		
		velocity		7.85	9.64	9.19	9.46	9.14	8.92	8.51	7.71	7.73	7.40	7.13	8.27			9.43	8.71 7.61	
H1 lead leg	R	strides	21	13	13	13	13				14	14	14	18	133					
Mowatt, Kemar (JAM) (1995)	time		5.76	9.33	13.17	16.86	20.77	22.53		29.20	33.73	38.40	43.10		48.59	4 / 4		Henson (2022)		
reaction time	0.143	interval		3.57	3.84	3.69	3.91			8.43	4.53	4.67	4.70	5.49			11.10	12.34 13.90		
		velocity		7.81	9.80	9.11	9.49	8.95	8.88	8.30	7.73	7.49	7.45	7.29	8.23			9.46	8.51 7.55	
H1 lead leg	L	strides	21	13	13	13	13				15	15	15	18	136					
Smidt, Nick (NED) (1997)	time		5.86	9.57	13.50	17.30	21.40	23.25	25.70	30.00	34.47	39.13	43.93		49.56	8 / 5		Henson (2022)		
reaction time	0.145	interval		3.71	3.93	3.80	4.10		4.30	4.30	4.47	4.66	4.80	5.63			11.44	12.70 13.93		
		velocity		7.68	9.43	8.91	9.21	8.54	8.60	8.14	8.14	7.83	7.51	7.29	7.10	8.07		9.18	8.27 7.54	
H1 lead leg	L	strides	20	13	13	13	14		14	14	14	14	15	18	162					
Kurokawa, Kazuki (JPN) (2001)	time		5.81	9.49	13.35	17.18	21.14	22.76	25.33	29.68	34.25	39.02	43.93		49.69	1 / 6		Wamani (2023)		
reaction time	0.136	interval		3.68	3.86	3.83	3.96		4.19	4.35	4.57	4.77	4.91	5.76			11.37	12.50 14.25		
		velocity		7.75	9.51	9.07	9.14	8.84	8.79	8.35	8.05	7.66	7.34	7.13	6.94	8.05		9.23	8.40 7.37	
H1 lead leg	L	strides		13	13	13	13		14	14	15	15	15	18	143					
Zazini, Sokwakhana (RSA) (2002)	time		5.87	9.66	13.56	17.30	21.26	23.04		29.90	34.57	39.50	44.37		50.22	2 / 7		Henson (2022)		
reaction time	0.153	interval		3.79	3.90	3.74	3.96			8.64	4.67	4.93	4.87	5.85			11.43	12.60 14.47		
		velocity		7.67	9.23	8.97	9.36	8.84	8.68	8.10	7.49	7.10	7.19	6.84	7.96			9.19	8.33 7.26	
H1 lead leg	L	strides	23	15	15	15	15				16	17	17	20.2	153.2					
Nathaniel, Ezekiel (NGR) (2003)	time		5.97	10.33	14.36	18.40	22.60	24.53		31.80	36.77				54.18	7 / 8		Henson (2022)		
reaction time	0.176	interval		4.36	4.03	4.04	4.20			9.20	4.97						12.43	13.40		
		velocity		7.54	8.03	8.68	8.66	8.33	8.15		7.61	7.04			7.38			8.45	7.84	
H1 lead leg	R	strides	21	15	14	13	13			14	14			104						
Semi-Final 2 (TV A) date 17-Jul-22																				
<i>Henson (2022) - Athlete First: 2022 year end hurdle report</i>																				
			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
dos Santos, Alison (BRA) (2004)	time		5.73	9.43	13.14	16.86	20.76	22.49	24.86	29.16	33.53	38.03	42.56		47.85	5 / 1				
reaction time	0.166	interval		3.70	3.71	3.72	3.90		4.10	4.30	4.37	4.50	4.53	5.29			11.13	12.30	13.40	
		velocity		7.85	9.46	9.43	9.41	8.97	8.89	8.54	8.14	8.01	7.78	7.73	7.56	8.36		9.43	8.54	7.84
H1 lead leg	L	strides	20	13	12	12	12		12	13	13	13	13	16	149					
Bassitt, Trevor (USA) (1998)	time		5.83	9.63	13.37	17.13	21.10	22.80	25.17	29.43	33.83	38.30	42.83		48.17	7 / 2				
reaction time	0.144	interval		3.80	3.74	3.76	3.97		4.07	4.26	4.40	4.47	4.53	5.34			11.30	12.30	13.40	
		velocity		7.72	9.21	9.36	9.31	8.82	8.77	8.60	8.22	7.95	7.83	7.73	7.49	8.30		9.29	8.54	7.84
H1 lead leg	R	strides	20	13	13	13	13		13	13	13	13	13	16	153					
Mägi, Rasmus (EST) (1992)	time		5.93	9.70	13.53	17.33	21.27	23.00	25.33	29.67	33.97	38.46	43.07		48.40	4 / 3				
reaction time	0.137	interval		3.77	3.83	3.80	3.94		4.06	4.34	4.30	4.49	4.61	5.33			11.40	12.34	13.40	
		velocity		7.59	9.28	9.14	9.21	8.88	8.70	8.62	8.06	8.14	7.80	7.59	7.50	8.26		9.21	8.51	7.84
H1 lead leg	R	strides	21	13	13	13	13		13	13	14	14	14	17.5	158.5					
Bengtström, Carl (SWE) (2001)	time		5.83	9.67	13.63	17.63	21.68	23.48	25.93	30.23	34.63	39.10	43.70		48.75	8 / 4				
reaction time	0.161	interval		3.84	3.96	4.00	4.05		4.25	4.30	4.40	4.47	4.60	5.05			11.80	12.60	13.47	
		velocity		7.72	9.11	8.84	8.75	8.64	8.52	8.24	8.14	7.95	7.83	7.61	7.92	8.21		8.90	8.33	7.80
H1 lead leg	L	strides	22	14	14	14	14		15	15	15	15	15	18.2	171.2					
Lahoulou, Abdelmalik (ALG) (2001)	time		6.03	9.67	13.43	17.16	21.07	22.79	25.17	29.53	33.97	38.63	43.47		48.90	3 / 5				
reaction time	0.157	interval		3.64	3.76	3.73	3.91		4.10	4.36	4.44	4.66	4.84	5.43			11.13	12.37	13.94	
		velocity		7.46	9.62	9.31	9.38	8.95	8.78	8.54	8.03	7.88	7.51	7.23	7.37	8.18		9.43	8.49	7.53
H1 lead leg	L	strides	22	13	13	13	13		13	14	14	15	15	17.2	162.2					
Naadokila, Moitale Mpoke (1999)	time			9.90	14.03	18.07	22.27	24.10	26.53	30.93	35.43	39.90	44.37		49.34	1 / 6				
reaction time	0.149	interval			4.13	4.04	4.20		4.26	4.40	4.50	4.47	4.47	4.97				12.86	13.44	
		velocity			8.08	8.47	8.66	8.33	8.30	8.22	7.95	7.78	7.83	7.83	8.05	8.11			8.16	7.81
H1 lead leg		strides			14	14	14		14	14	14	14	14	17	129					
Drummond, Gerald (CRC) (1999)	time		5.90	9.70	13.66	17.63	21.83	23.64	26.23	30.67	35.10	39.67	44.30		49.37	6 / 7				
reaction time	0.188	interval		3.80	3.96	3.97	4.20		4.40	4.44	4.43	4.57	4.63	5.07			11.73	13.04	13.63	
		velocity		7.63	9.21	8.84	8.82	8.33	8.46	7.95	7.88	7.90	7.66	7.56	7.89	8.10		8.95	8.05	7.70
H1 lead leg	L	strides	22	14	14	14	14		15	15	15	15	15	18	171					
Rowe, Shawn (JAM) (1992)	time		5.86	9.57	13.47	17.30	21.33	23.08	25.50	30.03	34.53	39.33	44.13		49.80	2 / 8				
reaction time	0.158	interval		3.71	3.90	3.83	4.03		4.17	4.53	4.50	4.80	4.80	5.67			11.44	12.73	14.10	
		velocity		7.68	9.43	8.97	9.14	8.68	8.67	8.39	7.73	7.78	7.29	7.29	7.05	8.03		9.18	8.25	7.45
H1 lead leg	L	strides	20	13	13	13	13		13	14	14	14	14	17	158					

Semi-Final 1 (TV A) date 17-Jul-22

Henson (2022) - Athlete First: 2022 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Benjamin, Rai (USA) (1997)	time	5.73	9.40	13.35	17.33	21.47	23.22	25.56	29.73	33.97	38.33	42.87		48.44	6 / 1				
	reaction time	0.181	interval	3.67	3.95	3.98	4.14	4.09	4.17	4.24	4.36	4.54	5.57			11.60	12.40	13.14	
		velocity	7.85	9.54	8.86	8.79	8.45	8.61	8.56	8.39	8.25	8.03	7.71	7.18	8.26		9.05	8.47	7.99
	H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	13	16	153				
Hyde, Jaheel (JAM) (1997)	time	5.77	9.46	13.33	17.27	21.33	23.13	25.53	29.80	34.30	38.90	43.60		49.09	8 / 2				
	reaction time	0.149	interval	3.69	3.87	3.94	4.06	4.20	4.27	4.50	4.60	4.70	5.49			11.50	12.53	13.80	
		velocity	7.80	9.49	9.04	8.88	8.62	8.65	8.33	8.20	7.78	7.61	7.45	7.29	8.15		9.13	8.38	7.61
	H1 lead leg	L	strides	22	13	13	13	14	14	14	14	14	15	18	163				
Watrin, Julien (BEL) (1992)	time	5.87	9.57	13.40	17.26	21.20	23.08	25.33	29.53	34.00	38.73	43.60		49.52	3 / 3				
	reaction time	0.186	interval	3.70	3.83	3.86	3.94	4.13	4.20	4.47	4.73	4.87	5.92			11.39	12.27	14.07	
		velocity	7.67	9.46	9.14	9.07	8.88	8.67	8.47	8.33	7.83	7.40	7.19	6.76	8.08		9.22	8.56	7.46
	H1 lead leg	R	strides	21	13	13	13	14	14	15	15	15	15	18.7	164.7				
Angela, Ramsey (NED) (1999)	time	5.90	9.70	13.57	17.56	21.67	23.51	25.90	30.17	34.67	39.40	44.23		49.77	4 / 4				
	reaction time	0.155	interval	3.80	3.87	3.99	4.11	4.23	4.27	4.50	4.73	4.83	5.54			11.66	12.61	14.06	
		velocity	7.63	9.21	9.04	8.77	8.52	8.51	8.27	8.20	7.78	7.40	7.25	7.22	8.04		9.01	8.33	7.47
	H1 lead leg	R	strides	22	14	14	14	15	15	15	15	15	15	18.2	171.2				
Barr, Thomas (IRL) (1992)	time	5.96	9.77	13.62	17.57	21.67	23.53	25.93	30.30	34.80	39.57	44.40		50.08	5 / 3				
	reaction time	0.157	interval	3.81	3.85	3.95	4.10	4.26	4.37	4.50	4.77	4.83	5.68			11.61	12.73	14.10	
		velocity	7.55	9.19	9.09	8.86	8.54	8.50	8.22	8.01	7.78	7.34	7.25	7.04	7.99		9.04	8.25	7.45
	H1 lead leg	L	strides	20	13	13	13	14	14	14	15	15	18	162					
Chalmers, Alastair (GBR) (2011)	time	5.77	9.57	13.60	17.60	21.87	23.76	26.20	30.67	35.20	40.07	44.90		50.54	1 / 6				
	reaction time	0.157	interval	3.80	4.03	4.00	4.27	4.33	4.47	4.53	4.87	4.83	5.64			11.83	13.07	14.23	
		velocity	7.80	9.21	8.68	8.75	8.20	8.42	8.08	7.83	7.73	7.19	7.25	7.09	7.91		8.88	8.03	7.38
	H1 lead leg	L	strides	20	13	13	13	14	14	15	15	15	18	163					
Copello, Yasmani (TUR) (1991)	time	5.93	9.80	13.80	17.77	22.00	23.97	26.40	30.97	35.56	40.48	45.46		51.49	2 / 7				
	reaction time	0.166	interval	3.87	4.00	3.97	4.23	4.40	4.57	4.59	4.92	4.98	6.03			11.84	13.20	14.49	
		velocity	7.59	9.04	8.75	8.82	8.27	8.34	7.95	7.66	7.63	7.11	7.03	6.63	7.77		8.87	7.95	7.25
	H1 lead leg	L	strides	20	13	13	13	14	14	14	15	14	18	161					

Heat 5 (TV Analysis) date 16-Jul-22

Henson (2022) - Athlete First: 2022 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Rosser, Khalfifah (USA) (1999)	time	5.84	9.63	13.46	17.27	21.26	22.98	25.33	29.52	33.86	38.40	43.03		48.62	2 / 1				
	reaction time	0.168	interval	3.79	3.83	3.81	3.99	4.07	4.19	4.34	4.54	4.63	5.59			11.43	12.25	13.51	
		velocity	7.71	9.23	9.14	9.19	8.77	8.70	8.60	8.35	8.06	7.71	7.56	7.16	8.23		9.19	8.57	7.77
	H1 lead leg	R	strides	20	13	13	13	13	13	13	13	14	14	17.2	156.2				
Angela, Ramsey (NED) (1999)	time	6.17	10.13	14.13	18.16	22.33	24.10		30.77	35.17	39.70	44.26		49.62	3 / 2				
	reaction time	0.182	interval	3.96	4.00	4.03	4.17		4.44	4.40	4.53	4.56	5.36			11.99	12.61	13.49	
		velocity	7.29	8.84	8.75	8.68	8.39	8.30		8.29	7.95	7.73	7.68	7.46	8.06		8.76	8.33	7.78
	H1 lead leg	R	strides	22	14	14	14	14		15	15	15	18	141					
Bengtström, Carl (SWE) (2011)	time	5.93	9.73	13.77	17.83	21.93	23.68		30.46	34.86	39.56	44.26		49.64	8 / 3				
	reaction time	0.169	interval	3.80	4.04	4.06	4.10		4.53	4.40	4.70	4.70	5.38			11.90	12.63	13.80	
		velocity	7.59	9.21	8.66	8.62	8.54	8.45		8.21	7.95	7.45	7.45	7.43	8.06		8.82	8.31	7.61
	H1 lead leg	L	strides	22	14	14	14	14		15	15	15	18	141					
McMaster, Kyron (IVB) (1997)	time	5.73	9.43	13.33	17.23	21.33	23.07	25.53	29.97	34.60	39.40	44.36		49.98	4 / 4				
	reaction time	0.157	interval	3.70	3.90	3.90	4.10	4.20	4.44	4.63	4.80	4.96	5.62			11.50	12.74	14.39	
		velocity	7.85	9.46	8.97	8.97	8.54	8.67	8.33	7.88	7.56	7.29	7.06	7.12	8.00		9.13	8.24	7.30
	H1 lead leg	L	strides	21	13	13	13	13	14	14	14	15	17	160					

Heat 4 (TV Analysis) date 16-Jul-22

Henson (2022) - Athlete First: 2022 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Mägi, Rasmus (EST) (1992)	time	6.13	10.00	13.87	17.73	21.67	23.23	25.73	29.96	34.33	38.87	43.46		48.78	5 / 1				
	reaction time	0.169	interval	3.87	3.87	3.86	3.94	4.06	4.23	4.37	4.54	4.59	5.32			11.60	12.23	13.50	
		velocity	7.34	9.04	9.04	9.07	8.88	8.61	8.62	8.27	8.01	7.71	7.63	7.52	8.20		9.05	8.59	7.78
	H1 lead leg	R	strides	21	13	13	13	13	13	13	14	14	14	17	158				
Barr, Thomas (IRL) (1992)	time	6.23	10.16	14.10	17.96	21.96	23.65	26.17	30.53	34.93	39.46	44.06		49.15	8 / 2				
	reaction time	0.160	interval	3.93	3.94	3.86	4.00	4.21	4.36	4.40	4.53	4.60	5.09			11.73	12.57	13.53	
		velocity	7.22	8.91	8.88	9.07	8.75	8.46	8.31	8.03	7.95	7.73	7.61	7.86	8.14		8.95	8.35	7.76
	H1 lead leg	L	strides	20	13	13	13	13	14	14	14	14	17.7	158.7					
Drummond, Gerald (CRC) (1991)	time	6.07	9.95	13.90	17.90	22.13	23.84		30.77		39.70	44.27		49.16	2 / 3				
	reaction time	0.195	interval	3.88	3.95	4.00	4.23		4.64		4.93	4.57	4.89	NR		11.83	12.87	13.50	
		velocity	7.41	9.02	8.86	8.75	8.27	8.39		8.10		7.84	7.66	8.18	8.14		8.88	8.16	7.78
	H1 lead leg	L	strides	22	14	14	14	14		15	15	17.5	125.5						
Bassitt, Trevor (USA) (1998)	time	6.03	9.93	13.86	17.76	21.80	23.45		30.16	34.66	39.26	43.90		49.17	3 / 4				
	reaction time	0.146	interval	3.90	3.93	3.90	4.04		4.36	4.50	4.60	4.64	5.27			11.73	12.40	13.74	

	velocity	7.46	8.97	8.91	8.97	8.66	8.53		8.37	7.78	7.61	7.54	7.59	8.14		8.95	8.47	7.64
H1 lead leg	R	strides	20	13	13	13	13			13	13	13	16	127				

Heat 3 (TV Analysis) date 16-Jul-22

Henson (2022) - Athlete First: 2022 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1987)	time	5.66	9.27	13.03	16.90	20.86	22.47	24.90	29.20	33.63	38.46	43.46		49.34	3 / 1			
	reaction time	0.164	interval	3.61	3.76	3.87	3.96	4.04	4.30	4.43	4.83	5.00	5.88			11.24	12.30	14.26
	velocity	7.95	9.70	9.31	9.04	8.84	8.90	8.66	8.14	7.90	7.25	7.00	6.80	8.11		9.34	8.54	7.36
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	15	15	17.5	158.5				
Watrin, Julien (BEL) (1992)	time	5.97	9.76	13.60	17.50	21.46	23.27	25.70	30.07	34.57	39.23	44.16		49.83	5 / 2			
	reaction time	0.199	interval	3.79	3.84	3.90	3.96	4.24	4.37	4.50	4.66	4.93	5.67			11.53	12.57	14.09
	velocity	7.54	9.23	9.11	8.97	8.84	8.59	8.25	8.01	7.78	7.51	7.10	7.05	8.03		9.11	8.35	7.45
H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	15	18	164				
Hyde, Jaheel (JAM) (1997)	time	5.80	9.63	13.63	17.63	21.70	23.51	26.03	30.26	34.80	39.53	44.37		50.03	6 / 3			
	reaction time	0.187	interval	3.83	4.00	4.00	4.07	4.33	4.23	4.54	4.73	4.84	5.66			11.83	12.63	14.11
	velocity	7.76	9.14	8.75	8.75	8.60	8.51	8.08	8.27	7.71	7.40	7.23	7.07	8.00		8.88	8.31	7.44
H1 lead leg	L	strides	22	14	14	14	14	14	14	15	15	15	18	169				
Naadokila, Moitale Mpoke (1987)	time	6.03	10.00	14.03	18.10	22.16	24.03	26.50	30.90	35.46	40.20	44.83		50.19	8 / 4			
	reaction time	0.177	interval	3.97	4.03	4.07	4.06	4.34	4.40	4.56	4.74	4.63	5.36			12.07	12.80	13.93
	velocity	7.46	8.82	8.68	8.60	8.62	8.32	8.06	7.95	7.68	7.38	7.56	7.46	7.97		8.70	8.20	7.54
H1 lead leg	L	strides	21	14	14	14	14	14	14	14	14	14	17	164				

Wamani (2023) - race analysis of men's and women's 400m hurdles in the 2022 season

Heat 2

date 16-Jul-22

Henson (2022) - Athlete First: 2022 year end hurdle report (TV Analysis)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
dos Santos, Alison (BRA) (2000)	time	5.70	9.37	13.13	16.93	20.96	22.65	25.07	29.50	34.10	38.93	43.90		49.41	5 / 1			
	reaction time	0.157	interval	3.67	3.76	3.80	4.03	4.11	4.43	4.60	4.83	4.97	5.51			11.23	12.57	14.40
	velocity	7.89	9.54	9.31	9.21	8.68	8.83	8.52	7.90	7.61	7.25	7.04	7.26	8.10		9.35	8.35	7.29
H1 lead leg	L	strides	20	13	12	12	12	12	13	13	14	14	16	151				
Mowatt, Kemar (JAM) (1995)	time	5.90	9.67	13.53	17.53	21.67	23.51	25.97	30.37	34.93	39.53	44.17		49.44	7 / 2			
	reaction time	0.146	interval	3.77	3.86	4.00	4.14	4.30	4.40	4.56	4.60	4.64	5.27			11.63	12.84	13.80
	velocity	7.63	9.28	9.07	8.75	8.45	8.51	8.14	7.95	7.68	7.61	7.54	7.59	8.09		9.03	8.18	7.61
H1 lead leg	L	strides	21	13	13	13	13	14	14	14	14	15	17.2	161.2				
Happio, Wilfried (FRA) (1996)	time	5.96	9.60	13.40	17.27	21.30	23.05	25.40	29.73	34.20	39.07	44.07		49.60	6 / 3			
	reaction time	0.308	interval	3.64	3.80	3.87	4.03	4.10	4.33	4.47	4.87	5.00	5.53			11.31	12.46	14.34
	velocity	7.55	9.62	9.21	9.04	8.68	8.68	8.54	8.08	7.83	7.19	7.00	7.23	8.06		9.28	8.43	7.32
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	15	15	17.2	158.2				
Smidt, Nick (NED) (1997)	time	5.93	9.73	13.70	17.77	21.93	23.78	26.13	30.50	35.00	39.60	44.33		49.80	8 / 4			
	reaction time	0.180	interval	3.80	3.97	4.07	4.16	4.20	4.37	4.50	4.60	4.73	5.47			11.84	12.73	13.83
	velocity	7.59	9.21	8.82	8.60	8.41	8.41	8.33	8.01	7.78	7.61	7.40	7.31	8.03		8.87	8.25	7.59
H1 lead leg	L	strides	20	13	13	13	13	14	14	14	14	14	17.7	159.7				
Kishimoto, Takayuki (JPN) (1997)	time	5.99	9.81	13.75	17.82	22.06	23.76	26.39	30.83	35.47	40.17	45.03		50.66	2 / 6			
	reaction time	0.117	interval	3.82	3.94	4.07	4.24	4.33	4.44	4.64	4.70	4.86	5.63			11.83	13.01	14.20
	velocity	7.51	9.16	8.88	8.60	8.25	8.42	8.08	7.88	7.54	7.45	7.20	7.10	7.90		8.88	8.07	7.39
H1 lead leg		strides	13	13	13	13	13	14	14	15	15	15	125					

Wamani (2023) - race analysis of men's and women's 400m hurdles in the 2022 season

Heat 1

date 16-Jul-22

Henson (2022) - Athlete First: 2022 year end hurdle report (TV Analysis)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	6.00	9.77	13.66	17.60	21.67	23.39	25.77	29.87	34.17	38.63	43.33		49.06	4 / 1			
	reaction time	0.156	interval	3.77	3.89	3.94	4.07	4.10	4.10	4.30	4.46	4.70	5.73			11.60	12.27	13.46
	velocity	7.50	9.28	9.00	8.88	8.60	8.55	8.54	8.54	8.14	7.85	7.45	6.98	8.15		9.05	8.56	7.80
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	13	16.5	153.5				
Lahoulou, Abdelmalik (ALG) (2000)	time	6.10	9.86	13.70	17.66	21.76	23.44		30.16	34.67	39.43	44.26		49.58	6 / 2			
	reaction time	0.171	interval	3.76	3.84	3.96	4.10		8.40	4.51	4.76	4.83	5.32			11.56	12.50	14.10
	velocity	7.38	9.31	9.11	8.84	8.54	8.53		8.33	7.76	7.35	7.25	7.52	8.07		9.08	8.40	7.45
H1 lead leg	L	strides	22	13	13	13	13			14	15	17	120					
Nathaniel, Ezekiel (NGR) (2000)	time	5.90	9.63	13.43	17.40	21.63	23.44		30.40	34.87	39.46	44.20		49.64	1 / 3			
	reaction time	0.135	interval	3.73	3.80	3.97	4.23		8.77	4.47	4.59	4.74	5.44			11.50	13.00	13.80
	velocity	7.63	9.38	9.21	8.82	8.27	8.53		7.98	7.83	7.63	7.38	7.35	8.06		9.13	8.08	7.61
H1 lead leg	R	strides	21	13	13	14	14			14	15	17.2	121.2					
Kurokawa, Kazuki (JPN) (2000)	time	5.86	9.53	13.31	17.20	21.42	23.14	25.76	30.23	34.87	39.64	44.51		50.02	3 / 4			
	reaction time	0.142	interval	3.67	3.78	3.89	4.22	4.34	4.47	4.64	4.77	4.87	5.51			11.34	13.03	14.28
	velocity	7.68	9.54	9.26	9.00	8.29	8.64	8.06	7.83	7.54	7.34	7.19	7.26	8.00		9.26	8.06	7.35
H1 lead leg	L	strides	21	13	13	13	14	14	15	15	15	15	18	166				

2022 Bauhaus Galan (Stockholm, SWE) (TV Analysis)

FINAL

date 30-Jun-22

Henson (2022) - Athlete First: 2022 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
dos Santos, Alison (BRA) (2000)	time	5.66	9.24	12.80	16.42	20.18	21.78	24.08	28.22	32.48	36.84	41.40		46.80	6 / 1			

reaction time	0.147	interval		3.58	3.56	3.62	3.76		3.90	4.14	4.26	4.36	4.56	5.40		10.76	11.80	13.18		
		velocity		7.95	9.78	9.83	9.67	9.31	9.18	8.97	8.45	8.22	8.03	7.68	7.41	8.55	9.76	8.90	7.97	
H1 lead leg	L	strides		20	13	12	12	12		12	13	13	13	13	16.7	149.7				
Allen, CJ (USA) (1995)		time		5.86	9.64	13.46	17.38	21.34	22.98	25.38	29.54	33.84	38.22	42.86		48.28	3 / 2			
reaction time	0.138	interval			3.78	3.82	3.92	3.96		4.04	4.16	4.30	4.38	4.64	5.42		11.52	12.16	13.32	
		velocity		7.68	9.26	9.16	8.93	8.84	8.70	8.66	8.41	8.14	7.99	7.54	7.38	8.29		9.11	8.63	7.88
H1 lead leg	L	strides		20	13	13	13	13		13	13	14	14	15	17.5	158.5				
McMaster, Kyron (IVB) (1997)		time		5.78	9.42	13.18	16.96	20.86	22.50	24.92	29.24	33.68	38.22	42.96		48.58	5 / 3			
reaction time	0.161	interval			3.64	3.76	3.78	3.90		4.06	4.32	4.44	4.54	4.74	5.62		11.18	12.28	13.72	
		velocity		7.79	9.62	9.31	9.26	8.97	8.89	8.62	8.10	7.88	7.71	7.38	7.12	8.23		9.39	8.55	7.65
H1 lead leg	L	strides		21	13	13	13	13		13	14	14	14	15	17.5	160.5				
Mägi, Rasmus (EST) (1992)		time		5.86	9.56	13.28	17.10	20.98	22.58	25.04	29.36	33.90	38.48	43.28		48.77	4 / 4			
reaction time	0.155	interval			3.70	3.72	3.82	3.88		4.06	4.32	4.54	4.58	4.80	5.49		11.24	12.26	13.92	
		velocity		7.68	9.46	9.41	9.16	9.02	8.86	8.62	8.10	7.71	7.64	7.29	7.29	8.20		9.34	8.56	7.54
H1 lead leg	R	strides		21	13	13	13	13		13	14	14	14	15	17.7	160.7				
Bengtström, Carl (SWE) (2019)		time		5.82	9.58	13.38	17.32	21.36	23.06	25.58	29.90	34.32	38.92	43.70		48.97	7 / 5			
reaction time	0.178	interval			3.76	3.80	3.94	4.04		4.22	4.32	4.42	4.60	4.78	5.27		11.50	12.58	13.80	
		velocity		7.73	9.31	9.21	8.88	8.66	8.67	8.29	8.10	7.92	7.61	7.32	7.59	8.17		9.13	8.35	7.61
H1 lead leg	L	strides		22	14	14	14	14		15	15	15	15	15	19	172				
Watrin, Julien (BEL) (1992)		time		5.92	9.58	13.38	17.24	21.22	22.87	25.32	29.62	34.06	38.66	43.42		49.01	2 / 6			
reaction time	0.216	interval			3.66	3.80	3.86	3.98		4.10	4.30	4.44	4.60	4.76	5.59		11.32	12.38	13.80	
		velocity		7.60	9.56	9.21	9.07	8.79	8.75	8.54	8.14	7.88	7.61	7.35	7.16	8.16		9.28	8.48	7.61
H1 lead leg	R	strides		21	13	13	13	13		13	14	14	15	15	17.7	161.7				
McAlister, Chris (GBR) (1994)		time		6.12	9.92	13.72	17.60	21.70	23.39	25.92	30.38	34.86	39.48	44.32		49.76	8 / 7			
reaction time	0.175	interval			3.80	3.80	3.88	4.10		4.22	4.46	4.48	4.62	4.84	5.44		11.48	12.78	13.94	
		velocity		7.35	9.21	9.21	9.02	8.54	8.55	8.29	7.85	7.81	7.58	7.23	7.35	8.04		9.15	8.22	7.53
H1 lead leg	R	strides		22	14	14	14	14		14	15	15	15	15	152					
Zazini, Sokwakhana (RSA) (2019)		time		5.92	9.76	13.60	17.46	21.44	23.11	25.56	29.90	34.34	39.02	43.94		49.80	1 / 8			
reaction time	0.171	interval			3.84	3.84	3.86	3.98		4.12	4.34	4.44	4.68	4.92	5.86		11.54	12.44	14.04	
		velocity		7.60	9.11	9.11	9.07	8.79	8.65	8.50	8.06	7.88	7.48	7.11	6.83	8.03		9.10	8.44	7.48
H1 lead leg	L	strides		23	15	15	15	15		15	16	16	17	17	21	185				

2022 USATF National Championships (Eugene, OR) (TV Analysis)

FINAL

date 26-Jun-22

Henson (2022) - Athlete First: 2022 year end hurdle report

				H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)		time		5.84	9.51	13.34	17.34	21.35	22.97	25.36	29.43	33.60	37.80	42.14		47.04	7 / 1			
reaction time		interval			3.67	3.83	4.00	4.01		4.01	4.07	4.17	4.20	4.34	4.90			11.50	12.09	12.71
		velocity		7.71	9.54	9.14	8.75	8.73	8.71	8.73	8.60	8.39	8.33	8.06	8.16	8.50		9.13	8.68	8.26
H1 lead leg	R	strides		20	13	13	13	13		13	13	13	13	13	16	153				
Bassitt, Trevor (USA) (1998)		time		5.97	9.67	13.44	17.25	21.19	22.78	25.22	29.43	33.70	38.10	42.54		47.47	5 / 2			
reaction time		interval			3.70	3.77	3.81	3.94		4.03	4.21	4.27	4.40	4.44	4.93	PB		11.28	12.18	13.11
		velocity		7.54	9.46	9.28	9.19	8.88	8.78	8.68	8.31	8.20	7.95	7.88	8.11	8.43		9.31	8.62	8.01
H1 lead leg	R	strides		20	13	13	13	13		13	13	13	13	13	16	153				
Rosser, Khalfiah (USA) (1998)		time		5.97	9.57	13.24	17.01	20.92	22.49	24.86	28.93	33.30	37.73	42.37		47.65	4 / 3			
reaction time		interval			3.60	3.67	3.77	3.91		3.94	4.07	4.37	4.43	4.64	5.28	PB		11.04	11.92	13.44
		velocity		7.54	9.72	9.54	9.28	8.95	8.89	8.88	8.60	8.01	7.90	7.54	7.58	8.39		9.51	8.81	7.81
H1 lead leg	R	strides		21	13	13	13	13		13	14	14	14	14	17.7	159.7				
Allen, CJ (USA) (1995)		time		6.04	9.77	13.61	17.51	21.52	23.15	25.55	29.76	34.03	38.44	42.94		48.17	8 / 4			
reaction time		interval			3.73	3.84	3.90	4.01		4.03	4.21	4.27	4.41	4.50	5.23	PB		11.47	12.25	13.18
		velocity		7.45	9.38	9.11	8.97	8.73	8.64	8.68	8.31	8.20	7.94	7.78	7.65	8.30		9.15	8.57	7.97
H1 lead leg	L	strides		20	13	13	13	13		13	14	14	14	14	17.5	158.5				
Hall, Quincy (USA) (1998)		time		6.10	9.81	13.61	17.55	21.62	23.22	25.76	29.96	34.26	38.77	43.34		48.33	6 / 5			
reaction time		interval			3.71	3.80	3.94	4.07		4.14	4.20	4.30	4.51	4.57	4.99			11.45	12.41	13.38
		velocity		7.38	9.43	9.21	8.88	8.60	8.61	8.45	8.33	8.14	7.76	7.66	8.02	8.28		9.17	8.46	7.85
H1 lead leg	R	strides		21	13	13	13	13		13	13	13	14	14	16	156				
Lattin, Amere (USA) (1997)		time		5.87	9.51	13.28	17.08	21.05	22.70	25.12	29.56	34.06	38.73	43.37		48.53	2 / 6			
reaction time		interval			3.64	3.77	3.80	3.97		4.07	4.44	4.50	4.67	4.64	5.16	PB		11.21	12.48	13.81
		velocity		7.67	9.62	9.28	9.21	8.82	8.81	8.60	7.88	7.78	7.49	7.54	7.75	8.24		9.37	8.41	7.60
H1 lead leg	L	strides		20	13	13	13	13		13	14	14	14	14	17	158				
Bailey, Aldrich (USA) (1994)		time		6.00	9.71	13.48	17.25	21.12	22.83	25.22	29.79	34.40	39.14	43.91		49.43	9 / 7			
reaction time		interval			3.71	3.77	3.77	3.87		4.10	4.57	4.61	4.74	4.77	5.52			11.25	12.54	14.12
		velocity		7.50	9.43	9.28	9.28	9.04	8.76	8.54	7.66	7.59	7.38	7.34	7.25	8.09		9.33	8.37	7.44
H1 lead leg	L	strides		21	13	13	12	12		13	14	13	14	14	139					
Downing, Quincy (USA) (1994)		time		5.97	9.61	13.25	17.05	20.95	22.61	25.05	29.53	34.13	39.04	44.04		50.09	3 / 8			

reaction time	interval		3.64	3.64	3.80	3.90		4.10	4.48	4.60	4.91	5.00	6.05		11.08	12.48	14.51	
	velocity		7.54	9.62	9.62	9.21	8.97	8.85	8.54	7.81	7.61	7.13	7.00	6.61	7.99	9.48	8.41	7.24
H1 lead leg	R	strides	21	13	13	13	13		13	14	14	15	15		144			

2022 Bislett Games (Oslo, NOR) (TV Analysis)

FINAL

date 16-Jun-22

Henson (2022) - Athlete First: 2022 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10		
dos Santos, Alison (BRA) (2019)	time		5.74	9.42	13.16	16.92	20.82	22.56	24.96	29.20	33.42	37.76	42.16		47.26	7 / 1					
	reaction time	0.184		interval		3.68	3.74	3.76	3.90		4.14	4.24	4.22	4.34	4.40		5.10		11.18	12.28	12.96
			7.84	velocity		7.84	9.51	9.36	9.31	8.97	8.87	8.45	8.25	8.29	8.06	7.95	7.84	8.46	9.39	8.55	8.10
	H1 lead leg	L	20	13	12	12	12		12	13	13	13	13	13	16	149					
Mägi, Rasmus (EST) (1992)	time		5.84	9.56	13.28	17.12	21.04	22.73	25.22	29.44	33.76	38.28	43.00		48.51	6 / 2					
	reaction time	0.165		interval		3.72	3.72	3.84	3.92		4.18	4.22	4.32	4.52	4.72	5.51			11.28	12.32	13.56
			7.71	velocity		7.71	9.41	9.41	9.11	8.93	8.80	8.37	8.29	8.10	7.74	7.42	7.26	8.25	9.31	8.52	7.74
	H1 lead leg	R	21	13	13	13	13		13	13	14	14	14	14	18	159					
Happio, Wilfried (FRA) (1998)	time		5.76	9.40	13.22	17.12	21.10	22.81	25.28	29.72	34.12	38.80	43.48		49.01	3 / 3					
	reaction time	0.150		interval		3.64	3.82	3.90	3.98		4.18	4.44	4.40	4.68	4.68	5.53	PB		11.36	12.60	13.76
			7.81	velocity		7.81	9.62	9.16	8.97	8.79	8.77	8.37	7.88	7.95	7.48	7.48	7.23	8.16	9.24	8.33	7.63
	H1 lead leg	L	20	13	13	13	13		13	14	14	15	15	18	161						
Bengtström, Carl (SWE) (2019)	time		5.76	9.44	13.28	17.16	21.16	22.93	25.44	29.80	34.20	38.88	43.72		49.31	5 / 4					
	reaction time	0.172		interval		3.68	3.84	3.88	4.00		4.28	4.36	4.40	4.68	4.84	5.59			11.40	12.64	13.92
			7.81	velocity		7.81	9.51	9.11	9.02	8.75	8.72	8.18	8.03	7.95	7.48	7.23	7.16	8.11	9.21	8.31	7.54
	H1 lead leg	L	22	14	14	14	14		15	15	15	15	15	19.2	172.2						
Copello, Yasmani (TUR) (1998)	time		5.86	9.56	13.40	17.28	21.20	22.94	25.40	29.72	34.12	38.76	43.64		49.36	4 / 5					
	reaction time	0.177		interval		3.70	3.84	3.88	3.92		4.20	4.32	4.40	4.64	4.88	5.72			11.42	12.44	13.92
			7.68	velocity		7.68	9.46	9.11	9.02	8.93	8.72	8.33	8.10	7.95	7.54	7.17	6.99	8.10	9.19	8.44	7.54
	H1 lead leg	R	20	13	13	13	13		13	13	14	14	15	18	159						
Smidt, Nick (NED) (1997)	time		5.92	9.72	13.64	17.68		23.70	26.28	30.62	34.92	39.56	44.28		49.77	1 / 6					
	reaction time	0.172		interval		3.80	3.92	4.04			8.60	4.34	4.30	4.64	4.72	5.49			11.76	12.94	13.66
			7.60	velocity		7.60	9.21	8.93	8.66		8.44	8.14	8.06	8.14	7.54	7.42	7.29	8.04	8.93	8.11	7.69
	H1 lead leg	L	21	13	13	14	14				14	15	15	18	137						
Zazini, Sokwakhana (RSA) (2019)	time		5.92	9.76	13.56	17.48	21.56	23.37	25.96	30.44	34.96	39.76	44.56		50.17	8 / 7					
	reaction time	0.184		interval		3.84	3.80	3.92	4.08		4.40	4.48	4.52	4.80	4.80	5.61			11.56	12.96	14.12
			7.60	velocity		7.60	9.11	9.21	8.93	8.58	8.56	7.95	7.81	7.74	7.29	7.29	7.13	7.97	9.08	8.10	7.44
	H1 lead leg	L	23	15	15	15	15		16	16	17	17	17	20	186						
Angela, Ramsey (NED) (1999)	time		5.92	9.68	13.52	17.52	21.84	23.62	26.18	30.58	34.78	39.68	44.52		50.21	2 / 8					
	reaction time	0.184		interval		3.76	3.84	4.00	4.32		4.34	4.40	4.20	4.90	4.84	5.69			11.60	13.06	13.94
			7.60	velocity		7.60	9.31	9.11	8.75	8.10	8.47	8.06	7.95	8.33	7.14	7.23	7.03	7.97	9.05	8.04	7.53
	H1 lead leg	R	22	14	14	14	16		15		15	15	15	18.5	158.5						

2022 Japanese National Championships (Osaka, JPN)

FINAL

date 11-Jun-22

Wamani (2023) - race analysis of men's and women's 400m hurdles in the 2022 season

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10		
Kurokawa, Kazuki (JPN) (2019)	time		5.77	9.38	13.10	16.97	20.99		25.23	29.48	34.00	38.64	43.38		48.89	5 / 1					
	reaction time	0.192		interval		3.61	3.72	3.87	4.02		4.24	4.25	4.52	4.64	4.74	5.51			11.20	12.51	13.90
			7.80	velocity		7.80	9.70	9.41	9.04	8.71		8.25	8.24	7.74	7.54	7.38	7.26	8.18	9.38	8.39	7.55
	H1 lead leg	L	21	13	13	13	13		14	14	15	15	15	18.2	164.2						
Kawagoe, Hiroya (JPN) (1991)	time		6.01	9.84	13.76	17.82	21.94		26.21	30.63	35.10	39.66	44.33		49.72	4 / 2					
	reaction time	0.193		interval		3.83	3.92	4.06	4.12		4.27	4.42	4.47	4.56	4.67	5.39	PB		11.81	12.81	13.70
			7.49	velocity		7.49	9.14	8.93	8.62	8.50		8.20	7.92	7.83	7.68	7.49	7.42	8.05	8.89	8.20	7.66
	H1 lead leg	L	21	14	14	14	14		15	15	15	15	15	18.7	170.7						
Toyoda, Masaki (JPN) (1998)	time		6.14	10.06	14.08	18.23	22.46		26.64	30.88	35.25	39.77	44.48		49.85	9 / 3					
	reaction time	0.211		interval		3.92	4.02	4.15	4.23		4.18	4.24	4.37	4.52	4.71	5.37			12.09	12.65	13.60
			7.33	velocity		7.33	8.93	8.71	8.43	8.27		8.37	8.25	8.01	7.74	7.43	7.45	8.02	8.68	8.30	7.72
	H1 lead leg	L	21	14	14	14	14		14	14	15	15	15	18.7	168.7						
Kishimoto, Takayuki (JPN) (1991)	time		5.96	9.73	13.65	17.71	21.94		26.26	30.61	35.19	39.79	44.51		49.99	6 / 4					
	reaction time	0.164		interval		3.77	3.92	4.06	4.23		4.32	4.35	4.58	4.60	4.72	5.48			11.75	12.90	13.90
			7.55	velocity		7.55	9.28	8.93	8.62	8.27		8.10	8.05	7.64	7.61	7.42	7.30	8.00	8.94	8.14	7.55
	H1 lead leg	R	21	13	13	13	13		14	14	15	15	15	18.2	164.2						
Takahashi, Yuma (JPN) (1998)	time		6.12	10.04	14.06	18.15	22.36		26.63	31.04	35.62	40.22	44.91		50.35	8 / 5					
	reaction time	0.197		interval		3.92	4.02	4.09	4.21		4.27	4.41	4.58	4.60	4.69	5.44			12.03	12.89	13.87
			7.35	velocity		7.35	8.93	8.71	8.56	8.31		8.20	7.94	7.64	7.61	7.46	7.35	7.94	8.73	8.15	7.57
	H1 lead leg	L	21	14	14	14	14		14	15	15	15	15	18.7	168.7						
Onodera, Shota (JPN) (1999)	time		6.32	10.24	14.30	18.42	22.56		26.74	30.96	35.42	40.11	45.03		50.49	7 / 6					
	reaction time	0.192		interval		3.92	4.06	4.12	4.14		4.18	4.22	4.46	4.69	4.92	5.46			12.10	12.54	14.07
			7.12	velocity		7.12	8.93	8.62	8.50	8.45		8.37	8.29	7.85	7.46	7.11	7.33	7.92	8.68	8.37	7.46

H1 lead leg	R	strides	22	15	15	15	15	15	15	15	15	15	17	159				
Matsushita, Yuki (JPN) (1991)	time		6.16	10.04	14.05	18.15	22.29		26.59	31.05	35.72	40.44	45.15	50.57	3 / 7			
reaction time	0.171	interval		3.88	4.01	4.10	4.14		4.30	4.46	4.67	4.72	4.71	5.42		11.99	12.90	14.10
		velocity	7.31	9.02	8.73	8.54	8.45		8.14	7.85	7.49	7.42	7.43	7.38	7.91	8.76	8.14	7.45
H1 lead leg	R	strides	21	13	13	13	13		14	14	15	15	15	146				
Okamura, Kunihiro (JPN) (2001)	time		6.16	9.91	13.78	17.77	21.87		26.26	30.70	35.37	40.21	45.10	50.70	2 / 8			
reaction time	0.212	interval		3.75	3.87	3.99	4.10		4.39	4.44	4.67	4.84	4.89	5.60		11.61	12.93	14.40
		velocity	7.31	9.33	9.04	8.77	8.54		7.97	7.88	7.49	7.23	7.16	7.14	7.89	9.04	8.12	7.29
H1 lead leg	L	strides	21	13	13	13	13		14	14	15	15	15	146				

2022 Japanese U20 National Championships (Osaka, JPN)

FINAL

date 11-Jun-22

Wamami (2023) - race analysis of men's and women's 400m hurdles in the 2022 season

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Konno, Ryoma (JPN) (2004)	time		6.21	10.24	14.36	18.59	22.76		27.03	31.35	35.72	40.14	44.73		50.17	9 / 1			
reaction time	0.177	interval		4.03	4.12	4.23	4.17		4.27	4.32	4.37	4.42	4.59	5.44	PB		12.38	12.76	13.38
		velocity	7.25	8.68	8.50	8.27	8.39		8.20	8.10	8.01	7.92	7.63	7.35	7.97		8.48	8.23	7.85
H1 lead leg	R	strides	21	15	15	15	15		15	15	15	15	15	18.5	174.5				
Moritaka, Sojiro (JPN) (2003)	time		6.11	10.13	14.20	18.35	22.56		26.92	31.40	36.02	40.61	45.38		50.71	8 / 2			
reaction time	0.216	interval		4.02	4.07	4.15	4.21		4.36	4.48	4.62	4.59	4.77	5.33	PB		12.24	13.05	13.98
		velocity	7.36	8.71	8.60	8.43	8.31		8.03	7.81	7.58	7.63	7.34	7.50	7.89		8.58	8.05	7.51
H1 lead leg	R	strides	22	14	14	14	14		15	15	15	15	16	20	174				
Ogawa, Daiki (JPN) (2003)	time		6.12	10.14	14.18	18.26	22.46		26.76	31.11	35.74	40.57	45.41		50.72	7 / 3			
reaction time	0.173	interval		4.02	4.04	4.08	4.20		4.30	4.35	4.63	4.83	4.84	5.31			12.14	12.85	14.30
		velocity	7.35	8.71	8.66	8.58	8.33		8.14	8.05	7.56	7.25	7.23	7.53	7.89		8.65	8.17	7.34
H1 lead leg	L	strides	22	14	14	15	15		15	15	15	17	17	20.2	179.2				
Kyotake, Taiga (JPN) (2003)	time		6.29	10.31	14.38	18.49	22.76		27.08	31.46	36.10	40.85	45.60		50.96	4 / 4			
reaction time	0.203	interval		4.02	4.07	4.11	4.27		4.32	4.38	4.64	4.75	4.75	5.36	PB		12.20	12.97	14.14
		velocity	7.15	8.71	8.60	8.52	8.20		8.10	7.99	7.54	7.37	7.37	7.46	7.85		8.61	8.10	7.43
H1 lead leg	L	strides	22	14	14	15	15		15	15	15	15	15	19	174				
Morioka, Yuuki (JPN) (2003)	time		6.36	10.41	14.51	18.77	23.10		27.48	32.00	36.74	41.39	46.15		51.43	5 / 5			
reaction time	0.208	interval		4.05	4.10	4.26	4.33		4.38	4.52	4.74	4.65	4.76	5.28			12.41	13.23	14.15
		velocity	7.08	8.64	8.54	8.22	8.08		7.99	7.74	7.38	7.53	7.35	7.58	7.78		8.46	7.94	7.42
H1 lead leg	R	strides	22	14	14	14	14		14	14	15	15	15	18.7	169.7				
Muto, Yuhi (JPN) (2004)	time		6.39	10.33	14.41	18.52	22.86		27.29	31.82	36.47	41.21	46.06		51.46	3 / 6			
reaction time	0.189	interval		3.94	4.08	4.11	4.34		4.43	4.53	4.65	4.74	4.85	5.40	PB		12.13	13.30	14.24
		velocity	7.04	8.88	8.58	8.52	8.06		7.90	7.73	7.53	7.38	7.22	7.41	7.77		8.66	7.89	7.37
H1 lead leg	R	strides	22	15	15	15	15		15	15	15	15	15	19	176				
Fuchigami, Syota (JPN) (200)	time		6.16	10.09	14.11	18.31	22.69		27.16	31.70	36.49	41.36	46.25		51.86	2 / 7			
reaction time	0.187	interval		3.93	4.02	4.20	4.38		4.47	4.54	4.79	4.87	4.89	5.61			12.15	13.39	14.55
		velocity	7.31	8.91	8.71	8.33	7.99		7.83	7.71	7.31	7.19	7.16	7.13	7.71		8.64	7.84	7.22
H1 lead leg	R	strides	22	14	14	14	14		15	15	15	15	15	19.2	172.2				

2022 Meeting International Mohammed VI d'Athlétisme (Rabat, MAR) (TV Analysis)

FINAL

date 05-Jun-22

Henson (2022) - Athlete First: 2022 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Rosser, Khalfifah (USA) (199)	time		5.67	9.23	12.97	16.77	20.67	22.38	24.73	28.93	33.40	37.97	42.70		48.25	6 / 1			
reaction time	0.166	interval		3.56	3.74	3.80	3.90		4.06	4.20	4.47	4.57	4.73	5.55			11.10	12.16	13.77
		velocity	7.94	9.83	9.36	9.21	8.97	8.94	8.62	8.33	7.83	7.66	7.40	7.21	8.29		9.46	8.63	7.63
H1 lead leg	R	strides	21	13	13	13	13		13	14	14	14	15	143					
Mägi, Rasmus (EST) (1992)	time		5.63	9.50	13.23	17.07	21.00	22.67	25.03	29.37	33.87	38.50	43.23		48.73	4 / 2			
reaction time	0.146	interval		3.87	3.73	3.84	3.93		4.03	4.34	4.50	4.63	4.73	5.50			11.44	12.30	13.86
		velocity	7.99	9.04	9.38	9.11	8.91	8.82	8.68	8.06	7.78	7.56	7.40	7.27	8.21		9.18	8.54	7.58
H1 lead leg	R	strides	21	13	13	13	13		13	13	14	14	14	141					
Happio, Wilfried (FRA) (199)	time		5.87	9.50	13.27	17.17	21.20	22.90	25.30	29.80	34.30	39.07	43.83		49.27	2 / 3			
reaction time	0.143	interval		3.63	3.77	3.90	4.03		4.10	4.50	4.50	4.77	4.76	5.44			11.30	12.63	14.03
		velocity	7.67	9.64	9.28	8.97	8.68	8.73	8.54	7.78	7.78	7.34	7.35	7.35	8.12		9.29	8.31	7.48
H1 lead leg	L	strides	20	13	13	13	13		13	14	14	15	15	143					
Copello, Yasmani (TUR) (19)	time		5.87	9.60	13.30	17.20	21.17	22.89	25.27	29.67	34.17	38.87	43.67		49.29	5 / 4			
reaction time	0.177	interval		3.73	3.70	3.90	3.97		4.10	4.40	4.50	4.70	4.80	5.62			11.33	12.47	14.00
		velocity	7.67	9.38	9.46	8.97	8.82	8.74	8.54	7.95	7.78	7.45	7.29	7.12	8.12		9.27	8.42	7.50
H1 lead leg	R	strides	20	13	13	13	13		13	14	14	14	14	141					
Hyde, Jaheel (JAM) (1997)	time		5.67	9.23	12.90	16.67	20.50	22.22	24.67	28.97	33.50	38.27	43.37		49.35	8 / 5			
reaction time	0.150	interval		3.56	3.67	3.77	3.83		4.17	4.30	4.53	4.77	5.10	5.98			11.00	12.30	14.40
		velocity	7.94	9.83	9.54	9.28	9.14	9.00	8.39	8.14	7.73	7.34	6.86	6.69	8.11		9.55	8.54	7.29
H1 lead leg	L	strides	22	13	13	13	13		14	14	14	15	15	146					

Vaillant, Ludvy (FRA) (1995)	time	5.83	9.53	13.30	17.20	21.20	22.87	25.27	29.63	34.10	38.90	43.83		49.74	3 / 6			
	reaction time	0.141	interval	3.70	3.77	3.90	4.00		4.07	4.36	4.47	4.80	4.93	5.91		11.37	12.43	14.20
	velocity	7.72	9.46	9.28	8.97	8.75	8.75	8.60	8.03	7.83	7.29	7.10	6.77	8.04		9.23	8.45	7.39
	H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	144					
Hinti, Saad (MAR) (2002)	time	5.83	9.63	13.57	17.67	22.00	23.85	26.43	31.00	35.63				52.98	1 / 7			
	reaction time	0.191	interval	3.80	3.94	4.10	4.33		4.43	4.57	4.63					11.84	13.33	
	velocity	7.72	9.21	8.88	8.54	8.08	8.39	7.90	7.66	7.56				7.55		8.87	7.88	
	H1 lead leg	R	strides	21	14	14	15	15	15	15	15			124				
Warholm, Karsten (NOR) (1987)	time	5.67												dnf	7 / --			
	reaction time	0.163	interval															
	velocity	7.94																
	H1 lead leg	L	strides	20										20				

2022 Prefontaine Classic (Eugene, OR) (TV Analysis)

FINAL

date 28-May-22

Henson (2022) - Athlete First: 2022 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
dos Santos, Alison (BRA) (2000)	time	5.75	9.36	13.00	16.73	20.56	22.33	24.54	28.70	32.93	37.53	42.00		47.23	7 / 1			
	reaction time	0.194	interval	3.61	3.64	3.73	3.83		3.98	4.16	4.23	4.60	4.47	5.23		10.98	11.97	13.30
	velocity	7.83	9.70	9.62	9.38	9.14	8.96	8.79	8.41	8.27	7.61	7.83	7.65	8.47		9.56	8.77	7.89
	H1 lead leg	L	strides	20	13	12	12	12	13	13	14	13	16	150				
Rosser, Khalifah (USA) (1999)	time	5.70	9.33	13.06	16.90	20.87	22.62	24.90	29.06	33.33	37.90	42.56		48.10	4 / 2			
	reaction time	0.158	interval	3.63	3.73	3.84	3.97		4.03	4.16	4.27	4.57	4.66	5.54		11.20	12.16	13.50
	velocity	7.89	9.64	9.38	9.11	8.82	8.84	8.68	8.41	8.20	7.66	7.51	7.22	8.32		9.38	8.63	7.78
	H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	18	162				
Hall, Quincy (USA) (1995)	time	5.80	9.53	13.30	17.16	21.10	23.83	25.20	29.46	33.73	38.37	43.00		48.10	6 / 3			
	reaction time	0.213	interval	3.73	3.77	3.86	3.94		4.10	4.26	4.27	4.64	4.63	5.10		11.36	12.30	13.54
	velocity	7.76	9.38	9.28	9.07	8.88	8.39	8.54	8.22	8.20	7.54	7.56	7.84	8.32		9.24	8.54	7.75
	H1 lead leg	R	strides	21	13	13	13	13	13	13	14	14	16	156				
Bengtström, Carl (SWE) (2000)	time	5.70	9.46	13.27	17.17	21.17	23.02	25.33	29.58	33.93	38.53	43.26		48.52	9 / 4			
	reaction time	0.172	interval	3.76	3.81	3.90	4.00		4.16	4.25	4.35	4.60	4.73	5.26		11.47	12.41	13.68
	velocity	7.89	9.31	9.19	8.97	8.75	8.69	8.41	8.24	8.05	7.61	7.40	7.60	8.24		9.15	8.46	7.68
	H1 lead leg	L	strides	22	14	14	14	15	15	15	15	15	153					
Mägi, Rasmus (EST) (1992)	time	5.87	9.66	13.50	17.36	21.30	23.05	25.35	29.60	34.09	38.73	43.33		48.66	3 / 5			
	reaction time	0.174	interval	3.79	3.84	3.86	3.94		4.05	4.25	4.49	4.64	4.60	5.33		11.49	12.24	13.73
	velocity	7.67	9.23	9.11	9.07	8.88	8.68	8.64	8.24	7.80	7.54	7.61	7.50	8.22		9.14	8.58	7.65
	H1 lead leg	R	strides	21	13	13	13	13	14	14	14	14	142					
Allen, CJ (USA) (1995)	time	5.70	9.36	13.13	17.00	21.00	22.74	25.10	29.33	33.70	38.33	43.13		48.76	5 / 6			
	reaction time	0.156	interval	3.66	3.77	3.87	4.00		4.10	4.23	4.37	4.63	4.80	5.63		11.30	12.33	13.80
	velocity	7.89	9.56	9.28	9.04	8.75	8.80	8.54	8.27	8.01	7.56	7.29	7.10	8.20		9.29	8.52	7.61
	H1 lead leg	L	strides	20	13	13	13	13	13	14	15	15	142					
Hyde, Jaheel (JAM) (1997)	time	5.73	9.50	13.40	17.30	21.27	23.07	25.50	29.93	34.57	39.50			50.38	2 / 7			
	reaction time	0.157	interval	3.77	3.90	3.90	3.97		4.23	4.43	4.64	4.93				11.57	12.63	
	velocity	7.85	9.28	8.97	8.97	8.82	8.67	8.27	7.90	7.54	7.10			7.94		9.08	8.31	
	H1 lead leg	L	strides	21	13	13	13	14	15	15	15			132				
Mowatt, Kemar (JAM) (1995)	time	5.80	9.56	13.36	17.33	21.34	23.20	25.56	30.07	34.73	39.73			50.81	8 / 8			
	reaction time	0.157	interval	3.76	3.80	3.97	4.01		4.22	4.51	4.66	5.00				11.53	12.74	
	velocity	7.76	9.31	9.21	8.82	8.73	8.62	8.29	7.76	7.51	7.00			7.87		9.11	8.24	
	H1 lead leg	L	strides	21	13	13	13	14	14	14	15			130				

2022 Shimane High School Championships (Izumo, JPN)

FINAL

date 27-May-22

Shimizu (2022) - shimane high school championships 2022 - biomechanics data analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
森木 大翔	time	6.55	10.70	14.87	19.00	23.28		27.95	32.92	38.07	43.17	48.38		54.42	7 / 1			
	reaction time		interval	4.15	4.17	4.13	4.28		4.67	4.97	5.15	5.10	5.21	6.04		12.45	13.92	15.46
	velocity	6.87	8.43	8.39	8.47	8.18		7.49	7.04	6.80	6.86	6.72	6.62	7.35		8.43	7.54	6.79
	H1 lead leg		strides	22	15	15	15	15	17	17	17	17	20.7	185.7				
品川 侑斗	time	6.58	10.83	15.15	19.48	24.07		28.82	33.92	39.33	44.53	49.68		55.81	5 / 2			
	reaction time		interval	4.25	4.32	4.33	4.59		4.75	5.10	5.41	5.20	6.13		12.90	14.44	15.76	
	velocity	6.84	8.24	8.10	8.08	7.63		7.37	6.86	6.47	6.73	6.80	6.53	7.17		8.14	7.27	6.66
	H1 lead leg		strides	22	15	15	15	15	17	17	17	17	20.7	185.7				
鐘築 誠	time	6.63	11.05	15.57	20.15	25.12		30.33	35.65	40.93	46.05	51.18		56.94	6 / 3			
	reaction time		interval	4.42	4.52	4.58	4.97		5.21	5.32	5.28	5.12	5.13	5.76		13.52	15.50	15.53
	velocity	6.79	7.92	7.74	7.64	7.04		6.72	6.58	6.63	6.84	6.82	6.94	7.02		7.77	6.77	6.76
	H1 lead leg		strides	23	15	15	15	17	17	17	17	17	19.7	187.7				
佐々木 輝	time	6.62	10.98	15.47	19.98	24.92		30.20	35.58	40.93	46.38	51.72		57.53	8 / 4			
	reaction time		interval	4.36	4.49	4.51	4.94		5.28	5.38	5.35	5.45	5.34	5.81		13.36	15.60	16.14

	velocity	6.80	8.03	7.80	7.76	7.09		6.63	6.51	6.54	6.42	6.55	6.88	6.95		7.86	6.73	6.51
H1 lead leg	strides	22	15	15	15	17		17	17	17	17	17	21.5	190.5				
牧田 煌	time	6.82	11.38	16.05	20.78	25.60		30.38	35.57	40.87	46.15	51.47		57.59	9 / 5			
reaction time	interval		4.56	4.67	4.73	4.82		4.78	5.19	5.30	5.28	5.32	6.12			13.96	14.79	15.90
	velocity	6.60	7.68	7.49	7.40	7.26		7.32	6.74	6.60	6.63	6.58	6.54	6.95		7.52	7.10	6.60
H1 lead leg	strides	22	15	15	15	15		15	17	17	17	17	21	186				
岡本源	time	7.02	11.67	16.42	21.18	26.10		31.07	36.38	41.80	47.22	52.63		58.73	4 / 6			
reaction time	interval		4.65	4.75	4.76	4.92		4.97	5.31	5.42	5.42	5.41	6.10			14.16	15.20	16.25
	velocity	6.41	7.53	7.37	7.35	7.11		7.04	6.59	6.46	6.46	6.47	6.56	6.81		7.42	6.91	6.46
H1 lead leg	strides	25	17	17	16	16		16	17	17	17	17	18	21	197			

2022 Doha Diamond League (Doha, QAT) (TV Analysis)

Final

date 13-May-22

Henson (2022) - Athlete First: 2022 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
dos Santos, Alison (BRA) (2017)	time	5.70	9.37	13.11	17.12	21.20	22.9	25.36	29.44	33.63	37.83	42.14		47.24	7 / 1			
reaction time	0.172 interval		3.67	3.74	4.01	4.08		4.16	4.08	4.19	4.20	4.31	5.10			11.42	12.32	12.70
	velocity	7.89	9.54	9.36	8.73	8.58	8.73	8.41	8.58	8.35	8.33	8.12	7.84	8.47		9.19	8.52	8.27
H1 lead leg	L strides	20	13	12	13	13		13	13	13	13	13		136				
Benjamin, Rai (USA) (1997)	time	5.60	9.18	13.01	16.98	21.12	22.8	25.24	29.30	33.56	37.87	42.27		47.49	6 / 2			
reaction time	0.206 interval		3.58	3.83	3.97	4.14		4.12	4.06	4.26	4.31	4.40	5.22			11.38	12.32	12.97
	velocity	8.04	9.78	9.14	8.82	8.45	8.77	8.50	8.62	8.22	8.12	7.95	7.66	8.42		9.23	8.52	8.10
H1 lead leg	R strides	20	13	13	13	13		13	13	13	13	13		137				
Barr, Thomas (IRL) (1992)	time	5.90	9.67	13.58	17.65	21.85	23.6	26.16		35.33	39.91	44.44		49.67	2 / 3			
reaction time	0.171 interval		3.77	3.91	4.07	4.20		4.31		9.17	4.58	4.53	5.23			11.75		
	velocity	7.63	9.28	8.95	8.60	8.33	8.47	8.12		7.63	7.64	7.73	7.65	8.05		8.94		
H1 lead leg	L strides	20	13	13	13	13		13			14	14		113				
McMaster, Kyron (IVB) (1997)	time	5.70	9.37	13.18	17.28	21.52	23.3	25.89		34.93	39.57	44.28		49.93	3 / 4			
reaction time	0.208 interval		3.67	3.81	4.10	4.24		4.37		9.04	4.64	4.71	5.65			11.58		
	velocity	7.89	9.54	9.19	8.54	8.25	8.58	8.01		7.74	7.54	7.43	7.08	8.01		9.07		
H1 lead leg	L strides	21	13	13	13	13		14			14	14		115				
Hyde, Jaheel (JAM) (1997)	time	5.87	9.67	13.71	17.81	22.05	24.2	26.52	30.96	35.40	39.90			50.23	8 / 5			
reaction time	0.167 interval		3.80	4.04	4.10	4.24		4.47	4.44	4.44	4.50					11.94	13.15	
	velocity	7.67	9.21	8.66	8.54	8.25	8.26	7.83	7.88	7.88	7.78			7.96		8.79	7.98	
H1 lead leg	L strides	22	14	14	14	14		15	14	14	14			135				
Copello, Yasmani (TUR) (1997)	time	5.97	9.84	13.91	18.15	22.35	24.2	26.73		35.87	40.51			50.30	5 / 6			
reaction time	0.191 interval		3.87	4.07	4.24	4.20		4.38		9.14	4.64					12.18		
	velocity	7.54	9.04	8.60	8.25	8.33	8.26	7.99		7.66	7.54			7.95		8.62		
H1 lead leg	R strides	20	13	13	13	13		13			14			99				
Madari Palliyalil, Jabir (IND) (2017)	time	5.90	9.67	13.68	17.82	22.05	23.8	26.32		35.27	39.97	44.81		50.42	1 / 7			
reaction time	0.156 interval		3.77	4.01	4.14	4.23		4.27		8.95	4.70	4.84	5.61			11.92		
	velocity	7.63	9.28	8.73	8.45	8.27	8.40	8.20		7.82	7.45	7.23	7.13	7.93		8.81		
H1 lead leg	L strides	22	15	15	15	15		15			16	16		129				

2022 Seiko Golden Grand Prix (Tokyo, JPN)

FINAL

date 08-May-22

Wamani (2023) - race analysis of men's and women's 400m hurdles in the 2022 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.89	9.56	13.25	17.02	20.89		24.91	29.08	33.63	38.39	43.23		48.60	6 / 1			
reaction time	0.219 interval		3.67	3.69	3.77	3.87		4.02	4.17	4.55	4.76	4.84	5.37			11.13	12.06	14.15
	velocity	7.64	9.54	9.49	9.28	9.04		8.71	8.39	7.69	7.35	7.23	7.45	8.23		9.43	8.71	7.42
H1 lead leg	R strides	20	13	13	13	13		13	13	13	14	14	17	156				
Kurokawa, Kazuki (JPN) (2017)	time	5.86	9.57	13.26	17.05	21.02		25.19	29.48	33.98	38.69	43.54		49.08	7 / 2			
reaction time	0.206 interval		3.71	3.69	3.79	3.97		4.17	4.29	4.50	4.71	4.85	5.54			11.19	12.43	14.06
	velocity	7.68	9.43	9.49	9.23	8.82		8.39	8.16	7.78	7.43	7.22	7.22	8.15		9.38	8.45	7.47
H1 lead leg	L strides	21	13	13	13	13		14	14	15	15	15	18.5	164.5				
Chen Chieh (TPE) (1992)	time	5.96	9.61	13.35	17.15	21.15		25.43	29.88	34.38	39.08	43.94		49.39	9 / 3			
reaction time	0.178 interval		3.65	3.74	3.80	4.00		4.28	4.45	4.50	4.70	4.86	5.45			11.19	12.73	14.06
	velocity	7.55	9.59	9.36	9.21	8.75		8.18	7.87	7.78	7.45	7.20	7.34	8.10		9.38	8.25	7.47
H1 lead leg	L strides	21	13	13	13	13		14	14	15	15	15	18	164				
Toyoda, Masaki (JPN) (1998)	time	6.09	10.09	14.21	18.37	22.56		26.78	31.03	35.42	39.89	44.49		49.76	4 / 4			
reaction time	0.183 interval		4.00	4.12	4.16	4.19		4.22	4.25	4.39	4.47	4.60	5.27			12.28	12.66	13.46
	velocity	7.39	8.75	8.50	8.41	8.35		8.29	8.24	7.97	7.83	7.61	7.59	8.04		8.55	8.29	7.80
H1 lead leg	L strides	21	14	14	14	14		14	14	15	15	15	18	168				
Kishimoto, Takayuki (JPN) (2017)	time	5.91	9.69	13.58	17.60	21.74		26.03	30.43	35.02	39.61	44.41		49.86	5 / 5			
reaction time	0.138 interval		3.78	3.89	4.02	4.14		4.29	4.40	4.59	4.59	4.80	5.45			11.69	12.83	13.98
	velocity	7.61	9.26	9.00	8.71	8.45		8.16	7.95	7.63	7.63	7.29	7.34	8.02		8.98	8.18	7.51
H1 lead leg	R strides	21	13	13	13	13		14	14	15	15	15	18.2	164.2				

Yamamoto, Tatsuhiro (JPN)	time	6.11	10.06	14.06	18.12	22.26	26.51	30.88	35.35	39.86	44.54	49.96	3 / 6				
	reaction time	0.134	interval	3.95	4.00	4.06	4.14	4.25	4.37	4.47	4.51	4.68	5.42	12.01	12.76	13.66	
	velocity	7.36	8.86	8.75	8.62	8.45	8.24	8.01	7.83	7.76	7.48	7.38	8.01	8.74	8.23	7.69	
	H1 lead leg	L	strides	21	14	14	14	14	14	15	15	15	18.7	168.7			
Onodera, Shota (JPN) (1999)	time	6.39	10.44	14.55	18.64	22.81	26.99	31.31	35.77	40.24	44.88	50.25	1 / 7				
	reaction time	0.243	interval	4.05	4.11	4.09	4.17	4.18	4.32	4.46	4.47	4.64	5.37	PB	12.25	12.67	13.57
	velocity	7.04	8.64	8.52	8.56	8.39	8.37	8.10	7.85	7.83	7.54	7.45	7.96	8.57	8.29	7.74	
	H1 lead leg	R	strides	22	15	15	15	15	15	15	15	20	177				
Matsushita, Yuki (JPN) (1991)	time	6.16	10.08	14.01	18.02	22.07	26.43	30.91	35.52	40.14	44.84	50.31	2 / 8				
	reaction time	0.199	interval	3.92	3.93	4.01	4.05	4.36	4.48	4.61	4.62	4.70	5.47	11.86	12.89	13.93	
	velocity	7.31	8.93	8.91	8.73	8.64	8.03	7.81	7.59	7.58	7.45	7.31	7.95	8.85	8.15	7.54	
	H1 lead leg	R	strides	21	13	13	13	14	14	15	15	19	165				
Kawagoe, Hiroya (JPN) (1997)	time	5.97	9.73	13.70	17.67	21.79	26.21	30.76	35.40	40.12	45.01	50.66	8 / 9				
	reaction time	0.177	interval	3.76	3.97	3.97	4.12	4.42	4.55	4.64	4.72	4.89	5.65	11.70	13.09	14.25	
	velocity	7.54	9.31	8.82	8.82	8.50	7.92	7.69	7.54	7.42	7.16	7.08	7.90	8.97	8.02	7.37	
	H1 lead leg	L	strides	21	14	14	14	15	15	15	15	18.2	170.2				

2022 Michitaka Kinami Memorial (Osaka, JPN)**FINAL**

date 01-May-22

Wamani (2023) - race analysis of men's and women's 400m hurdles in the 2022 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kurokawa, Kazuki (JPN) (2016)	time	5.91	9.54	13.28	17.08	21.02	25.21	29.48	33.95	38.64	43.44	48.90	6 / 1					
	reaction time	0.157	interval	3.63	3.74	3.80	3.94	4.19	4.27	4.47	4.69	4.80	5.46	11.17	12.40	13.96		
	velocity	7.61	9.64	9.36	9.21	8.88	8.35	8.20	7.83	7.46	7.29	7.33	8.18	9.40	8.47	7.52		
	H1 lead leg		strides	13	13	13	13	14	14	15	15	15	125					
Chen Chieh (TPE) (1992)	time	5.97	9.64	13.41	17.27	21.22	25.51	29.93	34.47	39.16	43.96	49.31	7 / 2					
	reaction time	0.171	interval	3.67	3.77	3.86	3.95	4.29	4.42	4.54	4.69	4.80	5.35	11.30	12.66	14.03		
	velocity	7.54	9.54	9.28	9.07	8.86	8.16	7.92	7.71	7.46	7.29	7.48	8.11	9.29	8.29	7.48		
	H1 lead leg		strides	13	13	13	13	14	14	15	15	15	125					
Peng Ming-Yang (TPE) (1996)	time	6.01	9.71	13.51	17.42	21.42	25.64	29.93	34.55	39.29	44.08	49.32	5 / 3					
	reaction time	0.172	interval	3.70	3.80	3.91	4.00	4.22	4.29	4.62	4.74	4.79	5.24	PB	11.41	12.51	14.15	
	velocity	7.49	9.46	9.21	8.95	8.75	8.29	8.16	7.58	7.38	7.31	7.63	8.11	9.20	8.39	7.42		
	H1 lead leg		strides	13	13	13	13	14	14	15	15	15	125					
Kishimoto, Takayuki (JPN) (1997)	time	5.94	9.79	13.76	17.83	21.96	26.18	30.46	34.97	39.57	44.34	49.84	9 / 4					
	reaction time	0.125	interval	3.85	3.97	4.07	4.13	4.22	4.28	4.51	4.60	4.77	5.50	11.89	12.63	13.88		
	velocity	7.58	9.09	8.82	8.60	8.47	8.29	8.18	7.76	7.61	7.34	7.27	8.03	8.83	8.31	7.56		
	H1 lead leg		strides	13	13	13	13	14	14	15	15	15	125					
Toyoda, Masaki (JPN) (1998)	time	6.11	9.98	13.95	18.05	22.12	26.24	30.46	34.87	39.49	44.34	49.87	4 / 5					
	reaction time	0.183	interval	3.87	3.97	4.10	4.07	4.12	4.22	4.41	4.62	4.85	5.53	11.94	12.41	13.88		
	velocity	7.36	9.04	8.82	8.54	8.60	8.50	8.29	7.94	7.58	7.22	7.23	8.02	8.79	8.46	7.56		
	H1 lead leg		strides	14	14	14	14	14	14	15	15	15	129					
Kawagoe, Hiroya (JPN) (1997)	time	6.02	9.84	13.85	17.92	22.07	26.39	30.88	35.47	40.14	44.91	50.36	8 / 6					
	reaction time	0.167	interval	3.82	4.01	4.07	4.15	4.32	4.49	4.59	4.67	4.77	5.45	11.90	12.96	14.03		
	velocity	7.48	9.16	8.73	8.60	8.43	8.10	7.80	7.63	7.49	7.34	7.34	7.94	8.82	8.10	7.48		
	H1 lead leg		strides	14	14	14	14	15	15	15	15	15	131					
Onodera, Shota (JPN) (1999)	time	6.31	10.28	14.35	18.47	22.62	26.79	31.03	35.57	40.24	45.10	50.52	3 / 7					
	reaction time	0.210	interval	3.97	4.07	4.12	4.15	4.17	4.24	4.54	4.67	4.86	5.42	12.16	12.56	14.07		
	velocity	7.13	8.82	8.60	8.50	8.43	8.39	8.25	7.71	7.49	7.20	7.38	7.92	8.63	8.36	7.46		
	H1 lead leg		strides	15	15	15	15	15	15	15	15	17	137					
Matsushita, Yuki (JPN) (1991)	time	6.14	10.01	13.98	18.07	22.17	26.34	30.95	35.54	40.19	44.99	50.56	2 / 8					
	reaction time	0.139	interval	3.87	3.97	4.09	4.10	4.17	4.61	4.59	4.65	4.80	5.57	11.93	12.88	14.04		
	velocity	7.33	9.04	8.82	8.56	8.54	8.39	7.59	7.63	7.53	7.29	7.18	7.91	8.80	8.15	7.48		
	H1 lead leg		strides	13	13	13	13	14	14	15	15	15	125					

2021 ISTAF (Berlin, GER) (TV Analysis)**FINAL**

date 12-Sep-21

Henson (2021) - Athlete First: 2021 Karsten Warholm 400m Hurdles World Record Season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1995)	time	5.76	9.28	12.96	16.70	20.56	24.56	28.76	33.12	37.80	42.54	48.08	7 / 1					
	reaction time	0.189	interval	3.52	3.68	3.74	3.86	4.00	4.20	4.36	4.68	4.74	5.54	10.94	12.06	13.78		
	velocity	7.81	9.94	9.51	9.36	9.07	8.75	8.33	8.03	7.48	7.38	7.22	8.32	9.60	8.71	7.62		
	H1 lead leg	L	strides	20	13	13	13	13	13	13	15	15	18.5	159.5				
Mägi, Rasmus (EST) (1992)	time	6.04	13.64	17.52	21.48	25.60	29.92	34.92	39.82	43.52	48.73	6 / 2						
	reaction time	0.191	interval	7.60	3.88	3.96	4.12	4.32	9.00	4.60	5.21	11.48	12.40	13.60				
	velocity	7.45	9.21	9.02	8.84	8.50	8.10	8.10	7.78	7.61	7.68	8.21	9.15	8.47	7.72			
	H1 lead leg	R	strides	20	13	13	13	13	13	14	14	17	104					
Hyde, Jaheel (JAM) (1997)	time	5.80	13.28	17.12	25.32	29.68	34.08	38.68	43.44	48.95	4 / 3							

reaction time	0.180	interval		7.48	3.84		8.20	4.36	4.40	4.60	4.76	5.51		11.32	12.56	13.76	
		velocity	7.76	9.36	9.11		8.54	8.03	7.95	7.61	7.35	7.26	8.17		9.28	8.36	7.63
H1 lead leg	L	strides	21		13			14	14		15	18	95				

2021 Weltklasse (Zürich, SUI) (TV Analysis)**FINAL**

date 09-Sep-21

Henson (2021) - Athlete First: 2021 year end hurdle report

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Warholm, Karsten (NOR) (1997) time	5.72	9.28	12.96	16.72	20.56	22.1	24.56	28.68	32.88	37.44	42.08		47.35	7 / 1				
reaction time	0.150	interval	3.56	3.68	3.76	3.84	4.00	4.12	4.20	4.56	4.64	5.27			11.00	11.96	13.40	
		velocity	7.87	9.83	9.51	9.31	9.11	9.05	8.75	8.50	8.33	7.68	7.54	7.59	8.45	9.55	8.78	7.84
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	15	15	18	159				
dos Santos, Alison (BRA) (2011) time	5.80		13.24	17.04	20.92	22.6	25.00	29.12	33.36	37.80	42.44		47.81	6 / 2				
reaction time	0.181	interval		7.44	3.80	3.88	4.08	4.12	4.24	4.44	4.64	5.37			11.24	12.08	13.32	
		velocity	7.76	9.41	9.21	9.02	8.85	8.58	8.50	8.25	7.88	7.54	7.45	8.37	9.34	8.69	7.88	
H1 lead leg	L	strides	20		12	12	13	13	13	13	14	16.5	126.5					
McMaster, Kyron (IVB) (1997) time	5.72		13.08	16.88	20.76	22.4	24.80	29.00	33.36	37.88	42.65		48.24	5 / 3				
reaction time	0.160	interval		7.36	3.80	3.88	4.04	4.20	4.36	4.52	4.77	5.59			11.16	12.12	13.65	
		velocity	7.87	9.51	9.21	9.02	8.93	8.66	8.33	8.03	7.74	7.34	7.16	8.29	9.41	8.66	7.69	
H1 lead leg	L	strides	21		13	13	13	14	14	14	14	17.5	133.5					
Mägi, Rasmus (EST) (1992) time	6.00				21.44	23.0	25.56	29.84		38.80	43.52		48.84	3 / 4				
reaction time	0.158	interval			15.44		4.12	4.28		8.96	4.72	5.32					13.68	
		velocity	7.50		9.07	8.70	8.50	8.18		7.81	7.42	7.52	8.19				7.68	
H1 lead leg	R	strides	20			13	13			14	17	77						
Preis, Constantin (GER) (1997) time	6.08	9.84	13.84	17.84	21.96	23.7	26.20	30.44	34.84	39.36	43.92		49.08	8 / 5				
reaction time	0.259	interval		3.76	4.00	4.00	4.12	4.24	4.24	4.40	4.52	4.56	5.16		11.76	12.60	13.48	
		velocity	7.40	9.31	8.75	8.75	8.50	8.44	8.25	8.25	7.95	7.74	7.68	7.75	8.15	8.93	8.33	7.79
H1 lead leg	L	strides	21	13	14	14	14	14	15	15			120					
Angela, Ramsey (NED) (1999) time	6.04				21.72	23.4	25.92	30.24		39.28	44.00		49.39	2 / 6				
reaction time	0.167	interval			15.68		4.20	4.32		9.04	4.72	5.39					13.76	
		velocity	7.45		8.93	8.55	8.33	8.10		7.74	7.42	7.42	8.10				7.63	
H1 lead leg	R	strides	22			15	15			18		18	70					
McAlister, Chris (GBR) (1997) time	6.24				22.40	24.1	26.64			39.88	44.48		49.73	1 / 7				
reaction time	0.168	interval			16.16		4.24			13.24	4.60	5.25						
		velocity	7.21		8.66	8.30	8.25			7.93	7.61	7.62	8.04					
H1 lead leg	R	strides	22			14				15		51						

2021 Memorial van Damme (Brussels, BEL) (TV Analysis)**FINAL**

date 03-Sep-21

Henson (2021) - Athlete First: 2021 year end hurdle report

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
dos Santos, Alison (BRA) (2011) time	5.84	9.52	13.32	17.16	21.24	23.0	25.44	29.60	33.80	38.28	42.92		48.23	6 / 1				
reaction time	0.181	interval	3.68	3.80	3.84	4.08	4.20	4.16	4.20	4.48	4.64	5.31			11.32	12.44	13.32	
		velocity	7.71	9.51	9.21	9.11	8.58	8.70	8.33	8.41	8.33	7.81	7.54	7.53	8.29	9.28	8.44	7.88
H1 lead leg	L	strides	20	13	13	12	12	13	13	13	13	13	16.5	151.5				
McMaster, Kyron (IVB) (1997) time	5.76	9.40	13.20	17.04	21.00	22.7	25.12	29.40	33.68	38.16	42.96		48.31	5 / 2				
reaction time	0.176	interval	3.64	3.80	3.84	3.96	4.12	4.28	4.28	4.48	4.80	5.35			11.28	12.36	13.56	
		velocity	7.81	9.62	9.21	9.11	8.84	8.81	8.50	8.18	8.18	7.81	7.29	7.48	8.28	9.31	8.50	7.74
H1 lead leg	R	strides	20	13	13	13	13	13	14	14	14	15	17.5	159.5				
Copello, Yasmani (TUR) (1997) time	5.84	9.56	13.32	17.24	21.20		25.32	29.72	34.12	38.60	43.16		48.45	4 / 3				
reaction time	0.149	interval		3.72	3.76	3.92	3.96	4.12	4.40	4.40	4.48	4.56	5.29		11.40	12.48	13.44	
		velocity	7.71	9.41	9.31	8.93	8.84	8.50	7.95	7.95	7.81	7.68	7.56	8.26	9.21	8.41	7.81	
H1 lead leg	R	strides	20	13	13	13	13	13	14	14	14	14	17.7	158.7				
Hyde, Jaheel (JAM) (1997) time	5.84	9.56	13.36	17.24	21.32	23.1	25.52	29.72	34.04	38.60	43.32		48.91	7 / 4				
reaction time	0.166	interval	3.72	3.80	3.88	4.08	4.20	4.20	4.32	4.56	4.72	5.59			11.40	12.48	13.60	
		velocity	7.71	9.41	9.21	9.02	8.58	8.66	8.33	8.33	8.10	7.68	7.42	7.16	8.18	9.21	8.41	7.72
H1 lead leg	L	strides	22	13	13	13	13	14	14	14	15	15	18	164				
Mägi, Rasmus (EST) (1992) time	6.00	9.80	13.64	17.60	21.64	23.4	25.80	30.12	34.64	39.24	43.92		49.13	3 / 5				
reaction time	0.178	interval	3.80	3.84	3.96	4.04	4.16	4.32	4.52	4.60	4.68	5.21			11.60	12.52	13.80	
		velocity	7.50	9.21	9.11	8.84	8.66	8.55	8.41	8.10	7.74	7.61	7.48	7.68	8.14	9.05	8.39	7.61
H1 lead leg	R	strides	20	13	13	13	13	13	14	14	14	14	17	158				
Angela, Ramsey (NED) (1999) time	6.08	9.96	13.80	17.84	21.92	23.7	26.12	30.44	34.88	39.48	44.24		49.53	2 / 6				
reaction time	0.197	interval	3.88	3.84	4.04	4.08	4.20	4.32	4.44	4.60	4.76	5.29			11.76	12.60	13.80	
		velocity	7.40	9.02	9.11	8.66	8.58	8.44	8.33	8.10	7.88	7.61	7.35	7.56	8.08	8.93	8.33	7.61
H1 lead leg	R	strides	22	14	14	14	14	15	15	15	15	15	18	171				
McAlister, Chris (GBR) (1997) time	6.08	9.92	13.92	18.00	22.08	23.9	26.28	30.72	35.32	39.96	44.80		50.09	1 / 7				
reaction time	0.144	interval	3.84	4.00	4.08	4.08	4.20	4.44	4.60	4.64	4.84	5.29			11.92	12.72	14.08	
		velocity	7.40	9.11	8.75	8.58	8.58	8.37	8.33	7.88	7.61	7.54	7.23	7.56	7.99	8.81	8.25	7.46

H1 lead leg	R	strides	22	14	14	14	14	14	14	15	15	15	137				
Preis, Constantin (GER) (1997)	time		6.20	10.00	14.00	18.08	22.28	24.1	26.60	31.08	35.60	40.16	50.12	8 / 8			
reaction time	0.303	interval		3.80	4.00	4.08	4.20		4.32	4.48	4.52	4.56			11.88	13.00	
		velocity	7.26	9.21	8.75	8.58	8.33	8.30	8.10	7.81	7.74	7.68	7.98		8.84	8.08	
H1 lead leg	L	strides	21	13	14	14	14		15	15	15	15	136				

2020 Olympic Games (Tokyo, JPN) (TV Analysis)

FINAL

date 03-Aug-21

Henson (2021) - Athlete First: 2021 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1997)	time		5.60	9.08	12.62	16.28	19.96		23.86	27.92	32.04	36.32	40.76		45.94	6 / 1			
reaction time	0.145	interval		3.48	3.54	3.66	3.68		3.90	4.06	4.12	4.28	4.44	5.18	WR		10.68	11.64	12.84
		velocity	8.04	10.06	9.89	9.56	9.51		8.97	8.62	8.50	8.18	7.88	7.72	8.71		9.83	9.02	8.18
H1 lead leg	L	strides	20	13	13	13	13		13	13	13	13	15	18	157				
Benjamin, Rai (USA) (1997)	time		5.64	9.20	12.84	16.52	20.28		24.16	28.16	32.24	36.44	40.80		46.17	5 / 2			
reaction time	0.168	interval		3.56	3.64	3.68	3.76		3.88	4.00	4.08	4.20	4.36	5.37	AR		10.88	11.64	12.64
		velocity	7.98	9.83	9.62	9.51	9.31		9.02	8.75	8.58	8.33	8.03	7.45	8.66		9.65	9.02	8.31
H1 lead leg	R	strides	20	13	13	13	13		13	13	13	13	13	17	154				
dos Santos, Alison (BRA) (2012)	time		5.76	9.36	13.08	16.76	20.60		24.64	28.80	33.00	37.26	41.58		46.72	7 / 3			
reaction time	0.156	interval		3.60	3.72	3.68	3.84		4.04	4.16	4.20	4.26	4.32	5.14	AR		11.00	12.04	12.78
		velocity	7.81	9.72	9.41	9.51	9.11		8.66	8.41	8.33	8.22	8.10	7.78	8.56		9.55	8.72	8.22
H1 lead leg	L	strides	20	13	13	12	12		13	13	13	14	13	16.2	152.2				
McMaster, Kyron (IVB) (1997)	time		5.68	9.24	12.96	16.72	20.60		24.60	28.86	33.20	37.60	41.96		47.08	4 / 4			
reaction time	0.157	interval		3.56	3.72	3.76	3.88		4.00	4.26	4.34	4.40	4.36	5.12	NR PB		11.04	12.14	13.10
		velocity	7.92	9.83	9.41	9.31	9.02		8.75	8.22	8.06	7.95	8.03	7.81	8.50		9.51	8.65	8.02
H1 lead leg	R	strides	20	13	13	13	13		13	14	14	14	14	17	158				
Samba, Abderrahman (QAT) (2012)	time		5.84	9.48	13.12	16.88	20.72		24.80	28.92	33.16	37.48	41.90		47.12	8 / 5			
reaction time	0.186	interval		3.64	3.64	3.76	3.84		4.08	4.12	4.24	4.32	4.42	5.22			11.04	12.04	12.98
		velocity	7.71	9.62	9.62	9.31	9.11		8.58	8.50	8.25	8.10	7.92	7.66	8.49		9.51	8.72	8.09
H1 lead leg	R	strides	21	13	13	13	13		13	13	13	14	14	17	157				
Copello, Yasmani (TUR) (1997)	time		5.72	9.36	13.04	16.80	20.68		24.72	29.08	33.44	37.96	42.48		47.81	3 / 6			
reaction time	0.166	interval		3.64	3.68	3.76	3.88		4.04	4.36	4.36	4.52	4.52	5.33	=NR =PB		11.08	12.28	13.40
		velocity	7.87	9.62	9.51	9.31	9.02		8.66	8.03	8.03	7.74	7.74	7.50	8.37		9.48	8.55	7.84
H1 lead leg	R	strides	20	13	13	13	13		13	14	14	14	14	17.2	158.2				
Mägi, Rasmus (EST) (1992)	time		5.92	9.60	13.32	17.16	21.12		25.28	29.56	33.96	38.44	42.88		48.11	9 / 7			
reaction time	0.167	interval		3.68	3.72	3.84	3.96		4.16	4.28	4.40	4.48	4.44	5.23			11.24	12.40	13.32
		velocity	7.60	9.51	9.41	9.11	8.84		8.41	8.18	7.95	7.81	7.88	7.65	8.31		9.34	8.47	7.88
H1 lead leg	L	strides	20	13	13	13	13		13	13	14	14	14	140					
Sibilio, Alessandro (ITA) (1997)	time		6.04	9.84	13.76	17.68	21.64		25.84		34.84	39.24	43.68		48.77	2 / 8			
reaction time	0.144	interval		3.80	3.92	3.92	3.96		4.20		9.00	4.40	4.44	5.09			11.64		
		velocity	7.45	9.21	8.93	8.93	8.84		8.33		7.78	7.95	7.88	7.86	8.20		9.02		
H1 lead leg	R	strides	21	13	13	13	13		13	14		15	15	130					

Semi-Final 1

date 01-Aug-21

Henson (2021) - Athlete First: 2021 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1997)	time		5.60	9.14	12.76	16.51	20.42		24.42	28.59	32.93	37.32	42.07		47.30	7 / 1			
reaction time	0.156	interval		3.54	3.62	3.75	3.91		4.00	4.17	4.34	4.39	4.75	5.23			10.91	12.08	13.48
		velocity	8.04	9.89	9.67	9.33	8.95		8.75	8.39	8.06	7.97	7.37	7.65	8.46		9.62	8.69	7.79
H1 lead leg	L	strides	20	13	13	13	13		13	13	13	13	15	17.5	156.5				
Benjamin, Rai (USA) (1997)	time		5.57	9.11	12.78	16.51	20.45		24.42	28.56	32.86	37.30	41.92		47.37	5 / 2			
reaction time	0.184	interval		3.54	3.67	3.73	3.94		3.97	4.14	4.30	4.44	4.62	5.45			10.94	12.05	13.36
		velocity	8.08	9.89	9.54	9.38	8.88		8.82	8.45	8.14	7.88	7.58	7.34	8.44		9.60	8.71	7.86
H1 lead leg	R	strides	20	13	13	13	13		13	13	13	13	13	16.7	153.7				
Copello, Yasmani (TUR) (1997)	time		5.77	9.41	13.14	16.95	20.89		24.92	29.23	33.57	38.04	42.54		47.88	4 / 3			
reaction time	0.183	interval		3.64	3.73	3.81	3.94		4.03	4.31	4.34	4.47	4.50	5.34			11.18	12.28	13.31
		velocity	7.80	9.62	9.38	9.19	8.88		8.68	8.12	8.06	7.83	7.78	7.49	8.35		9.39	8.55	7.89
H1 lead leg	R	strides	20	13	13	13	13		13	14	14	14	14	17.2	144.2				

Heat 3

date 30-Jul-21

Henson (2021) - Athlete First: 2021 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1997)	time		5.67	9.31	13.04	16.98	21.02		25.16	29.36	33.66	38.30	43.02		48.65	8 / 1			
reaction time	0.157	interval		3.64	3.73	3.94	4.04		4.14	4.20	4.30	4.64	4.72	5.63			11.31	12.38	13.66
		velocity	7.94	9.62	9.38	8.88	8.66		8.45	8.33	8.14	7.54	7.42	7.10	8.22		9.28	8.48	7.69
H1 lead leg	L	strides	20	13	13	13	13		13	13	13	15	15	17	158				

2021 Japanese High School National Championships (Fukui, JPN)

FINAL

date 30-Jul-21

Shibayama (2021) - national high school and U20 national championships

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Takahasi, Ryosuke (JPN) (2001)	time		6.17	10.14	14.41	18.64	22.97		27.46	32.02	36.72	41.57	46.46		51.69	6 / 1			

reaction time	0.161	interval		3.97	4.27	4.23	4.33		4.49	4.56	4.70	4.85	4.89	5.23		12.47	13.38	14.44
		velocity	7.29	8.82	8.20	8.27	8.08		7.80	7.68	7.45	7.22	7.16	7.65	7.74	8.42	7.85	7.27
H1 lead leg		strides		14	15	14	14		15	15	16	16	16		135			
Nakamashi, Haruki (JPN) (20	time		6.07	10.04	14.28	18.60	22.97		27.43	31.92	36.50	41.42	46.36		51.70	4 / 2		
reaction time	0.145	interval		3.97	4.24	4.32	4.37		4.46	4.49	4.58	4.92	4.94	5.34		12.53	13.32	14.44
		velocity	7.41	8.82	8.25	8.10	8.01		7.85	7.80	7.64	7.11	7.09	7.49	7.74	8.38	7.88	7.27
H1 lead leg		strides		15	15	15	15		15	15	15	17	17		139			
Tonoyama, Ryohei (JPN) (20	time		6.07	10.09	14.38	18.75	23.22		27.86	32.55	37.29	42.03	46.86		52.36	3 / 3		
reaction time	0.190	interval		4.02	4.29	4.37	4.47		4.64	4.69	4.74	4.74	4.83	5.50		12.68	13.80	14.31
		velocity	7.41	8.71	8.16	8.01	7.83		7.54	7.46	7.38	7.38	7.25	7.27	7.64	8.28	7.61	7.34
H1 lead leg		strides		15	15	15	15		15	15	15	15	15		135			
Morioka, Yuuki (JPN) (2003)	time		6.37	10.64	15.18	19.65	24.27		28.95	33.65	38.41	43.16	47.95		53.10	7 / 4		
reaction time	0.154	interval		4.27	4.54	4.47	4.62		4.68	4.70	4.76	4.75	4.79	5.15		13.28	14.00	14.30
		velocity	7.06	8.20	7.71	7.83	7.58		7.48	7.45	7.35	7.37	7.31	7.77	7.53	7.91	7.50	7.34
H1 lead leg		strides		14	15	14	15		15	15	15	15	15		133			
Oda, Atuya (JPN) (2003)	time		6.26	10.39	14.76	19.20	23.77		28.48	33.25	38.19	43.13	48.01		53.18	5 / 5		
reaction time	0.173	interval		4.13	4.37	4.44	4.57		4.71	4.77	4.94	4.94	4.88	5.17		12.94	14.05	14.76
		velocity	7.19	8.47	8.01	7.88	7.66		7.43	7.34	7.09	7.09	7.17	7.74	7.52	8.11	7.47	7.11
H1 lead leg		strides		15	15	15	15		15	15	15	15	15		135			
Ogawa, Daiki (JPN) (2003)	time		6.29	10.51	14.88	19.30	23.86		28.53	33.23	38.04	42.98	47.96		53.22	2 / 6		
reaction time	0.154	interval		4.22	4.37	4.42	4.56		4.67	4.70	4.81	4.94	4.98	5.26		13.01	13.93	14.73
		velocity	7.15	8.29	8.01	7.92	7.68		7.49	7.45	7.28	7.09	7.03	7.60	7.52	8.07	7.54	7.13
H1 lead leg		strides		14	14	15	15		15	15	15	17	17		137			
Machida, Reo (JPN) (2003)	time		6.57	10.79	15.32	19.82	24.41		28.98	33.62	38.41	43.34	48.25		53.54	8 / 7		
reaction time	0.202	interval		4.22	4.53	4.50	4.59		4.57	4.64	4.79	4.93	4.91	5.29		13.25	13.80	14.63
		velocity	6.85	8.29	7.73	7.78	7.63		7.66	7.54	7.31	7.10	7.13	7.56	7.47	7.92	7.61	7.18
H1 lead leg		strides		15	15	15	15		15	15	15	17	17		139			
Harada, Hibiki (JPN) (2003)	time		6.19	10.08	14.32	18.84	23.36		28.01	32.83	37.74	42.91	48.06		53.82	1 / 8		
reaction time	0.162	interval		3.89	4.24	4.52	4.52		4.65	4.82	4.91	5.17	5.15	5.76		12.65	13.99	15.23
		velocity	7.27	9.00	8.25	7.74	7.74		7.53	7.26	7.13	6.77	6.80	6.94	7.43	8.30	7.51	6.89
H1 lead leg		strides		14	14	15	15		15	15	15	16	16		135			

2021 Herculis Meeting International d'Athletisme (Monaco, MON) (TV Analysis)

FINAL

date 09-Jul-21

Henson (2021) - Athlete First: 2021 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (19	time		5.62	9.12	12.74	16.51	20.38	22.0	24.36	28.49	32.74	37.17	41.87		47.08	7 / 1			
reaction time	0.150	interval		3.50	3.62	3.77	3.87		3.98	4.13	4.25	4.43	4.70	5.21			10.89	11.98	13.38
		velocity	8.01	10.00	9.67	9.28	9.04	9.09	8.79	8.47	8.24	7.90	7.45	7.68	8.50		9.64	8.76	7.85
H1 lead leg	L	strides		20	13	13	13		13	13	13	13	15	18	157				
dos Santos, Alison (BRA) (2	time		5.70	9.31		16.76	20.64	22.4	24.74	28.93	33.16	37.60	42.31		47.51	6 / 2			
reaction time	0.177	interval		3.61		7.45	3.88		4.10	4.19	4.23	4.44	4.71	5.20			11.06	12.17	13.38
		velocity	7.89	9.70		9.40	9.02	8.93	8.54	8.35	8.27	7.88	7.43	7.69	8.42		9.49	8.63	7.85
H1 lead leg	L	strides		20	13	13	12		13	14	15	15	16.5	131.5					
Mägi, Rasmus (EST) (1992)	time		5.92	9.64		17.30	21.25	23.0	25.39	29.64	34.10	38.70	43.41		48.83	5 / 3			
reaction time	0.152	interval		3.72		7.66	3.95		4.14	4.25	4.46	4.60	4.71	5.42			11.38	12.34	13.77
		velocity	7.60	9.41		9.14	8.86	8.70	8.45	8.24	7.85	7.61	7.43	7.38	8.19		9.23	8.51	7.63
H1 lead leg	R	strides		20	13		13		13	13	14	14	14	114					
Preis, Constantin (GER) (19	time		6.00	9.84		17.60	21.62	23.4	25.79	30.08	34.50	39.20	44.04		49.49	4 / 4			
reaction time	0.231	interval		3.84		7.76	4.02		4.17	4.29	4.42	4.70	4.84	5.45			11.60	12.48	13.96
		velocity	7.50	9.11		9.02	8.71	8.55	8.39	8.16	7.92	7.45	7.23	7.34	8.08		9.05	8.41	7.52
H1 lead leg	L	strides		22	14		14		15	15	16	16		112					
Happio, Wilfried (FRA) (199	time		5.84	9.54		17.32	21.37	23.1	25.52	30.05	34.60	39.34	44.17		49.66	3 / 5			
reaction time	0.123	interval		3.70		7.78	4.05		4.15	4.53	4.55	4.74	4.83	5.49			11.48	12.73	14.12
		velocity	7.71	9.46		9.00	8.64	8.66	8.43	7.73	7.69	7.38	7.25	7.29	8.05		9.15	8.25	7.44
H1 lead leg	L	strides		20	13		13		13	14	15	15		103					
McAlister, Chris (GBR) (199	time		5.97	9.77		17.65		23.5			34.77	39.60	44.57		49.98	2 / 6			
reaction time	0.144	interval		3.80		7.88					17.12	4.83	4.97	5.41			11.68		
		velocity	7.54	9.21		8.88		8.51			8.18	7.25	7.04	7.39	8.00		8.99		
H1 lead leg	R	strides		22	14						16	16		68					
Bailey, Aldrich (USA) (1994)	time		5.94	9.64	13.44	17.31	21.33	23.4	25.52	29.96	34.40				dnf	8 / --			
reaction time	0.225	interval		3.70	3.80	3.87	4.02		4.19	4.44	4.44						11.37	12.65	
		velocity	7.58	9.46	9.21	9.04	8.71	8.55	8.35	7.88	7.88						9.23	8.30	
H1 lead leg	L	strides		21	13	13	13		13	14	14				114				

2021 Bauhaus Galan (Stockholm, SWE) (TV Analysis)

FINAL

date 04-Jul-21

Henson (2021) - Athlete First: 2021 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
dos Santos, Alison (BRA) (2 time)	5.74	9.40	13.16	16.86	20.70	22.5	24.76	28.80	32.94	37.30	41.92			47.34	7 / 1				
reaction time	0.160	interval	3.66	3.76	3.70	3.84		4.06	4.04	4.14	4.36	4.62	5.42	AR PB		11.12	11.94	13.12	
velocity	7.84	9.56	9.31	9.46	9.11	8.89	8.62	8.66	8.45	8.03	7.58	7.38	8.45		9.44	8.79	8.00		
H1 lead leg	L	strides	13	13	12	12	13	13	13	13	13	13	17	132					
Copello, Yasmani (TUR) (19f time)	5.76	9.48	13.36	17.24	21.20	22.9	25.20	29.52	33.88	38.36	42.88			48.19	4 / 2				
reaction time	0.167	interval	3.72	3.88	3.88	3.96		4.00	4.32	4.36	4.48	4.52	5.31			11.48	12.28	13.36	
velocity	7.81	9.41	9.02	9.02	8.84	8.73	8.75	8.10	8.03	7.81	7.74	7.53	8.30		9.15	8.55	7.86		
H1 lead leg	R	strides	20	13	13	13	13	13	14	14	14	14	17.7	158.7					
Mowatt, Kemat (JAM) (1995) time	5.72	9.36	13.08	16.92	20.92	22.7	24.92	29.20	33.68	38.32	43.12			48.75	8 / 3				
reaction time	0.156	interval	3.64	3.72	3.84	4.00		4.00	4.28	4.48	4.64	4.80	5.63			11.20	12.28	13.92	
velocity	7.87	9.62	9.41	9.11	8.75	8.81	8.75	8.18	7.81	7.54	7.29	7.10	8.21		9.38	8.55	7.54		
H1 lead leg	L	strides	13	13	13	13	13	13	14	14	14	14	17.7	138.7					
Mägi, Rasmus (EST) (1992) time	5.88	9.68	13.44	17.32	21.32	23.1	25.44	29.76	34.24	38.76	43.36			48.81	5 / 4				
reaction time	0.128	interval	3.80	3.76	3.88	4.00		4.12	4.32	4.48	4.52	4.60	5.45			11.44	12.44	13.60	
velocity	7.65	9.21	9.31	9.02	8.75	8.66	8.50	8.10	7.81	7.74	7.61	7.34	8.20		9.18	8.44	7.72		
H1 lead leg	R	strides	13	13	13	13	13	13	14	14	14	17.2	137.2						
McAlister, Chris (GBR) (199f time)	6.04	9.88	13.84	17.80	21.80	23.6	25.88		34.72	39.36	43.92			49.16	1 / 5				
reaction time	0.134	interval	3.84	3.96	3.96	4.00		4.08	8.84	4.64	4.56	5.24	PB			11.76			
velocity	7.45	9.11	8.84	8.84	8.75	8.47	8.58		7.92	7.54	7.68	7.63	8.14		8.93				
H1 lead leg	R	strides	14	14	14	14	14		15	15	18.5	118.5							
Happio, Wilfried (FRA) (199f time)	5.80	9.56	13.40	17.24	21.20	23.0	25.28		34.04	38.88	43.64			49.28	2 / 6				
reaction time	0.136	interval	3.76	3.84	3.84	3.96		4.08	8.76	4.84	4.76	5.64				11.44			
velocity	7.76	9.31	9.11	9.11	8.84	8.70	8.58		7.99	7.23	7.35	7.09	8.12		9.18				
H1 lead leg	L	strides	20	13	13	13	13		13	13	15	15	18	146					
Lattin, Amere (USA) (1997) time	5.72	9.44	13.24	17.20	21.28	23.1	25.64		34.64	39.36	44.20			49.87	3 / 7				
reaction time	0.140	interval	3.72	3.80	3.96	4.08		4.36	9.00	4.72	4.84	5.67				11.48			
velocity	7.87	9.41	9.21	8.84	8.58	8.66	8.03		7.78	7.42	7.23	7.05	8.02		9.15				
H1 lead leg	L	strides	20	13	13	13	13		14		15	15	17	133					
McMaster, Kyron (IVB) (1997) time	5.60	9.08	12.76	16.52	20.36	22.1	24.32	28.44	32.80	37.68	42.84			dnf	6 / --				
reaction time	0.177	interval	3.48	3.68	3.76	3.84		3.96	4.12	4.36	4.88	5.16				10.92	11.92	14.40	
velocity	8.04	10.06	9.51	9.31	9.11	9.05	8.84	8.50	8.03	7.17	6.78				9.62	8.81	7.29		
H1 lead leg	L	strides	13	13	13	13	13	13	13	14	15	15		122					

2021 Bislett Games (Oslo, NOR) (TV Analysis)

FINAL

date 01-Jul-21

Henson (2021) - Athlete First: 2021 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1f time)	5.58	9.10	12.70	16.34	20.16			24.08	28.18	32.38	36.78	41.44		46.70	7 / 1				
reaction time	0.163	interval	3.52	3.60	3.64	3.82		3.92	4.10	4.20	4.40	4.66	5.26	WR		10.76	11.84	13.26	
velocity	8.06	9.94	9.72	9.62	9.16			8.93	8.54	8.33	7.95	7.51	7.60	8.57		9.76	8.87	7.92	
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	13	13	18	155					
dos Santos, Alison (BRA) (2 time)	5.74	9.36	13.12	16.92	20.78			24.86	28.98	33.20	37.56	42.06		47.38	6 / 2				
reaction time	0.179	interval	3.62	3.76	3.80	3.86		4.08	4.12	4.22	4.36	4.50	5.32	AR PB		11.18	12.06	13.08	
velocity	7.84	9.67	9.31	9.21	9.07			8.58	8.50	8.29	8.03	7.78	7.52	8.44		9.39	8.71	8.03	
H1 lead leg	L	strides	20	13	13	12	12	13	13	13	13	13	16.5	138.5					
Copello, Yasmani (TUR) (19f time)	5.82	9.50	13.26	17.14	21.06			25.14		33.56	38.46	43.26		48.86	5 / 3				
reaction time	0.198	interval	3.68	3.76	3.88	3.92		4.08		8.42	4.90	4.80	5.60			11.32			
velocity	7.73	9.51	9.31	9.02	8.93			8.58		8.31	7.14	7.29	7.14	8.19		9.28			
H1 lead leg	R	strides	20	13	13	13	13	13	13		14	15		114					
Mägi, Rasmus (EST) (1992) time	5.90	9.68	13.44	17.30	21.20			25.28		33.98	38.58	43.34		48.95	3 / 4				
reaction time	0.161	interval	3.78	3.76	3.86	3.90		4.08		8.70	4.60	4.76	5.61			11.40			
velocity	7.63	9.26	9.31	9.07	8.97			8.58		8.05	7.61	7.35	7.13	8.17		9.21			
H1 lead leg	R	strides	20	13	13	13	13	13	13		14	14		113					
Preis, Constantin (GER) (19f time)	6.00	9.82	13.66	17.70	21.72			25.88		34.72	39.48	44.38		49.79	2 / 5				
reaction time	0.246	interval	3.82	3.84	4.04	4.02		4.16		8.84	4.76	4.90	5.41			11.70			
velocity	7.50	9.16	9.11	8.66	8.71			8.41		7.92	7.35	7.14	7.39	8.03		8.97			
H1 lead leg	L	strides	22	14	14	14	14	15			16	16		111					
Angela, Ramsey (NED) (1999) time	6.08	9.96		18.02	22.16			26.44		35.26	39.90	44.54		49.81	1 / 6				
reaction time	0.199	interval	3.88		8.06	4.14		4.28		8.82	4.64	4.64	5.27			11.94			
velocity	7.40	9.02		8.68	8.45			8.18		7.94	7.54	7.54	7.59	8.03		8.79			
H1 lead leg	R	strides	22	14			15				15	15		81					
Vaillant, Ludvy (FRA) (1995) time	5.96	9.66	13.44	17.40	21.46			25.68		34.62				dnf	8 / --				
reaction time	0.245	interval	3.70	3.78	3.96	4.06		4.22		8.94						11.44			
velocity	7.55	9.46	9.26	8.84	8.62			8.29		7.83						9.18			

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

H1 lead leg	R	strides	21	13	13	13	13	13	13	86	
Barr, Thomas (IRL) (1992)	time		5.98	9.78						dnf	4/--
	reaction time	0.147		3.80							
		velocity	7.53	9.21							
H1 lead leg	R	strides	21	14						35	

2021 Chinese National Championships (Chongqing, CHN)

FINAL

date 26-Jun-21

CAA Hurdle Development (2021)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Shang Shuo (CHN) (1995)	time	6.46	10.53	14.63	18.83	23.08		27.47	31.82	36.28	40.82	45.38		50.38	5 / 1			
	reaction time	0.212						4.39	4.35	4.46	4.54	4.56	5.00			12.37	12.99	13.56
		velocity	6.97	8.60	8.54	8.33	8.24	7.97	8.05	7.85	7.71	7.68	8.00	7.94		8.49	8.08	7.74
	H1 lead leg	L	strides	22	14	14	14	14	14	15	15	15	18	169				
Xie Zhiyu (CHN) (2000)	time	6.15	10.04	14.04	18.07	22.24		26.63	31.25	35.92	40.64	45.34		50.4	3 / 2			(no official time given)
	reaction time	0.227						4.39	4.62	4.67	4.72	4.70	5.06	DQ		11.92	13.18	14.09
		velocity	7.32	9.00	8.75	8.68	8.39	7.97	7.58	7.49	7.42	7.45	7.91	7.94		8.81	7.97	7.45
	H1 lead leg	L	strides	21	13	13	13	13	14	14	14	14	17	159				
Song Jiahui (CHN) (2002)	time	6.31	10.33	14.44	18.66	22.91		27.23	31.61	36.23	40.99	45.82		51.32	7 / 3 2			
	reaction time	0.191						4.32	4.38	4.62	4.76	4.83	5.50	PB		12.35	12.95	14.21
		velocity	7.13	8.71	8.52	8.29	8.24	8.10	7.99	7.58	7.35	7.25	7.27	7.79		8.50	8.11	7.39
	H1 lead leg	L	strides	20	13	13	13	13	13	14	14	15	18	159				
Li Guangzhen (CHN) (1995)	time	6.40	10.51	14.65	18.83	23.24		27.86	32.51	37.27	42.01	46.66		51.72	4 / 4 3			
	reaction time	0.218						4.62	4.65	4.76	4.74	4.65	5.06			12.43	13.68	14.15
		velocity	7.03	8.52	8.45	8.37	7.94	7.58	7.53	7.35	7.38	7.53	7.91	7.73		8.45	7.68	7.42
	H1 lead leg	R	strides	21	14	14	14	15	15	15	15	15	17.2	169.2				
Lu Shengjing (CHN) (1998)	time	6.24	10.29	14.55	18.88	23.37		27.91	32.45	37.02	41.71	46.48		51.78	1 / 5 4			
	reaction time	0.187						4.54	4.54	4.57	4.69	4.77	5.30			12.64	13.57	14.03
		velocity	7.21	8.64	8.22	8.08	7.80	7.71	7.71	7.66	7.46	7.34	7.55	7.72		8.31	7.74	7.48
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	18.5	175.5				
Wang Guozhong (CHN) (1998)	time	6.25	10.35	14.56	18.87	23.30		27.78	32.35	37.04	41.84	46.87		52.51	8 / 6 5			
	reaction time	0.217						4.48	4.57	4.69	4.80	5.03	5.64			12.62	13.48	14.52
		velocity	7.20	8.54	8.31	8.12	7.90	7.81	7.66	7.46	7.29	6.96	7.09	7.62		8.32	7.79	7.23
	H1 lead leg	L	strides	21	15	15	15	15	15	15	15	15	17.5	173.5				
Wang Siqing (CHN) (1999)	time	6.40	10.54	14.78	19.07	23.51		28.03	32.56	37.22	42.09	47.11		52.84	2 / 7 6			
	reaction time	0.214						4.52	4.53	4.66	4.87	5.02	5.73			12.67	13.49	14.55
		velocity	7.03	8.45	8.25	8.16	7.88	7.74	7.73	7.51	7.19	6.97	6.98	7.57		8.29	7.78	7.22
	H1 lead leg	L	strides	22	15	15	15	15	15	15	16	16	19	178				

Heat 4

date 26-Jun-21

CAA Hurdle Development (2021)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Li Guangzhen (CHN) (1995)	time	6.16	10.11	14.26	18.57	23.07		27.68	32.25	36.89	41.57	46.16		51.33	5 / 1			
	reaction time	0.183						4.61	4.57	4.64	4.68	4.59	5.17			12.41	13.68	13.91
		velocity	7.31	8.86	8.43	8.12	7.78	7.59	7.66	7.54	7.48	7.63	7.74	7.79		8.46	7.68	7.55
	H1 lead leg	L	strides	22	14	14	14	15	15	14	15	15	17.2	169.2				
Lu Shengjing (CHN) (1998)	time	6.34	10.37	14.62	18.98	23.39		27.73	32.12	36.60	41.25	46.03		51.54	8 / 2			
	reaction time	0.228						4.34	4.39	4.48	4.65	4.78	5.51	=PB		12.64	13.14	13.91
		velocity	7.10	8.68	8.24	8.03	7.94	8.06	7.97	7.81	7.53	7.32	7.26	7.76		8.31	7.99	7.55
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	19	176				
Cai Junqi (CHN) (1996)	time	6.32	10.31	14.38	18.59	22.94		27.39	31.85	36.37	40.99	45.73		51.60	3 / 3			
	reaction time	0.229						4.45	4.46	4.52	4.62	4.74	5.87			12.27	13.26	13.88
		velocity	7.12	8.77	8.60	8.31	8.05	7.87	7.85	7.74	7.58	7.38	6.81	7.75		8.56	7.92	7.56
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	18.5	175.5				
Song Haotian (CHN) (1999)	time	6.31	10.37	14.43	18.67	23.12		27.73	32.34	37.18	42.05	47.12		52.72	7 / 4			
	reaction time	0.209						4.61	4.61	4.84	4.87	5.07	5.60			12.36	13.67	14.78
		velocity	7.13	8.62	8.62	8.25	7.87	7.59	7.59	7.23	7.19	6.90	7.14	7.59		8.50	7.68	7.10
	H1 lead leg	L	strides	22	14	14	14	15	15	15	15	16	19	174				
Zhuang Linfei (CHN) (1996)	time	6.24	10.23	14.33	18.59	22.97		27.61	32.34	37.27	42.46	47.98		54.37	4 / 5			
	reaction time	0.183						4.64	4.73	4.93	5.19	5.52	6.39			12.35	13.75	15.64
		velocity	7.21	8.77	8.54	8.22	7.99	7.54	7.40	7.10	6.74	6.34	6.26	7.36		8.50	7.64	6.71
	H1 lead leg	L	strides	21	14	14	14	15	15	15	15	17	20	174				
Wang Yijie (CHN) (1997)	time	6.48	11.11	15.79	20.77	25.86			36.19					59.46	6 / 6			
	reaction time	0.162							10.33							14.29	15.42	
		velocity	6.94	7.56	7.48	7.03	6.88		6.78					6.73		7.35	6.81	
	H1 lead leg	L	strides	24	17	17	17	17						92				

Heat 3

date 26-Jun-21

CAA Hurdle Development (2021)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Song Jiahui (CHN) (2002)	time	6.36	10.36	14.45	18.62	22.83		27.10	31.68	36.26	41.01	45.87		51.44	8 / 1			
	reaction time	0.234																
	interval		4.00	4.09	4.17	4.21		4.27	4.58	4.58	4.75	4.86	5.57	PB		12.26	13.06	14.19
	velocity	7.08	8.75	8.56	8.39	8.31		8.20	7.64	7.64	7.37	7.20	7.18	7.78		8.56	8.04	7.40
H1 lead leg	L	20	13	13	13	13		13	14	14	15	15	18.5	161.5				
Wang Siqing (CHN) (1999)	time	6.30	10.35	14.46	18.65	22.97		27.33	31.78	36.31	41.03	45.87		51.44	7 / 2			
	reaction time	0.222						4.36	4.45	4.53	4.72	4.84	5.57	PB		12.35	13.13	14.09
	interval		4.05	4.11	4.19	4.32		4.42	4.46	4.66	4.84	4.98	5.59			8.50	8.00	7.45
	velocity	7.14	8.64	8.52	8.35	8.10		8.03	7.87	7.73	7.42	7.23	7.18	7.78				
H1 lead leg	L	22	15	15	15	15		15	15	15	16	16	19.5	178.5				
Wang Hongwen (CHN) (200)	time	6.27	10.25	14.26	18.40	22.61		27.03	31.49	36.15	40.99	45.97		51.56	6 / 3			
	reaction time	0.242						4.42	4.46	4.66	4.84	4.98	5.59			12.13	13.09	14.48
	interval		3.98	4.01	4.14	4.21		4.42	4.46	4.66	4.84	4.98	5.59			8.66	8.02	7.25
	velocity	7.18	8.79	8.73	8.45	8.31		7.92	7.85	7.51	7.23	7.03	7.16	7.76				
H1 lead leg	L	21	14	14	14	14		14	14	15	15	15	18	168				
Gong Debin (CHN) (1997)	time	6.11	10.08	14.10	18.42	22.79		27.33	32.02	36.84	41.74	46.58		52.00	4 / 4			
	reaction time	0.271						4.54	4.69	4.82	4.90	4.84	5.42			12.31	13.60	14.56
	interval		3.97	4.02	4.32	4.37		4.54	4.69	4.82	4.90	4.84	5.42			8.53	7.72	7.21
	velocity	7.36	8.82	8.71	8.10	8.01		7.71	7.46	7.26	7.14	7.23	7.38	7.69				
H1 lead leg	L	21	14	14	14	14		15	15	15	15	15	18.5	170.5				
Cui Caizhuang (CHN) (1995)	time	6.38	10.49	14.65	19.00	23.39		27.91	32.51	37.29	42.16	47.11		52.73	5 / 5			
	reaction time	0.171						4.52	4.60	4.78	4.87	4.95	5.62			12.62	13.51	14.60
	interval		4.11	4.16	4.35	4.39		4.52	4.60	4.78	4.87	4.95	5.62			8.32	7.77	7.19
	velocity	7.05	8.52	8.41	8.05	7.97		7.74	7.61	7.32	7.19	7.07	7.12	7.59				
H1 lead leg	R	22	14	14	14	14		14	15	15	15	15	18	170				
Liu Yangyang (CHN) (1995)	time	6.42	10.59	14.85	19.22	23.81		28.40	33.17	37.82	42.63	47.50		52.90	3 / 6			
	reaction time	0.222						4.59	4.77	4.65	4.81	4.87	5.40			12.80	13.95	14.33
	interval		4.17	4.26	4.37	4.59		4.59	4.77	4.65	4.81	4.87	5.40			8.20	7.53	7.33
	velocity	7.01	8.39	8.22	8.01	7.63		7.63	7.34	7.53	7.28	7.19	7.41	7.56				
H1 lead leg	L	22	15	15	15	15		15	15	15	15	15	19	176				

Heat 2

date 26-Jun-21

CAA Hurdle Development (2021)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Wang Daojun (CHN) (2000)	time	6.18	10.21	14.31	18.57	22.91		27.41	32.05	36.67	41.34	46.06		51.42	5 / 1			
	reaction time	0.201						4.50	4.64	4.62	4.67	4.72	5.36			12.39	13.48	14.01
	interval		4.03	4.10	4.26	4.34		4.50	4.64	4.62	4.67	4.72	5.36			8.47	7.79	7.49
	velocity	7.28	8.68	8.54	8.22	8.06		7.78	7.54	7.58	7.49	7.42	7.46	7.78				
H1 lead leg	L	21	14	14	14	14		15	15	15	15	15	18	170				
Lin Zhikai (CHN) (2001)	time	6.23	10.23	14.27	18.43	22.70		27.11	31.63	36.29	41.09	46.05		51.70	6 / 2			
	reaction time	0.187						4.41	4.52	4.66	4.80	4.96	5.65			12.20	13.20	14.42
	interval		4.00	4.04	4.16	4.27		4.41	4.52	4.66	4.80	4.96	5.65			8.61	7.95	7.28
	velocity	7.22	8.75	8.66	8.41	8.20		7.94	7.74	7.51	7.29	7.06	7.08	7.74				
H1 lead leg	L	22	15	15	15	15		15	15	15	15	15	18.2	175.2				
Feng Zhiqiang (CHN) (1998)	time	6.29	10.22	14.23	18.38	22.72		27.21	32.05	36.80	41.62	46.48		52.24	3 / 3			
	reaction time	0.268						4.49	4.84	4.75	4.82	4.86	5.76			12.09	13.67	14.43
	interval		3.93	4.01	4.15	4.34		4.49	4.84	4.75	4.82	4.86	5.76			8.68	7.68	7.28
	velocity	7.15	8.91	8.73	8.43	8.06		7.80	7.23	7.37	7.26	7.20	6.94	7.66				
H1 lead leg	L	21	13	13	13	13		13	14	14	15	15	18	162				
Zheng Pan (CHN) (2001)	time	6.38	10.34	14.33	18.38	22.61		27.11	31.73	36.48	41.49	46.59		52.36	7 / 4			
	reaction time	0.203						4.50	4.62	4.75	5.01	5.10	5.77			12.00	13.35	14.86
	interval		3.96	3.99	4.05	4.23		4.50	4.62	4.75	5.01	5.10	5.77			8.75	7.87	7.07
	velocity	7.05	8.84	8.77	8.64	8.27		7.78	7.58	7.37	6.99	6.86	6.93	7.64				
H1 lead leg	L	22	14	14	14	14		15	15	15	16	16	19	174				
Bai Jiarui (CHN) (1995)	time	6.63	10.87	15.15	19.53	24.00		28.74	33.65	38.52				54.19	8 / 5			
	reaction time	0.299						4.74	4.91	4.87						12.90	14.12	
	interval		4.24	4.28	4.38	4.47		4.74	4.91	4.87						8.14	7.44	
	velocity	6.79	8.25	8.18	7.99	7.83		7.38	7.13	7.19				7.38				
H1 lead leg	L	22	14	14	14	14		14	14	15			121					
Yang Baichuan (CHN) (1995)	time	6.25	10.19	14.33	18.50	22.70		27.09	31.61	36.27	41.11	46.34	fell		4 / --			
	reaction time	0.176						4.39	4.52	4.66	4.84	5.23		DQ		12.25	13.11	14.73
	interval		3.94	4.14	4.17	4.20		4.39	4.52	4.66	4.84	5.23				8.57	8.01	7.13
	velocity	7.20	8.88	8.45	8.39	8.33		7.97	7.74	7.51	7.23	6.69						
H1 lead leg	L	23	15	15	15	15		15	15	15	15	17	160					

Heat 1

date 26-Jun-21

CAA Hurdle Development (2021)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Xie Zhiyu (CHN) (2000)	time	6.22	10.03	13.88	17.78	21.79		25.98	30.45	34.94	39.54	44.21		49.40	3 / 1			
	reaction time	0.239						4.19	4.47	4.49	4.60	4.67	5.19	PB		11.56	12.67	13.76
	interval		3.81	3.85	3.90	4.01		4.19	4.47	4.49	4.60	4.67	5.19			9.08	8.29	7.63
	velocity	7.23	9.19	9.09	8.97	8.73		8.35	7.83	7.80	7.61	7.49	7.71	8.10				
H1 lead leg	L	21	13	13	13	13		13	14	14	14	14	17.2	159.2				
Shang Shuo (CHN) (1995)	time	6.42	10.65	14.88	19.19	23.54		28.02	32.51	37.07	41.66	46.27		51.31	6 / 2			
	reaction time	0.236						4.48	4.49	4.56	4.59	4.61	5.04			12.77	13.32	13.76
	interval		4.23	4.23	4.31	4.35		4.48	4.49	4.56	4.59	4.61	5.04			8.22	7.88	7.63
	velocity	7.01	8.27	8.27	8.12	8.05		7.81	7.80	7.68	7.63	7.59	7.94	7.80				
H1 lead leg	L	22	14	14	14	14		14	14	15	15	15	18	169				
Wang Guozhong (CHN) (199)	time	6.10	10.11	14.26	18.52	22.90		27.37	31.96	36.58	41.28	46.05		51.43	7 / 3			
	reaction time	0.152						4.47	4									

H1 lead leg	L	strides	21	15	15	15	15	15	15	15	15	15	15	18.5	174.5				
Ye Anan (CHN) (2004)	time		6.37	10.44	14.64	18.83	23.19		27.69	32.22	36.91	41.57	46.24		51.64	5 / 4			
reaction time	0.272	interval		4.07	4.20	4.19	4.36		4.50	4.53	4.69	4.66	4.67	5.40			12.46	13.39	14.02
		velocity	7.06	8.60	8.33	8.35	8.03		7.78	7.73	7.46	7.51	7.49	7.41	7.75		8.43	7.84	7.49
H1 lead leg	L	strides	22	14	14	14	14		14	14	15	15	15	18.2	169.2				
Long Wei (CHN) (1997)	time		6.13	10.08	14.10	18.20	22.47		26.92	31.51	36.18	41.06	46.24		52.33	8 / 5			
reaction time	0.227	interval		3.95	4.02	4.10	4.27		4.45	4.59	4.67	4.88	5.18	6.09			12.07	13.31	14.73
		velocity	7.34	8.86	8.71	8.54	8.20		7.87	7.63	7.49	7.17	6.76	6.57	7.64		8.70	7.89	7.13
H1 lead leg	L	strides	21	15	15	15	15		15	15	15	15	15	19	175				
Li Guancheng (CHN) (2002)	time		6.22	10.43	14.81	19.28	23.96		28.56	33.68	39.41				58.41	2 / 6			
reaction time	0.211	interval		4.21	4.38	4.47	4.68		4.60	5.12	5.73						13.06	14.40	
		velocity	7.23	8.31	7.99	7.83	7.48		7.62	6.83	6.11				6.85		8.04	7.29	
H1 lead leg	L	strides	21	14	14	14	14		14	16				107					

2021 Japanese National Championships (Osaka, JPN)

FINAL

date 26-Jun-21

Sugimoto (2021) - race analysis of men's and women's 400m hurdles in the 2021 season

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kurokawa, Kazuki (JPN) (2002)	time		5.83	9.43	13.10	16.87	20.79		24.94	29.21	33.61	38.26	43.10		48.69	7 / 1			
reaction time	0.202	interval		3.60	3.67	3.77	3.92		4.15	4.27	4.40	4.65	4.84	5.59			11.04	12.34	13.89
		velocity	7.72	9.72	9.54	9.28	8.93		8.43	8.20	7.95	7.53	7.23	7.16	8.22		9.51	8.51	7.56
H1 lead leg	L	strides	21	13	13	13	13		14	14	15	15	15	19	165				
Abe, Takatoshi (JPN) (1991)	time		5.93	9.57	13.36	17.15	21.02		25.04	29.33	33.77	38.40	43.21		48.87	5 / 2			
reaction time	0.173	interval		3.64	3.79	3.79	3.87		4.02	4.29	4.44	4.63	4.81	5.66			11.22	12.18	13.88
		velocity	7.59	9.62	9.23	9.23	9.04		8.71	8.16	7.88	7.56	7.28	7.07	8.18		9.36	8.62	7.56
H1 lead leg	R	strides	21	13	13	13	13		13	14	14	15	15	18	162				
Kishimoto, Takayuki (JPN) (1991)	time		5.92	9.71	13.61	17.63	21.72		25.93	30.23	34.70	39.20	43.88		49.29	8 / 3			
reaction time	0.156	interval		3.79	3.90	4.02	4.09		4.21	4.30	4.47	4.50	4.68	5.41			11.71	12.60	13.65
		velocity	7.60	9.23	8.97	8.71	8.56		8.31	8.14	7.83	7.78	7.48	7.39	8.12		8.97	8.33	7.69
H1 lead leg	R	strides	21	13	13	13	13		14	14	15	15	15	18	164				
Yamauchi, Hiromu (JPN) (1991)	time		6.09	10.01	13.95	17.93	21.97		26.08	30.28	34.67	39.24	43.96		49.48	6 / 4			
reaction time	0.217	interval		3.92	3.94	3.98	4.04		4.11	4.20	4.39	4.57	4.72	5.52			11.84	12.35	13.68
		velocity	7.39	8.93	8.88	8.79	8.66		8.52	8.33	7.97	7.66	7.42	7.25	8.08		8.87	8.50	7.68
H1 lead leg	L	strides	21	14	14	14	14		14	14	15	15	15	19	169				
Toyoda, Masaki (JPN) (1998)	time		6.01	9.81	13.63	17.60	21.60		25.73	29.96	34.48	39.17	44.11		49.89	4 / 5			
reaction time	0.227	interval		3.80	3.82	3.97	4.00		4.13	4.23	4.52	4.69	4.94	5.78			11.59	12.36	14.15
		velocity	7.49	9.21	9.16	8.82	8.75		8.47	8.27	7.74	7.46	7.09	6.92	8.02		9.06	8.50	7.42
H1 lead leg	L	strides	21	14	14	14	14		14	14	15	15	16	19	170				
Tsutsue, Kaito (JPN) (1998)	time		6.04	9.84	13.73	17.68	21.81		26.11	30.41	35.00	39.77	44.83		50.69	2 / 6			
reaction time	0.195	interval		3.80	3.89	3.95	4.13		4.30	4.30	4.59	4.77	5.06	5.86			11.64	12.73	14.42
		velocity	7.45	9.21	9.00	8.86	8.47		8.14	8.14	7.63	7.34	6.92	6.83	7.89		9.02	8.25	7.28
H1 lead leg	R	strides	23	13	13	13	14		14	14	15	15	15	19	168				
Kawagoe, Hiroya (JPN) (1991)	time		6.06	9.93	13.96	18.05	22.26		26.64	31.16	35.82	40.57	45.40		50.71	3 / 7			
reaction time	0.191	interval		3.87	4.03	4.09	4.21		4.38	4.52	4.66	4.75	4.83	5.31			11.99	13.11	14.24
		velocity	7.43	9.04	8.68	8.56	8.31		7.99	7.74	7.51	7.37	7.25	7.53	7.89		8.76	8.01	7.37
H1 lead leg	L	strides	21	14	14	14	14		15	15	15	15	15	15	152				
Yamamoto, Tatsuhiro (JPN) (1991)	time		5.97	9.68	13.41	17.25	21.25		25.48	29.90	34.42	39.17	44.39		51.32	9 / 8			
reaction time	0.164	interval		3.71	3.73	3.84	4.00		4.23	4.42	4.52	4.75	5.22	6.93			11.28	12.65	14.49
		velocity	7.54	9.43	9.38	9.11	8.75		8.27	7.92	7.74	7.37	6.70	5.77	7.79		9.31	8.30	7.25
H1 lead leg	R	strides	21	14	14	14	14		14	15	15	15	15	19.7	170.7				

2021 Japanese U20 National Championships (Osaka, JPN)

FINAL

date 26-Jun-21

Sugimoto (2021) - race analysis of men's and women's 400m hurdles in the 2021 season

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Omura, Haruki (JPN) (2002)	time		6.29	10.18	14.15	18.18	22.39		26.68	31.08	35.62	40.24	44.93		50.27	5 / 1			
reaction time	0.214	interval		3.89	3.97	4.03	4.21		4.29	4.40	4.54	4.62	4.69	5.34	PB		11.89	12.90	13.85
		velocity	7.15	9.00	8.82	8.68	8.31		8.16	7.95	7.71	7.58	7.46	7.49	7.96		8.83	8.14	7.58
H1 lead leg	L	strides	21	13	13	13	13		14	14	15	15	15	19	165				
Nakashima, Haruki (JPN) (2002)	time		6.17	10.16	14.18	18.30	22.48		26.78	31.16	35.62	40.34	45.08		50.53	7 / 2			
reaction time	0.181	interval		3.99	4.02	4.12	4.18		4.30	4.38	4.46	4.72	4.74	5.45	PB		12.13	12.86	13.92
		velocity	7.29	8.77	8.71	8.50	8.37		8.14	7.99	7.85	7.42	7.38	7.34	7.92		8.66	8.16	7.54
H1 lead leg	R	strides	22	15	15	15	15		15	15	15	15	15	20.7	177.7				
Fukamachi, Hidai (JPN) (2002)	time		6.22	10.19	14.10	18.10	22.19		26.43	30.81	35.39	40.14	45.03		50.73	4 / 3			
reaction time	0.220	interval		3.97	3.91	4.00	4.09		4.24	4.38	4.58	4.75	4.89	5.70	PB		11.88	12.71	14.22
		velocity	7.23	8.82	8.95	8.75	8.56		8.25	7.99	7.64	7.37	7.16	7.02	7.88		8.84	8.26	7.38
H1 lead leg	L	strides	21	14	14	14	14		15	15	15	16	16	19.5	173.5				

Kanno, Kohei (JPN) (2002)	time	6.46	10.51	14.60	18.67	22.84	27.08	31.38	35.77	40.37	45.31	50.88	9 / 4			
reaction time	0.200	interval	4.05	4.09	4.07	4.17	4.24	4.30	4.39	4.60	4.94	5.57		12.21	12.71	13.93
	velocity	6.97	8.64	8.56	8.60	8.39	8.25	8.14	7.97	7.61	7.09	7.18	7.86	8.60	8.26	7.54
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	17	19.5	178.5			
Naito, Genichiro (JPN) (2002)	time	6.27	10.24	14.21	18.30	22.54	26.96	31.53	36.17	40.96	45.98	51.70	6 / 5			
reaction time	0.183	interval	3.97	3.97	4.09	4.24	4.42	4.57	4.64	4.79	5.02	5.72		12.03	13.23	14.45
	velocity	7.18	8.82	8.82	8.56	8.25	7.92	7.66	7.54	7.31	6.97	6.99	7.74	8.73	7.94	7.27
H1 lead leg	R	strides	21	14	14	14	15	15	15	15	15	152				
Suzuki, Taiga (JPN) (2002)	time	6.12	10.03	13.95	17.93	22.02	26.28	30.71	35.35	40.37	45.66	51.95	3 / 6			
reaction time	0.190	interval	3.91	3.92	3.98	4.09	4.26	4.43	4.64	5.02	5.29	6.29		11.81	12.78	14.95
	velocity	7.35	8.95	8.93	8.79	8.56	8.22	7.90	7.54	6.97	6.62	6.36	7.70	8.89	8.22	7.02
H1 lead leg	L	strides	21	14	14	14	15	15	15	16	16	155				
Tonoyama, Ryohei (JPN) (2002)	time	6.26	10.23	14.25	18.45	22.77	27.28	31.90	36.65	41.47	46.61	52.55	2 / 7			
reaction time	0.202	interval	3.97	4.02	4.20	4.32	4.51	4.62	4.75	4.82	5.14	5.94		12.19	13.45	14.71
	velocity	7.19	8.82	8.71	8.33	8.10	7.76	7.58	7.37	7.26	6.81	6.73	7.61	8.61	7.81	7.14
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	17	159				
Oda, Atuya (JPN) (2003)	time	6.31	10.26	14.23	18.28	22.57	27.08	31.72	36.55	41.57	46.91	52.76	8 / 8			
reaction time	0.166	interval	3.95	3.97	4.05	4.29	4.51	4.64	4.83	5.02	5.34	5.85		11.97	13.44	15.19
	velocity	7.13	8.86	8.82	8.64	8.16	7.76	7.54	7.25	6.97	6.55	6.84	7.58	8.77	7.81	6.91
H1 lead leg	R	strides	22	15	15	15	15	15	15	15	17	159				

2020 USA Olympic Trials (Eugene, OR) (TV Analysis)

FINAL

date 26-Jun-21

Henson (2021) - Athlete First: 2021 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.77	9.47	13.30	17.17	21.09	25.06	29.06	33.20	37.50	41.84	46.83	5 / 1					
reaction time	0.235	interval	3.70	3.83	3.87	3.92	3.97	4.00	4.14	4.30	4.34	4.99	PB		11.40	11.89	12.78	
	velocity	7.80	9.46	9.14	9.04	8.93	8.82	8.75	8.45	8.14	8.06	8.02	8.54	9.21	8.83	8.22		
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	13	16	153				
Selmon, Kenny (USA) (1996)	time	5.90	9.61	13.35	17.20	21.12	25.19	29.36	33.63	38.10	42.74	48.08	6 / 2					
reaction time	0.212	interval	3.71	3.74	3.85	3.92	4.07	4.17	4.27	4.47	4.64	5.34	PB		11.30	12.16	13.38	
	velocity	7.63	9.43	9.36	9.09	8.93	8.60	8.39	8.20	7.83	7.54	7.49	8.32	9.29	8.63	7.85		
H1 lead leg	R	strides	21	13	13	13	13	13	13	14	14	17	157					
Kendziera, Dave (USA) (1994)	time	5.80	9.57	13.41	17.38	21.38	25.52	29.73	34.16	38.57	43.06	48.38	4 / 3					
reaction time	0.172	interval	3.77	3.84	3.97	4.00	4.14	4.21	4.43	4.41	4.49	5.32	PB		11.58	12.35	13.33	
	velocity	7.76	9.28	9.11	8.82	8.75	8.45	8.31	7.90	7.94	7.80	7.52	8.27	9.07	8.50	7.88		
H1 lead leg	R	strides	20	13	13	13	13	13	14	14	14	18.2	158.2					
Bailey, Aldrich (USA) (1994)	time	5.80	9.61	13.48	17.35	21.32	25.42	29.79	34.20	38.64	43.17	48.55	3 / 4					
reaction time	0.228	interval	3.81	3.87	3.87	3.97	4.10	4.37	4.41	4.44	4.53	5.38	PB		11.55	12.44	13.38	
	velocity	7.76	9.19	9.04	9.04	8.82	8.54	8.01	7.94	7.88	7.73	7.43	8.24	9.09	8.44	7.85		
H1 lead leg	L	strides	20	13	13	13	14	14	14	14	14	17.2	125.2					
Rosser, Khallifah (USA) (1999)	time	5.77	9.37	13.10	16.96	20.99	25.16	29.48	33.83	38.33	43.06	48.81	8 / 5					
reaction time	0.279	interval	3.60	3.73	3.86	4.03	4.17	4.32	4.35	4.50	4.73	5.75		11.19	12.52	13.58		
	velocity	7.80	9.72	9.38	9.07	8.68	8.39	8.10	8.05	7.78	7.40	6.96	8.20	9.38	8.39	7.73		
H1 lead leg	R	strides	20	13	13	13	14	14	14	14	15	18	141					
Levingston, Isaiah (USA) (1999)	time	5.80	9.61	13.51	17.65	21.95	26.29	30.66	35.16	39.40	43.94	49.25	9 / 6					
reaction time	0.231	interval	3.81	3.90	4.14	4.30	4.34	4.37	4.52	4.54	5.31			11.85	13.01	13.28		
	velocity	7.76	9.19	8.97	8.45	8.14	8.06	8.01	8.01	7.71	7.53	8.12	8.86	8.07	7.91			
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	13	104						
Samuel, Cameron (USA) (1999)	time	5.84	9.67	13.48	17.45	21.59	25.82	30.26	34.78	39.34	43.91	49.27	7 / 7					
reaction time	0.199	interval	3.83	3.81	3.97	4.14	4.23	4.44	4.52	4.56	4.57	5.36		11.61	12.81	13.65		
	velocity	7.71	9.14	9.19	8.82	8.45	8.27	7.88	7.74	7.68	7.66	7.46	8.12	9.04	8.20	7.69		
H1 lead leg	R	strides	20	14	14	14	14	15	15	15	15	115						
Bassitt, Trevor (USA) (1998)	time	5.88	9.64	13.51	17.45	21.55	25.76	30.20	34.87	39.54	44.38	50.03	2 / 8					
reaction time	0.206	interval	3.76	3.87	3.94	4.10	4.21	4.44	4.67	4.67	4.84	5.65		11.57	12.75	14.18		
	velocity	7.65	9.31	9.04	8.88	8.54	8.31	7.88	7.49	7.49	7.23	7.08	8.00	9.08	8.24	7.40		
H1 lead leg	R	strides	20	13	13	13	14	14	14	14	14	108						

Semi-Final 2

date 25-Jun-21

Henson (2021) - Athlete First: 2021 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.80	9.46	13.20	17.02	20.98	25.02	29.25	33.56	38.04	43.01	48.61	6 / 1					
reaction time	0.197	interval	3.66	3.74	3.82	3.96	4.04	4.23	4.31	4.48	4.97	5.60		11.22	12.23	13.76		
	velocity	7.76	9.56	9.36	9.16	8.84	8.66	8.27	8.12	7.81	7.04	7.14	8.23	9.36	8.59	7.63		
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	14	17	155					
Samuel, Cameron (USA) (1999)	time	6.00	9.87	13.78	17.77	21.80	26.06	30.49	35.00	39.47	43.94	49.01	5 / 2					
reaction time	0.154	interval	3.87	3.91	3.99	4.03	4.26	4.43	4.51	4.47	4.47	5.07		11.77	12.72	13.45		
	velocity	7.50	9.04	8.95	8.77	8.68	8.22	7.90	7.76	7.83	7.83	7.89	8.16	8.92	8.25	7.81		

H1 lead leg	R	strides	14	14	14	14	15	15	15	15	18	134						
Kendziera, Dave (USA) (1994)	time		6.00	9.82	13.70	17.58	21.55	25.72	30.10	34.56	39.10	43.91	49.05	8 / 3				
reaction time	0.190	interval		3.82	3.88	3.88	3.97	4.17	4.38	4.46	4.54	4.81	5.14		11.58	12.52	13.81	
		velocity	7.50	9.16	9.02	9.02	8.82	8.39	7.99	7.85	7.71	7.28	7.78	8.15	9.07	8.39	7.60	
H1 lead leg	R	strides	13	13	13	13	13	13	13	14	14	14	18	138				
Bailey, Aldrich (USA) (1994)	time		6.10	9.94	13.84	17.71	21.84	25.99	30.46	34.92	39.50	44.11	49.20	2 / 4				
reaction time	0.188	interval		3.84	3.90	3.87	4.13	4.15	4.47	4.46	4.58	4.61	5.09	PB	11.61	12.75	13.65	
		velocity	7.38	9.11	8.97	9.04	8.47	8.43	7.83	7.85	7.64	7.59	7.86	8.13	9.04	8.24	7.69	
H1 lead leg	L	strides	13	13	13	13	13	14	14	14	14	14	17	125				
Bassitt, Trevor (USA) (1998)	time		6.00	9.81	13.68	17.62	21.82	26.09	30.56	35.10	39.60	44.21	49.37	3 / 5				
reaction time	0.176	interval		3.81	3.87	3.94	4.20	4.27	4.47	4.54	4.50	4.61	5.16		11.62	12.94	13.65	
		velocity	7.50	9.19	9.04	8.88	8.33	8.20	7.83	7.71	7.78	7.59	7.75	8.10	9.04	8.11	7.69	
H1 lead leg	R	strides	13	13	13	13	13	13	14	13	14	17	123					
Harvey, Jonathan (USA) (1995)	time		5.93	9.67	13.54	17.55	21.69	26.16	30.63	35.23	39.77	44.34	49.53	7 / 6				
reaction time	0.140	interval		3.74	3.87	4.01	4.14	4.47	4.47	4.60	4.54	4.57	5.19	PB	11.62	13.08	13.71	
		velocity	7.59	9.36	9.04	8.73	8.45	7.83	7.83	7.61	7.71	7.66	7.71	8.08	9.04	8.03	7.66	
H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	15	17.2	163.2				
Brockman, Charles (USA) (1991)	time		6.14	10.01	14.01	18.05	22.22	26.56	31.03	35.50	40.00	44.47	49.54	9 / 7				
reaction time	0.241	interval		3.87	4.00	4.04	4.17	4.34	4.47	4.47	4.50	4.47	5.07		11.91	12.98	13.44	
		velocity	7.33	9.04	8.75	8.66	8.39	8.06	7.83	7.83	7.78	7.83	7.89	8.07	8.82	8.09	7.81	
H1 lead leg	R	strides	14	14	14	14	14	15	15	15	15	15	18.7	149.7				
Spencer, William (USA) (2001)	time		6.03	9.81	13.64	17.62	21.79	26.19	30.76	35.40	40.07	44.81	50.53	4 / 8				
reaction time	0.174	interval		3.78	3.83	3.98	4.17	4.40	4.57	4.64	4.67	4.74	5.72		11.59	13.14	14.05	
		velocity	7.46	9.26	9.14	8.79	8.39	7.95	7.66	7.54	7.49	7.38	6.99	7.92	9.06	7.99	7.47	
H1 lead leg	R	strides	13	13	13	13	13	14	14	14	14	17.2	125.2					

Semi-Final 1

date 25-Jun-21

Henson (2021) - Athlete First: 2021 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Selmon, Kenny (USA) (1996)	time		6.10	9.83	13.63	17.53	21.47	25.60	29.80	34.13	38.70	43.30	48.51	6 / 1					
reaction time	0.242	interval		3.73	3.80	3.90	3.94	4.13	4.20	4.33	4.57	4.60	5.21		11.43	12.27	13.50		
		velocity	7.38	9.38	9.21	8.97	8.88	8.47	8.33	8.08	7.66	7.61	7.68	8.25	9.19	8.56	7.78		
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	14	14	17	156					
Rosser, Khallifah (USA) (1991)	time		5.93	9.63	13.37	17.17	21.13	29.63	33.97	38.58	43.43	49.04	4 / 2						
reaction time	0.209	interval		3.70	3.74	3.80	3.96	8.50	4.34	4.61	4.85	5.61		11.24	12.46	13.80			
		velocity	7.59	9.46	9.36	9.21	8.84	8.24	8.06	7.59	7.22	7.13	8.16	9.34	8.43	7.61			
H1 lead leg	R	strides	13	13	13	13	14	14	15	15	15	18.5	128.5						
Levingston, Isaiah (USA) (1991)	time		6.13	10.00	13.90	18.00	22.20	26.47	30.77	35.13	39.60	44.10	49.34	8 / 3					
reaction time	0.247	interval		3.87	3.90	4.10	4.20	4.27	4.30	4.36	4.47	4.50	5.24		11.87	12.77	13.33		
		velocity	7.34	9.04	8.97	8.54	8.33	8.20	8.14	8.03	7.83	7.78	7.63	8.11	8.85	8.22	7.88		
H1 lead leg	L	strides	21	13	13	13	13	13	13	13	13	31	16.2	172.2					
Allen, CJ (USA) (1995)	time		6.10	10.00	13.90	17.87	21.97	26.10	30.47	34.93	39.50	44.30	49.72	3 / 4					
reaction time	0.225	interval		3.90	3.90	3.97	4.10	4.13	4.37	4.46	4.57	4.80	5.42		11.77	12.60	13.83		
		velocity	7.38	8.97	8.97	8.82	8.54	8.47	8.01	7.85	7.66	7.29	7.38	8.05	8.92	8.33	7.59		
H1 lead leg	L	strides	19	13	13	13	13	13	13	14	15	15	18.2	146.2					
Dean, Caleb (USA) (2001)	time		5.93	9.77	13.67	17.60	21.77	26.07	30.53	35.03	39.77	44.53	49.78	7 / 5					
reaction time	0.178	interval		3.84	3.90	3.93	4.17	4.30	4.46	4.50	4.74	4.76	5.25		11.67	12.93	14.00		
		velocity	7.59	9.11	8.97	8.91	8.39	8.14	7.85	7.78	7.38	7.35	7.62	8.04	9.00	8.12	7.50		
H1 lead leg	R	strides	13	13	13	13	13	15	15	15	15	15	18	145					
Schneider, Drake (USA) (1991)	time		6.13	9.97	13.80	17.80	21.97	26.27	30.77	35.43	40.27	45.20	50.89	9 / 6					
reaction time	0.283	interval		3.84	3.83	4.00	4.17	4.30	4.50	4.66	4.84	4.93	5.69		11.67	12.97	14.43		
		velocity	7.34	9.11	9.14	8.75	8.39	8.14	7.78	7.51	7.23	7.10	7.03	7.86	9.00	8.10	7.28		
H1 lead leg	R	strides	13	13	13	13	13	14	14	15	15	15	125						
Jordan, Quivell (USA) (1999)	time		5.93	9.77	13.87	18.03	22.27	26.57	31.07	35.63	40.37	45.17	50.94	2 / 7					
reaction time	0.178	interval		3.84	4.10	4.16	4.24	4.30	4.50	4.56	4.74	4.80	5.77		12.10	13.04	14.10		
		velocity	7.59	9.11	8.54	8.41	8.25	8.14	7.78	7.68	7.38	7.29	6.93	7.85	8.68	8.05	7.45		
H1 lead leg	L	strides	21	13	14	14	14	15	15	15	15	15	136						
Holmes, TJ (USA) (1995)	time		6.07	9.93	13.73	17.53	21.53	25.83	30.57	35.33	40.43	45.93	53.98	5 / 8					
reaction time	0.189	interval		3.86	3.80	3.80	4.00	4.30	4.74	4.76	5.10	5.50	8.05		11.46	13.04	15.36		
		velocity	7.41	9.07	9.21	9.21	8.75	8.14	7.38	7.35	6.86	6.36	4.97	7.41	9.16	8.05	6.84		
H1 lead leg	L	strides	19	12	12	13	13	13	14	14	14	15	139						

Heat 2

date 24-Jun-21

Henson (2021) - Athlete First: 2021 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time		5.80	9.51	13.31	17.38	21.45	25.69	30.03	34.37	38.80	43.61	49.12	6 / 1					
reaction time	0.252	interval		3.71	3.80	4.07	4.07	4.24	4.34	4.34	4.43	4.81	5.51		11.58	12.65	13.58		

	velocity	7.76	9.43	9.21	8.60	8.60		8.25	8.06	8.06	7.90	7.28	7.26	8.14		9.07	8.30	7.73
H1 lead leg	R	strides	20	13	12	14	13	13	13	13	13	14	17	155				
Kendziera, Dave (USA) (1994)	time	5.94	9.74	13.61	17.58	21.65		25.89	30.23	34.67	39.17	43.78		49.19	8 / 2			
reaction time	0.250	interval	3.80	3.87	3.97	4.07		4.24	4.34	4.44	4.50	4.61	5.41		11.64	12.65	13.55	
	velocity	7.58	9.21	9.04	8.82	8.60		8.25	8.06	7.88	7.78	7.59	7.39	8.13		9.02	8.30	7.75
H1 lead leg	R	strides	13	13	13	13		13	13	14	14	14	17.5	137.5				
Rosser, Khallifah (USA) (199)	time	5.77	9.44	13.18	17.08	21.19		25.42	29.79	34.16	38.77	43.61		49.28	5 / 3			
reaction time	0.246	interval	3.67	3.74	3.90	4.11		4.23	4.37	4.37	4.61	4.84	5.67		11.31	12.71	13.82	
	velocity	7.80	9.54	9.36	8.97	8.52		8.27	8.01	8.01	7.59	7.23	7.05	8.12		9.28	8.26	7.60
H1 lead leg	R	strides	13	13	13	13		14	14	14	14	14	18	140				
Allen, CJ (USA) (1995)	time	5.94	9.71	13.54	17.55	21.65		25.89	30.30	34.67	39.26	43.91		49.45	4 / 4			
reaction time	0.235	interval	3.77	3.83	4.01	4.10		4.24	4.41	4.37	4.59	4.65	5.54		11.61	12.75	13.61	
	velocity	7.58	9.28	9.14	8.73	8.54		8.25	7.94	8.01	7.63	7.53	7.22	8.09		9.04	8.24	7.71
H1 lead leg	L	strides	13	13	13	13		14	14	15	15	15	18	128				

Heat 1

date 24-Jun-21

Henson (2021) - Athlete First: 2021 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Selmon, Kenny (USA) (1996)	time	6.00	9.78	13.68	17.65	21.72		30.13	34.50	39.10	43.71		49.03	3 / 1				
reaction time	0.190	interval	3.78	3.90	3.97	4.07		8.41	4.37	4.60	4.61	5.32		11.65	12.48	13.58		
	velocity	7.50	9.26	8.97	8.82	8.60		8.32	8.01	7.61	7.59	7.52	8.16		9.01	8.41	7.73	
H1 lead leg	R	strides	13	13	13	13		13	14	14	14	16.7	109.7					
Levingston, Isaiah (USA) (19)	time	5.97	9.84	13.81	17.85	21.99		26.20	30.46	34.80	39.20	43.78		49.06	8 / 2			
reaction time	0.192	interval	3.87	3.97	4.04	4.14		4.21	4.26	4.34	4.40	4.58	5.28		11.88	12.61	13.32	
	velocity	7.54	9.04	8.82	8.66	8.45		8.31	8.22	8.06	7.95	7.64	7.58	8.15		8.84	8.33	7.88
H1 lead leg	L	strides	13	13	13	13		13	13	13	13	16	133					

2020 Chinese Olympic Trials (Shaoxing, CHN)

FINAL

date 13-Jun-21

CAA Hurdle Development (2021)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Xie Zhiyu (CHN) (2000)	time	6.22	10.21	14.25	18.28	22.47		26.91	31.38	35.97	40.44	44.98		50.00	6 / 1			
reaction time	0.225	interval	3.99	4.04	4.03	4.19		4.44	4.47	4.59	4.47	4.54	5.02		12.06	13.10	13.60	
	velocity	7.23	8.77	8.66	8.68	8.35		7.88	7.83	7.63	7.83	7.71	7.97	8.00		8.71	8.02	7.72
H1 lead leg	L	strides	21	13	13	13		14	14	14	14	14	17	160				
Li Guangzhen (CHN) (1995)	time	6.19	10.16	14.18	18.28	22.52		26.83	31.35	36.04	40.67	45.33		50.58	3 / 2			
reaction time	0.195	interval	3.97	4.02	4.10	4.24		4.31	4.52	4.69	4.63	4.66	5.25	PB		12.09	13.07	13.98
	velocity	7.27	8.82	8.71	8.54	8.25		8.12	7.74	7.46	7.56	7.51	7.62	7.91		8.68	8.03	7.51
H1 lead leg	L	strides	22	14	14	14		15	15	15	15	15	17.7	170.7				
Cui Caizhuang (CHN) (1995)	time	6.11	10.09	14.13	18.26	22.47		26.88	31.41	36.02	40.66	45.30		50.59	4 / 3			
reaction time	0.167	interval	3.98	4.04	4.13	4.21		4.41	4.53	4.61	4.64	4.64	5.29	PB		12.15	13.15	13.89
	velocity	7.36	8.79	8.66	8.47	8.31		7.94	7.73	7.59	7.54	7.54	7.56	7.91		8.64	7.98	7.56
H1 lead leg	R	strides	22	14	14	14		15	15	15	15	15	18.2	171.2				
Ye Anan (CHN) (2004)	time	6.09	9.98	14.13	18.20	22.49		26.86	31.41	36.02	40.62	45.24		50.73	5 / 4			
reaction time	0.215	interval	3.89	4.15	4.07	4.29		4.37	4.55	4.61	4.60	4.62	5.49	PB		12.11	13.21	13.83
	velocity	7.39	9.00	8.43	8.60	8.16		8.01	7.69	7.59	7.61	7.58	7.29	7.88		8.67	7.95	7.59
H1 lead leg	L	strides	22	14	14	14		14	15	15	15	15	18.2	170.2				
Shang Shuo (CHN) (1995)	time	6.41	10.53	14.73	19.02	23.29		27.74	32.26	36.79	41.41	46.06		51.40	7 / 5			
reaction time	0.185	interval	4.12	4.20	4.29	4.27		4.45	4.52	4.53	4.62	4.65	5.34		12.61	13.24	13.80	
	velocity	7.02	8.50	8.33	8.16	8.20		7.87	7.74	7.73	7.58	7.53	7.49	7.78		8.33	7.93	7.61
H1 lead leg	L	strides	22	14	14	14		14	14	15	15	15	18	169				
Song Jiahui (CHN) (2002)	time	6.24	10.34	14.46	18.55	22.77		27.08	31.53	36.07	40.89	45.83		51.57	8 / 6			
reaction time	0.198	interval	4.10	4.12	4.09	4.22		4.31	4.45	4.54	4.82	4.94	5.74		12.31	12.98	14.30	
	velocity	7.21	8.54	8.50	8.56	8.29		8.12	7.87	7.71	7.26	7.09	6.97	7.76		8.53	8.09	7.34
H1 lead leg	L	strides	20	13	13	13		13	13	13	14	14	18	157				
Lin Zhikai (CHN) (2001)	time	6.19	10.19	14.30	18.45	22.74		27.16		36.39	41.24	46.21		52.13	2 / 7			
reaction time	0.168	interval	4.00	4.11	4.15	4.29		4.42		9.23	4.85	4.97	5.92		12.26			
	velocity	7.27	8.75	8.52	8.43	8.16		7.92		7.58	7.22	7.04	6.76	7.67		8.56		
H1 lead leg	L	strides	22	15	15	15		15	15	15	15	15	18.5	175.5				
Gong Debin (CHN) (1997)	time	5.95	9.96	13.95	18.28	22.65		27.41	32.23	37.09	41.98	47.01		53.07	1 / 8			
reaction time	0.257	interval	4.01	3.99	4.33	4.37		4.76	4.82	4.86	4.89	5.03	6.06		12.33	13.95	14.78	
	velocity	7.56	8.73	8.77	8.08	8.01		7.35	7.26	7.20	7.16	6.96	6.60	7.54		8.52	7.53	7.10
H1 lead leg	L	strides	21	14	14	14		15	15	15	15	15	19	171				

2021 NCAA Championships (Eugene, OR) (TV Analysis)

FINAL

date 11-Jun-21

Henson (2021) - Athlete First: 2021 year end hurdle report

Burrell, Sean (USA) (2002)	time	5.87	9.70		17.43	21.33			29.56	33.97	38.40	42.83		47.85	8 / 1			
reaction time	0.194	interval	3.83		7.73	3.90			8.23	4.41	4.43	4.43	5.02	WJR		11.56	12.13	13.27

	velocity	7.67	9.14	9.06	8.97		8.51	7.94	7.90	7.90	7.97	8.36	9.08	8.66	7.91	
H1 lead leg	L strides	22	14		14		15	15	15	18.2	113.2					
Levingston, Isaiah (USA) (19	time	5.97	9.77	17.75	21.80		30.16	34.57	39.07	43.57		48.49	9 / 2			
reaction time	0.233 interval		3.80	7.98	4.05		8.36	4.41	4.50	4.50	4.92	PB	11.78	12.41	13.41	
	velocity	7.54	9.21	8.77	8.64		8.37	7.94	7.78	7.78	8.13	8.25	8.91	8.46	7.83	
H1 lead leg	L strides	21	13		13		13	14	14	16.5	104.5					
Samuel, Cameron (USA) (19	time	5.93	9.60	17.32	21.33		29.65	34.13	38.73	43.37		48.68	7 / 3			
reaction time	0.201 interval		3.67	7.72	4.01		8.32	4.48	4.60	4.64	5.31	PB	11.39	12.33	13.72	
	velocity	7.59	9.54	9.07	8.73		8.41	7.81	7.61	7.54	7.53	8.22	9.22	8.52	7.65	
H1 lead leg	R strides	21	14		14		15	15	15	18.5	112.5					
Mpoke, Moitalel (KEN) (2001	time	6.03	9.83	13.80	17.77	21.70	25.89	30.13	34.63	39.23	43.73		48.70	6 / 4		
reaction time	0.267 interval		3.80	3.97	3.97	3.93	4.19	4.24	4.50	4.60	4.50	4.97	PB	11.74	12.36	13.60
	velocity	7.46	9.21	8.82	8.82	8.91	8.36	8.25	7.78	7.61	7.78	8.05	8.21	8.94	8.50	7.72
H1 lead leg	R strides	21	13	14	14	13	14	14	15	15	15	18.5	166.5			
Metivier, Malik (CAN) (1998)	time	5.90	9.57	17.33	21.35		25.60	30.17	34.77	39.43	44.10		49.26	4 / 5		
reaction time	0.144 interval		3.67	7.76	4.02		4.25	4.57	4.60	4.66	4.67	5.16	PB	11.43	12.84	13.93
	velocity	7.63	9.54	9.02	8.71		8.24	7.66	7.61	7.51	7.49	7.75	8.12	9.19	8.18	7.54
H1 lead leg	R strides	22	13		13		14	14	15	15	15	18.2	139.2			
Ledgister, Leonardo (JAM) (time	5.97	9.60	17.17	21.10		25.20	29.50	34.03	38.80	43.77		49.28	3 / 6		
reaction time	0.228 interval		3.63	7.57	3.93		4.10	4.30	4.53	4.77	4.97	5.51		11.20	12.33	14.27
	velocity	7.54	9.64	9.25	8.91		8.54	8.14	7.73	7.34	7.04	7.26	8.12	9.38	8.52	7.36
H1 lead leg	R strides	22	14		14		14	15	15	16	16	18.2	144.2			
Harvey, Jonathan (USA) (19	time	5.87	9.57	17.20	21.27		30.07	34.70	39.33	44.03		49.64	2 / 7			
reaction time	0.149 interval		3.70	7.63	4.07		8.80	4.63	4.63	4.70	5.61	PB	11.33	12.87	13.96	
	velocity	7.67	9.46	9.17	8.60		7.95	7.56	7.56	7.45	7.13	8.06	9.27	8.16	7.52	
H1 lead leg	R strides	21	13		13		15	15	15	18.5	110.5					
Brockman, Charles (USA) (1	time	6.03	9.77	13.60	17.50	21.53	25.77	30.27	34.83	39.50	44.33		49.92	5 / 8		
reaction time	0.190 interval		3.74	3.83	3.90	4.03	4.24	4.50	4.56	4.67	4.83	5.59		11.47	12.77	14.06
	velocity	7.46	9.36	9.14	8.97	8.68	8.25	7.78	7.68	7.49	7.25	7.16	8.01	9.15	8.22	7.47
H1 lead leg	R strides	22	14	14	13	14	15	15	15	15	15	152				
Jordan, Quivell (USA) (1999)	time	6.00	9.75	17.73	21.80		30.57	35.20	40.00			50.54	1 / 9			
reaction time	0.166 interval		3.75	7.98	4.07		8.77	4.63	4.80				11.73	12.84		
	velocity	7.50	9.33	8.77	8.60		7.98	7.56	7.29			7.91	8.95	8.18		
H1 lead leg	L strides	21	13		14		15	15			78					

2021 Denka Athletics Challenge Cup (Niigata, JPN)

FINAL

date 06-Jun-21

Sugimoto (2021) - race analysis of men's and women's 400m hurdles in the 2021 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kishimoto, Takayuki (JPN) (time	5.96	9.79	13.66	17.67	21.76		25.93	30.18	34.70	39.27	43.98		49.38	3 / 1			
reaction time	interval		3.83	3.87	4.01	4.09		4.17	4.25	4.52	4.57	4.71	5.40			11.71	12.51	13.80
	velocity	7.55	9.14	9.04	8.73	8.56		8.39	8.24	7.74	7.66	7.43	7.41	8.10		8.97	8.39	7.61
H1 lead leg	R strides	21	13	13	13	13		14	14	15	15	15	18.2	164.2				
Yamamoto, Tatsuhiro (JPN)	time	6.09	9.98	13.88	17.88	21.94		26.06	30.40	34.82	39.44	44.23		49.70	4 / 2			
reaction time	interval		3.89	3.90	4.00	4.06		4.12	4.34	4.42	4.62	4.79	5.47			11.79	12.52	13.83
	velocity	7.39	9.00	8.97	8.75	8.62		8.50	8.06	7.92	7.58	7.31	7.31	8.05		8.91	8.39	7.59
H1 lead leg	R strides	21	14	14	14	14		14	15	15	15	15	18.2	169.2				
Iwasaki, Takafumi (JPN) (199	time	6.06	9.91	13.91	17.97	22.15		26.41	30.76	35.19	39.77	44.43		49.73	7 / 3			
reaction time	interval		3.85	4.00	4.06	4.18		4.26	4.35	4.43	4.58	4.66	5.30			11.91	12.79	13.67
	velocity	7.43	9.09	8.75	8.62	8.37		8.22	8.05	7.90	7.64	7.51	7.55	8.04		8.82	8.21	7.68
H1 lead leg	L strides	21	14	14	14	14		14	15	15	15	15	18.2	169.2				
Kawagoe, Hiroya (JPN) (199	time	6.09	10.03	14.03	18.07	22.19		26.51	30.88	35.35	39.97	44.68		50.11	8 / 4			
reaction time	interval		3.94	4.00	4.04	4.12		4.32	4.37	4.47	4.62	4.71	5.43			11.98	12.81	13.80
	velocity	7.39	8.88	8.75	8.66	8.50		8.10	8.01	7.83	7.58	7.43	7.37	7.98		8.76	8.20	7.61
H1 lead leg	L strides	21	14	14	14	14		15	15	15	15	15	152					

B FINAL

date 06-Jun-21

Sugimoto (2021) - race analysis of men's and women's 400m hurdles in the 2021 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tsutsue, Kaito (JPN) (1998)	time	6.02	9.74	13.56	17.43	21.54		25.78	30.16	34.68	39.37	44.26		49.98	7 / 1			
reaction time	interval		3.72	3.82	3.87	4.11		4.24	4.38	4.52	4.69	4.89	5.72			11.41	12.73	14.10
	velocity	7.48	9.41	9.16	9.04	8.52		8.25	7.99	7.74	7.46	7.16	6.99	8.00		9.20	8.25	7.45
H1 lead leg	R strides	22	13	13	13	14		14	14	15	15	15	19.7	167.7				
Matsushita, Yuki (JPN) (1991	time	6.16	9.99	13.96	17.97	22.12		26.53	31.01	35.62	40.26	44.94		50.31	5 / 2			
reaction time	interval		3.83	3.97	4.01	4.15		4.41	4.48	4.61	4.64	4.68	5.37			11.81	13.04	13.93
	velocity	7.31	9.14	8.82	8.73	8.43		7.94	7.81	7.59	7.54	7.48	7.45	7.95		8.89	8.05	7.54
H1 lead leg	R strides	21	13	13	13	13		14	14	15	15	15	18.2	164.2				

Yamada, Atsushi (JPN) (1991)	time	5.99	9.71	13.48	17.38	21.45	25.76	30.25	34.97	39.76	44.73	50.33	8 / 3					
	reaction time		interval	3.72	3.77	3.90	4.07	4.31	4.49	4.72	4.79	4.97	5.60		11.39	12.87	14.48	
			velocity	7.51	9.41	9.28	8.97	8.60	8.12	7.80	7.42	7.31	7.04	7.14	7.95	9.22	8.16	7.25
	H1 lead leg	L	strides	21	13	13	13	14	14	15	15	15	19.2	166.2				

C FINAL

date 06-Jun-21

Sugimoto (2021) - race analysis of men's and women's 400m hurdles in the 2021 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kajiki, Ryo (JPN) (1995)	time	5.96	9.78	13.66	17.65	21.79	26.13	30.58	35.19	39.92	44.81	49.81	50.33	9 / 1				
	reaction time		interval	3.82	3.88	3.99	4.14	4.34	4.45	4.61	4.73	4.89	5.52			11.69	12.93	14.23
			velocity	7.55	9.16	9.02	8.77	8.45	8.06	7.87	7.59	7.40	7.16	7.25	7.95	8.98	8.12	7.38
	H1 lead leg		strides	14	14	14	14	14	14	15	15	15	129					

2021 Bislett Night of Highlights (Oslo, NOR) (TV Analysis) (300m Hurdles)**FINAL**

date 04-Jun-21

Henson (2021) - Athlete First: 2021 Karsten Warholm 400m Hurdles World Record Season

		H1	H2	H3	H4	H5	200m	H6	H7	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1992)	time	6.12	9.60	13.16	16.78	20.60	24.52	28.58			33.26	7 / 1			
	reaction time		interval	3.48	3.56	3.62	3.82	3.92	4.06	4.68	WB PB		10.66	11.80	
			velocity	8.17	10.06	9.83	9.67	9.16	8.93	8.62	8.55	9.02	9.85	8.90	
	H1 lead leg	L	strides	23	13	13	13	13	13	17	118				

2021 Michitaka Kinami Memorial (Osaka, JPN)**FINAL**

date 01-Jun-21

Sugimoto (2021) - race analysis of men's and women's 400m hurdles in the 2021 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Inoue, Kakeru (JPN) (1996)	time	6.04	9.76	13.61	17.52	21.55	25.73	30.08	34.58	39.27	44.18	49.80	49.80	8 / 1				
	reaction time	0.258	interval	3.72	3.85	3.91	4.03	4.18	4.35	4.50	4.69	4.91	5.62			11.48	12.56	14.10
			velocity	7.45	9.41	9.09	8.95	8.68	8.37	8.05	7.78	7.46	7.13	7.12	8.03	9.15	8.36	7.45
	H1 lead leg	R	strides	21	13	13	13	14	14	15	15	15	19	165				
Kishimoto, Takayuki (JPN) (1991)	time	6.01	9.79	13.66	17.62	21.67	25.99	30.25	34.73	39.55	44.44	49.97	49.97	5 / 2				
	reaction time	0.140	interval	3.78	3.87	3.96	4.05	4.32	4.26	4.48	4.82	4.89	5.53			11.61	12.63	14.19
			velocity	7.49	9.26	9.04	8.84	8.64	8.10	8.22	7.81	7.26	7.16	7.23	8.00	9.04	8.31	7.40
	H1 lead leg	R	strides	21	13	13	13	14	14	14	15	15	18.2	163.2				
Kawagoe, Hiroya (JPN) (1997)	time	6.21	10.14	14.11	18.17	22.36	26.63	31.06	35.59	40.29	45.10	50.61	50.61	4 / 3				
	reaction time	0.182	interval	3.93	3.97	4.06	4.19	4.27	4.43	4.53	4.70	4.81	5.51			11.96	12.89	14.04
			velocity	7.25	8.91	8.82	8.62	8.35	8.20	7.90	7.73	7.45	7.28	7.26	7.90	8.78	8.15	7.48
	H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	18.5	170.5				

B FINAL

date 01-Jun-21

Sugimoto (2021) - race analysis of men's and women's 400m hurdles in the 2021 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Toyoda, Masaki (JPN) (1998)	time	6.14	10.09	14.13	18.28	22.49	26.76	31.01	35.42	40.02	44.69	49.94	49.94	8 / 1				
	reaction time	0.214	interval	3.95	4.04	4.15	4.21	4.27	4.25	4.41	4.60	4.67	5.25			12.14	12.73	13.68
			velocity	7.33	8.86	8.66	8.43	8.31	8.20	8.24	7.94	7.61	7.49	7.62	8.01	8.65	8.25	7.68
	H1 lead leg	L	strides	21	14	14	14	14	14	15	15	15	18.5	168.5				
Yamamoto, Tatsuhiro (JPN) (1991)	time	6.09	10.03	14.03	17.95	22.04	26.31	30.65	35.04	39.62	44.44	49.99	49.99	5 / 2				
	reaction time	0.165	interval	3.94	4.00	3.92	4.09	4.27	4.34	4.39	4.58	4.82	5.55			11.86	12.70	13.79
			velocity	7.39	8.88	8.75	8.93	8.56	8.20	8.06	7.97	7.64	7.26	7.21	8.00	8.85	8.27	7.61
	H1 lead leg	L	strides	21	14	14	14	15	15	15	15	15	19	171				
Kajiki, Ryo (JPN) (1995)	time	6.04	9.79	13.61	17.60	21.64	25.88	30.35	34.90	39.69	44.58	50.16	50.16	7 / 3				
	reaction time	0.248	interval	3.75	3.82	3.99	4.04	4.24	4.47	4.55	4.79	4.89	5.58			11.56	12.75	14.23
			velocity	7.45	9.33	9.16	8.77	8.66	8.25	7.83	7.69	7.31	7.16	7.17	7.97	9.08	8.24	7.38
	H1 lead leg	R	strides	20	13	13	13	13	14	14	15	15	18.5	161.5				
Nozawa, Keisuke (JPN) (1991)	time	6.29	10.16	14.20	18.28	22.51	26.73	31.10	35.60	40.24	45.03	50.56	50.56	6 / 4				
	reaction time	0.199	interval	3.87	4.04	4.08	4.23	4.22	4.37	4.50	4.64	4.79	5.53			11.99	12.82	13.93
			velocity	7.15	9.04	8.66	8.58	8.27	8.29	8.01	7.78	7.54	7.31	7.23	7.91	8.76	8.19	7.54
	H1 lead leg	L	strides	21	14	14	14	14	14	15	15	15	19	169				

C FINAL

date 01-Jun-21

Sugimoto (2021) - race analysis of men's and women's 400m hurdles in the 2021 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Yamamoto, Ryo (JPN) (1995)	time	6.24	10.16	14.10	18.17	22.37	26.73	31.11	35.59	40.21	44.94	50.45	50.45	8 / 1				
	reaction time	0.177	interval	3.92	3.94	4.07	4.20	4.36	4.38	4.48	4.62	4.73	5.51			11.93	12.94	13.83
			velocity	7.21	8.93	8.88	8.60	8.33	8.03	7.99	7.81	7.58	7.40	7.26	7.93	8.80	8.11	7.59
	H1 lead leg	R	strides	21	14	14	14	14	15	15	15	15	18.5	170.5				

2021 Shimane High School Championships (Izumo, JPN)**FINAL**

date 29-May-21

Shimizu (2021) - shimane high school championships 2021 - biomechanics data analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
山根 悠介	time	6.40	10.62	15.02	19.52	24.15	28.97	34.15	39.38	44.85	50.23	56.03	56.03	3 / 1				
	reaction time		interval	4.22	4.40	4.50	4.63	4.82	5.18	5.23	5.47	5.38	5.80			13.12	14.63	16.08
			velocity	7.03	8.29	7.95	7.78	7.56	7.26	6.76	6.69	6.40	6.51	6.90	7.14	8.00	7.18	6.53
	H1 lead leg		strides	22	15	15	15	15	16	16	17	17	19.7	182.7				
森木 大翔	time	6.93	11.47	16.10	20.78	25.63	30.53	35.63	40.80	46.05	51.32	57.17	57.17	5 / 2				
	reaction time		interval	4.54	4.63	4.68	4.85	4.90	5.10	5.17	5.25	5.27	5.85			13.85	14.85	15.69

	velocity	6.49	7.71	7.56	7.48	7.22	7.14	6.86	6.77	6.67	6.64	6.84	7.00	7.58	7.07	6.69
H1 lead leg	strides	22	15	15	15	15	15	17	17	17	17	20.3	185.3			
佐々木 輝	time	6.75	11.25	15.87	20.58	25.47	30.57	35.80	41.10	46.38	51.77		57.30	4 / 3		
reaction time	interval		4.50	4.62	4.71	4.89	5.10	5.23	5.30	5.28	5.39	5.53		13.83	15.22	15.97
	velocity	6.67	7.78	7.58	7.43	7.16	6.86	6.69	6.60	6.63	6.49	7.23	6.98	7.59	6.90	6.57
H1 lead leg	strides	22	15	15	15	15	17	17	17	19	19	21.3	192.3			

2021 Doha Diamond League (Doha, QAT) (TV Analysis)

FINAL date 28-May-21 Henson (2021) - Athlete First: 2021 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.80	9.54	13.38	17.38	21.39	23.0	25.44	29.53	33.73	37.97	42.24		47.38	5 / 1			
reaction time	0.203 interval		3.74	3.84	4.00	4.01		4.05	4.09	4.20	4.24	4.27	5.14			11.58	12.15	12.71
	velocity	7.76	9.36	9.11	8.75	8.73	8.70	8.64	8.56	8.33	8.25	8.20	7.78	8.44		9.07	8.64	8.26
H1 lead leg	R strides	20	13	13	13			13	13	13	13	13	16.2	140.2				
dos Santos, Alison (BRA) (2011)	time	5.70	9.37	13.18	17.05	20.95	22.7	25.12	29.33	33.60	37.94	42.34		47.57	6 / 2			
reaction time	0.187 interval		3.67	3.81	3.87	3.90		4.17	4.21	4.27	4.34	4.40	5.23	AR PB		11.35	12.28	13.01
	velocity	7.89	9.54	9.19	9.04	8.97	8.81	8.39	8.31	8.20	8.06	7.95	7.65	8.41		9.25	8.55	8.07
H1 lead leg	L strides	20	13	13	12	12		13	13	13	13	13	16.2	151.2				
McMaster, Kyron (IVB) (1997)	time	5.70	9.37	13.21	17.15	21.19	22.9	25.31	29.53	33.87	38.24	42.64		47.82	3 / 3			
reaction time	0.199 interval		3.67	3.84	3.94	4.04		4.12	4.22	4.34	4.37	4.40	5.18			11.45	12.38	13.11
	velocity	7.89	9.54	9.11	8.88	8.66	8.73	8.50	8.29	8.06	8.01	7.95	7.72	8.36		9.17	8.48	8.01
H1 lead leg	R strides	20	13	13	13			13	13	14	14	14	17	144				
Samba, Abderrahman (QAT) (2011)	time	5.87	9.71	13.61	17.58	21.59	23.3	25.66	29.99	34.27	38.60	42.91		48.26	4 / 4			
reaction time	0.153 interval		3.84	3.90	3.97	4.01		4.07	4.33	4.28	4.33	4.31	5.35			11.71	12.41	12.92
	velocity	7.67	9.11	8.97	8.82	8.73	8.58	8.60	8.08	8.18	8.08	8.12	7.48	8.29		8.97	8.46	8.13
H1 lead leg	R strides	21	13	13	13			13	13	13	14	14	17	144				
Selmon, Kenneth (USA) (1992)	time	6.17	9.91	13.85	17.78	21.85	23.5	25.96	30.23	34.57	39.07	43.71		49.03	7 / 5			
reaction time	0.314 interval		3.74	3.94	3.93	4.07		4.11	4.27	4.34	4.50	4.64	5.32			11.61	12.45	13.48
	velocity	7.29	9.36	8.88	8.91	8.60	8.51	8.52	8.20	8.06	7.78	7.54	7.52	8.16		9.04	8.43	7.79
H1 lead leg	R strides	21	13	13	13			13	13	13	14	14	127					
Copello, Yasmani (TUR) (1992)	time	5.84	9.54	13.45	17.52	21.69	23.4			34.77	39.30	43.81		49.11	2 / 6			
reaction time	0.203 interval		3.70	3.91	4.07	4.17				13.08	4.53	4.51	5.30			11.68		
	velocity	7.71	9.46	8.95	8.60	8.39	8.55			8.03	7.73	7.76	7.55	8.14		8.99		
H1 lead leg	R strides	20	13	13	13					14	14	14	17.5	104.5				
Barr, Thomas (IRL) (1992)	time	6.07	9.94				23.9			35.50	40.09	44.68		49.91	1 / 7			
reaction time	0.204 interval		3.87							25.56	4.59	4.59	5.23					
	velocity	7.41	9.04				8.37			8.22	7.63	7.63	7.65	8.01				
H1 lead leg	L strides	20	13								14	14		61				
Kendziera, David (USA) (1992)	time	5.90	9.84	13.85	17.88	22.02	23.7	26.26	30.60	35.20	39.94	44.74		50.39	8 / 8			
reaction time	0.197 interval		3.94	4.01	4.03	4.14		4.24	4.34	4.60	4.74	4.80	5.65			11.98	12.72	14.14
	velocity	7.63	8.88	8.73	8.68	8.45	8.44	8.25	8.06	7.61	7.38	7.29	7.08	7.94		8.76	8.25	7.43
H1 lead leg	R strides	20	13	13	13	13		13	13	14	14	14	140					

B FINAL date 28-May-21 Henson (2021) - Athlete First: 2021 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Othman, Ashraf Hussien (QAT) (2011)	time	6.16	10.20	14.33	18.50	22.67	24.5	26.77		35.30	39.67	44.17		49.58	5 / 1			
reaction time	0.171 interval		4.04	4.13	4.17	4.17		4.10		8.53	4.37	4.50	5.41	PB		12.34		
	velocity	7.31	8.66	8.47	8.39	8.39	8.16	8.54		8.21	8.01	7.78	7.39	8.07		8.51		
H1 lead leg	R strides	22	14	14	14	14		14			15	15	18	140				
Shoaib, Mohamed (SUD) (1992)	time	6.10	10.10	14.27	18.57	23.10	25.1	27.53	31.97	36.40	41.00	45.70		51.16	8 / 2			
reaction time	0.191 interval		4.00	4.17	4.30	4.53		4.43	4.44	4.43	4.60	4.70	5.46			12.47	13.40	13.73
	velocity	7.38	8.75	8.39	8.14	7.73	7.97	7.90	7.88	7.90	7.61	7.45	7.33	7.82		8.42	7.84	7.65
H1 lead leg	R strides	21	13	13	14	14		14		14	14	14	17.2	148.2				
Abdalmujied, Amor Ebed (QAT) (2011)	time	6.10	9.93	14.00	18.20	22.53	24.5	26.97	31.70	36.37	41.17	45.97		51.40	3 / 3			
reaction time	0.168 interval		3.83	4.07	4.20	4.33		4.44	4.73	4.67	4.80	4.80	5.43	PB		12.10	13.50	14.27
	velocity	7.38	9.14	8.60	8.33	8.08	8.16	7.88	7.40	7.49	7.29	7.29	7.37	7.78		8.68	7.78	7.36
H1 lead leg	L strides	22	14	14	14	14		14		15	15	15	18.7	155.7				
Touati, Mohamed (TUN) (1992)	time	5.93	9.73	13.60	17.67	21.77	23.7	26.13	30.60	35.17	39.77	45.67		52.11	6 / 4			
reaction time	0.155 interval		3.80	3.87	4.07	4.10		4.36	4.47	4.57	4.60	5.90	6.44			11.74	12.93	15.07
	velocity	7.59	9.21	9.04	8.60	8.54	8.44	8.03	7.83	7.66	7.61	5.93	6.21	7.68		8.94	8.12	6.97
H1 lead leg	L strides	21	14	13	14	14		14	14	14	14	16	18	166				
Saifeldin, Muhand Khamis (TUN) (2011)	time	6.10	10.13	14.27	18.60	23.07	25.1	27.73	32.47	37.33	42.17	47.27		53.06	4 / 5			
reaction time	0.127 interval		4.03	4.14	4.33	4.47		4.66	4.74	4.86	4.84	5.10	5.79			12.50	13.87	14.80
	velocity	7.38	8.68	8.45	8.08	7.83	7.97	7.51	7.38	7.20	7.23	6.86	6.91	7.54		8.40	7.57	7.09
H1 lead leg	L strides	22	14	14	14	14		14		14	14	15	135					

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

Pirjahan, Mahdi (IRI) (1999)	time	5.97	9.93	13.93	17.97	22.17	24.1	26.50	30.90	35.30	39.90		dnf	7 / --			
	reaction time	0.138	interval	3.96	4.00	4.04	4.20	4.33	4.40	4.40	4.60				12.00	12.93	
			velocity	7.54	8.84	8.75	8.66	8.33	8.30	8.08	7.95	7.95	7.61		8.75	8.12	
	H1 lead leg	L	strides	20	14	13	13	13	13	13	13	13	13	125			

2021 Philippe Cup Athletics Invitational (Wuhan, CHN)**FINAL**

date 20-May-21

CAA Hurdle Development (2021)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Li Guangzhen (CHN) (1995)	time	6.47	10.49	14.48	18.55	22.76		27.19	31.75	36.37	41.02	45.86		51.17	7 / 1			
	reaction time	0.210	interval	4.02	3.99	4.07	4.21	4.43	4.56	4.62	4.65	4.84	5.31			12.08	13.20	14.11
			velocity	6.96	8.71	8.77	8.60	8.31	7.90	7.68	7.58	7.53	7.23	7.53	7.82	8.69	7.95	7.44
	H1 lead leg	R	strides	22	14	14	14	14	14	14	15	15	15	18	169			
Song Haotian (CHN) (1999)	time	6.29	10.29	14.31	18.42	22.62		27.04	31.68	36.32	41.11	46.18		51.66	5 / 2			
	reaction time	0.242	interval	4.00	4.02	4.11	4.20	4.42	4.64	4.64	4.79	5.07	5.48	PB		12.13	13.26	14.50
			velocity	7.15	8.75	8.71	8.52	8.33	7.92	7.54	7.54	7.31	6.90	7.30	7.74	8.66	7.92	7.24
	H1 lead leg	L	strides	22	14	14	14	15	15	15	15	15	19.5	172.5				
Lu Shengjing (CHN) (1998)	time	6.17	10.24	14.35	18.53	22.81		27.21	31.68	36.33	41.04	46.06		51.83	6 / 3			
	reaction time	0.189	interval	4.07	4.11	4.18	4.28	4.40	4.47	4.65	4.71	5.02	5.77	PB		12.36	13.15	14.38
			velocity	7.29	8.60	8.52	8.37	8.18	7.95	7.83	7.53	7.43	6.97	6.93	7.72	8.50	7.98	7.30
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	19	176				
Wang Siqing (CHN) (1999)	time	6.30	10.38	14.50	18.70	23.04		27.39	31.86		41.32	46.36		51.96	3 / 4			
	reaction time	0.201	interval	4.08	4.12	4.20	4.34	4.35	4.47		9.46	5.04	5.60	PB		12.40	13.16	14.50
			velocity	7.14	8.58	8.50	8.33	8.06	8.05	7.83		7.40	6.94	7.14	7.70	8.47	7.98	7.24
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	16	20	179				
Wei Pinyang (CHN) (2001)	time	6.17	10.14	14.38	18.67	23.21		27.91	32.77	37.77	43.19			55.87	4 / 5			
	reaction time	0.234	interval	3.97	4.24	4.29	4.54	4.70	4.86	5.00	10.42					12.50	14.10	
			velocity	7.29	8.82	8.25	8.16	7.71	7.45	7.20	7.00	6.72		7.16		8.40	7.45	
	H1 lead leg	L	strides	21	15	15	15	15	15	15	15	17		143				

2021 USATF Golden Games (Walnut, CA) (TV Analysis)**FINAL**

date 09-May-21

Henson (2021) - Athlete First: 2021 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.84	9.44	13.21	17.08	21.02		24.99	29.09	33.37	37.67	42.11		47.13	5 / 1			
	reaction time		interval	3.60	3.77	3.87	3.94	3.97	4.10	4.28	4.30	4.44	5.02			11.24	12.01	13.02
			velocity	7.71	9.72	9.28	9.04	8.88	8.82	8.54	8.18	8.14	7.88	7.97	8.49	9.34	8.74	8.06
	H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	16	153				
McMaster, Kyron (IVB) (1997)	time	5.80	9.41	13.18	17.02	20.92		24.96	29.19	33.53	37.97	42.47		47.50	6 / 2			
	reaction time		interval	3.61	3.77	3.84	3.90	4.04	4.23	4.34	4.44	4.50	5.03	NR PB		11.22	12.17	13.28
			velocity	7.76	9.70	9.28	9.11	8.97	8.66	8.27	8.06	7.88	7.78	7.95	8.42	9.36	8.63	7.91
	H1 lead leg	R	strides	20	13	13	13	13	13	14	14	14	16.7	156.7				
dos Santos, Alison (BRA) (2001)	time	6.04	9.71	13.51	17.45	21.42		25.56	29.73	34.03	38.40	42.77		47.68	4 / 3			
	reaction time		interval	3.67	3.80	3.94	3.97	4.14	4.17	4.30	4.37	4.37	4.91	AR PB		11.41	12.28	13.04
			velocity	7.45	9.54	9.21	8.88	8.82	8.45	8.39	8.14	8.01	8.15	8.39		9.20	8.55	8.05
	H1 lead leg	L	strides	20	13	13	12	12	13	13	13	13	16.2	151.2				

2021 Ready Steady Tokyo (Tokyo, JPN)**FINAL**

date 09-May-21

Sugimoto (2021) - race analysis of men's and women's 400m hurdles in the 2021 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kurokawa, Kazuki (JPN) (2001)	time	5.77	9.36	13.06	16.92	20.97		25.23	29.40	33.80	38.36	43.14		48.68	6 / 1			
	reaction time	0.150	interval	3.59	3.70	3.86	4.05	4.26	4.17	4.40	4.56	4.78	5.54	PB		11.15	12.48	13.74
			velocity	7.80	9.75	9.46	9.07	8.64	8.22	8.39	7.95	7.68	7.32	7.22	8.22	9.42	8.41	7.64
	H1 lead leg	L	strides	21	13	13	13	14	14	15	15	15	19	165				
Yamauchi, Hiromu (JPN) (1999)	time	6.01	9.91	13.90	17.90	21.99		26.16	30.30	34.68	39.14	43.68		48.84	7 / 2			
	reaction time	0.187	interval	3.90	3.99	4.00	4.09	4.17	4.14	4.38	4.46	4.54	5.16	PB		11.89	12.40	13.38
			velocity	7.49	8.97	8.77	8.75	8.56	8.39	8.45	7.99	7.85	7.71	7.75	8.19	8.83	8.47	7.85
	H1 lead leg	L	strides	21	14	14	14	14	14	14	15	15	18.5	168.5				
Toyoda, Masaki (JPN) (1998)	time	5.92	9.74	13.66	17.75	21.82		26.03	30.31	34.67	39.14	43.69		48.87	4 / 3			
	reaction time	0.158	interval	3.82	3.92	4.09	4.07	4.21	4.28	4.36	4.47	4.55	5.18	PB		11.83	12.56	13.38
			velocity	7.60	9.16	8.93	8.56	8.60	8.31	8.18	8.03	7.83	7.69	7.72	8.18	8.88	8.36	7.85
	H1 lead leg		strides	14	14	14	14	14	14	14	15	15	15	18.5	147.5			
Abe, Takatoshi (JPN) (1991)	time	5.96	9.61	13.36	17.25	21.25		25.48	29.96	34.47	39.14	43.94		49.45	5 / 4			
	reaction time	0.164	interval	3.65	3.75	3.89	4.00	4.23	4.48	4.51	4.67	4.80	5.51			11.29	12.71	13.98
			velocity	7.55	9.59	9.33	9.00	8.75	8.27	7.81	7.76	7.49	7.29	7.26	8.09	9.30	8.26	7.51
	H1 lead leg		strides	13	13	13	13	13	14	14	14	15	15	123				
Iwasaki, Takafumi (JPN) (1999)	time	5.99	9.81	13.73	17.77	21.92		26.26	30.68	35.14	39.72	44.34		49.64	2 / 5			
	reaction time	0.183	interval	3.82	3.92	4.04	4.15	4.34	4.42	4.46	4.58	4.62	5.30	PB		11.78	12.91	13.66
			velocity	7.51	9.16	8.93	8.66	8.43	8.06	7.92	7.85	7.64	7.58	7.55	8.06	8.91	8.13	7.69
	H1 lead leg		strides	14	14	14	14	14	14	15	15	15	15	130				

Kawagoe, Hiroya (JPN) (1991)	time	5.96	9.79	13.75	17.75	21.86	26.16	30.50	35.04	39.62	44.29	49.76	9 / 6			
	reaction time	0.142	interval	3.83	3.96	4.00	4.11	4.30	4.34	4.54	4.58	4.67	PB	11.79	12.75	13.79
	velocity	7.55	9.14	8.84	8.75	8.52	8.14	8.06	7.71	7.64	7.49	7.31	8.04	8.91	8.24	7.61
	H1 lead leg	strides	14	14	14	14	15	15	15	15	15	131				
Matsushita, Yuki (JPN) (1991)	time	5.97	9.71	13.56	17.47	21.59	25.93	30.41	34.97	39.62	44.31	49.88	8 / 7			
	reaction time	0.164	interval	3.74	3.85	3.91	4.12	4.34	4.48	4.56	4.65	4.69	5.57	11.50	12.94	13.90
	velocity	7.54	9.36	9.09	8.95	8.50	8.06	7.81	7.68	7.53	7.46	7.18	8.02	9.13	8.11	7.55
	H1 lead leg	strides	13	13	13	13	14	14	15	15	15	125				
Sugimati, Mahau (BRA) (1991)	time	6.09	9.86	13.76	17.82	21.99	26.38	30.78	35.26	39.87	44.64	50.11	3 / 8			
	reaction time	0.130	interval	3.77	3.90	4.06	4.17	4.39	4.40	4.48	4.61	4.77	5.47	11.73	12.96	13.86
	velocity	7.39	9.28	8.97	8.62	8.39	7.97	7.95	7.81	7.59	7.34	7.31	7.98	8.95	8.10	7.58
	H1 lead leg	strides	13	13	13	13	13	13	13	13	14	118				
Chen Chieh (TPE) (1992)	time	6.17	10.16	14.18	18.34	22.62	27.14	31.78	36.57	41.44	46.43	52.08	1 / 9			
	reaction time	0.177	interval	3.99	4.02	4.16	4.28	4.52	4.64	4.79	4.87	4.99	5.65	12.17	13.44	14.65
	velocity	7.29	8.77	8.71	8.41	8.18	7.74	7.54	7.31	7.19	7.01	7.08	7.68	8.63	7.81	7.17
	H1 lead leg	strides	13	13	13	13	14	14	15	15	15	125				

2021 Shizuoka International Athletics Meeting (Fukuroi, JPN)**Final**

date 03-May-21

Sugimoto (2021) - race analysis of men's and women's 400m hurdles in the 2021 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kurokawa, Kazuki (JPN) (2004)	time	5.96	9.61	13.43	17.38	21.54	25.94	30.28	34.80	39.46	44.36	50.20	6 / 1					
	reaction time	0.185	interval	3.65	3.82	3.95	4.16	4.40	4.34	4.52	4.66	4.90	5.84	7.97		11.42	12.90	14.08
	velocity	7.55	9.59	9.16	8.86	8.41	7.95	8.06	7.74	7.51	7.14	6.85	7.97	9.19	8.14	7.46		
	H1 lead leg	L	strides	21	13	13	13	14	14	15	15	15	20	166				
Yamauchi, Hiromu (JPN) (1991)	time	6.17	10.09	14.21	18.34	22.54	26.79	31.13	35.59	40.15	44.81	50.23	3 / 2					
	reaction time	0.224	interval	3.92	4.12	4.13	4.20	4.25	4.34	4.46	4.56	4.66	5.42	7.96		12.17	12.79	13.68
	velocity	7.29	8.93	8.50	8.47	8.33	8.24	8.06	7.85	7.68	7.51	7.38	7.96	8.63	8.21	7.68		
	H1 lead leg	L	strides	21	14	14	14	14	14	15	15	15	19.2	169.2				
Abe, Takatoshi (JPN) (1991)	time	6.02	9.66	13.46	17.33	21.29	25.49	29.85	34.40	39.16	44.09	50.35	4 / 3					
	reaction time	0.166	interval	3.64	3.80	3.87	3.96	4.20	4.36	4.55	4.76	4.93	6.26	7.94		11.31	12.52	14.24
	velocity	7.48	9.62	9.21	9.04	8.84	8.33	8.03	7.69	7.35	7.10	6.39	7.94	9.28	8.39	7.37		
	H1 lead leg	R	strides	21	13	13	13	14	14	15	15	15	19.2	165.2				
Toyoda, Masaki (JPN) (1998)	time	5.97	9.83	13.86	17.97	22.19	26.53	30.85	35.35	40.06	44.99	50.82	8 / 4					
	reaction time	0.197	interval	3.86	4.03	4.11	4.22	4.34	4.32	4.50	4.71	4.93	5.83	7.87		12.00	12.88	14.14
	velocity	7.54	9.07	8.68	8.52	8.29	8.06	8.10	7.78	7.43	7.10	6.86	7.87	8.75	8.15	7.43		
	H1 lead leg	L	strides	21	14	14	14	14	14	15	15	15	19	169				

B FINAL

date 03-May-21

Sugimoto (2021) - race analysis of men's and women's 400m hurdles in the 2021 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kawagoe, Hiroya (JPN) (1991)	time	6.09	9.96	13.91	17.95	22.07	26.36	30.76	35.24	39.77	44.48	49.91	5 / 1					
	reaction time	0.184	interval	3.87	3.95	4.04	4.12	4.29	4.40	4.48	4.53	4.71	5.43	8.01		11.86	12.81	13.72
	velocity	7.39	9.04	8.86	8.66	8.50	8.16	7.95	7.81	7.73	7.43	7.37	8.01	8.85	8.20	7.65		
	H1 lead leg	L	strides	21	14	14	14	15	15	15	15	15	19	171				
Matsushita, Yuki (JPN) (1991)	time	6.19	10.01	13.93	17.92	22.06	26.44	30.90	35.52	40.21	44.98	50.52	9 / 2					
	reaction time	0.218	interval	3.82	3.92	3.99	4.14	4.38	4.46	4.62	4.69	4.77	5.54	7.92		11.73	12.98	14.08
	velocity	7.27	9.16	8.93	8.77	8.45	7.99	7.85	7.58	7.46	7.34	7.22	7.92	8.95	8.09	7.46		
	H1 lead leg	R	strides	21	13	13	13	14	14	15	15	15	18.5	164.5				
Kishimoto, Takayuki (JPN) (1991)	time	5.99	9.83	13.75	17.83	22.04	26.39	30.81	35.39	40.06	44.91	50.56	4 / 3					
	reaction time	0.145	interval	3.84	3.92	4.08	4.21	4.35	4.42	4.58	4.67	4.85	5.65	7.91		11.84	12.98	14.10
	velocity	7.51	9.11	8.93	8.58	8.31	8.05	7.92	7.64	7.49	7.22	7.08	7.91	8.87	8.09	7.45		
	H1 lead leg	R	strides	21	13	13	13	14	14	15	15	15	18.5	164.5				

C FINAL

date 03-May-21

Sugimoto (2021) - race analysis of men's and women's 400m hurdles in the 2021 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Iwasaki, Takafumi (JPN) (1999)	time	6.01	9.86	13.88	17.97	22.09	26.41	30.85	35.42	40.11	44.84	50.44	4 / 1					
	reaction time	0.192	interval	3.85	4.02	4.09	4.12	4.32	4.44	4.57	4.69	4.73	5.60	7.93		11.96	12.88	13.99
	velocity	7.49	9.09	8.71	8.56	8.50	8.10	7.88	7.66	7.46	7.40	7.14	7.93	8.78	8.15	7.51		
	H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	19	170				

2021 East China District Meeting (Zhaoqing, CHN)**FINAL**

date 25-Apr-21

CAA Hurdle Development (2021)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Cai Junqi (CHN) (1996)	time	6.26	10.34	14.50	18.70	23.03	27.38	31.80	36.27	40.80	45.33	50.64	7 / 1					
	reaction time	0.178	interval	4.08	4.16	4.20	4.33	4.35	4.42	4.47	4.53	5.31	7.90			12.44	13.10	13.53
	velocity	7.19	8.58	8.41	8.33	8.08	8.05	7.92	7.83	7.73	7.73	7.53	7.90	8.44	8.02	7.76		
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	18.5	175.5				
Ye Anan (CHN) (2004)	time	6.21	10.21	14.33	18.47	22.82	27.16	31.68	36.24	41.04	45.79	51.15	5 / 2					
	reaction time	0.221	interval	4.00	4.12	4.14	4.35	4.34	4.52	4.56	4.80	4.75	5.36	PB		12.26	13.21	14.11

	velocity	7.25	8.75	8.50	8.45	8.05	8.06	7.74	7.68	7.29	7.37	7.46	7.82	8.56	7.95	7.44	
H1 lead leg	L	strides	22	14	14	14	14	14	15	15	15	18.5	169.5				
Lin Zhikai (CHN) (2001)	time	6.30	10.28	14.35	18.50	22.79	27.17	31.72	36.40	41.19	46.13		51.81	3 / 3			
reaction time	0.201	interval		3.98	4.07	4.15	4.29	4.38	4.55	4.68	4.79	4.94	5.68		12.20	13.22	14.41
	velocity	7.14	8.79	8.60	8.43	8.16	7.99	7.69	7.48	7.31	7.09	7.04	7.72	8.61	7.94	7.29	
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	18.5	175.5				
Wang Guozhong (CHN) (1998)	time	5.96	9.98	14.11	18.35	22.71	27.14	31.83	36.64	41.53	46.53		52.22	2 / 4			
reaction time	0.177	interval		4.02	4.13	4.24	4.36	4.43	4.69	4.81	4.89	5.00	5.69		12.39	13.48	14.70
	velocity	7.55	8.71	8.47	8.25	8.03	7.90	7.46	7.28	7.16	7.00	7.03	7.66	8.47	7.79	7.14	
H1 lead leg	L	strides	21	15	15	15	15	15	15	15	15	18	174				
Lu Shengjing (CHN) (1998)	time	6.36	10.48	14.77	19.14	23.59	28.06	32.78	37.59	42.39	47.13		52.34	4 / 5			
reaction time	0.217	interval		4.12	4.29	4.37	4.45	4.47	4.72	4.81	4.80	4.74	5.21		12.78	13.64	14.35
	velocity	7.08	8.50	8.16	8.01	7.87	7.83	7.42	7.28	7.29	7.38	7.68	7.64	8.22	7.70	7.32	
H1 lead leg	L	strides	22	15	15	15	15	16	16	15	15	18	177				
Wang Hongwen (CHN) (2001)	time	6.29	10.37	14.50	18.76	23.18	27.70	32.46	37.25	42.15	47.10		52.41	9 / 6			
reaction time	0.202	interval		4.08	4.13	4.26	4.42	4.52	4.76	4.79	4.90	4.95	5.31		12.47	13.70	14.64
	velocity	7.15	8.58	8.47	8.22	7.92	7.74	7.35	7.31	7.14	7.07	7.53	7.63	8.42	7.66	7.17	
H1 lead leg	L	strides	21	14	14	14	14	14	15	15	15	17.5	168.5				
Bai Jiarui (CHN) (1995)	time	6.51	10.76	15.09	19.56	24.10	28.75	33.50	38.40	43.38	48.40		53.92	8 / 7			
reaction time	0.279	interval		4.25	4.33	4.47	4.54	4.65	4.75	4.90	4.98	5.02	5.52		13.05	13.94	14.90
	velocity	6.91	8.24	8.08	7.83	7.71	7.53	7.37	7.14	7.03	6.97	7.25	7.42	8.05	7.53	7.05	
H1 lead leg	L	strides	22	14	14	14	14	14	14	15	15	17	168				

Heat 3

date 25-Apr-21

CAA Hurdle Development (2021)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Wang Siqing (CHN) (1999)	time	6.30	10.30	14.34	18.52	22.80		27.14	31.64	36.38	41.26	46.36		52.32	8 / 1			
reaction time	0.230	interval		4.00	4.04	4.18	4.28	4.34	4.50	4.74	4.88	5.10	5.96			12.22	13.12	14.72
	velocity	7.14	8.75	8.66	8.37	8.18		8.06	7.78	7.38	7.17	6.86	6.71	7.65		8.59	8.00	7.13
H1 lead leg	L	strides	22	15	15	15		15	15	16	16	16	20.5	180.5				
Lin Zhikai (CHN) (2001)	time	6.30	10.34	14.46	18.66	23.00		27.42	31.98	36.62	41.42	46.42		52.54	7 / 2			
reaction time	0.203	interval		4.04	4.12	4.20	4.34	4.42	4.56	4.64	4.80	5.00	6.12			12.36	13.32	14.44
	velocity	7.14	8.66	8.50	8.33	8.06		7.92	7.68	7.54	7.29	7.00	6.54	7.61		8.50	7.88	7.27
H1 lead leg	L	strides	22	15	15	15		15	15	15	15	15	19	176				
Gong Debin (CHN) (1997)	time	6.24	10.29	14.64	18.94	23.54		28.14	32.85	37.67	42.54	47.36		52.97	5 / 3			
reaction time	0.300	interval		4.05	4.35	4.30	4.60	4.60	4.71	4.82	4.87	4.82	5.61			12.70	13.91	14.51
	velocity	7.21	8.64	8.05	8.14	7.61		7.61	7.43	7.26	7.19	7.26	7.13	7.55		8.27	7.55	7.24
H1 lead leg	L	strides	21	14	14	14		15	15	15	15	15	18	170				
Du Yuanpeng (CHN) (2000)	time	6.61	10.76	15.03	19.42	24.02		28.74	33.72	38.75	44.08	49.72		55.53	4 / 4			
reaction time	0.225	interval		4.15	4.27	4.39	4.60	4.72	4.98	5.03	5.33	5.64	5.81			12.81	14.30	16.00
	velocity	6.81	8.43	8.20	7.97	7.61		7.42	7.03	6.96	6.57	6.21	6.88	7.20		8.20	7.34	6.56
H1 lead leg	L	strides	22	14	14	14		15	15	15	16	17	18.5	174.5				
Yang Pengjun (CHN) (2002)	time	6.34	10.36	14.58	18.88	23.32		27.78	32.58	37.82	43.53	49.83		55.58	6 / 5			
reaction time	0.230	interval		4.02	4.22	4.30	4.44	4.46	4.80	5.24	5.71	6.30	5.75			12.54	13.70	17.25
	velocity	7.10	8.71	8.29	8.14	7.88		7.85	7.29	6.68	6.13	5.56	6.96	7.20		8.37	7.66	6.09
H1 lead leg	L	strides	22	15	15	15		15	17	17	19	19	19	188				

Heat 2

date 25-Apr-21

CAA Hurdle Development (2021)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Cai Junqi (CHN) (1996)	time	6.38	10.52	14.84	19.20	23.62		28.06	32.54	36.98	41.50	46.08		51.88	6 / 1			
reaction time	0.204	interval		4.14	4.32	4.36	4.42	4.44	4.48	4.44	4.52	4.58	5.80			12.82	13.34	13.54
	velocity	7.05	8.45	8.10	8.03	7.92		7.88	7.81	7.88	7.74	7.64	6.90	7.71		8.19	7.87	7.75
H1 lead leg	L	strides	22	15	15	15		15	15	15	15	15	19	176				
Lu Shengjing (CHN) (1998)	time	6.47	10.64	14.98	19.37	23.79		28.23	32.78	37.33	41.99	46.71		51.96	3 / 2			
reaction time	0.240	interval		4.17	4.34	4.39	4.42	4.44	4.55	4.55	4.66	4.72	5.25	PB		12.90	13.41	13.93
	velocity	6.96	8.39	8.06	7.97	7.92		7.88	7.69	7.69	7.51	7.42	7.62	7.70		8.14	7.83	7.54
H1 lead leg	L	strides	22	15	15	15		15	15	15	15	15	18	175				
Bai Jiarui (CHN) (1995)	time	6.41	10.58	14.83	19.13	23.49		27.93	32.51	37.17	42.04	46.96		52.34	5 / 3			
reaction time	0.233	interval		4.17	4.25	4.30	4.36	4.44	4.58	4.66	4.87	4.92	5.38			12.72	13.38	14.45
	velocity	7.02	8.39	8.24	8.14	8.03		7.88	7.64	7.51	7.19	7.11	7.43	7.64		8.25	7.85	7.27
H1 lead leg	L	strides	22	14	14	14		14	14	15	15	15	17	168				
Zhuang Zhixiong (CHN) (1998)	time	6.39	10.51	14.76	19.15	23.64		28.33	33.22	38.25	43.56	49.03		55.17	4 / 4			
reaction time	0.199	interval		4.12	4.25	4.39	4.49	4.69	4.89	5.03	5.31	5.47	6.14			12.76	14.07	15.81
	velocity	7.04	8.50	8.24	7.97	7.80		7.46	7.16	6.96	6.59	6.40	6.51	7.25		8.23	7.46	6.64
H1 lead leg	L	strides	23	15	15	15		15	15	15	17	17	19.5	181.5				

Heat 1

date 25-Apr-21

CAA Hurdle Development (2021)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Ye Anan (CHN) (2004)	time	6.28	10.24	14.48	18.72	23.10		27.61	32.11	36.70	41.47	46.31		51.82	6 / 1			
	reaction time	0.299	interval	3.96	4.24	4.24	4.38	4.51	4.50	4.59	4.77	4.84	5.51	PB		12.44	13.39	14.20
	velocity	7.17	8.84	8.25	8.25	7.99		7.76	7.78	7.63	7.34	7.23	7.26	7.72		8.44	7.84	7.39
	H1 lead leg	L	22	14	14	14	14	15	15	15	15	15	15	19	172			
Wang Hongwen (CHN) (2001)	time	6.22	10.19	14.23	18.50	22.87		27.36	31.95	36.69	41.53	46.55		52.39	4 / 2			
	reaction time	0.242	interval	3.97	4.04	4.27	4.37	4.49	4.59	4.74	4.84	5.02	5.84			12.28	13.45	14.60
	velocity	7.23	8.82	8.66	8.20	8.01		7.80	7.63	7.38	7.23	6.97	6.85	7.64		8.55	7.81	7.19
	H1 lead leg	L	21	14	14	14	14	14	14	15	15	15	15	18	168			
Wang Guozhong (CHN) (1991)	time	5.99	9.96	14.20	18.62	23.16		27.76	32.45	37.17	42.01	47.00		52.63	3 / 3			
	reaction time	0.185	interval	3.97	4.24	4.42	4.54	4.60	4.69	4.72	4.84	4.99	5.63			12.63	13.83	14.55
	velocity	7.51	8.82	8.25	7.92	7.71		7.61	7.46	7.42	7.23	7.01	7.10	7.60		8.31	7.59	7.22
	H1 lead leg	L	21	15	15	15	15	15	15	15	15	15	15	18	174			
Shen Kunhao (CHN) (2004)	time	6.42	10.54	14.72	19.05	23.54		28.26	33.05	37.85	42.83	47.78		53.19	5 / 4			
	reaction time	0.198	interval	4.12	4.18	4.33	4.49	4.72	4.79	4.80	4.98	4.95	5.41			12.63	14.00	14.73
	velocity	7.01	8.50	8.37	8.08	7.80		7.42	7.31	7.29	7.03	7.07	7.39	7.52		8.31	7.50	7.13
	H1 lead leg	L	21	14	14	14	14	15	15	15	15	15	15	18	170			
Liang Chao (CHN) (2000)	time	6.22	10.34	14.54	18.92	23.38		28.06	32.85	37.74	42.81	48.01		53.86	8 / 5			
	reaction time	0.168	interval	4.12	4.20	4.38	4.46	4.68	4.79	4.89	5.07	5.20	5.85			12.70	13.93	15.16
	velocity	7.23	8.50	8.33	7.99	7.85		7.48	7.31	7.16	6.90	6.73	6.84	7.43		8.27	7.54	6.93
	H1 lead leg	L	21	14	14	14	14	15	15	15	15	15	15	19	171			
Han Mingkun (CHN) (1995)	time	6.46	10.54	14.78	19.26	23.91		28.66	33.42	38.19	43.04	48.16		54.11	7 / 6			
	reaction time	0.205	interval	4.08	4.24	4.48	4.65	4.75	4.76	4.77	4.85	5.12	5.95			12.80	14.16	14.74
	velocity	6.97	8.58	8.25	7.81	7.53		7.37	7.35	7.34	7.22	6.84	6.72	7.39		8.20	7.42	7.12
	H1 lead leg	L	21	14	14	15	15	15	15	15	15	15	16	19	174			

2021 National Grand Prix (Chengdu, CHN)**FINAL**

date 02-Apr-21

CAA Hurdle Development (2021)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Cui Caizhuang (CHN) (1995)	time	6.16	10.16	14.26	18.41	22.61		26.94	31.42	36.02	40.75	45.52		50.85	3 / 1			
	reaction time	0.193	interval	4.00	4.10	4.15	4.20	4.33	4.48	4.60	4.73	4.77	5.33	PB		12.25	13.01	14.10
	velocity	7.31	8.75	8.54	8.43	8.33		8.08	7.81	7.61	7.40	7.34	7.50	7.87		8.57	8.07	7.45
	H1 lead leg	R	22	14	14	14	14	15	15	15	15	15	15	19	172			
Zheng Pan (CHN) (2001)	time	6.15	10.08	14.06	18.11	22.33		26.69	31.27	36.05	41.17	46.40		52.27	7 / 2			
	reaction time	0.187	interval	3.93	3.98	4.05	4.22	4.36	4.58	4.78	5.12	5.23	5.87			11.96	13.16	15.13
	velocity	7.32	8.91	8.79	8.64	8.29		8.03	7.64	7.32	6.84	6.69	6.81	7.65		8.78	7.98	6.94
	H1 lead leg	L	22	15	15	15	15	15	15	15	16	16	16	19	178			
Song Haotian (CHN) (1999)	time	6.31	10.38	14.38	18.58	22.91		27.46	32.22	37.00	42.10	47.17		52.54	8 / 3			
	reaction time	0.250	interval	4.07	4.00	4.20	4.33	4.55	4.76	4.78	5.10	5.07	5.37	PB		12.27	13.64	14.95
	velocity	7.13	8.60	8.75	8.33	8.08		7.69	7.35	7.32	6.86	6.90	7.45	7.61		8.56	7.70	7.02
	H1 lead leg	L	22	14	14	14	14	15	15	15	16	16	16	19	174			
Luo Xinyu (CHN) (2002)	time	6.21	10.31	14.56	18.83	23.16		27.72	32.44	37.22	42.24	47.17		52.54	6 / 4			
	reaction time	0.198	interval	4.10	4.25	4.27	4.33	4.56	4.72	4.78	5.02	4.93	5.37	PB		12.62	13.61	14.73
	velocity	7.25	8.54	8.24	8.20	8.08		7.68	7.42	7.32	6.97	7.10	7.45	7.61		8.32	7.71	7.13
	H1 lead leg	L	21	14	14	14	14	15	15	15	15	15	15	18.5	170.5			
Wu Jinhong (CHN) (2005)	time	6.30	10.40	14.66	18.98	23.44		28.19	32.99	37.97	43.09	48.27		53.86	2 / 5			
	reaction time	0.205	interval	4.10	4.26	4.32	4.46	4.75	4.80	4.98	5.12	5.18	5.59			12.68	14.01	15.28
	velocity	7.14	8.54	8.22	8.10	7.85		7.37	7.29	7.03	6.84	6.76	7.16	7.43		8.28	7.49	6.87
	H1 lead leg	R	22	15	15	15	15	16	16	17	17	17	17	20	185			
Li Guancheng (CHN) (2002)	time	6.21	10.40	14.68	19.03	23.46		27.99	32.59	37.32	42.35	47.83		54.09	4 / 6			
	reaction time	0.204	interval	4.19	4.28	4.35	4.43	4.53	4.60	4.73	5.03	5.48	6.26			12.82	13.56	15.24
	velocity	7.25	8.35	8.18	8.05	7.90		7.73	7.61	7.40	6.96	6.39	6.39	7.40		8.19	7.74	6.89
	H1 lead leg	L	21	14	14	13	13	14	14	14	14	15	18	164				
Kong Jie (CHN) (2003)	time	6.33	10.43	14.71	19.08	23.48		28.09	32.92	37.90	43.07	48.43		54.89	1 / 7			
	reaction time	0.264	interval	4.10	4.28	4.37	4.40	4.61	4.83	4.98	5.17	5.36	6.46			12.75	13.84	15.51
	velocity	7.11	8.54	8.18	8.01	7.95		7.59	7.25	7.03	6.77	6.53	6.19	7.29		8.24	7.59	6.77
	H1 lead leg	L	21	17	15	15	15	15	15	15	15	15	15	19	177			
Xu Zhihang (CHN) (1997)	time	6.41	10.65	15.01	19.43	23.98		28.71	33.61	38.82	44.03			nt	5 / 8			
	reaction time	0.264	interval	4.24	4.36	4.42	4.55	4.73	4.90	5.21	5.21					13.02	14.18	
	velocity	7.02	8.25	8.03	7.92	7.69		7.40	7.14	6.72	6.72					8.06	7.40	
	H1 lead leg	L	21	14	14	14	14	14	14	15	15			135				

Heat 2

date 01-Apr-21

CAA Hurdle Development (2021)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Xu Zhihang (CHN) (1997)	time	6.18	10.14	14.18	18.28	22.42		26.80	31.28	36.02	41.00	46.08		51.84	2 / 1			
	reaction time	0.217	interval	3.96	4.04	4.10	4.14	4.38	4.48	4.74	4.98	5.08	5.76			12.10	13.00	14.80

	velocity	7.28	8.84	8.66	8.54	8.45		7.99	7.81	7.38	7.03	6.89	6.94	7.72		8.68	8.08	7.09
H1 lead leg	L	strides	21	14	14	14	14	15	15	16	16	16	19.5	174.5				
Luo Xinyu (CHN) (2002)	time	6.28	10.36	14.60	18.90	23.30		27.84	32.44	37.26	42.22	47.14		52.62	4 / 2			
reaction time	0.235	interval		4.08	4.24	4.30	4.40	4.54	4.60	4.82	4.96	4.92	5.48	PB		12.62	13.54	14.70
	velocity	7.17	8.58	8.25	8.14	7.95		7.71	7.61	7.26	7.06	7.11	7.30	7.60		8.32	7.75	7.14
H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	15	18.5	170.5				
Zheng Pan (CHN) (2001)	time	6.46	10.58	14.80	19.00	23.28		27.70	32.22	36.92	41.98	47.14		52.78	3 / 3			
reaction time	0.203	interval		4.12	4.22	4.20	4.28	4.42	4.52	4.70	5.06	5.16	5.64	PB		12.54	13.22	14.92
	velocity	6.97	8.50	8.29	8.33	8.18		7.92	7.74	7.45	6.92	6.78	7.09	7.58		8.37	7.94	7.04
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	16	16	19	178				

Heat 1

date 01-Apr-21

CAA Hurdle Development (2021)

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Cui Caizhuang (CHN) (1995)	time	6.22	10.22	14.32	18.54	22.82		27.26	31.90	36.66	41.52	46.42		51.93	4 / 1				
reaction time	0.194	interval		4.00	4.10	4.22	4.28	4.44	4.64	4.76	4.86	4.90	5.51				12.32	13.36	14.52
	velocity	7.23	8.75	8.54	8.29	8.18		7.88	7.54	7.35	7.20	7.14	7.26	7.70			8.52	7.86	7.23
H1 lead leg	R	strides	22	14	14	14	14	15	15	15	15	15	18.5	171.5					
Li Guancheng (CHN) (2002)	time	6.12	10.32	14.64	19.04	23.48		27.92	32.40	36.98	41.82	46.88		52.61	5 / 2				
reaction time	0.212	interval		4.20	4.32	4.40	4.44	4.44	4.48	4.58	4.84	5.06	5.73	PB			12.92	13.36	14.48
	velocity	7.35	8.33	8.10	7.95	7.88		7.88	7.81	7.64	7.23	6.92	6.98	7.60			8.13	7.86	7.25
H1 lead leg	L	strides	21	14	14	14	14	14	14	14	14	15	15	18	167				
Song Haotian (CHN) (1999)	time	6.40	10.60	14.88	19.20	23.70		28.30	33.00	37.76	42.62	47.48		52.85	7 / 3				
reaction time	0.192	interval		4.20	4.28	4.32	4.50	4.60	4.70	4.76	4.86	4.86	5.37	PB			12.80	13.80	14.48
	velocity	7.03	8.33	8.18	8.10	7.78		7.61	7.45	7.35	7.20	7.20	7.45	7.57			8.20	7.61	7.25
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	15	18.5	175.5					
Kong Jie (CHN) (2003)	time	6.28	10.46	14.80	19.08	23.54		28.10	32.82	37.68	42.70	47.96		53.91	6 / 4				
reaction time	0.233	interval		4.18	4.34	4.28	4.46	4.56	4.72	4.86	5.02	5.26	5.95				12.80	13.74	15.14
	velocity	7.17	8.37	8.06	8.18	7.85		7.68	7.42	7.20	6.97	6.65	6.72	7.42			8.20	7.64	6.94
H1 lead leg	L	strides	21	15	15	15	15	15	15	15	15	15	18	174					

2020 Japanese U20 National Championships (Hiroshima, JPN)

FINAL

date 25-Oct-20

Sugimoto (2020) - race pattern analysis of japan's top male and female 400m hurdlers- 2020 season

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Deguchi, Haruto (JPN) (2001)	time	6.41	10.49	14.70	19.00	23.51		28.06	32.60	37.22	41.89	46.68		52.17	4 / 1				
reaction time	0.195	interval		4.08	4.21	4.30	4.51	4.55	4.54	4.62	4.67	4.79	5.49				12.59	13.60	14.08
	velocity	7.02	8.58	8.31	8.14	7.76		7.69	7.71	7.58	7.49	7.31	7.29	7.67			8.34	7.72	7.46
H1 lead leg	L	strides	21	13	13	13	14	14	15	15	15	15	17.7	165.7					
山岡 竜太郎	time	6.36	10.54	14.80	19.15	23.59		28.03	32.63	37.34	42.13	47.05		52.52	6 / 2				
reaction time	0.156	interval		4.18	4.26	4.35	4.44	4.44	4.60	4.71	4.79	4.92	5.47				12.79	13.48	14.42
	velocity	7.08	8.37	8.22	8.05	7.88		7.88	7.61	7.43	7.31	7.11	7.31	7.62			8.21	7.79	7.28
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	16	16	19	178					
細野 颯人	time	6.42	10.69	15.08	19.54	24.09		28.78	33.52	38.36	43.11	47.80		52.97	3 / 3				
reaction time	0.202	interval		4.27	4.39	4.46	4.55	4.69	4.74	4.84	4.75	4.69	5.17				13.12	13.98	14.28
	velocity	7.01	8.20	7.97	7.85	7.69		7.46	7.38	7.23	7.37	7.46	7.74	7.55			8.00	7.51	7.35
H1 lead leg	R	strides	22	15	15	15	15	15	15	15	15	15	18.2	175.2					
内藤 源一郎	time	6.44	10.59	14.83	19.20	23.62		28.21	32.90	37.65	42.53	47.73		53.45	5 / 4				
reaction time	0.186	interval		4.15	4.24	4.37	4.42	4.59	4.69	4.75	4.88	5.20	5.72				12.76	13.70	14.83
	velocity	6.99	8.43	8.25	8.01	7.92		7.63	7.46	7.37	7.17	6.73	6.99	7.48			8.23	7.66	7.08
H1 lead leg	R	strides	21	14	14	14	14	15	15	15	15	16	153						

B FINAL

date 25-Oct-20

Sugimoto (2020) - race pattern analysis of japan's top male and female 400m hurdlers- 2020 season

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Yoneda, Taiyo (JPN) (2001)	time	6.22	10.28	14.46	18.72	23.09		27.61	32.32	37.14	42.03	47.00		52.56	4 / 1				
reaction time	0.163	interval		4.06	4.18	4.26	4.37	4.52	4.71	4.82	4.89	4.97	5.56				12.50	13.60	14.68
	velocity	7.23	8.62	8.37	8.22	8.01		7.74	7.43	7.26	7.16	7.04	7.19	7.61			8.40	7.72	7.15
H1 lead leg	R	strides	21	14	14	14	14	15	15	15	15	15	19	171					
田中 天智龍	time	6.47	10.66	14.83	19.19	23.61		28.06	32.68	37.50	42.51	47.60		53.43	6 / 2				
reaction time	0.199	interval		4.19	4.17	4.36	4.42	4.45	4.62	4.82	5.01	5.09	5.83				12.72	13.49	14.92
	velocity	6.96	8.35	8.39	8.03	7.92		7.87	7.58	7.26	6.99	6.88	6.86	7.49			8.25	7.78	7.04
H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	15	19.5	171.5					
一條 美竜夢	time	6.36	10.48	14.78	19.02	23.52		28.09	32.93	37.90	42.99	48.38		54.55	5 / 3				
reaction time	0.175	interval		4.12	4.30	4.24	4.50	4.57	4.84	4.97	5.09	5.39	6.17				12.66	13.91	15.45
	velocity	7.08	8.50	8.14	8.25	7.78		7.66	7.23	7.04	6.88	6.49	6.48	7.33			8.29	7.55	6.80
H1 lead leg	R	strides	22	14	14	14	14	15	15	15	15	16	154						
Mizuguchi, Kai (JPN) (2001)	time	6.41	10.64	14.96	19.34	23.89		28.81	34.03	39.37	44.94	50.53		56.84	2 / 4				
reaction time	0.198	interval		4.23	4.32	4.38	4.55	4.92	5.22	5.34	5.57	5.59	6.31				12.93	14.69	16.50
	velocity	7.02	8.27	8.10	7.99	7.69		7.11	6.70	6.55	6.28	6.26	6.34	7.04			8.12	7.15	6.36

H1 lead leg	R	strides	21	14	14	14	14	15	15	15	17	16	155
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2020 Japanese High School National Championships (Hiroshima, JPN)

FINAL

date 25-Oct-20

Sugimoto (2020) - race pattern analysis of japan's top male and female 400m hurdlers- 2020 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
菅野 航平	time	6.26	10.31	14.48	18.65	22.84		27.11	31.55	36.07	40.86	46.08		51.78	5 / 1			
	reaction time	0.177	interval	4.05	4.17	4.17	4.19	4.27	4.44	4.52	4.79	5.22	5.70			12.39	12.90	14.53
		velocity	7.19	8.64	8.39	8.39	8.35	8.20	7.88	7.74	7.31	6.70	7.02	7.72		8.47	8.14	7.23
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	17	19	20.2	183.2			
Suzuki, Taiga (JPN) (2002)	time	6.11	10.04	14.18	18.30	22.47		26.83	31.36	36.14	41.24	46.45		52.20	4 / 2			
	reaction time	0.173	interval	3.93	4.14	4.12	4.17	4.36	4.53	4.78	5.10	5.21	5.75			12.19	13.06	15.09
		velocity	7.36	8.91	8.45	8.50	8.39	8.03	7.73	7.32	6.86	6.72	6.96	7.66		8.61	8.04	6.96
	H1 lead leg	L	strides	21	14	14	14	14	15	15	15	17	17	19.2	175.2			
森高 颯治朗	time	6.07	10.11	14.21	18.40	22.67		27.14	31.85	36.60	41.64	46.71		52.41	7 / 3			
	reaction time	0.164	interval	4.04	4.10	4.19	4.27	4.47	4.71	4.75	5.04	5.07	5.70			12.33	13.45	14.86
		velocity	7.41	8.66	8.54	8.35	8.20	7.83	7.43	7.37	6.94	6.90	7.02	7.63		8.52	7.81	7.07
	H1 lead leg	R	strides	21	14	14	14	14	15	15	15	16	16	19.7	173.7			
中山 敬太	time	6.42	10.59	14.81	19.09	23.51		28.18	33.07	38.02	42.96	47.90		52.95	6 / 4			
	reaction time	0.195	interval	4.17	4.22	4.28	4.42	4.67	4.89	4.95	4.94	4.94	5.05			12.67	13.98	14.83
		velocity	7.01	8.39	8.29	8.18	7.92	7.49	7.16	7.07	7.09	7.09	7.92	7.55		8.29	7.51	7.08
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	19	176				
Toyoda, Ken (JPN) (2002)	time	6.12	10.06	14.13	18.23	22.46		26.94	31.68	36.64	41.71	46.91		52.96	3 / 5			
	reaction time	0.175	interval	3.94	4.07	4.10	4.23	4.48	4.74	4.96	5.07	5.20	6.05			12.11	13.45	15.23
		velocity	7.35	8.88	8.60	8.54	8.27	7.81	7.38	7.06	6.90	6.73	6.61	7.55		8.67	7.81	6.89
	H1 lead leg	R	strides	20	13	13	13	13	14	14	15	15	15	18.7	163.7			
中島 陽基	time	6.26	10.48	14.83	19.24	23.71		28.28	32.98	37.85	42.93	47.91		53.29	8 / 6			
	reaction time	0.163	interval	4.22	4.35	4.41	4.47	4.57	4.70	4.87	5.08	4.98	5.38			12.98	13.74	14.93
		velocity	7.19	8.29	8.05	7.94	7.83	7.66	7.45	7.19	6.89	7.03	7.43	7.51		8.09	7.64	7.03
	H1 lead leg	R	strides	22	15	15	15	15	15	15	15	17	17	161				
新垣 颯斗	time	6.36	10.48	14.75	19.15	23.64		28.23	33.05	38.07	43.26	48.18		53.30	2 / 7			
	reaction time	0.211	interval	4.12	4.27	4.40	4.49	4.59	4.82	5.02	5.19	4.92	5.12			12.79	13.90	15.13
		velocity	7.08	8.50	8.20	7.95	7.80	7.63	7.26	6.97	6.74	7.11	7.81	7.50		8.21	7.55	6.94
	H1 lead leg	R	strides	22	15	15	15	15	15	15	15	17	17	19.2	180.2			
殿山 凌平	time	6.17	10.31	14.46	18.70	23.01		27.54	32.45	37.72	42.93	48.15		53.99	1 / 8			
	reaction time	0.155	interval	4.14	4.15	4.24	4.31	4.53	4.91	5.27	5.21	5.22	5.84			12.53	13.75	15.70
		velocity	7.29	8.45	8.43	8.25	8.12	7.73	7.13	6.64	6.72	6.70	6.85	7.41		8.38	7.64	6.69
	H1 lead leg	L	strides	23	15	15	15	15	17	17	17	17	17	166				

2020 Michitaka Kinami Memorial (Osaka, JPN)

FINAL

date 24-Oct-20

Sugimoto (2020) - race pattern analysis of japan's top male and female 400m hurdlers- 2020 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Oda, Masaya (JPN) (1995)	time	5.99	9.82	13.75	17.68	21.72		25.98	30.35	34.88	39.56	44.33		49.79	2 / 1			
	reaction time		interval	3.83	3.93	3.93	4.04	4.26	4.37	4.53	4.68	4.77	5.46			11.69	12.67	13.98
		velocity	7.51	9.14	8.91	8.91	8.66	8.22	8.01	7.73	7.48	7.34	7.33	8.03		8.98	8.29	7.51
	H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	15	19.2	171.2			
Yamamoto, Tatsuhiro (JPN)	time	6.06	9.99	13.96	17.92	21.96		26.08	30.36	34.87	39.62	44.48		49.93	8 / 2			
	reaction time		interval	3.93	3.97	3.96	4.04	4.12	4.28	4.51	4.75	4.86	5.45			11.86	12.44	14.12
		velocity	7.43	8.91	8.82	8.84	8.66	8.50	8.18	7.76	7.37	7.20	7.34	8.01		8.85	8.44	7.44
	H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	15	18	170			
Nozawa, Keisuke (JPN) (1991)	time	5.99	9.69	13.43	17.22	21.19		25.28	29.46	33.93	38.74	43.89		50.26	6 / 3			
	reaction time		interval	3.70	3.74	3.79	3.97	4.09	4.18	4.47	4.81	5.15	6.37			11.23	12.24	14.43
		velocity	7.51	9.46	9.36	9.23	8.82	8.56	8.37	7.83	7.28	6.80	6.28	7.96		9.35	8.58	7.28
	H1 lead leg	L	strides	21	13	13	13	14	14	14	14	15	16	20	167			
Matsushita, Yuki (JPN) (1991)	time	6.07	9.93	13.80	17.63	21.60		25.78	30.11	34.68	39.47	44.44		50.34	7 / 4			
	reaction time		interval	3.86	3.87	3.83	3.97	4.18	4.33	4.57	4.79	4.97	5.90			11.56	12.48	14.33
		velocity	7.41	9.07	9.04	9.14	8.82	8.37	8.08	7.66	7.31	7.04	6.78	7.95		9.08	8.41	7.33
	H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	15	19.2	165.2			
Yamada, Atsushi (JPN) (1991)	time	5.96	9.84	13.82	17.85	21.91		26.08	30.36	34.97	39.74	44.73		50.49	3 / 5			
	reaction time		interval	3.88	3.98	4.03	4.06	4.17	4.28	4.61	4.77	4.99	5.76			11.89	12.51	14.37
		velocity	7.55	9.02	8.79	8.68	8.62	8.39	8.18	7.59	7.34	7.01	6.94	7.92		8.83	8.39	7.31
	H1 lead leg	L	strides	21	14	14	14	14	14	14	15	15	15	20	170			

B FINAL

date 24-Oct-20

Sugimoto (2020) - race pattern analysis of japan's top male and female 400m hurdlers- 2020 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Inoue, Kakeru (JPN) (1996)	time	6.18	10.09	14.13	18.18	22.34		26.68	31.13	35.72	40.44	45.20		50.60	1 / 1			
	reaction time		interval	3.91	4.04	4.05	4.16	4.34	4.45	4.59	4.72	4.76	5.40			12.00	12.95	14.07
		velocity	7.28	8.95	8.66	8.64	8.41	8.06	7.87	7.63	7.42	7.35	7.41	7.91		8.75	8.11	7.46

H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	15	18.7	164.7				
Ozaki, Yusuke (JPN) (1994)	time		6.26	10.11	14.01	18.00	22.16	26.38	30.83	35.37	40.14	44.98		50.63	2 / 2			
	reaction time	interval		3.85	3.90	3.99	4.16	4.22	4.45	4.54	4.77	4.84	5.65			11.74	12.83	14.15
		velocity	7.19	9.09	8.97	8.77	8.41	8.29	7.87	7.71	7.34	7.23	7.08	7.90		8.94	8.18	7.42
H1 lead leg	R	strides	22	15	15	15	15	15	15	15	17	17	21	182				
Sugai, Mitsuru (JPN) (1994)	time		6.07	9.94	13.86	17.83	21.99	26.36	30.81	35.39	40.12	44.99		50.86	6 / 3			
	reaction time	interval		3.87	3.92	3.97	4.16	4.37	4.45	4.58	4.73	4.87	5.87			11.76	12.98	14.18
		velocity	7.41	9.04	8.93	8.82	8.41	8.01	7.87	7.64	7.40	7.19	6.81	7.86		8.93	8.09	7.40
H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	15	19	165				

2020 Japanese National Championships (Niigata, JPN)

FINAL

date 02-Oct-20

Sugimoto (2020) - race pattern analysis of japan's top male and female 400m hurdlers- 2020 season

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Abe, Takatoshi (JPN) (1991)	time		6.01	9.59	13.35	17.17	21.10	25.28	29.68	34.23	39.01	43.94		49.73	5 / 1				
	reaction time	0.170 interval		3.58	3.76	3.82	3.93	4.18	4.40	4.55	4.78	4.93	5.79				11.16	12.51	14.26
		velocity	7.49	9.78	9.31	9.16	8.91	8.37	7.95	7.69	7.32	7.10	6.91	8.04			9.41	8.39	7.36
H1 lead leg	R	strides	21	13	13	13	13	13	14	14	15	15	19	163					
Yamamoto, Tatsuhiro (JPN)	time		6.06	9.91	13.86	17.87	22.01	26.28	30.66	35.12	39.69	44.38		49.79	4 / 2				
	reaction time	0.156 interval		3.85	3.95	4.01	4.14	4.27	4.38	4.46	4.57	4.69	5.41				11.81	12.79	13.72
		velocity	7.43	9.09	8.86	8.73	8.45	8.20	7.99	7.85	7.66	7.46	7.39	8.03			8.89	8.21	7.65
H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	15	18.7	170.7					
Toyoda, Masaki (JPN) (1998)	time		6.09	9.94	13.85	17.92	22.06	26.36	30.63	35.09	39.72	44.48		49.96	9 / 3				
	reaction time	0.203 interval		3.85	3.91	4.07	4.14	4.30	4.27	4.46	4.63	4.76	5.48				11.83	12.71	13.85
		velocity	7.39	9.09	8.95	8.60	8.45	8.14	8.20	7.85	7.56	7.35	7.30	8.01			8.88	8.26	7.58
H1 lead leg	L	strides	21	14	14	14	14	14	14	15	15	15	18.7	168.7					
Oda, Masaya (JPN) (1995)	time		6.04	9.81	13.66	17.60	21.72	26.09	30.58	35.12	39.84	44.71		50.44	3 / 4				
	reaction time	0.178 interval		3.77	3.85	3.94	4.12	4.37	4.49	4.54	4.72	4.87	5.73				11.56	12.98	14.13
		velocity	7.45	9.28	9.09	8.88	8.50	8.01	7.80	7.71	7.42	7.19	6.98	7.93			9.08	8.09	7.43
H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	15	19.7	171.7					
Yamauchi, Hiromu (JPN) (1991)	time		6.16	10.08	14.16	18.27	22.49	26.78	31.15	35.64	40.26	45.01		50.50	6 / 5				
	reaction time	0.185 interval		3.92	4.08	4.11	4.22	4.29	4.37	4.49	4.62	4.75	5.49				12.11	12.88	13.86
		velocity	7.31	8.93	8.58	8.52	8.29	8.16	8.01	7.80	7.58	7.37	7.29	7.92			8.67	8.15	7.58
H1 lead leg	L	strides	21	14	14	14	14	14	14	15	15	15	19.2	169.2					
Kawagoe, Hiroya (JPN) (1997)	time		6.07	9.96	13.98	18.02	22.19	26.59	31.05	35.57	40.24	45.05		50.61	7 / 6				
	reaction time	0.170 interval		3.89	4.02	4.04	4.17	4.40	4.46	4.52	4.67	4.81	5.56				11.95	13.03	14.00
		velocity	7.41	9.00	8.71	8.66	8.39	7.95	7.85	7.74	7.49	7.28	7.19	7.90			8.79	8.06	7.50
H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	15	19	171					
Hataura, Yusuke (JPN) (1998)	time		6.16	9.99	13.93	17.95	22.14	26.48	30.85	35.34	39.99	44.91		50.80	8 / 7				
	reaction time	0.131 interval		3.83	3.94	4.02	4.19	4.34	4.37	4.49	4.65	4.92	5.89				11.79	12.90	14.06
		velocity	7.31	9.14	8.88	8.71	8.35	8.06	8.01	7.80	7.53	7.11	6.79	7.87			8.91	8.14	7.47
H1 lead leg	R	strides	22	14	14	14	14	15	15	15	15	15	153						
Kurokawa, Kazuki (JPN) (2000)	time		6.09	9.94	13.93	18.00	22.26	26.71	31.26	36.02	41.04	46.15		52.46	2 / 8				
	reaction time	0.184 interval		3.85	3.99	4.07	4.26	4.45	4.55	4.76	5.02	5.11	6.31				11.91	13.26	14.89
		velocity	7.39	9.09	8.77	8.60	8.22	7.87	7.69	7.35	6.97	6.85	6.34	7.62			8.82	7.92	7.05
H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	15	146						

2020 Norwegian National Championships (Bergen, NOR) (TV Analysis)

FINAL

date 20-Sep-20

Henson (2020) - Athlete First: 2020 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1991)	time		5.73	9.33	13.07	16.87	20.80	24.83	29.03	33.30	37.93	42.67		48.23	7 / 1				
	reaction time	interval		3.60	3.74	3.80	3.93	4.03	4.20	4.27	4.63	4.74	5.56				11.14	12.16	13.64
		velocity	7.85	9.72	9.36	9.21	8.91	8.68	8.33	8.20	7.56	7.38	7.19	8.29			9.43	8.63	7.70
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	15	15	17.5	158.5					

2020 All Japan Corporate Championships (Kumagaya, JPN)

FINAL

date 20-Sep-20

Sugimoto (2020) - race pattern analysis of japan's top male and female 400m hurdlers- 2020 season

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Abe, Takatoshi (JPN) (1991)	time		6.04	9.71	13.48	17.32	21.25	25.34	29.73	34.23	38.92	43.69		49.38	6 / 1				
	reaction time	0.196 interval		3.67	3.77	3.84	3.93	4.09	4.39	4.50	4.69	4.77	5.69				11.28	12.41	13.96
		velocity	7.45	9.54	9.28	9.11	8.91	8.56	7.97	7.78	7.46	7.34	7.03	8.10			9.31	8.46	7.52
H1 lead leg		strides		13	13	13	13	13	14	14	15	15	123						
Oda, Masaya (JPN) (1995)	time		6.12	9.94	13.78	17.81	21.94	26.31	30.71	35.24	39.86	44.63		50.18	5 / 2				
	reaction time	0.222 interval		3.82	3.84	4.03	4.13	4.37	4.40	4.53	4.62	4.77	5.55				11.69	12.90	13.92
		velocity	7.35	9.16	9.11	8.68	8.47	8.01	7.95	7.73	7.58	7.34	7.21	7.97			8.98	8.14	7.54
H1 lead leg		strides		14	14	14	14	15	15	15	15	15	131						
Toyoda, Masaki (JPN) (1998)	time		6.22	10.16	14.18	18.42	22.66	26.91	31.10	35.64	40.34	45.05		50.63	7 / 3				
	reaction time	0.242 interval		3.94	4.02	4.24	4.24	4.25	4.19	4.54	4.70	4.71	5.58				12.20	12.68	13.95

	velocity	7.23	8.88	8.71	8.25	8.25	8.24	8.35	7.71	7.45	7.43	7.17	7.90	8.61	8.28	7.53
H1 lead leg	strides		14	14	14	14	14	14	15	15	15		129			
Yamada, Atsushi (JPN) (1991)	time	6.10	10.04	14.07	18.23	22.52	26.89	31.38	36.00	40.71	45.55		50.94	4 / 4		
reaction time	0.202 interval		3.94	4.03	4.16	4.29	4.37	4.49	4.62	4.71	4.84	5.39		12.13	13.15	14.17
	velocity	7.38	8.88	8.68	8.41	8.16	8.01	7.80	7.58	7.43	7.23	7.42	7.85	8.66	7.98	7.41
H1 lead leg	strides		14	14	14	14	14	14	15	15	15		129			
Matsushita, Yuki (JPN) (1991)	time	6.22	10.03	13.95	17.93	22.11	26.48	31.05	35.79	40.57	45.40		50.97	9 / 5		
reaction time	0.209 interval		3.81	3.92	3.98	4.18	4.37	4.57	4.74	4.78	4.83	5.57		11.71	13.12	14.35
	velocity	7.23	9.19	8.93	8.79	8.37	8.01	7.66	7.38	7.32	7.25	7.18	7.85	8.97	8.00	7.32
H1 lead leg	strides		13	13	13	13	14	14	15	15	15		125			
Nozawa, Keisuke (JPN) (1991)	time	6.21	10.11	14.18	18.30	22.59	26.91	31.41	36.00	40.66	45.48		51.03	3 / 6		
reaction time	0.225 interval		3.90	4.07	4.12	4.29	4.32	4.50	4.59	4.66	4.82	5.55		12.09	13.11	14.07
	velocity	7.25	8.97	8.60	8.50	8.16	8.10	7.78	7.63	7.51	7.26	7.21	7.84	8.68	8.01	7.46
H1 lead leg	strides		14	14	14	14	14	14	15	15	15		129			
Kajiki, Ryo (JPN) (1995)	time	6.14	9.99	13.95	18.02	22.24	26.66	31.13	35.89	40.86	46.01		51.89	8 / 7		
reaction time	0.258 interval		3.85	3.96	4.07	4.22	4.42	4.47	4.76	4.97	5.15	5.88		11.88	13.11	14.88
	velocity	7.33	9.09	8.84	8.60	8.29	7.92	7.83	7.35	7.04	6.80	6.80	7.71	8.84	8.01	7.06
H1 lead leg	strides		13	13	13	13	13	14	14	15	15		123			
Inoue, Kakeru (JPN) (1996)	time	6.17	10.06	14.00	18.07	22.41	26.88	31.61	36.54	41.66	46.93		53.05	2 / 8		
reaction time	0.220 interval		3.89	3.94	4.07	4.34	4.47	4.73	4.93	5.12	5.27	6.12		11.90	13.54	15.32
	velocity	7.29	9.00	8.88	8.60	8.06	7.83	7.40	7.10	6.84	6.64	6.54	7.54	8.82	7.75	6.85
H1 lead leg	strides		13	13	13	14	14	15	15	15	15		127			

2020 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis)

FINAL

date 17-Sep-20

Henson (2020) - Athlete First: 2020 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1988)	time	5.64	9.24	12.95	16.75	20.65	22.3	24.66	28.80	33.07	37.47	41.91		47.07	7 / 1			
reaction time	0.158 interval		3.60	3.71	3.80	3.90		4.01	4.14	4.27	4.40	4.44	5.16			11.11	12.05	13.11
	velocity	7.98	9.72	9.43	9.21	8.97	8.97	8.73	8.45	8.20	7.95	7.88	7.75	8.50		9.45	8.71	8.01
H1 lead leg	L strides		20	13	13	13	13	13	13	13	13	15	18	157				
Valliant, Ludvy (FRA) (1995)	time	5.87	9.58			21.15	22.9		29.53	33.90	38.54	43.28		48.69	6 / 2			
reaction time	0.185 interval		3.71			11.57			8.38	4.37	4.64	4.74	5.41					13.75
	velocity	7.67	9.43			9.08	8.73		8.35	8.01	7.54	7.38	7.39	8.22				7.64
H1 lead leg	R strides		21	13					14	14	14	14	17.2	93.2				
Mägi, Rasmus (EST) (1992)	time	5.97	9.74			21.45	23.2		29.96	34.43	38.94	43.51		48.72	4 / 3			
reaction time	0.150 interval		3.77			11.71			8.51	4.47	4.51	4.57	5.21					13.55
	velocity	7.54	9.28			8.97	8.62		8.23	7.83	7.76	7.66	7.68	8.21				7.75
H1 lead leg	R strides		20	13					14	14	14	14	17.5	92.5				
Kendziera, David (USA) (1991)	time	5.81	9.58	13.35	17.25	21.25	23.0	25.36	29.73	34.30	39.04	43.84		49.35	9 / 4			
reaction time	0.172 interval		3.77	3.77	3.90	4.00		4.11	4.37	4.57	4.74	4.80	5.51			11.44	12.48	14.11
	velocity	7.75	9.28	9.28	8.97	8.75	8.70	8.52	8.01	7.66	7.38	7.29	7.26	8.11		9.18	8.41	7.44
H1 lead leg	R strides		20	13	13	13	13	13	13	14	14	15	18.2	159.2				
Happio, Wilfried (FRA) (1991)	time	5.91	9.71			21.59	23.4		30.10	34.53	39.21	44.01		49.65	5 / 5			
reaction time	0.166 interval		3.80			11.88			8.51	4.43	4.68	4.80	5.64					13.91
	velocity	7.61	9.21			8.84	8.55		8.23	7.90	7.48	7.29	7.09	8.06				7.55
H1 lead leg	L strides		20	13					14	15	15	15	17.5	94.5				
Lambrughi, Mario (ITA) (1991)	time	5.94	9.74			21.79	23.6		30.46	35.03	39.74	44.54		49.87	2 / 6			
reaction time	0.136 interval		3.80			12.05			8.67	4.57	4.71	4.80	5.33					14.08
	velocity	7.58	9.21			8.71	8.47		8.07	7.66	7.43	7.29	7.50	8.02				7.46
H1 lead leg	R strides		22	14					15	15	15	15	18.5					
Preis, Constantin (GER) (1991)	time	6.24	10.14			22.36	24.2		31.06	35.53	40.14	44.74		49.91	1 / 7			
reaction time	0.250 interval		3.90			12.22			8.70	4.47	4.61	4.60	5.17					13.68
	velocity	7.21	8.97			8.59	8.26		8.05	7.83	7.59	7.61	7.74	8.01				7.68
H1 lead leg	R strides		22	14					15	15	15	18	99					
Smidt, Nick (NED) (1997)	time	5.91	9.81			22.05	24.0		31.06	35.67	40.34	45.11		50.67	3 / 8			
reaction time	0.144 interval		3.90			12.24			9.01	4.61	4.67	4.77	5.56					14.05
	velocity	7.61	8.97			8.58	8.33		7.77	7.59	7.49	7.34	7.19	7.89				7.47
H1 lead leg	L strides		20	13					14	14	14	17.2	92.2					
Teles, Marcio (BRA) (1994)	time	6.04	9.91	13.81	17.75	21.95	23.8		30.73	35.27	40.00	44.95		51.04	8 / 9			
reaction time	0.150 interval		3.87	3.90	3.94	4.20			8.78	4.54	4.73	4.95	6.09			11.71	12.98	14.22
	velocity	7.45	9.04	8.97	8.88	8.33	8.40		7.97	7.71	7.40	7.07	6.57	7.84		8.97	8.09	7.38
H1 lead leg	L strides		23	14	14	14			15	15	15	15	18.5	142.5				

2020 Chinese National Championships (Shaoxing, CHN)

FINAL

date 17-Sep-20

CAA Hurdle Development (2020)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Feng Zhiqiang (CHN) (1998)	time	5.92	9.64	13.58	17.62	21.79		26.16	30.50	35.17	39.96	44.87		50.43	6 / 1				
	reaction time		interval	3.72	3.94	4.04	4.17	4.37	4.34	4.67	4.79	4.91	5.56			11.70	12.88	14.37	
		velocity	7.60	9.41	8.88	8.66	8.39		8.01	8.06	7.49	7.31	7.13	7.19	7.93		8.97	8.15	7.31
	H1 lead leg	L	strides	20	13	13	13	13	13	13	14	14	15	17	158				
Shang Shou (CHN) (1995)	time	6.21	10.17	14.29	18.46	22.75		27.21	31.58	36.08	40.67	45.25		50.65	4 / 2				
	reaction time		interval	3.96	4.12	4.17	4.29	4.46	4.37	4.50	4.59	4.58	5.40			12.25	13.12	13.67	
		velocity	7.25	8.84	8.50	8.39	8.16		7.85	8.01	7.78	7.63	7.64	7.41	7.90		8.57	8.00	7.68
	H1 lead leg	L	strides	22	14	14	14	14	14	14	15	15	15	18	169				
Wang Hongwen (CHN) (200)	time	6.08	10.08	14.08	18.25	22.54		26.96	31.42	36.00	40.75	45.58		51.15	7 / 3				
	reaction time		interval	4.00	4.00	4.17	4.29	4.42	4.46	4.58	4.75	4.83	5.57			12.17	13.17	14.16	
		velocity	7.40	8.75	8.75	8.39	8.16		7.92	7.85	7.64	7.37	7.25	7.18	7.82		8.63	7.97	7.42
	H1 lead leg	L	strides	21	14	14	14	14	14	14	15	15	15	18	168				
Lin Zhikai (CHN) (2001)	time	6.08	10.21	14.29	18.42	22.75		27.21	31.75	36.42	41.08	45.87		51.33	3 / 4				
	reaction time		interval	4.13	4.08	4.13	4.33	4.46	4.54	4.67	4.66	4.79	5.46			12.34	13.33	14.12	
		velocity	7.40	8.47	8.58	8.47	8.08		7.85	7.71	7.49	7.51	7.31	7.33	7.79		8.51	7.88	7.44
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	15	18	175				
Wang Daojun (CHN) (2000)	time	5.96	10.00	14.08	18.29	22.58		26.92	31.42	35.96	40.71	45.54		51.41	5 / 5				
	reaction time		interval	4.04	4.08	4.21	4.29	4.34	4.50	4.54	4.75	4.83	5.87			12.33	13.13	14.12	
		velocity	7.55	8.66	8.58	8.31	8.16		8.06	7.78	7.71	7.37	7.25	6.81	7.78		8.52	8.00	7.44
	H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	15	18.5	170.5				
Yang Baichuan (CHN) (1995)	time	6.08	10.12	14.25	18.50	22.83		27.25	31.75	36.42	41.12	45.92		51.58	2 / 6				
	reaction time		interval	4.04	4.13	4.25	4.33	4.42	4.50	4.67	4.70	4.80	5.66			12.42	13.25	14.17	
		velocity	7.40	8.66	8.47	8.24	8.08		7.92	7.78	7.49	7.45	7.29	7.07	7.75		8.45	7.92	7.41
	H1 lead leg	L	strides	23	15	15	15	15	15	15	15	15	15	20	178				
Wang Siqing (CHN) (1999)	time	6.25		14.67	19.04	23.50		28.12	32.79	37.75	42.50	47.50		53.38	1 / 7				
	reaction time		interval	8.42	4.37	4.46		4.62	4.67	4.96	4.75	5.00	5.88			12.79	13.75	14.71	
		velocity	7.20		8.31	8.01	7.85		7.58	7.49	7.06	7.37	7.00	6.80	7.49		8.21	7.64	7.14
	H1 lead leg	L	strides	22		15	15		15	16	16	16	16	19	150				
Cao Xiong (CHN) (2001)	time	6.05	10.17	14.37	18.66	23.12		27.79	32.62	37.62		48.08		53.96	8 / 8				
	reaction time		interval	4.12	4.20	4.29	4.46	4.67	4.83	5.00		10.46	5.88			12.61	13.96	15.46	
		velocity	7.44	8.50	8.33	8.16	7.85		7.49	7.25	7.00		6.69	6.80	7.41		8.33	7.52	6.79
	H1 lead leg	L	strides		15	15	15	15	15	15	16			18.5	125				

2020 ISTAF (Berlin, GER) (TV Analysis)**FINAL**

date 13-Sep-20

Henson (2020) - Athlete First: 2020 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Warholm, Karsten (NOR) (19	time	5.64	9.24	12.88	16.64	20.56		24.56	28.68	32.92	37.24	41.88		47.08	7 / 1				
	reaction time	0.190	interval	3.60	3.64	3.76	3.92	4.00	4.12	4.24	4.32	4.64	5.20			11.00	12.04	13.20	
		velocity	7.98	9.72	9.62	9.31	8.93		8.75	8.50	8.25	8.10	7.54	7.69	8.50		9.55	8.72	7.95
	H1 lead leg	L	strides	20	13	13	13	13	13	13	13	13	15	18	157				
Mägi, Rasmus (EST) (1992)	time	6.00		13.52	17.40			25.60	29.92	34.36	38.92	43.72		49.22	6 / 2				
	reaction time	0.238	interval	7.52	3.88			8.20	4.32	4.44	4.56	4.80	5.50			11.40	12.52	13.80	
		velocity	7.50		9.31	9.02			8.54	8.10	7.88	7.68	7.29	7.27	8.13		9.21	8.39	7.61
	H1 lead leg	R	strides	20		13			13	14	14	14	14	88					
Kendziera, David (USA) (199	time	5.88		13.56	17.40			25.60	29.96	34.52	39.32	44.36		50.28	4 / 3				
	reaction time	0.198	interval	7.68	3.84			8.20	4.36	4.56	4.80	5.04	5.92			11.52	12.56	14.40	
		velocity	7.65		9.11	9.11			8.54	8.03	7.68	7.29	6.94	6.76	7.96		9.11	8.36	7.29
	H1 lead leg	L	strides	21		13				14	15	15		78					
Barr, Thomas (IRL) (1992)	time	6.08		13.76	17.72			26.12	30.64	35.20	40.04			50.41	3 / 4				
	reaction time	0.179	interval	7.68	3.96			8.40	4.52	4.56	4.84					11.64	12.92		
		velocity	7.40		9.11	8.84			8.33	7.74	7.68	7.23		7.93		9.02	8.13		
	H1 lead leg	L	strides	21		13				14	15			63					
Müller, Vít (CZE) (1996)	time	6.12		13.72	17.56			25.76		35.16	40.00			50.47	2 / 5				
	reaction time	0.204	interval	7.60	3.84			8.20		9.40	4.84					11.44			
		velocity	7.35		9.21	9.11			8.54		7.45	7.23		7.93		9.18			
	H1 lead leg	L	strides	21		13					15			49					
McAlister, Chris (GBR) (199	time	6.24		14.28	18.44	22.64		26.88		35.84	40.56			51.03	1 / 6				
	reaction time	0.188	interval	8.04	4.16	4.20		4.24		8.96	4.72					12.20			
		velocity	7.21		8.71	8.41	8.33		8.25		7.81	7.42		7.84		8.61			
	H1 lead leg	R	strides	22		15		15			15			67					
Angela, Ramsey (NED) (1999	time	5.96	9.84	13.68	17.72	22.00		26.36	30.88	35.52	40.36			51.25	8 / 7				
	reaction time	0.195	interval	3.88	3.84	4.04	4.28	4.36	4.52	4.64	4.84					11.76	13.16		
		velocity	7.55	9.02	9.11	8.66	8.18		8.03	7.74	7.54	7.23		7.80		8.93	7.98		
	H1 lead leg	R	strides	22	14	14	14	14	15	15	14			122					

Preis, Constantin (GBR) (1991)	time	6.04	13.92	17.88	26.20								dnf	5 / --			
	reaction time	0.240	interval	7.88	3.96	8.32									11.84		
	velocity	7.45	8.88	8.84	8.41										8.87		
	H1 lead leg	L	strides	22	14									36			

2020 Golden Spike (Ostrava, CZE) (TV Analysis)**FINAL**

date 08-Sep-20

Henson (2020) - Athlete First: 2020 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1991)	time	5.77	9.37	13.05	16.82	20.65		24.69	28.89	33.13	37.77	42.37		47.62	8 / 1			
	reaction time	0.168	interval	3.60	3.68	3.77	3.83	4.04	4.20	4.24	4.64	4.60	5.25			11.05	12.07	13.48
	velocity	7.80	9.72	9.51	9.28	9.14		8.66	8.33	8.25	7.54	7.61	7.62	8.40		9.50	8.70	7.79
	H1 lead leg	L	strides	20	13	13	13	13	13	13	15	15	18	159				
Valliant, Ludvy (FRA) (1995)	time	5.97	9.71		17.41	21.35		25.49	29.83		38.94	43.68		49.14	6 / 2			
	reaction time	0.192	interval	3.74	7.70	3.94		4.14	4.34		9.11	4.74	5.46			11.44	12.42	13.85
	velocity	7.54	9.36		9.09	8.88		8.45	8.06		7.68	7.38	7.33	8.14		9.18	8.45	7.58
	H1 lead leg	R	strides	21	13	13		14	14		14	14	17.7	92.7				
Müller, Vít (CZE) (1996)	time	6.04	9.88		17.52	21.49		30.03	34.87	39.64	44.51			50.18	5 / 3			
	reaction time	0.177	interval	3.84	7.64	3.97		8.54	4.84	4.77	4.87	5.67				11.48	12.51	14.48
	velocity	7.45	9.11		9.16	8.82		8.20	7.23	7.34	7.19	7.05	7.97			9.15	8.39	7.25
	H1 lead leg	L	strides	21	13	13					15	15	77					
Baluch, Matej (SVK) (2000)	time	6.00	9.78		17.55	21.55		30.26	35.13	40.07	45.14			50.74	4 / 4			
	reaction time	0.154	interval	3.78	7.77	4.00		8.71	4.87	4.94	5.07	5.60	=PB			11.55	12.71	14.88
	velocity	7.50	9.26		9.01	8.75		8.04	7.19	7.09	6.90	7.14	7.88			9.09	8.26	7.06
	H1 lead leg	R	strides	23	15	15					17	17	87					
Kučera, Martin (SVK) (1990)	time	6.17	10.08	14.11	18.12	22.25		26.59	31.06	35.90	40.57			50.84	7 / 5			
	reaction time	0.185	interval	3.91	4.03	4.01	4.13	4.34	4.47	4.84	4.67					11.95	12.94	
	velocity	7.29	8.95	8.68	8.73	8.47		8.06	7.83	7.23	7.49			7.87		8.79	8.11	
	H1 lead leg	R	strides	20	13	13	13		14		14		87					
Mikołajewski, Gabriel (POL) (1991)	time	6.14	10.04	14.14	18.12			31.13	35.97	40.84				51.42	3 / 6			
	reaction time	0.145	interval	3.90	4.10	3.98		13.01	4.84	4.87						11.98	13.01	
	velocity	7.33	8.97	8.54	8.79			8.07	7.23	7.19				7.78		8.76	8.07	
	H1 lead leg	L	strides	21	14	14	14				15		78					
Juránek, Martin (CZE) (1991)	time	6.10	10.04	13.98	17.95	22.09		30.63	35.30	40.24				51.71	2 / 7			
	reaction time	0.166	interval	3.94	3.94	3.97	4.14	8.54	4.67	4.94						11.85	12.68	
	velocity	7.38	8.88	8.88	8.82	8.45		8.20	7.49	7.09				7.74		8.86	8.28	
	H1 lead leg	L	strides	22	15	15	15				17	17	101					

2020 World Athletics Trials (Fuji, JPN)**Final**

date 06-Sep-20

Sugimoto (2020) - race pattern analysis of japan's top male and female 400m hurdlers- 2020 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Toyoda, Masaki (JPN) (1998)	time	6.09	9.96	13.91	18.07	22.17		26.38	30.56	34.93	39.52	44.23		49.63	/ 1			
	reaction time		interval	3.87	3.95	4.16	4.10	4.21	4.18	4.37	4.59	4.71	5.40			11.98	12.49	13.67
	velocity	7.39	9.04	8.86	8.41	8.54		8.31	8.37	8.01	7.63	7.43	7.41	8.06		8.76	8.41	7.68
	H1 lead leg		strides	14	14	14	14	14	14	15	15	15	129					
Obayashi, Masayuki (JPN) (1991)	time	5.96	9.86	13.85	18.00	22.12		26.36	30.63	35.02	39.62	44.53		50.22	/ 2			
	reaction time		interval	3.90	3.99	4.15	4.12	4.24	4.27	4.39	4.60	4.91	5.69			12.04	12.63	13.90
	velocity	7.55	8.97	8.77	8.43	8.50		8.25	8.20	7.97	7.61	7.13	7.03	7.96		8.72	8.31	7.55
	H1 lead leg		strides	14	14	14	15	15	15	15	15	15	132					
Takada, Kazunari (JPN) (1991)	time	6.04	9.81	13.71	17.77	21.92		26.16	30.56	35.14	39.94	45.10		51.11	/ 3			
	reaction time		interval	3.77	3.90	4.06	4.15	4.24	4.40	4.58	4.80	5.16	6.01			11.73	12.79	14.54
	velocity	7.45	9.28	8.97	8.62	8.43		8.25	7.95	7.64	7.29	6.78	6.66	7.83		8.95	8.21	7.22
	H1 lead leg		strides	13	13	14	14	14	14	15	15	16	128					

B Final

date 06-Sep-20

Sugimoto (2020) - race pattern analysis of japan's top male and female 400m hurdlers- 2020 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Yoshida, Kyohei (JPN) (1997)	time	6.01	9.84	13.75	17.80	21.94		26.21	30.58	35.22	39.97	44.79		50.32	5 / 1			
	reaction time		interval	3.83	3.91	4.05	4.14	4.27	4.37	4.64	4.75	4.82	5.53			11.79	12.78	14.21
	velocity	7.49	9.14	8.95	8.64	8.45		8.20	8.01	7.54	7.37	7.26	7.23	7.95		8.91	8.22	7.39
	H1 lead leg	L	strides	21	14	14	14	14	14	15	15	15	19	169				
Iwamoto, Takeshi (JPN) (1991)	time	6.14	9.98	13.93	17.92	22.09		26.36	30.83	35.41	40.32	45.28		50.56	4 / 2			
	reaction time		interval	3.84	3.95	3.99	4.17	4.27	4.47	4.58	4.91	4.96	5.28			11.78	12.91	14.45
	velocity	7.33	9.11	8.86	8.77	8.39		8.20	7.83	7.64	7.13	7.06	7.58	7.91		8.91	8.13	7.27
	H1 lead leg	L	strides	20	13	13	13	13	13	13	14	14	16.2	155.2				
Ina, Sota (JPN) (2000)	time	6.24	10.26	14.18	18.28	22.51		26.78	31.18	35.84	40.59	45.33		50.67	7 / 3			
	reaction time		interval	4.02	3.92	4.10	4.23	4.27	4.40	4.66	4.75	4.74	5.34			12.04	12.90	14.15
	velocity	7.21	8.71	8.93	8.54	8.27		8.20	7.95	7.51	7.37	7.38	7.49	7.89		8.72	8.14	7.42
	H1 lead leg	R	strides	21	13	13	14	14	14	15	15	15	18	166				

Inoue, Kakeru (JPN) (1996)	time	6.12	10.01	13.96	18.03	22.17	26.43	30.86	35.49	40.31	45.31	51.11	6 / 4			
	reaction time		3.89	3.95	4.07	4.14	4.26	4.43	4.63	4.82	5.00	5.80		11.91	12.83	14.45
	velocity	7.35	9.00	8.86	8.60	8.45	8.22	7.90	7.56	7.26	7.00	6.90	7.83	8.82	8.18	7.27
	H1 lead leg	R	21	13	13	13	14	14	15	15	15	18.7	164.7			
Yamamoto, Takeshi (JPN) (1	time	6.09	9.96	13.91	17.95	22.09	26.38	30.75	35.30	40.16	45.40	51.44	3 / 5			
	reaction time		3.87	3.95	4.04	4.14	4.29	4.37	4.55	4.86	5.24	6.04		11.86	12.80	14.65
	velocity	7.39	9.04	8.86	8.66	8.45	8.16	8.01	7.69	7.20	6.68	6.62	7.78	8.85	8.20	7.17
	H1 lead leg	R	22	14	14	14	15	15	15	15	17	20	175			

2020 Bauhaus Galan (Stockholm, SWE) (TV Analysis)

FINAL

date 23-Aug-20

Henson (2020) - Athlete First: 2020 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (19	time	5.58	9.14	12.80	16.60	20.44	22.2	24.42	28.48	32.64	36.94	41.48		46.87	8 / 1			
	reaction time	0.161	interval	3.56	3.66	3.80	3.84	3.98	4.06	4.16	4.30	4.54	5.39	AR PB		11.02	11.88	13.00
	velocity	8.06	9.83	9.56	9.21	9.11	9.01	8.79	8.62	8.41	8.14	7.71	7.42	8.53		9.53	8.84	8.08
	H1 lead leg	L	20	13	13	13	13	13	13	13	13	15	18	157				
Happio, Wilfried (FRA) (199	time	5.86		13.48	17.44	21.40	23.2	25.54		34.36	38.94	43.64		49.14	5 / 2			
	reaction time	0.141	interval		7.62	3.96	3.96	4.14		8.82	4.58	4.70	5.50			11.58		
	velocity	7.68		9.19	8.84	8.84	8.62	8.45		7.94	7.64	7.45	7.27	8.14		9.07		
	H1 lead leg	L	20	13		13	13	13			15	15	18.5	120.5				
Valliant, Ludvy (FRA) (1995)	time	5.86		13.58	17.68	21.90	23.7	26.14		34.86	39.36	43.92		49.18	3 / 3			
	reaction time	0.169	interval		7.72	4.10	4.22	4.24		8.72	4.50	4.56	5.26			11.82		
	velocity	7.68		9.07	8.54	8.29	8.44	8.25		8.03	7.78	7.68	7.60	8.13		8.88		
	H1 lead leg	R	21	13		13	14	14		14	14	14	17	134				
Mägi, Rasmus (EST) (1992)	time	5.98		13.68	17.62	21.60	23.4	25.76		34.72	39.32	43.98		49.40	4 / 4			
	reaction time	0.159	interval		7.70	3.94	3.98	4.16		8.96	4.60	4.66	5.42			11.64		
	velocity	7.53		9.09	8.88	8.79	8.55	8.41		7.81	7.61	7.51	7.38	8.10		9.02		
	H1 lead leg	L	20	13		13	13	13			14	14	17.2	117.2				
Kendziera, David (USA) (199	time	5.68	9.46	13.30	17.28	21.34	23.1	25.50	29.78	34.24	38.94	43.68		49.47	7 / 5			
	reaction time	0.170	interval		3.78	3.84	3.98	4.06		4.16	4.28	4.46	4.74	5.79		11.60	12.50	13.90
	velocity	7.92	9.26	9.11	8.79	8.62	8.66	8.41	8.18	7.85	7.45	7.38	6.91	8.09		9.05	8.40	7.55
	H1 lead leg	R		13	13	13	13	13		13	14	14	18.5	124.5				
Preis, Constantin (GER) (19	time	6.10		13.96	18.02	22.12	23.9	26.32		35.44	40.12	44.80		50.13	2 / 6			
	reaction time	0.232	interval		7.86	4.06	4.10	4.20		9.12	4.68	4.68	5.33			11.92		
	velocity	7.38		8.91	8.62	8.54	8.37	8.33		7.68	7.48	7.48	7.50	7.98		8.81		
	H1 lead leg	L	21		14	14	14	14		15	15	18	111					
Bengtström, Carl (SWE) (20	time	5.82		13.90	17.96	22.18	24.0	26.50	30.92	35.50	40.20	44.94		50.21	6 / 7			
	reaction time	0.187	interval		8.08	4.06	4.22	4.32	4.42	4.58	4.70	4.74	5.27			12.14	12.96	14.02
	velocity	7.73		8.66	8.62	8.29	8.33	8.10	7.92	7.64	7.45	7.38	7.59	7.97		8.65	8.10	7.49
	H1 lead leg	L	21	14		14	14	15		15	15	15	123					
Angela, Ramsey (NED) (1999	time	6.16		13.90	17.94	22.12	24.0	26.44		35.58	40.42	45.50		51.90	1 / 8			
	reaction time	0.210	interval		7.74	4.04	4.18	4.32		9.14	4.84	5.08	6.40			11.78		
	velocity	7.31		9.04	8.66	8.37	8.33	8.10		7.66	7.23	6.89	6.25	7.71		8.91		
	H1 lead leg	R	21	14		14	14	15		15	16	16	109					

2020 Seiko Golden Grand Prix (Tokyo, JPN)

FINAL

date 23-Aug-20

Sugimoto (2020) - race pattern analysis of japan's top male and female 400m hurdlers- 2020 season

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Abe, Takatoshi (JPN) (1991)	time	5.96	9.64	13.36	17.20	21.12		25.23	29.58	34.08	38.79	43.66		49.31	6 / 1			
	reaction time	0.150	interval		3.68	3.72	3.84	3.92		4.11	4.35	4.50	4.71	4.87		11.24	12.38	14.08
	velocity	7.55	9.51	9.41	9.11	8.93		8.52	8.05	7.78	7.43	7.19	7.08	8.11		9.34	8.48	7.46
	H1 lead leg		13	13	13	13		13	14	14	15	15	123					
Toyoda, Masaki (JPN) (1998)	time	6.01	9.91	13.85	17.90	21.97		26.21	30.46	34.83	39.52	44.29		49.82	5 / 2			
	reaction time	0.146	interval		3.90	3.94	4.05	4.07		4.24	4.25	4.37	4.69	5.53		11.89	12.56	13.83
	velocity	7.49	8.97	8.88	8.64	8.60		8.25	8.24	8.01	7.46	7.34	7.23	8.03		8.83	8.36	7.59
	H1 lead leg		14	14	14	14		14	14	15	15	15	129					
Yamamoto, Tatsuhiro (JPN)	time	6.01	9.86	13.80	17.77	21.87		26.16	30.61	35.17	39.92	44.79		50.34	4 / 3			
	reaction time	0.137	interval		3.85	3.94	3.97	4.10		4.29	4.45	4.56	4.75	5.55		11.76	12.84	14.18
	velocity	7.49	9.09	8.88	8.82	8.54		8.16	7.87	7.68	7.37	7.19	7.21	7.95		8.93	8.18	7.40
	H1 lead leg		14	14	14	14		15	15	15	15	15	131					
Takada, Kazunari (JPN) (199	time	6.04	9.84	13.71	17.67	21.86		26.13	30.53	35.07	39.87	44.84		50.53	2 / 4			
	reaction time	0.191	interval		3.80	3.87	3.96	4.19		4.27	4.40	4.54	4.80	5.69		11.63	12.86	14.31
	velocity	7.45	9.21	9.04	8.84	8.35		8.20	7.95	7.71	7.29	7.04	7.03	7.92		9.03	8.16	7.34
	H1 lead leg		13	13	14	14		14	14	15	15	15	127					
Matsushita, Yuki (JPN) (1991)	time	6.14	9.91	13.78	17.82	22.01		26.36	30.83	35.42	40.09	44.89		50.60	7 / 5			

reaction time	0.147	interval	3.77	3.87	4.04	4.19	4.35	4.47	4.59	4.67	4.80	5.71		11.68	13.01	14.06	
		velocity	7.33	9.28	9.04	8.66	8.35	8.05	7.83	7.63	7.49	7.29	7.01	7.91	8.99	8.07	7.47
H1 lead leg		strides	13	13	13	13	14	14	15	15	15		125				
Oda, Masaya (JPN) (1995)	time	6.01	9.76	13.56	17.57	21.77	26.08	30.51	35.14	39.92	45.05		50.73	9 / 6			
reaction time	0.159	interval	3.75	3.80	4.01	4.20	4.31	4.43	4.63	4.78	5.13	5.68		11.56	12.94	14.54	
		velocity	7.49	9.33	9.21	8.73	8.33	8.12	7.90	7.56	7.32	6.82	7.04	7.88	9.08	8.11	7.22
H1 lead leg		strides	14	14	14	14	14	14	15	15	16		130				
Sugumati, Mahau (BRA) (1992)	time	6.16	9.96	13.86	17.83	21.91	26.16	30.51	35.15	40.04	45.08		50.99	8 / 7			
reaction time	0.152	interval	3.80	3.90	3.97	4.08	4.25	4.35	4.64	4.89	5.04	5.91		11.67	12.68	14.57	
		velocity	7.31	9.21	8.97	8.82	8.58	8.24	8.05	7.54	7.16	6.94	6.77	7.84	9.00	8.28	7.21
H1 lead leg		strides	12	12	13	13	13	13	13	13	14	14	117				
Kawagoe, Hiroya (JPN) (1997)	time	5.92	9.76	13.65	17.63	21.74	26.01	30.38	34.87	39.56	44.93		52.17	3 / 8			
reaction time	0.142	interval	3.84	3.89	3.98	4.11	4.27	4.37	4.49	4.69	5.37	7.24		11.71	12.75	14.55	
		velocity	7.60	9.11	9.00	8.79	8.52	8.20	8.01	7.80	7.46	6.52	5.52	7.67	8.97	8.24	7.22
H1 lead leg		strides	14	14	14	14	15	15	15	15	17		133				
Suzuki, Taiga (JPN) (2002)	time	6.01	9.86	13.78	17.85	22.02	26.44	31.05	35.79	40.74	45.90		52.19	1 / 9			
reaction time	0.152	interval	3.85	3.92	4.07	4.17	4.42	4.61	4.74	4.95	5.16	6.29		11.84	13.20	14.85	
		velocity	7.49	9.09	8.93	8.60	8.39	7.92	7.59	7.38	7.07	6.78	6.36	7.66	8.87	7.95	7.07
H1 lead leg		strides	14	14	14	14	15	15	15	15	15		131				

2020 Herculis Meeting International d'Athletisme (Monaco, MON) (TV Analysis)

FINAL

date 14-Aug-20

Henson (2020) - Athlete First: 2020 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1988)	time	5.60	9.27	13.11	16.98	20.92		25.02	29.23	33.47	37.80	42.17		47.10	7 / 1				
reaction time	0.132	interval	3.67	3.84	3.87	3.94		4.10	4.21	4.24	4.33	4.37	4.93				11.38	12.25	12.94
		velocity	8.04	9.54	9.11	9.04	8.88		8.54	8.31	8.25	8.08	8.01	8.11	8.49		9.23	8.57	8.11
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	13	13	13	17	154				
Copello, Yasmani (TUR) (1992)	time	5.81	9.44	13.25	17.15	21.12		25.25	29.63	34.07	38.67	43.44		49.04	5 / 2				
reaction time	0.192	interval	3.63	3.81	3.90	3.97		4.13	4.38	4.44	4.60	4.77	5.60				11.34	12.48	13.81
		velocity	7.75	9.64	9.19	8.97	8.82		8.47	7.99	7.88	7.61	7.34	7.14	8.16		9.26	8.41	7.60
H1 lead leg	R	strides	20	13	13	13	13	13	14	14	14	14	18	159					
Mägi, Rasmus (EST) (1992)	time	6.00	9.74	13.61	17.55		25.79	30.16	34.60	39.24	43.88		49.23	4 / 3					
reaction time	0.146	interval	3.74	3.87	3.94		4.24	4.37	4.44	4.64	4.64	5.35					11.55	12.61	13.72
		velocity	7.50	9.36	9.04	8.88		8.50	8.01	7.88	7.54	7.54	7.48	8.13			9.09	8.33	7.65
H1 lead leg	L	strides	21	13	13	13		14	14	14	14	14	17.2	133.2					
Valliant, Ludvy (FRA) (1995)	time	5.84	9.47	13.35	17.32	21.39		25.66	30.06	34.53	39.20	43.98		49.35	6 / 4				
reaction time	0.173	interval	3.63	3.88	3.97	4.07		4.27	4.40	4.47	4.67	4.78	5.37				11.48	12.74	13.92
		velocity	7.71	9.64	9.02	8.82	8.60		8.20	7.95	7.83	7.49	7.32	7.45	8.11		9.15	8.24	7.54
H1 lead leg	R	strides	21	13	13	13	13	14	14	14	14	14	14	143					
Preis, Constantin (GER) (1992)	time	6.00	9.81	13.71	17.75	21.92		26.26	30.76	35.27	39.87	44.44		49.49	8 / 5				
reaction time	0.251	interval	3.81	3.90	4.04	4.17		4.34	4.50	4.51	4.60	4.57	5.05				11.75	13.01	13.68
		velocity	7.50	9.19	8.97	8.66	8.39		8.06	7.78	7.76	7.61	7.66	7.92	8.08		8.94	8.07	7.68
H1 lead leg	L	strides	22	14	14	14	14	15	15	15	15	15	15	138					

2020 Shimane High School Championships (Izumo, JPN)

FINAL

date 12-Jul-20

Shimizu (2020) - shimane high school championships 2020 - biomechanics data analysis

森田 光典	time	6.45	10.75	15.08	19.47	23.95		28.50	33.23	38.18	43.60	49.10		55.31	5 / 1				
reaction time		interval	4.30	4.33	4.39	4.48		4.55	4.73	4.95	5.42	5.50	6.21				13.02	13.76	15.87
		velocity	6.98	8.14	8.08	7.97	7.81		7.69	7.40	7.07	6.46	6.36	6.44	7.23		8.06	7.63	6.62
H1 lead leg		strides	22	15	15	15	15	15	15	15	15	17	17	21	182				
山根 悠介	time	6.42	10.65	15.03	19.52	24.12		28.87	33.85	39.18	44.57	50.08		56.41	7 / 2				
reaction time		interval	4.23	4.38	4.49	4.60		4.75	4.98	5.33	5.39	5.51	6.33				13.10	14.33	16.23
		velocity	7.01	8.27	7.99	7.80	7.61		7.37	7.03	6.57	6.49	6.35	6.32	7.09		8.02	7.33	6.47
H1 lead leg		strides	22	15	15	15	15	15	15	16	16	16	17	20.7	181.7				
新田 貴也	time	6.67	11.23	15.93	20.80	25.80		30.80	35.95	41.33	47.13	53.07		59.62	4 / 3				
reaction time		interval	4.56	4.70	4.87	5.00		5.00	5.15	5.38	5.80	5.94	6.55				14.13	15.15	17.12
		velocity	6.75	7.68	7.45	7.19	7.00		7.00	6.80	6.51	6.03	5.89	6.11	6.71		7.43	6.93	6.13
H1 lead leg		strides	24	16	16	17	17	17	17	17	19	19	22.5	201.5					
外野 晴琉	time	6.75	11.37	16.20	21.03	26.10		31.27	36.60	42.37	48.48	54.65		61.63	3 / 4				
reaction time		interval	4.62	4.83	4.83	5.07		5.17	5.33	5.77	6.11	6.17	6.98				14.28	15.57	18.05
		velocity	6.67	7.58	7.25	7.25	6.90		6.77	6.57	6.07	5.73	5.67	5.73	6.49		7.35	6.74	5.82
H1 lead leg		strides	22	15	15	15	15	15	15	17	17	17	20	183					

2020 Impossible Games (Oslo, NOR) (TV Analysis) (300m Hurdles)

FINAL

date 11-Jun-20

Henson (2020) - Athlete First: 2020 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
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Warholm, Karsten (NOR) (1f	time	6.24	9.74	13.38	17.15	21.02	25.02	29.13							33.78	7 / 1			
reaction time	0.182	interval	3.50	3.64	3.77	3.87	4.00	4.11				4.65	WB PB				10.91	11.98	
		velocity	8.01	10.00	9.62	9.28	9.04	8.75	8.52			8.60	8.88				9.62	8.76	
H1 lead leg	L	strides	20	13	13	13	13	13	13			16.5	114.5						

2019 National Sports Festival (Hitachinaka, JPN)**FINAL**

date 05-Oct-19

Enomoto (2019) - research on athlete performance and technique- 2019 data book

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Oda, Masaya (JPN) (1995)	time	5.96	9.68	13.46	17.40	21.52	25.89	30.26	34.65	39.17	43.91			49.42	6 / 1			
reaction time	0.179	interval	3.72	3.78	3.94	4.12	4.37	4.37	4.39	4.52	4.74	5.51	PB			11.44	12.86	13.65
		velocity	7.55	9.41	9.26	8.88	8.50	8.01	8.01	7.97	7.74	7.38	7.26	8.09		9.18	8.16	7.69
H1 lead leg		strides	14	14	14	14	15	15	15	15	15	15		131				

2019 IAAF World Championships (Doha, QAT)**FINAL**

date 30-Sep-19

Kakehata (2019) - race analysis of men's 400m hurdles 2019 World Championships

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1f	time	5.75	9.29	12.93	16.68	20.56	24.56	28.68	32.91	37.40	42.01			47.42	4 / 1			
reaction time	0.164	interval	3.54	3.64	3.75	3.88	4.00	4.12	4.23	4.49	4.61	5.41				10.93	12.00	13.33
		velocity	7.83	9.89	9.62	9.33	9.02	8.75	8.50	8.27	7.80	7.59	7.39	8.44		9.61	8.75	7.88
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	13	15	18.2	157.2				
Benjamin, Rai (USA) (1997)	time	5.78	9.35	13.03	16.83	20.80	24.84	29.01	33.24	37.57	42.15			47.66	7 / 2			
reaction time	0.205	interval	3.57	3.68	3.80	3.97	4.04	4.17	4.23	4.33	4.58	5.51				11.05	12.18	13.14
		velocity	7.79	9.80	9.51	9.21	8.82	8.66	8.39	8.27	8.08	7.64	7.26	8.39		9.50	8.62	7.99
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	17	154					
Samba, Abderrahmane (QAT)	time	5.97	9.65	13.40	17.27	21.22	25.29	29.52	33.85	38.30	42.80			48.03	9 / 3			
reaction time	0.198	interval	3.68	3.75	3.87	3.95	4.07	4.23	4.33	4.45	4.50	5.23				11.30	12.25	13.28
		velocity	7.54	9.51	9.33	9.04	8.86	8.60	8.27	8.08	7.87	7.78	7.65	8.33		9.29	8.57	7.91
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	14	14	17.5	156.5				
McMaster, Kyron (IVB) (1997)	time	5.75	9.33	13.02	16.78	20.64	24.67	28.85	33.25	37.72	42.49			48.10	2 / 4			
reaction time	0.171	interval	3.58	3.69	3.76	3.86	4.03	4.18	4.40	4.47	4.77	5.61				11.03	12.07	13.64
		velocity	7.83	9.78	9.49	9.31	9.07	8.68	8.37	7.95	7.83	7.34	7.13	8.32		9.52	8.70	7.70
H1 lead leg	L	strides	21	13	13	13	13	13	14	14	14	14	18.2	160.2				
Holmes, TJ (USA) (1995)	time	6.00	9.63	13.36	17.08	20.96	25.06	29.34	33.76	38.48	43.10			48.20	3 / 5			
reaction time	0.193	interval	3.63	3.73	3.72	3.88	4.10	4.28	4.42	4.72	4.62	5.10	PB			11.08	12.26	13.76
		velocity	7.50	9.64	9.38	9.41	9.02	8.54	8.18	7.92	7.42	7.58	7.84	8.30		9.48	8.56	7.63
H1 lead leg	L	strides	20	13	13	13	13	13	13	14	14	14	17	157				
Copello, Yasmani (TUR) (19f	time	5.87	9.50	13.17	16.94	20.82	24.84	29.08	33.50	37.98	42.75			48.25	6 / 6			
reaction time	0.177	interval	3.63	3.67	3.77	3.88	4.02	4.24	4.42	4.48	4.77	5.50				11.07	12.14	13.67
		velocity	7.67	9.64	9.54	9.28	9.02	8.71	8.25	7.92	7.81	7.34	7.27	8.29		9.49	8.65	7.68
H1 lead leg	R	strides	20	13	13	13	13	13	13	14	14	15	18	159				
dos Santos, Alison Brendon	time	6.07	9.89	13.77	17.60	21.54	25.55	29.73	33.96	38.39	42.99			48.28	5 / 7			
reaction time	0.208	interval	3.82	3.88	3.83	3.94	4.01	4.18	4.23	4.43	4.60	5.29	AJR PB			11.53	12.13	13.26
		velocity	7.41	9.16	9.02	9.14	8.88	8.73	8.37	8.27	7.90	7.61	7.56	8.29		9.11	8.66	7.92
H1 lead leg	L	strides	20	13	13	12	12	13	13	13	14	14	16	153				
Lahoulou, Abdelmalik (ALG)	time	6.02	9.60	13.23	16.96	20.84	24.97	29.36	33.94	38.72	43.67			49.46	8 / 8			
reaction time	0.187	interval	3.58	3.63	3.73	3.88	4.13	4.39	4.58	4.78	4.95	5.79				10.94	12.40	14.31
		velocity	7.48	9.78	9.64	9.38	9.02	8.47	7.97	7.64	7.32	7.07	6.91	8.09		9.60	8.47	7.34
H1 lead leg	L	strides	22	13	13	13	13	14	14	15	15	15	18	165				

Semi-Final 3

date 28-Sep-19

Kakehata (2019) - race analysis of men's 400m hurdles 2019 World Championships

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.82	9.47	13.24	17.17	21.24	25.38	29.56	33.88	38.32	42.93			48.52	6 / 1			
reaction time	0.215	interval	3.65	3.77	3.93	4.07	4.14	4.18	4.32	4.44	4.61	5.59				11.35	12.39	13.37
		velocity	7.73	9.59	9.28	8.91	8.60	8.45	8.37	8.10	7.88	7.59	7.16	8.24		9.25	8.47	7.85
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	13	16.7	153.7				
Samba, Abderrahmane (QAT)	time	6.00	9.78	13.51	17.41	21.40	25.57	29.84	34.31	38.76	43.33			48.72	5 / 2			
reaction time	0.220	interval	3.78	3.73	3.90	3.99	4.17	4.27	4.47	4.45	4.57	5.39				11.41	12.43	13.49
		velocity	7.50	9.26	9.38	8.97	8.77	8.39	8.20	7.83	7.87	7.66	7.42	8.21		9.20	8.45	7.78
H1 lead leg	R	strides	21	13	13	13	13	13	13	14	14	14	17.2	158.2				
Abe, Takatoshi (JPN) (1991)	time	5.90	9.63	13.42	17.28	21.31	25.44	29.82	34.30	38.88	43.53			48.97	4 / 3			
reaction time	0.161	interval	3.73	3.79	3.86	4.03	4.13	4.38	4.48	4.58	4.65	5.44				11.38	12.54	13.71
		velocity	7.63	9.38	9.23	9.07	8.68	8.47	7.99	7.81	7.64	7.53	7.35	8.17		9.23	8.37	7.66
H1 lead leg	R	strides	21	13	13	13	13	13	14	14	15	15	18	162				
Barr, Thomas (IRL) (1992)	time	5.87	9.62	13.44	17.31	21.34	25.47	29.85	34.28	38.83	43.51			49.02	7 / 4			
reaction time	0.131	interval	3.75	3.82	3.87	4.03	4.13	4.38	4.43	4.55	4.68	5.51				11.44	12.54	13.66
		velocity	7.67	9.33	9.16	9.04	8.68	8.47	7.99	7.90	7.69	7.48	7.26	8.16		9.18	8.37	7.69
H1 lead leg	L	strides	21	13	13	13	13	13	14	14	14	14	18.2	160.2				

Madari Palliyalil, Jabir (IND) (time)	5.95	9.82	13.69	17.64	21.74	25.92	30.19	34.61	39.24	44.12		49.71	9 / 5			
reaction time	0.199	interval	3.87	3.87	3.95	4.10	4.18	4.27	4.42	4.63	4.88	5.59		11.69	12.55	13.93
velocity	7.56	9.04	9.04	8.86	8.54	8.37	8.20	7.92	7.56	7.17	7.16	8.05		8.98	8.37	7.54
H1 lead leg	L	strides	22	15	15	15	15	15	16	16	19.7	178.7				

Vega, Fernando (MEX) (1998 time)	5.93	9.78	13.64	17.62	21.62	25.80	30.20	34.68	39.35	44.25		49.96	2 / 6			
reaction time	0.220	interval	3.85	3.86	3.98	4.00	4.18	4.40	4.48	4.67	4.90	5.71		11.69	12.58	14.05
velocity	7.59	9.09	9.07	8.79	8.75	8.37	7.95	7.81	7.49	7.14	7.01	8.01		8.98	8.35	7.47
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	19	176				

Müller, Vit (CZE) (1996 time)	6.08	9.83	13.56	17.39	21.44	25.60	30.04	34.66	39.36	44.23		49.97	3 / 7			
reaction time	0.178	interval	3.75	3.73	3.83	4.05	4.16	4.44	4.62	4.70	4.87	5.74		11.31	12.65	14.19
velocity	7.40	9.33	9.38	9.14	8.64	8.41	7.88	7.58	7.45	7.19	6.97	8.00		9.28	8.30	7.40
H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	18.5				

Semi-Final 2

date 28-Sep-19

Kakehata (2019) - race analysis of men's 400m hurdles 2019 World Championships

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1991 time)	5.73	9.33	13.00	16.74	20.60	24.68	28.91	33.24	37.88	42.61		48.28	4 / 1				
reaction time	0.154	interval	3.60	3.67	3.74	3.86	4.08	4.23	4.33	4.64	4.73	5.67		11.01	12.17	13.70	
velocity	7.85	9.72	9.54	9.36	9.07	8.58	8.27	8.08	7.54	7.40	7.05	8.29		9.54	8.63	7.66	
H1 lead leg	L	strides	20	13	13	13	13	13	13	15	15	17.2		158.2			

Lahoulou, Abdelmalik (ALG) (1991 time)	6.05	9.67	13.30	17.03	20.93	25.05	29.38	33.90	38.48	43.11		48.39	6 / 2			
reaction time	0.159	interval	3.62	3.63	3.73	3.90	4.12	4.33	4.52	4.58	4.63	5.28	NR PB	10.98	12.35	13.73
velocity	7.44	9.67	9.64	9.38	8.97	8.50	8.08	7.74	7.64	7.56	7.58	8.27		9.56	8.50	7.65
H1 lead leg	L	strides	22	13	13	13	13	13	14	14	14	18		160		

Holmes, TJ (USA) (1995 time)	5.90	9.49	13.18	16.95	20.97	25.16	29.45	34.05	38.59	43.38		48.67	7 / 3			
reaction time	0.258	interval	3.59	3.69	3.77	4.02	4.19	4.29	4.60	4.54	4.79	5.29		11.05	12.50	13.93
velocity	7.63	9.75	9.49	9.28	8.71	8.35	8.16	7.61	7.71	7.31	7.56	8.22		9.50	8.40	7.54
H1 lead leg	L	strides	20	13	13	13	13	13	14	14	14	17		157		

Vaillant, Ludvy (FRA) (1995 time)	6.00	9.59	13.30	17.08	21.03	25.17	29.52	33.98	38.66	43.45		49.10	5 / 4			
reaction time	0.209	interval	3.59	3.71	3.78	3.95	4.14	4.35	4.46	4.68	4.79	5.65		11.08	12.44	13.93
velocity	7.50	9.75	9.43	9.26	8.86	8.45	8.05	7.85	7.48	7.31	7.08	8.15		9.48	8.44	7.54
H1 lead leg	R	strides	21	13	13	13	13	14	14	14	14	17.7		159.7		

McAlister, Chris (GBR) (1991 time)	6.13	9.96	13.84	17.76	21.82	26.01	30.33	34.80	39.32	43.94		49.18	9 / 5			
reaction time	0.165	interval	3.83	3.88	3.92	4.06	4.19	4.32	4.47	4.52	4.62	5.24	PB	11.63	12.57	13.61
velocity	7.34	9.14	9.02	8.93	8.62	8.35	8.10	7.83	7.74	7.58	7.63	8.13		9.03	8.35	7.71
H1 lead leg	R	strides	22	14	14	14	14	15	15	15	15	19		171		

Campbell, Luke (GER) (1994 time)	5.82	9.47	13.17	17.00	21.02	25.25	29.66	34.27	39.00	44.01		50.00	3 / 6			
reaction time	0.146	interval	3.65	3.70	3.83	4.02	4.23	4.41	4.61	4.73	5.01	5.99		11.18	12.66	14.35
velocity	7.73	9.59	9.46	9.14	8.71	8.27	7.94	7.59	7.40	6.99	6.68	8.00		9.39	8.29	7.32
H1 lead leg	L	strides	21	13	13	13	14	14	15	15	15	19		165		

Dobek, Patryk (POL) (1994 time)	6.08	9.84	13.67	17.59	21.74	26.00	30.33	34.81	39.44	44.39		50.18	8 / 7			
reaction time	0.174	interval	3.76	3.83	3.92	4.15	4.26	4.33	4.48	4.63	4.95	5.79		11.51	12.74	14.06
velocity	7.40	9.31	9.14	8.93	8.43	8.22	8.08	7.81	7.56	7.07	6.91	7.97		9.12	8.24	7.47
H1 lead leg	L	strides	20	13	13	13	13	13	14	14	17	17.7		160.7		

Toyoda, Masaki (JPN) (1998 time)	6.00	9.80	13.60	17.57	21.70	26.03	30.44	35.05	39.84	44.69		50.30	2 / 8			
reaction time	0.207	interval	3.80	3.80	3.97	4.13	4.33	4.41	4.61	4.79	4.85	5.61		11.57	12.87	14.25
velocity	7.50	9.21	9.21	8.82	8.47	8.08	7.94	7.59	7.31	7.22	7.13	7.95		9.08	8.16	7.37
H1 lead leg	L	strides	21	14	14	14	14	14	15	15	15	18		168		

Semi-Final 1

date 28-Sep-19

Kakehata (2019) - race analysis of men's 400m hurdles 2019 World Championships

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
dos Santos, Alison Brendon (1991 time)	6.12	9.84	13.68	17.51	21.49	25.56	29.76	34.13	38.65	43.25		48.35	6 / 1				
reaction time	0.211	interval	3.72	3.84	3.83	3.98	4.07	4.20	4.37	4.52	4.60	5.10	AJR PB	11.39	12.25	13.49	
velocity	7.35	9.41	9.11	9.14	8.79	8.60	8.33	8.01	7.74	7.61	7.84	8.27		9.22	8.57	7.78	
H1 lead leg	L	strides	20	13	13	12	12	13	13	14	14	16.5		153.5			

Copello, Yasmani (TUR) (1991 time)	5.97	9.66	13.46	17.32	21.29	25.41	29.61	34.03	38.41	43.08		48.39	3 / 2			
reaction time	0.232	interval	3.69	3.80	3.86	3.97	4.12	4.20	4.42	4.38	4.67	5.31		11.35	12.29	13.47
velocity	7.54	9.49	9.21	9.07	8.82	8.50	8.33	7.92	7.99	7.49	7.53	8.27		9.25	8.54	7.80
H1 lead leg	R	strides	20	13	13	13	13	14	14	15	15	18		161		

McMaster, Kyron (IVB) (1997 time)	5.88	9.76	13.51	17.29	21.19	25.24	29.42	33.85	38.35	42.97		48.40	5 / 3			
reaction time	0.229	interval	3.88	3.75	3.78	3.90	4.05	4.18	4.43	4.50	4.62	5.43		11.41	12.13	13.55
velocity	7.65	9.02	9.33	9.26	8.97	8.64	8.37	7.90	7.78	7.58	7.37	8.26		9.20	8.66	7.75
H1 lead leg	L	strides	21	13	13	13	13	13	14	14	14	18		159		

Mägi, Rasmus (EST) (1992 time)	6.15	9.94	13.77	17.70	21.77	25.97	30.34	34.72	39.19	43.72		48.93	7 / 4			
reaction time	0.140	interval	3.79	3.83	3.93	4.07	4.20	4.37	4.38	4.47	4.53	5.21		11.55	12.64	13.38
velocity	7.32	9.23	9.14	8.91	8.60	8.33	8.01	7.99	7.83	7.73	7.68	8.17		9.09	8.31	7.85
H1 lead leg	L	strides	21	13	13	13	13	14	14	14	14	17.2		159.2		

Touati, Mohamed Amin (TUI)	time	6.20	10.04	13.92	17.80	21.88	26.06	30.28	34.63	39.11	43.76	49.14	4 / 5				
	reaction time	0.179	interval	3.84	3.88	3.88	4.08	4.18	4.22	4.35	4.48	4.65	5.38	PB	11.60	12.48	13.48
	velocity	7.26	9.11	9.02	9.02	8.58	8.37	8.29	8.05	7.81	7.53	7.43	8.14	9.05	8.41	7.79	
	H1 lead leg	R	strides	22	14	14	13	14	14	14	15	15	17.7	166.7			
Lattin, Amere (USA) (1997)	time	5.93	9.71	13.64	17.66	21.74	25.91	30.29	34.66	39.27	43.85	49.20	2 / 6				
	reaction time	0.152	interval	3.78	3.93	4.02	4.08	4.17	4.38	4.37	4.61	4.58	5.35	11.73	12.63	13.56	
	velocity	7.59	9.26	8.91	8.71	8.58	8.39	7.99	8.01	7.59	7.64	7.48	8.13	8.95	8.31	7.74	
	H1 lead leg	L	strides	20	13	13	13	13	14	14	14	14	17	158			
Mowatt, Kemar (JAM) (1995)	time	5.93	9.57	13.25	17.05	20.97	25.15	29.43	33.92	38.54	43.42	49.32	8 / 7				
	reaction time	0.163	interval	3.64	3.68	3.80	3.92	4.18	4.28	4.49	4.62	4.88	5.90	11.12	12.38	13.99	
	velocity	7.59	9.62	9.51	9.21	8.93	8.37	8.18	7.80	7.58	7.17	6.78	8.11	9.44	8.48	7.51	
	H1 lead leg	L	strides	21	13	13	13	14	14	15	15	15	18	164			

Heat 4 (TV Analysis) date 27-Sep-19

Henson (2021) - Athlete First: 2019 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.92	9.64	13.40	17.40	21.40	25.56	29.92	34.48	39.32	44.28	49.62	4 / 1					
	reaction time	0.217	interval	3.72	3.76	4.00	4.00	4.16	4.36	4.56	4.84	4.96	5.34	11.48	12.52	14.36		
	velocity	7.60	9.41	9.31	8.75	8.75	8.41	8.03	7.68	7.23	7.06	7.49	8.06	9.15	8.39	7.31		
	H1 lead leg	R	strides	20	13	13	13	13	13	13	15	14	16.5	157				

Heat 3 (TV Analysis) date 27-Sep-19

Henson (2021) - Athlete First: 2019 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Samba, Abderrahmane (QAT)	time	6.04	9.92	13.84	17.84	21.96	26.16	30.36	34.76	39.20	43.76	49.08	8 / 1					
	reaction time	0.183	interval	3.88	3.92	4.00	4.12	4.20	4.20	4.40	4.44	4.56	5.32	11.80	12.52	13.40		
	velocity	7.45	9.02	8.93	8.75	8.50	8.33	8.33	7.95	7.88	7.68	7.52	8.15	8.90	8.39	7.84		
	H1 lead leg	R	strides	21	13	13	13	13	13	13	13	14	17	156				

Heat 1 (TV Analysis) date 27-Sep-19

Henson (2021) - Athlete First: 2019 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (11)	time	5.72	9.48	13.28	17.16	21.24	25.68	29.68	34.04	38.76	43.64	49.27	4 / 1					
	reaction time	0.161	interval	3.76	3.80	3.88	4.08	4.44	4.36	4.72	4.88	5.63	11.44	12.52	13.96			
	velocity	7.87	9.31	9.21	9.02	8.58	8.29	8.03	7.42	7.17	7.10	8.12	9.18	8.39	7.52			
	H1 lead leg	L	strides	20	13	13	13	13	15	15	17	132						

2019 The Match - Europe v USA (Minsk, BLR) (TV Analysis)

FINAL

date 10-Sep-19

Henson (2020) - Athlete First: 2019 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kendziera, Dave (USA) (1994)	time	5.80	9.56	13.40	17.23	21.20	25.33	29.73	34.16	38.76	43.46	48.99	6 / 1					
	reaction time	0.157	interval	3.76	3.84	3.83	3.97	4.13	4.40	4.43	4.60	4.70	5.53	11.43	12.50	13.73		
	velocity	7.76	9.31	9.11	9.14	8.82	8.47	7.95	7.90	7.61	7.45	7.23	8.16	9.19	8.40	7.65		
	H1 lead leg	R	strides	13	13	13	13	13	13	14	14	14	18.2	138.2				
Lattin, Amere (USA) (1997)	time	5.90	9.63	13.53	17.46	21.60	25.90	30.26	34.76	39.20	43.93	49.12	4 / 2					
	reaction time	0.171	interval	3.73	3.90	3.93	4.14	4.30	4.36	4.50	4.44	4.73	5.19	11.56	12.80	13.67		
	velocity	7.63	9.38	8.97	8.91	8.45	8.14	8.03	7.78	7.88	7.40	7.71	8.14	9.08	8.20	7.68		
	H1 lead leg	L	strides	13	13	13	14	14	14	14	15	17.2	127.2					
Vaillant, Ludvy (FRA) (1995)	time	6.06	9.80	13.63	17.50	21.56	25.70	30.03	34.53	39.13	43.73	49.20	5 / 3					
	reaction time	0.199	interval	3.74	3.83	3.87	4.06	4.14	4.33	4.50	4.60	4.60	5.47	11.44	12.53	13.70		
	velocity	7.43	9.36	9.14	9.04	8.62	8.45	8.08	7.78	7.61	7.61	7.31	8.13	9.18	8.38	7.66		
	H1 lead leg	R	strides	13	13	13	13	13	14	14	14	14	17.5	138.5				

2019 Weltklasse (Zürich, SUI) (TV Analysis)

FINAL

date 29-Aug-19

Henson (2020) - Athlete First: 2019 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (11)	time	5.66	9.16	12.76	16.40	20.22	21.9	24.18	28.32	32.56	37.08	41.62	46.92	7 / 1				
	reaction time	0.140	interval	3.50	3.60	3.64	3.82	3.96	4.14	4.24	4.52	4.54	5.30	AR PB	10.74	11.92	13.30	
	velocity	7.95	10.00	9.72	9.62	9.16	9.13	8.84	8.45	8.25	7.74	7.71	7.55	8.53	9.78	8.81	7.89	
	H1 lead leg	L	strides	20	13	13	13	13	13	13	15	15	18.2	159.2				
Benjamin, Rai (USA) (1997)	time	5.74	9.34	12.98	16.74	20.62	22.2	24.54	28.61	32.80	37.18	41.84	46.98	5 / 2				
	reaction time	0.173	interval	3.60	3.64	3.76	3.88	3.92	4.07	4.19	4.38	4.66	5.14	PB	11.00	11.87	13.23	
	velocity	7.84	9.72	9.62	9.31	9.02	9.01	8.93	8.60	8.35	7.99	7.51	7.78	8.51	9.55	8.85	7.94	
	H1 lead leg	R	strides	20	13	13	13	13	13	13	13	14	17	155				
McMaster, Kyron (IVB) (1997)	time	5.72	9.36	13.06	16.76	20.62	22.3	24.64	28.88	33.30	37.98	42.80	48.58	6 / 3				
	reaction time	0.177	interval	3.64	3.70	3.70	3.86	4.02	4.24	4.42	4.68	4.82	5.78	11.04	12.12	13.92		
	velocity	7.87	9.62	9.46	9.46	9.07	8.97	8.71	8.25	7.92	7.48	7.26	6.92	8.23	9.51	8.66	7.54	
	H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	129					
Copello, Yasmani (TUR) (19)	time	5.80	9.46	13.10	17.10	21.08	22.7	25.16	29.38	33.82	38.42	43.20	48.58	4 / 4				
	reaction time	0.167	interval	3.66	3.76	3.98	4.08	4.22	4.42	4.68	4.78	5.38	11.30	12.28	13.82			
	velocity	7.76	9.56	9.16	8.79	8.81	8.58	8.29	7.74	7.32	7.43	8.23	9.29	8.55	7.60			
	H1 lead leg	R	strides	20	13	13	13	13	13	13	14	14	86					

Kendziera, Dave (USA) (1994)	time	5.80	9.52	17.30	21.28	22.9	25.40	29.68	38.80	43.56	48.98	3 / 5				
reaction time	0.156	interval	3.72	7.78	3.98	4.12	4.28	9.12	4.76	5.42	11.50	12.38	13.88			
		velocity	7.76	9.41	9.00	8.79	8.73	8.50	8.18	7.68	7.35	7.38	8.17	9.13	8.48	7.56
H1 lead leg	R	strides	20	13	13	13	13	13	14	14	86					
Barr, Thomas (IRL) (1992)	time	5.98	9.76	17.60	21.62	23.3	25.72	30.06	39.16	43.84	49.17	1 / 6				
reaction time	0.127	interval	3.78	7.84	4.02	4.10	4.34	9.10	4.68	5.33	11.62	12.46	13.78			
		velocity	7.53	9.26	8.93	8.71	8.58	8.54	8.06	7.69	7.48	7.50	8.14	9.04	8.43	7.62
H1 lead leg	L	strides	21	13	13	13	14	13	14	14	88					

2019 Meeting de Paris (Paris, FRA) (TV Analysis)

FINAL

date 24-Aug-19

Henson (2020) - Athlete First: 2019 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1994)	time	5.64	9.24	12.86	16.59	20.42	22.1	24.48	28.66	32.92	37.35	41.96	47.26	48.30	7 / 1			
reaction time	0.157	interval	3.60	3.62	3.73	3.83	4.06	4.18	4.26	4.43	4.61	5.30	5.30	5.30		10.95	12.07	13.30
		velocity	7.98	9.72	9.67	9.38	9.14	9.05	8.62	8.37	8.22	7.90	7.59	7.55	8.46	9.59	8.70	7.89
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	13	13	18	155				
Valliant, Ludvy (FRA) (1995)	time	5.86	9.48	13.18	16.94	20.80	22.5	24.88	29.12	33.52	38.14	42.86	48.30	48.30	2 / 2			
reaction time	0.155	interval	3.62	3.70	3.76	3.86	4.08	4.24	4.40	4.62	4.72	5.44	5.44	5.44		11.08	12.18	13.74
		velocity	7.68	9.67	9.46	9.31	9.07	8.89	8.58	8.25	7.95	7.58	7.42	7.35	8.28	9.48	8.62	7.64
H1 lead leg	R	strides	21	13	13	13	13	14	14	14	14	14	18	160				
McMaster, Kyron (IVB) (1997)	time	5.78	9.48	13.24	17.02	20.92	22.6	24.92	29.12	33.44	38.00	42.72	48.33	48.33	8 / 3			
reaction time	0.172	interval	3.70	3.76	3.78	3.90	4.00	4.20	4.32	4.56	4.72	5.61	5.61	5.61		11.24	12.10	13.60
		velocity	7.79	9.46	9.31	9.26	8.97	8.85	8.75	8.33	8.10	7.68	7.42	7.13	8.28	9.34	8.68	7.72
H1 lead leg	L	strides	21	13	13	13	13	13	14	14	14	14	18	160				
Copello, Yasmani (TUR) (1994)	time	5.78	9.42	13.18	17.04	21.00	22.7	25.08	29.32	33.74	38.28	43.00	48.47	48.47	4 / 4			
reaction time	0.192	interval	3.64	3.76	3.86	3.96	4.08	4.24	4.42	4.54	4.72	5.47	5.47	5.47		11.26	12.28	13.68
		velocity	7.79	9.62	9.31	9.07	8.84	8.81	8.58	8.25	7.92	7.71	7.42	7.31	8.25	9.33	8.55	7.68
H1 lead leg	R	strides	20	13	13	13	13	13	13	14	14	14	17.7	157.7				
Holmes, TJ (USA) (1995)	time	5.86	9.56	13.30	17.32	21.46	23.2	25.62	29.94	34.40	39.12	43.80	49.04	49.04	6 / 5			
reaction time	0.197	interval	3.70	3.74	4.02	4.14	4.16	4.32	4.46	4.72	4.68	5.24	5.24	5.24		11.46	12.62	13.86
		velocity	7.68	9.46	9.36	8.71	8.45	8.62	8.41	8.10	7.85	7.42	7.48	7.63	8.16	9.16	8.32	7.58
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	14	14	17	156				
Kendziera, Dave (USA) (1994)	time	5.80	9.60	13.52	17.42	21.50	23.2	25.66	30.00	34.44	39.08	43.78	49.16	49.16	5 / 6			
reaction time	0.152	interval	3.80	3.92	3.90	4.08	4.16	4.34	4.44	4.64	4.70	5.38	5.38	5.38		11.62	12.58	13.78
		velocity	7.76	9.21	8.93	8.97	8.58	8.62	8.41	8.06	7.88	7.54	7.45	7.43	8.14	9.04	8.35	7.62
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	14	14	17.5	156.5				
Barr, Thomas (IRL) (1992)	time	5.92	9.68	13.52	17.42	21.40	23.1	25.58	30.04	34.58	39.34	44.04	49.32	49.32	1 / 7			
reaction time	0.148	interval	3.76	3.84	3.90	3.98	4.18	4.46	4.54	4.76	4.70	5.28	5.28	5.28		11.50	12.62	14.00
		velocity	7.60	9.31	9.11	8.97	8.79	8.66	8.37	7.85	7.71	7.35	7.45	7.58	8.11	9.13	8.32	7.50
H1 lead leg	L	strides	21	13	13	13	13	13	14	14	15	15	18	162				

2019 Chinese National Grand Prix Final (Daqing, CHN)

FINAL

date 23-Aug-19

CAA Hurdle Development (2019)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Wang Yijie (CHN) (1997)	time	6.12	10.05	13.95	18.03	22.27	26.64	31.16	35.70	40.35	45.11	50.70	50.70	50.70	4 / 1			
reaction time	0.218	interval	3.93	3.90	4.08	4.24	4.37	4.52	4.54	4.65	4.76	5.59	5.59	5.59		11.91	13.13	13.95
		velocity	7.35	8.91	8.97	8.58	8.25	8.01	7.74	7.71	7.53	7.35	7.16	7.89	7.89	8.82	8.00	7.53
H1 lead leg	L	strides	22	14	14	14	14	15	15	15	15	15	18.3	171.3				
Li Guangzhen (CHN) (1995)	time	6.74	10.51	14.48	18.67	22.89	27.21	31.70	36.37	41.02	45.75	51.02	51.02	51.02	6 / 2			
reaction time	0.213	interval	3.77	3.97	4.19	4.22	4.32	4.49	4.67	4.65	4.73	5.27	5.27	5.27		11.93	13.03	14.05
		velocity	6.68	9.28	8.82	8.35	8.29	8.10	7.80	7.49	7.53	7.40	7.59	7.84	7.84	8.80	8.06	7.47
H1 lead leg	L	strides	22	14	14	14	14	14	14	15	15	15	18	169				
Shang Shou (CHN) (1995)	time	6.55	10.56	14.78	19.05	23.41	27.89	32.33	36.88	41.44	46.01	51.02	51.02	51.02	5 / 3			
reaction time	0.320	interval	4.01	4.22	4.27	4.36	4.48	4.44	4.55	4.56	4.57	5.01	5.01	5.01		12.50	13.28	13.68
		velocity	6.87	8.73	8.29	8.20	8.03	7.81	7.88	7.69	7.68	7.66	7.98	7.84	7.84	8.40	7.91	7.68
H1 lead leg	L	strides	22	14	14	14	14	14	14	15	15	15	18	169				
Wang Hongwen (CHN) (2001)	time	6.34	10.33	14.27	18.40	22.69	27.07	31.58	36.27	41.01	45.80	51.18	51.18	51.18	2 / 4			
reaction time	0.270	interval	3.99	3.94	4.13	4.29	4.38	4.51	4.69	4.74	4.79	5.38	5.38	5.38		12.06	13.18	14.22
		velocity	7.10	8.77	8.88	8.47	8.16	7.99	7.76	7.46	7.38	7.31	7.43	7.82	7.82	8.71	7.97	7.38
H1 lead leg	R	strides	21	14	14	14	14	14	15	15	15	15	18	169				
Zhuang Linfei (CHN) (1996)	time	6.20	10.04	14.03	18.18	22.48	27.00	31.60	36.24	41.11	46.02	51.67	51.67	51.67	7 / 5			
reaction time	0.220	interval	3.84	3.99	4.15	4.30	4.52	4.60	4.64	4.87	4.91	5.65	5.65	5.65		11.98	13.42	14.42
		velocity	7.26	9.11	8.77	8.43	8.14	7.74	7.61	7.54	7.19	7.13	7.08	7.74	7.74	8.76	7.82	7.28
H1 lead leg	L	strides	13	13	14	14	14	14	15	15	15	15	18.5	160.5				
Cai Jungi (CHN) (1996)	time	6.34	10.31	14.30	18.40	22.66	26.98	31.42	36.02	40.76	45.70	51.69	51.69	51.69	3 / 6			
reaction time	0.201	interval	3.97	3.99	4.10	4.26	4.32	4.44	4.60	4.74	4.94	5.99	5.99	5.99		12.06	13.02	14.28

		velocity	7.10	8.82	8.77	8.54	8.22	8.10	7.88	7.61	7.38	7.09	6.68	7.74	8.71	8.06	7.35		
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	15	19.5	176.5					
Cui Caizhuang (CHN) (1995)	time		6.22	10.22	14.31	18.55	22.90	27.39	32.02	36.81	41.66	46.59		52.25	9 / 7				
reaction time	0.216	interval		4.00	4.09	4.24	4.35	4.49	4.63	4.79	4.85	4.93	5.66		12.33	13.47	14.57		
		velocity	7.23	8.75	8.56	8.25	8.05	7.80	7.56	7.31	7.22	7.10	7.07	7.66	8.52	7.80	7.21		
H1 lead leg	R	strides	22	14	14	14	14	15	15	15	15	15	18.5	171.5					
Wang Daojun (CHN) (2000)	time		6.08	10.12	14.18	18.40	22.76	27.40	32.18	37.04	41.98	46.98		52.58	8 / 8				
reaction time	0.178	interval		4.04	4.06	4.22	4.36	4.64	4.78	4.86	4.94	5.00	5.60		12.32	13.78	14.80		
		velocity	7.40	8.66	8.62	8.29	8.03	7.54	7.32	7.20	7.09	7.00	7.14	7.61	8.52	7.62	7.09		
H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	15	18.5	170.5					
Heat 2	date	22-Aug-19														CAA Hurdle Development (2019)			
			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Shang Shou (CHN) (1995)	time		6.49	10.63	14.80	19.05	23.36	27.83	32.30	36.84	41.42	46.16		51.62	6 / 1				
reaction time	0.275	interval		4.14	4.17	4.25	4.31	4.47	4.47	4.54	4.58	4.74	5.46			12.56	13.25	13.86	
		velocity	6.93	8.45	8.39	8.24	8.12	7.83	7.83	7.71	7.64	7.38	7.33	7.75	8.36	7.92	7.58		
H1 lead leg	L	strides	22	14	14	14	14	14	14	15	15	15	18	169					
Zhuang Linfei (CHN) (1996)	time		6.33	10.28	14.34	18.55	22.94	27.51	32.08	36.85	41.69	46.55		52.04	8 / 2				
reaction time	0.233	interval		3.95	4.06	4.21	4.39	4.57	4.57	4.77	4.84	4.86	5.49			12.22	13.53	14.47	
		velocity	7.11	8.86	8.62	8.31	7.97	7.66	7.66	7.34	7.23	7.20	7.29	7.69	8.59	7.76	7.26		
H1 lead leg	L	strides	21	13	13	14	14	14	14	15	15	15	18	166					
Wang Yijie (CHN) (1997)	time		6.24	10.28	14.41	18.64	23.07	27.61	32.18	36.82	41.64	46.59		52.26	4 / 3				
reaction time	0.222	interval		4.04	4.13	4.23	4.43	4.54	4.57	4.64	4.82	4.95	5.67			12.40	13.54	14.41	
		velocity	7.21	8.66	8.47	8.27	7.90	7.71	7.66	7.54	7.26	7.07	7.05	7.65	8.47	7.75	7.29		
H1 lead leg	L	strides	22	14	14	14	14	15	15	15	15	15	18.5	171.5					
Wang Daojun (CHN) (2000)	time		6.24	10.38	14.52	18.71	23.08	27.52	32.07	36.69	41.54	46.66		52.31	9 / 4				
reaction time	0.219	interval		4.14	4.14	4.19	4.37	4.44	4.55	4.62	4.85	5.12	5.66			12.47	13.36	14.59	
		velocity	7.21	8.45	8.45	8.35	8.01	7.88	7.69	7.58	7.22	6.84	7.07	7.65	8.42	7.86	7.20		
H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	15	18.5	170.5					
Wang Hongwen (CHN) (200)	time		6.39	10.44	14.58	18.85	23.27	27.79	32.40	37.12	41.96	46.90		52.37	5 / 5				
reaction time	0.246	interval		4.05	4.14	4.27	4.42	4.52	4.61	4.72	4.84	4.94	5.47			12.46	13.55	14.50	
		velocity	7.04	8.64	8.45	8.20	7.92	7.74	7.59	7.42	7.23	7.09	7.31	7.64	8.43	7.75	7.24		
H1 lead leg	R	strides	21	14	14	14	14	14	15	15	15	15	17.5	168.5					
Gong Debin (CHN) (1997)	time		6.36	10.53	14.71	19.07	23.62	28.24	33.12	38.15	43.18	48.20		54.11	7 / 6				
reaction time	0.325	interval		4.17	4.18	4.36	4.55	4.62	4.88	5.03	5.03	5.02	5.91			12.71	14.05	15.08	
		velocity	7.08	8.39	8.37	8.03	7.69	7.58	7.17	6.96	6.96	6.97	6.77	7.39	8.26	7.47	6.96		
H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	16	19	172					
Heat 1	date	22-Aug-19														CAA Hurdle Development (2019)			
			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Li Guangzhen (CHN) (1995)	time		6.66	10.90	15.12	19.50	23.95	28.45	32.96	37.67	42.36	47.05		52.20	9 / 1				
reaction time	0.258	interval		4.24	4.22	4.38	4.45	4.50	4.51	4.71	4.69	4.69	5.15			12.84	13.46	14.09	
		velocity	6.76	8.25	8.29	7.99	7.87	7.78	7.76	7.43	7.46	7.46	7.77	7.66	8.18	7.80	7.45		
H1 lead leg	L	strides	22	14	14	14	14	14	14	15	15	15	18	169					
Cui Caizhuang (CHN) (1995)	time		6.38	10.48	14.64	18.93	23.25	27.82	32.47	37.24	42.08	46.91		52.30	8 / 2				
reaction time	0.223	interval		4.10	4.16	4.29	4.32	4.57	4.65	4.77	4.84	4.83	5.39			12.55	13.54	14.44	
		velocity	7.05	8.54	8.41	8.16	8.10	7.66	7.53	7.34	7.23	7.25	7.42	7.65	8.37	7.75	7.27		
H1 lead leg	R	strides	24	14	14	14	14	15	15	15	15	15	18.3	173.3					
Cai Jungi (CHN) (1996)	time		6.39	10.53	14.80	19.17	23.54	27.99	32.57	37.17	41.91	46.76		52.42	6 / 3				
reaction time	0.199	interval		4.14	4.27	4.37	4.37	4.45	4.58	4.60	4.74	4.85	5.66			12.78	13.40	14.19	
		velocity	7.04	8.45	8.20	8.01	8.01	7.87	7.64	7.61	7.38	7.22	7.07	7.63	8.22	7.84	7.40		
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	15	19	176					
Liu Yangyang (CHN) (1995)	time		6.45	10.59	14.85	19.24	23.67	28.22	32.87	37.64	42.44	47.25		52.44	5 / 4				
reaction time	0.200	interval		4.14	4.26	4.39	4.43	4.55	4.65	4.77	4.80	4.81	5.19			12.79	13.63	14.38	
		velocity	6.98	8.45	8.22	7.97	7.90	7.69	7.53	7.34	7.29	7.28	7.71	7.63	8.21	7.70	7.30		
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	15	18.5	175.5					
Yang Baichuan (CHN) (1995)	time		6.37	10.48	14.75	19.15	23.59	28.09	32.67	37.32	42.13	46.98		52.44	7 / 5				
reaction time	0.166	interval		4.11	4.27	4.40	4.44	4.50	4.58	4.65	4.81	4.85	5.46			12.78	13.52	14.31	
		velocity	7.06	8.52	8.20	7.95	7.88	7.78	7.64	7.53	7.28	7.22	7.33	7.63	8.22	7.77	7.34		
H1 lead leg	L	strides	23	15	15	15	15	15	15	15	15	15	20	178					
Long Wei (CHN) (1997)	time		6.36	10.58	14.81	19.12	23.59	28.19	32.88	37.65	42.61	47.68		53.57	3 / 6				
reaction time	0.219	interval		4.22	4.23	4.31	4.47	4.60	4.69	4.77	4.96	5.07	5.89			12.76	13.76	14.80	
		velocity	7.08	8.29	8.27	8.12	7.83	7.61	7.46	7.34	7.06	6.90	6.79	7.47	8.23	7.63	7.09		
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	15	19	176					

2019 Müller Grand Prix (Birmingham, GBR) (TV Analysis)

FINAL

date 18-Aug-19

Henson (2020) - Athlete First: 2019 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Copello, Yasmani (TUR) (1991)	time	5.88	9.68	13.52	17.40	21.40	23.2	25.60	30.08	34.56	39.12	43.68		49.08	6 / 1			
	reaction time	0.173	interval	3.80	3.84	3.88	4.00	4.20	4.48	4.48	4.56	4.56	5.40			11.52	12.68	13.60
	velocity	7.65	9.21	9.11	9.02	8.75	8.6207	8.33	7.81	7.81	7.68	7.68	7.41	8.15		9.11	8.28	7.72
	H1 lead leg	R	strides	20	13	13	13	13	14	14	14	14	18	159				
dos Santos, Alison Brendon	time	5.96	9.92	13.80	17.80	21.80	23.6	25.92	30.24	34.72	39.36	43.88		49.20	4 / 2			
	reaction time	0.152	interval	3.96	3.88	4.00	4.00	4.12	4.32	4.48	4.64	4.52	5.32			11.84	12.44	13.64
	velocity	7.55	8.84	9.02	8.75	8.75	8.47	8.50	8.10	7.81	7.54	7.74	7.52	8.13		8.87	8.44	7.70
	H1 lead leg	L	strides	20	13	13	13	13	13	14	14	14	17	157				
Kendziera, Dave (USA) (1994)	time	5.84	9.68	13.52	17.36	21.28	23.1	25.40	29.76	34.32	38.92	43.68		49.29	7 / 3			
	reaction time	0.130	interval	3.84	3.84	3.92	4.12	4.36	4.56	4.60	4.76	5.61				11.52	12.40	13.92
	velocity	7.71	9.11	9.11	9.11	8.93	8.66	8.50	8.03	7.68	7.61	7.35	7.13	8.12		9.11	8.47	7.54
	H1 lead leg	R	strides	20	13	13	13	13	13	14	14	15	18.5	159.5				
Mowatt, Kemar (JAM) (1995)	time	5.80	9.48	13.32	17.20	21.16	22.9	25.20	29.64	34.12	38.84	43.64		49.56	3 / 4			
	reaction time	0.162	interval	3.68	3.84	3.88	3.96	4.04	4.44	4.48	4.72	4.80	5.92			11.40	12.44	14.00
	velocity	7.76	9.51	9.11	9.02	8.84	8.73	8.66	7.88	7.81	7.42	7.29	6.76	8.07		9.21	8.44	7.50
	H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	18.5	162.5				
Barr, Thomas (IRL) (1992)	time	6.08	9.96	13.84	17.80	21.88	23.7	26.12	30.68	35.28	39.92			50.16	8 / 5			
	reaction time	0.171	interval	3.88	3.88	3.96	4.08	4.24	4.56	4.60	4.64					11.72	12.88	
	velocity	7.40	9.02	9.02	8.84	8.58	8.44	8.25	7.68	7.61	7.54			7.97		8.96	8.15	
	H1 lead leg	L	strides	21	13	13	13	13	14	14	15			129				
Abe, Takatoshi (JPN) (1991)	time	5.96	9.72	13.56	17.44	21.44	23.2	25.52	29.96	34.68	39.48	44.48		50.36	2 / 6			
	reaction time	0.148	interval	3.76	3.84	3.88	4.00	4.08	4.44	4.72	4.80	5.00	5.88			11.48	12.52	14.52
	velocity	7.55	9.31	9.11	9.02	8.75	8.62	8.58	7.88	7.42	7.29	7.00	6.80	7.94		9.15	8.39	7.23
	H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	18	162				
Paul, Jacob (GBR) (1995)	time	6.04	9.92	13.88	17.88	22.04	23.9	26.20		35.20	40.00	44.92		50.71	1 / 7			
	reaction time	0.156	interval	3.88	3.96	4.00	4.16	4.16		9.00	4.80	4.92	5.79			11.84		
	velocity	7.45	9.02	8.84	8.75	8.41	8.37	8.41		7.78	7.29	7.11	6.91	7.89		8.87		
	H1 lead leg	L	strides	21	14	14	14	14	14		15	15	135					
Lattin, Amere (USA) (1997)	time	5.76	9.64	13.48	17.32	21.28	23.1	25.60	30.04	34.64	39.48	44.88		51.15	5 / 8			
	reaction time	0.145	interval	3.88	3.84	3.84	3.96	4.32	4.44	4.60	4.84	5.40	6.27			11.56	12.72	14.84
	velocity	7.81	9.02	9.11	9.11	8.84	8.66	8.10	7.88	7.61	7.23	6.48	6.38	7.82		9.08	8.25	7.08
	H1 lead leg	L	strides	20	13	13	13	14	14	14	15	16	145					

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U18 FINAL (84cm)

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CAA Hurdle Development (2019)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Sun Yao (CHN) (2002)	time	6.40	10.47	14.64	18.86	23.28		27.82	32.50	37.26	42.16	47.12		52.86	4 / 1			
	reaction time	0.223	interval	4.07	4.17	4.22	4.42	4.54	4.68	4.76	4.90	4.96	5.74			12.46	13.64	14.62
	velocity	7.03	8.60	8.39	8.29	7.92		7.71	7.48	7.35	7.14	7.06	6.97	7.57		8.43	7.70	7.18
	H1 lead leg	L	strides	23	15	15	15	15	15	15	16	16	20	180				
Pan Feng (CHN) (2002)	time	6.52	10.74	15.02	19.38	23.82		28.38	32.98	37.68	42.48	47.48		53.17	6 / 2			
	reaction time	0.183	interval	4.22	4.28	4.36	4.44	4.56	4.60	4.70	4.80	5.00	5.69			12.86	13.60	14.50
	velocity	6.90	8.29	8.18	8.03	7.88		7.68	7.61	7.45	7.29	7.00	7.03	7.52		8.16	7.72	7.24
	H1 lead leg	L	strides	21	15	15	15	15	15	15	15	16	19.5	176.5				
Lin Yingxian (CHN) (2002)	time	6.50	10.65	14.90	19.16	23.62		28.26	33.02	37.68	42.68	47.62		53.18	5 / 3			
	reaction time	0.211	interval	4.15	4.25	4.26	4.46	4.64	4.76	4.66	5.00	4.94	5.56			12.66	13.86	14.60
	velocity	6.92	8.43	8.24	8.22	7.85		7.54	7.35	7.51	7.00	7.09	7.19	7.52		8.29	7.58	7.19
	H1 lead leg	L	strides	23	15	15	15	15	15	15	15	15	19.5	177.5				
Liu Yunlang (CHN) (2002)	time	6.34	10.48	14.72	19.06	23.56		28.24	32.96	37.66	42.60	47.90		53.96	7 / 4			
	reaction time	0.190	interval	4.14	4.24	4.34	4.50	4.68	4.72	4.70	4.94	5.30	6.06			12.72	13.90	14.94
	velocity	7.10	8.45	8.25	8.06	7.78		7.48	7.42	7.45	7.09	6.60	6.60	7.41		8.25	7.55	7.03
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	17	19.5	178.5				
Zeng Lingxian (CHN) (2002)	time	6.42	10.58	14.90	19.24	23.72		28.34	33.08	37.92	43.00	48.30		54.14	9 / 5			
	reaction time	0.203	interval	4.16	4.32	4.34	4.48	4.62	4.74	4.84	5.08	5.30	5.84			12.82	13.84	15.22
	velocity	7.01	8.41	8.10	8.06	7.81		7.58	7.38	7.23	6.89	6.60	6.85	7.39		8.19	7.59	6.90
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	17	21	180				
Yu Zhiyou (CHN) (2003)	time	6.44	10.56	14.76	19.08	23.54		28.32	33.28	38.40	43.68	49.04		54.92	2 / 6			
	reaction time	0.201	interval	4.12	4.20	4.32	4.46	4.78	4.96	5.12	5.28	5.36	5.88			12.64	14.20	15.76
	velocity	6.99	8.50	8.33	8.10	7.85		7.32	7.06	6.84	6.63	6.53	6.80	7.28		8.31	7.39	6.66
	H1 lead leg	L	strides	23	15	15	15	16	16	17	17	17	21	187				
Wu Yuze (CHN) (2002)	time	6.46	10.58	14.74	19.02	23.50		28.12	32.82	37.74	43.02	48.82		54.99	8 / 7			
	reaction time	0.206	interval	4.12	4.16	4.28	4.48	4.62	4.70	4.92	5.28	5.80	6.17			12.56	13.80	16.00
	velocity	6.97	8.50	8.41	8.18	7.81		7.58	7.45	7.11	6.63	6.03	6.48	7.27		8.36	7.61	6.56

H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	16	18	20.5	181.5				
Song Weiwei (CHN) (2002)	time		6.63	10.82	15.18	19.54	24.20		29.28	34.48	39.80	45.12	50.68		56.87	3 / 8			
reaction time	0.186	interval		4.19	4.36	4.36	4.66		5.08	5.20	5.32	5.32	5.56	6.19			12.91	14.94	16.20
		velocity	6.79	8.35	8.03	8.03	7.51		6.89	6.73	6.58	6.58	6.29	6.46	7.03		8.13	7.03	6.48
H1 lead leg	L	strides	22	15	15	15	15		17	17	17	17	17	21	188				

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			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Xie Zhiyu (CHN) (2000)	time		6.42	10.36	14.34	18.39	22.60		26.86	31.20	35.64	40.34	44.92		49.96	6 / 1			
reaction time	0.284	interval		3.94	3.98	4.05	4.21		4.26	4.34	4.44	4.70	4.58	5.04	PB		11.97	12.81	13.72
		velocity	7.01	8.88	8.79	8.64	8.31		8.22	8.06	7.88	7.45	7.64	7.94	8.01		8.77	8.20	7.65
H1 lead leg	L	strides	21	13	13	13	13		13	13	13	14	14	17	157				
Wang Hongwen (CHN) (2001)	time		6.30	10.22	14.20	18.28	22.46		26.76	31.20	35.76	40.44	45.28		50.80	7 / 2			
reaction time	0.252	interval		3.92	3.98	4.08	4.18		4.30	4.44	4.56	4.68	4.84	5.52	PB		11.98	12.92	14.08
		velocity	7.14	8.93	8.79	8.58	8.37		8.14	7.88	7.68	7.48	7.23	7.25	7.87		8.76	8.13	7.46
H1 lead leg	R	strides	21	14	14	14	14		14	15	15	15	15	17.3	168.3				
Wang Daojun (CHN) (2000)	time		6.18	10.26	14.32	18.55	22.90		27.46	32.20	36.92	41.64	46.35		51.64	5 / 3			
reaction time	0.188	interval		4.08	4.06	4.23	4.35		4.56	4.74	4.72	4.72	4.71	5.29			12.37	13.65	14.15
		velocity	7.28	8.58	8.62	8.27	8.05		7.68	7.38	7.42	7.42	7.43	7.56	7.75		8.49	7.69	7.42
H1 lead leg	L	strides	21	14	14	14	14		15	15	15	15	15	18	170				
Liu Shuang (CHN) (2000)	time		6.20	10.08	14.02	18.10	22.32		26.66	31.16	35.88	40.76	46.04		51.84	9 / 4			
reaction time	0.173	interval		3.88	3.94	4.08	4.22		4.34	4.50	4.72	4.88	5.28	5.80	PB		11.90	13.06	14.88
		velocity	7.26	9.02	8.88	8.58	8.29		8.06	7.78	7.42	7.17	6.63	6.90	7.72		8.82	8.04	7.06
H1 lead leg	L	strides	23	15	15	15	15		15	15	15	15	17	19.5	179.5				
Lin Zhikai (CHN) (2001)	time		6.44	10.58	14.79	19.02	23.38		27.90	32.50	37.22	41.96	46.74		51.95	2 / 5			
reaction time	0.203	interval		4.14	4.21	4.23	4.36		4.52	4.60	4.72	4.74	4.78	5.21	PB		12.58	13.48	14.24
		velocity	6.99	8.45	8.31	8.27	8.03		7.74	7.61	7.42	7.38	7.32	7.68	7.70		8.35	7.79	7.37
H1 lead leg	L	strides	22	15	15	15	15		15	15	15	15	15	18	175				
Cao Xiong (CHN) (2001)	time		6.28	10.46	14.54	18.68	22.96		27.52	32.14	36.87	41.79	46.88		52.31	8 / 6			
reaction time	0.203	interval		4.18	4.08	4.14	4.28		4.56	4.62	4.73	4.92	5.09	5.43	PB		12.40	13.46	14.74
		velocity	7.17	8.37	8.58	8.45	8.18		7.68	7.58	7.40	7.11	6.88	7.37	7.65		8.47	7.80	7.12
H1 lead leg	L	strides	22	15	15	15	15		15	15	15	15	16	19	177				
Zhu Yizheng (CHN) (2000)	time		6.41	10.46	14.54	18.74	23.11		27.70	32.44	37.34	42.46	47.66		53.54	4 / 7			
reaction time	0.223	interval		4.05	4.08	4.20	4.37		4.59	4.74	4.90	5.12	5.20	5.88			12.33	13.70	15.22
		velocity	7.02	8.64	8.58	8.33	8.01		7.63	7.38	7.14	6.84	6.73	6.80	7.47		8.52	7.66	6.90
H1 lead leg	L	strides	22	14	14	14	14		15	15	15	16	16	19	174				
Leng Ziheng (CHN) (2000)	time		6.40	10.64	15.01	19.34	23.80		28.48	33.28	38.18	43.58	49.16		55.34	3 / 8			
reaction time	0.195	interval		4.24	4.37	4.33	4.46		4.68	4.80	4.90	5.40	5.58	6.18			12.94	13.94	15.88
		velocity	7.03	8.25	8.01	8.08	7.85		7.48	7.29	7.14	6.48	6.27	6.47	7.23		8.11	7.53	6.61
H1 lead leg	L	strides	21	15	15	15	15		15	15	15	17	17	19	179				

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			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Wang Hongwen (CHN) (2001)	time		6.40	10.32	14.42	18.62	22.95		27.39	31.99	36.67	41.49	46.50		52.86	6 / 1			
reaction time		interval		3.92	4.10	4.20	4.33		4.44	4.60	4.68	4.82	5.01	6.36			12.22	13.37	14.51
		velocity	7.03	8.93	8.54	8.33	8.08		7.88	7.61	7.48	7.26	6.99	6.29	7.57		8.59	7.85	7.24
H1 lead leg	R	strides	21	14	14	14	14		14	15	15	15	15	18.3	169.3				
Liu Shuang (CHN) (2000)	time		6.41	10.41	14.46	18.64	22.96		27.41	32.05	36.78	41.73	47.06		53.11	5 / 2			
reaction time	0.203	interval		4.00	4.05	4.18	4.32		4.45	4.64	4.73	4.95	5.33	6.05	PB		12.23	13.41	15.01
		velocity	7.02	8.75	8.64	8.37	8.10		7.87	7.54	7.40	7.07	6.57	6.61	7.53		8.59	7.83	7.00
H1 lead leg	L	strides	23	15	15	15	15		15	15	15	15	17	19.5	179.5				
Leng Ziheng (CHN) (2000)	time		6.35	10.55	14.83	19.20	23.68		28.33	33.10	37.88	43.02	48.03		53.51	3 / 3			
reaction time	0.202	interval		4.20	4.28	4.37	4.48		4.65	4.77	4.78	5.14	5.01	5.48	PB		12.85	13.90	14.93
		velocity	7.09	8.33	8.18	8.01	7.81		7.53	7.34	7.32	6.81	6.99	7.30	7.48		8.17	7.55	7.03
H1 lead leg	L	strides	21	15	15	15	15		15	15	15	16	16	19.5	177.5				
Lan Jie (CHN) (2000)	time		6.32	10.45	14.72	18.95	23.26		27.69	32.30	37.28	42.45	47.78		53.70	7 / 4			
reaction time	0.203	interval		4.13	4.27	4.23	4.31		4.43	4.61	4.98	5.17	5.33	5.92			12.63	13.35	15.48
		velocity	7.12	8.47	8.20	8.27	8.12		7.90	7.59	7.03	6.77	6.57	6.76	7.45		8.31	7.87	6.78
H1 lead leg	L	strides	22	15	15	15	15		15	15	16	16	17	20.5	181.5				
Lü Baoliang (CHN) (2000)	time		6.65	10.98	15.36	19.84	24.41		29.28	34.32	39.37	44.68	49.90		55.71	8 / 5			
reaction time	0.200	interval		4.33	4.38	4.48	4.57		4.87	5.04	5.05	5.31	5.22	5.81			13.19	14.48	15.58
		velocity	6.77	8.08	7.99	7.81	7.66		7.19	6.94	6.93	6.59	6.70	6.88	7.18		7.96	7.25	6.74
H1 lead leg	L	strides	22	15	15	15	15		16	16	16	17	17	19	183				
Zhang Hongxi (CHN) (2001)	time		6.64	10.82	15.17	19.70	24.35		29.10	34.27	39.64	45.23	50.86		57.30	4 / 6			
reaction time	0.239	interval		4.18	4.35	4.53	4.65		4.75	5.17	5.37	5.59	5.63	6.44			13.06	14.57	16.59

	velocity	6.78	8.37	8.05	7.73	7.53		7.37	6.77	6.52	6.26	6.22	6.21	6.98		8.04	7.21	6.33
H1 lead leg	R	strides	23	15	15	15	15	15	17	17	17	17	17	166				

U20 Heat 2

date 17-Aug-19

CAA Hurdle Development (2019)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Xie Zhiyu (CHN) (2000)	time	6.30	10.32	14.33	18.48	22.70		27.05	31.86	37.19	42.46	47.66		53.98	5 / 1			
	reaction time	0.209	interval	4.02	4.01	4.15	4.22	4.35	4.81	5.33	5.27	5.20	6.32			12.18	13.38	15.80
	velocity	7.14	8.71	8.73	8.43	8.29		8.05	7.28	6.57	6.64	6.73	6.33	7.41		8.62	7.85	6.65
H1 lead leg	L	strides	21	13	13	13	13	13	14	15	15	15	17.8	162.8				
Cao Xiong (CHN) (2001)	time	6.46	10.73	15.00	19.32	23.70		28.37	33.07	37.84	42.86	48.06		54.20	7 / 2			
	reaction time	0.197	interval	4.27	4.27	4.32	4.38	4.67	4.70	4.77	5.02	5.20	6.14			12.86	13.75	14.99
	velocity	6.97	8.20	8.20	8.10	7.99		7.49	7.45	7.34	6.97	6.73	6.51	7.38		8.16	7.64	7.00
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	16	19	177				
Zou Haichao (CHN) (2001)	time	6.28	10.42	14.73	19.13	23.62		28.23	32.89	37.72	42.91	48.34		54.46	6 / 3			
	reaction time	0.181	interval	4.14	4.31	4.40	4.49	4.61	4.66	4.83	5.19	5.43	6.12			12.85	13.76	15.45
	velocity	7.17	8.45	8.12	7.95	7.80		7.59	7.51	7.25	6.74	6.45	6.54	7.34		8.17	7.63	6.80
H1 lead leg	R	strides	22	15	15	15	15	15	15	15	17	17	19.3	180.3				
Zheng Hao (CHN) (2001)	time	6.40	10.61	14.95	19.36	23.89		28.56	33.51	38.76	44.17	49.76		55.58	3 / 4			
	reaction time	0.208	interval	4.21	4.34	4.41	4.53	4.67	4.95	5.25	5.41	5.59	5.82	PB		12.96	14.15	16.25
	velocity	7.03	8.31	8.06	7.94	7.73		7.49	7.07	6.67	6.47	6.26	6.87	7.20		8.10	7.42	6.46
H1 lead leg	R	strides	23	15	15	15	15	15	15	16	16	17	19.5	181.5				
Xu Xin (MAC) (2000)	time	6.34	10.62	15.00	19.52	24.23		29.38	34.80	40.40	46.16	52.40		59.60	4 / 5			
	reaction time	0.176	interval	4.28	4.38	4.52	4.71	5.15	5.42	5.60	5.76	6.24	7.20			13.18	15.28	17.60
	velocity	7.10	8.18	7.99	7.74	7.43		6.80	6.46	6.25	6.08	5.61	5.56	6.71		7.97	6.87	5.97
H1 lead leg	L	strides	23	15	15	15	15	15	15	17	17	19	166					

U20 Heat 1

date 17-Aug-19

CAA Hurdle Development (2019)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Wang Daojun (CHN) (2000)	time	6.20	10.34	14.40	18.58	22.98		27.50	32.14	36.96	41.85	46.80		52.72	6 / 1			
	reaction time	0.181	interval	4.14	4.06	4.18	4.40	4.52	4.64	4.82	4.89	4.95	5.92			12.38	13.56	14.66
	velocity	7.26	8.45	8.62	8.37	7.95		7.74	7.54	7.26	7.16	7.07	6.76	7.59		8.48	7.74	7.16
H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	15	18	170				
Zhu Yizheng (CHN) (2000)	time	6.47	10.50	14.56	18.74	23.04		27.54	32.10	36.90	41.96	47.10		52.90	5 / 2			
	reaction time	0.209	interval	4.03	4.06	4.18	4.30	4.50	4.56	4.80	5.06	5.14	5.80	PB		12.27	13.36	15.00
	velocity	6.96	8.68	8.62	8.37	8.14		7.78	7.68	7.29	6.92	6.81	6.90	7.56		8.56	7.86	7.00
H1 lead leg	L	strides	22	14	14	14	14	15	15	15	16	16	19	174				
Lin Zhikai (CHN) (2001)	time	6.65	10.98	15.24	19.58	24.00		28.56	33.14	37.84	42.62	47.56		53.12	7 / 3			
	reaction time	0.197	interval	4.33	4.26	4.34	4.42	4.56	4.58	4.70	4.78	4.94	5.56			12.93	13.56	14.42
	velocity	6.77	8.08	8.22	8.06	7.92		7.68	7.64	7.45	7.32	7.09	7.19	7.53		8.12	7.74	7.28
H1 lead leg	L	strides	23	15	15	15	15	15	15	15	15	15	17.8	175.8				
Zhou Chao (CHN) (2000)	time	6.42	10.56	14.86	19.16	23.64		28.18	32.78	37.84	42.96	48.14		53.90	3 / 4			
	reaction time	0.208	interval	4.14	4.30	4.30	4.48	4.54	4.60	5.06	5.12	5.18	5.76	PB		12.74	13.62	15.36
	velocity	7.01	8.45	8.14	8.14	7.81		7.71	7.61	6.92	6.84	6.76	6.94	7.42		8.24	7.71	6.84
H1 lead leg	L	strides	22	15	15	15	15	15	15	16	16	16	19	179				
Sun Ke (CHN) (2001)	time	6.14	10.18	14.28	18.44	22.80		27.26	31.90	36.82	42.16	47.68		54.20	4 / 5			
	reaction time	0.176	interval	4.04	4.10	4.16	4.36	4.46	4.64	4.92	5.34	5.52	6.52			12.30	13.46	15.78
	velocity	7.33	8.66	8.54	8.41	8.03		7.85	7.54	7.11	6.55	6.34	6.13	7.38		8.54	7.80	6.65
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	15	20	177				
Sun Wanhao (CHN) (2001)	time	6.54	10.76	15.08	19.42	23.85		28.50	33.38	38.40	43.62	49.12		55.04	8 / 6			
	reaction time	0.216	interval	4.22	4.32	4.34	4.43	4.65	4.88	5.02	5.22	5.50	5.92	PB		12.88	13.96	15.74
	velocity	6.88	8.29	8.10	8.06	7.90		7.53	7.17	6.97	6.70	6.36	6.76	7.27		8.15	7.52	6.67
H1 lead leg	L	strides	22	15	15	15	15	15	16	16	16	17	20	182				

2019 Pan American Games (Lima, PER) (TV Analysis)

FINAL

date 08-Aug-19

Henson (2020) - Athlete First: 2019 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
dos Santos, Alison Brendon	time	5.90	9.67	13.51	17.45			25.36	29.52	33.82	38.23	42.97		48.45	5 / 1			
	reaction time	0.160	interval	3.77	3.84	3.94		7.91	4.16	4.30	4.41	4.74	5.48	AJR PB		11.55	12.07	13.45
	velocity	7.63	9.28	9.11	8.88			8.85	8.41	8.14	7.94	7.38	7.30	8.26		9.09	8.70	7.81
H1 lead leg	L	strides	20	13	13	13			13	13	13	14	17	129				
Lattin, Amere (USA) (1997)	time	5.80	9.57	13.38	17.25	21.15		25.36	29.69	34.06				48.98	7 / 2			
	reaction time	0.175	interval	3.77	3.81	3.87	3.90	4.21	4.33	4.37						11.45	12.44	
	velocity	7.76	9.28	9.19	9.04	8.97		8.31	8.08	8.01				8.17		9.17	8.44	
H1 lead leg	L	strides	20	13	13	13		13	14	14				100				
Mowatt, Kemar (JAM) (1995)	time	5.77	9.47	13.21	17.08			25.09	29.46	33.93	38.64	43.50		49.09	4 / 3			
	reaction time	0.177	interval	3.70	3.74	3.87		8.01	4.37	4.47	4.71	4.86	5.59			11.31	12.38	14.04
	velocity	7.80	9.46	9.36	9.04			8.74	8.01	7.83	7.43	7.20	7.16	8.15		9.28	8.48	7.48

H1 lead leg	L	strides	21	13	13	13		14	14	15	15	18	136
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2019 Japanese National High School Championships (Okinawa, JPN)

FINAL

date 06-Aug-19

Kota (2019) - 72nd high school championships: JAF scientific committee - biomechanics data collection

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Deguchi, Haruto (JPN) (2001)	time	6.25	10.21	14.25	18.39	22.76		27.24	31.65	36.05	40.62	45.28		50.57	4 / 1			
	reaction time		interval	3.96	4.04	4.14	4.37	4.48	4.41	4.40	4.57	4.66	5.29	PB		12.14	13.26	13.63
		velocity	7.20	8.84	8.66	8.45	8.01	7.81	7.94	7.95	7.66	7.51	7.56	7.91		8.65	7.92	7.70
	H1 lead leg		strides	13	13	13	14	14	15	15	15	15		127				
Iwasaka, Shuto (JPN) (2001)	time	6.26	10.46	14.73	19.13	23.52		28.08	32.48	36.97	41.64	46.55		51.99	6 / 2			
	reaction time		interval	4.20	4.27	4.40	4.39	4.56	4.40	4.49	4.67	4.91	5.44			12.87	13.35	14.07
		velocity	7.19	8.33	8.20	7.95	7.97	7.68	7.95	7.80	7.49	7.13	7.35	7.69		8.16	7.87	7.46
	H1 lead leg		strides	15	15	15	15	15	15	15	15	15		135				
Kurokawa, Kazuki (JPN) (2001)	time	6.18	10.23	14.33	18.78	23.43		28.29	32.97	37.69	42.43	47.17		52.27	5 / 3			
	reaction time		interval	4.05	4.10	4.45	4.65	4.86	4.68	4.72	4.74	4.74	5.10			12.60	14.19	14.20
		velocity	7.28	8.64	8.54	7.87	7.53	7.20	7.48	7.42	7.38	7.38	7.84	7.65		8.33	7.40	7.39
	H1 lead leg		strides	13	13	14	14	14	14	14	14	15		125				
Hamada, Hiroshi (JPN) (2001)	time	6.26	10.28	14.41	18.69	23.02		27.46	31.92	36.53	41.54	46.85		52.71	3 / 4			
	reaction time		interval	4.02	4.13	4.28	4.33	4.44	4.46	4.61	5.01	5.31	5.86			12.43	13.23	14.93
		velocity	7.19	8.71	8.47	8.18	8.08	7.88	7.85	7.59	6.99	6.59	6.83	7.59		8.45	7.94	7.03
	H1 lead leg		strides	15	15	15	15	15	15	15	16	17		138				
Miyazaki, Takumi (JPN) (2001)	time	6.37	10.61	14.96	19.38	23.92		28.60	33.15	37.91	42.80	47.69		53.26	2 / 5			
	reaction time		interval	4.24	4.35	4.42	4.54	4.68	4.55	4.76	4.89	4.89	5.57			13.01	13.77	14.54
		velocity	7.06	8.25	8.05	7.92	7.71	7.48	7.69	7.35	7.16	7.16	7.18	7.51		8.07	7.63	7.22
	H1 lead leg		strides	15	15	15	15	15	15	15	15	15		135				
Fukamachi, Hidai (JPN) (2001)	time	6.31	10.39	14.51	18.74	23.13		27.79	32.52	37.37	42.60	47.96		54.32	8 / 6			
	reaction time		interval	4.08	4.12	4.23	4.39	4.66	4.73	4.85	5.23	5.36	6.36			12.43	13.78	15.44
		velocity	7.13	8.58	8.50	8.27	7.97	7.51	7.40	7.22	6.69	6.53	6.29	7.36		8.45	7.62	6.80
	H1 lead leg		strides	15	15	15	15	16	16	16	17	17		142				
Takahasi, Ryosuke (JPN) (2001)	time	6.25	10.43	14.70	19.06	23.65		28.43	33.22	38.12	43.20	48.56		55.14	7 / 7			
	reaction time		interval	4.18	4.27	4.36	4.59	4.78	4.79	4.90	5.08	5.36	6.58			12.81	14.16	15.34
		velocity	7.20	8.37	8.20	8.03	7.63	7.32	7.31	7.14	6.89	6.53	6.08	7.25		8.20	7.42	6.84
	H1 lead leg		strides	14	14	14	14	15	15	15	15	15		131				
Yamashina, Shinnosuke (JPI) (2001)	time	6.33	10.56	14.78	19.11	23.70		28.56	33.50	38.49	43.69	49.11		55.20	1 / 8			
	reaction time		interval	4.23	4.22	4.33	4.59	4.86	4.94	4.99	5.20	5.42	6.09			12.78	14.39	15.61
		velocity	7.11	8.27	8.29	8.08	7.63	7.20	7.09	7.01	6.73	6.46	6.57	7.25		8.22	7.30	6.73
	H1 lead leg		strides	14	14	14	14	15	15	15	15	16		132				

2019 Chinese World Championship Trials (Shenyang, CHN)

FINAL

date 03-Aug-19

CAA Hurdle Development (2019)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Liu Yangyang (CHN) (1995)	time	6.26	10.30	14.46	18.64	22.97		27.36	31.80	36.20	40.64	45.16		50.32	7 / 1			
	reaction time	0.177	interval	4.04	4.16	4.18	4.33	4.39	4.44	4.40	4.44	4.52	5.16	PB		12.38	13.16	13.36
		velocity	7.19	8.66	8.41	8.37	8.08	7.97	7.88	7.95	7.88	7.74	7.75	7.95		8.48	7.98	7.86
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	18.5	175.5				
Yang Baichuan (CHN) (1995)	time	6.12	10.14	14.30	18.56	22.92		27.25	31.68	36.21	40.78	45.55		50.85	6 / 2			
	reaction time	0.186	interval	4.02	4.16	4.26	4.36	4.33	4.43	4.53	4.57	4.77	5.30			12.44	13.12	13.87
		velocity	7.35	8.71	8.41	8.22	8.03	8.08	7.90	7.73	7.66	7.34	7.55	7.87		8.44	8.00	7.57
	H1 lead leg	L	strides	23	15	15	15	15	15	15	15	15	20	178				
Li Guangzhen (CHN) (1995)	time	6.14	10.17	14.08	18.17	22.59		27.03	31.57	36.19	40.81	45.58		50.92	4 / 3			
	reaction time	0.174	interval	4.03	3.91	4.09	4.42	4.44	4.54	4.62	4.62	4.77	5.34	PB		12.03	13.40	14.01
		velocity	7.33	8.68	8.95	8.56	7.92	7.88	7.71	7.58	7.58	7.34	7.49	7.86		8.73	7.84	7.49
	H1 lead leg	L	strides	22	14	14	13	14	14	15	15	15	18	169				
Wang Hongwen (CHN) (2001)	time	6.27	10.22	14.21	18.27	22.42		26.82	31.36	36.00	40.74	45.63		51.31	2 / 4			
	reaction time	0.217	interval	3.95	3.99	4.06	4.15	4.40	4.54	4.64	4.74	4.89	5.68	PB		12.00	13.09	14.27
		velocity	7.18	8.86	8.77	8.62	8.43	7.95	7.71	7.54	7.38	7.16	7.04	7.80		8.75	8.02	7.36
	H1 lead leg	R	strides	21	14	14	14	14	15	15	15	15	18	169				
Zhuang Linfei (CHN) (1996)	time	6.28	10.20	14.22	18.38	22.66		27.12	31.65	36.31	41.06	45.98		51.60	8 / 5			
	reaction time	0.256	interval	3.92	4.02	4.16	4.28	4.46	4.53	4.66	4.75	4.92	5.62	DQ		12.10	13.27	14.33
		velocity	7.17	8.93	8.71	8.41	8.18	7.85	7.73	7.51	7.37	7.11	7.12	7.75		8.68	7.91	7.33
	H1 lead leg	L	strides	21	13	13	14	14	14	15	15	15	18.5	166.5				
Cui Caizhuang (CHN) (1995)	time	6.21	10.18	14.20	18.35	22.56		27.01	31.70	36.48	41.31	46.28		51.89	1 / 5			
	reaction time	0.194	interval	3.97	4.02	4.15	4.21	4.45	4.69	4.78	4.83	4.97	5.61			12.14	13.35	14.58
		velocity	7.25	8.82	8.71	8.43	8.31	7.87	7.46	7.32	7.25	7.04	7.13	7.71		8.65	7.87	7.20
	H1 lead leg	R	strides	22	14	14	14	15	15	15	15	15	18.8	171.8				

Fu Jiaho (CHN) (1999)	time	6.30	10.36	14.56	18.79	23.16	27.70	32.38	37.10	41.90	46.91	52.81	5 / L 6			
reaction time	0.193 interval		4.06	4.20	4.23	4.37	4.54	4.68	4.72	4.80	5.01	5.90		12.49	13.59	14.53
	velocity	7.14	8.62	8.33	8.27	8.01	7.71	7.48	7.42	7.29	6.99	6.78	7.57	8.41	7.73	7.23
H1 lead leg	L strides	22	14	14	14	14	15	15	15	15	16	20	174			

Heat 2

date 03-Aug-19

CAA Hurdle Development (2019)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Xie Zhiyu (CHN) (2000)	time	6.44	10.63	14.77	19.04	23.42	27.91	32.72	37.45	42.23	47.05	52.42	4 / 1					
reaction time	0.228 interval		4.19	4.14	4.27	4.38	4.49	4.81	4.73	4.78	4.82	5.37		52.42	4 / 1	12.60	13.68	14.33
	velocity	6.99	8.35	8.45	8.20	7.99	7.80	7.28	7.40	7.32	7.26	7.45	7.63	8.33	7.68	7.33		
H1 lead leg	L strides	21	13	13	13	13	13	14	14	14	14	17	159					
Yang Baichuan (CHN) (1995)	time	6.29	10.36	14.56	18.80	23.21	27.80	32.47	37.23	42.10	47.26	53.14	7 / 2					
reaction time	0.194 interval		4.07	4.20	4.24	4.41	4.59	4.67	4.76	4.87	5.16	5.88		53.14	7 / 2	12.51	13.67	14.79
	velocity	7.15	8.60	8.33	8.25	7.94	7.63	7.49	7.35	7.19	6.78	6.80	7.53	8.39	7.68	7.10		
H1 lead leg	L strides	23	15	15	15	15	15	15	15	15	15	20	178					
Zhuang Linfei (CHN) (1996)	time	6.57	10.76	15.16	19.67	24.36	29.29	34.18	38.94	43.72	48.45	53.76	5 / 3					
reaction time	0.260 interval		4.19	4.40	4.51	4.69	4.93	4.89	4.76	4.78	4.73	5.31		53.76	5 / 3	13.10	14.51	14.27
	velocity	6.85	8.35	7.95	7.76	7.46	7.10	7.16	7.35	7.32	7.40	7.53	7.44	8.02	7.24	7.36		
H1 lead leg	L strides	21	13	13	14	14	15	15	15	15	15	17.5	167.5					
Wang Hongwen (CHN) (200)	time	6.71	11.06	15.48	19.96	24.50	29.11	33.98	38.87	43.70	48.54	53.92	6 / 4					
reaction time	0.268 interval		4.35	4.42	4.48	4.54	4.61	4.87	4.89	4.83	4.84	5.38		53.92	6 / 4	13.25	14.02	14.56
	velocity	6.71	8.05	7.92	7.81	7.71	7.59	7.19	7.16	7.25	7.23	7.43	7.42	7.92	7.49	7.21		
H1 lead leg	R strides	21	14	14	14	14	14	15	15	15	15	18	169					
Cui Caizhuang (CHN) (1995)	time	6.52	10.78	15.12	19.56	24.08	28.84	33.68	38.55	43.46	48.46	54.03	8 / 5					
reaction time	0.228 interval		4.26	4.34	4.44	4.52	4.76	4.84	4.87	4.91	5.00	5.57		54.03	8 / 5	13.04	14.12	14.78
	velocity	6.90	8.22	8.06	7.88	7.74	7.35	7.23	7.19	7.13	7.00	7.18	7.40	8.05	7.44	7.10		
H1 lead leg	R strides	22	15	15	15	15	15	15	15	15	15	20	177					
Long Wei (CHN) (1997)	time	7.01	11.70	16.40	21.15	26.09	31.31	36.89	42.34	47.83	53.38	59.62	3 / 6					
reaction time	0.252 interval		4.69	4.70	4.75	4.94	5.22	5.58	5.45	5.31	5.11	6.24		59.62	3 / 6	14.14	15.74	16.49
	velocity	6.42	7.46	7.45	7.37	7.09	6.70	6.27	6.42	6.34	6.41	6.71	7.43	7.43	6.67	6.37		
H1 lead leg	L strides	22	15	15	15	15	15	17	17	17	19.2	150.2						

Heat 1

date 03-Aug-19

CAA Hurdle Development (2019)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Li Guangzhen (CHN) (1995)	time	6.40	10.63	14.88	19.12	23.40	27.75	32.13	36.64	41.60	46.52	51.88	6 / 1					
reaction time	0.186 interval		4.23	4.25	4.24	4.28	4.35	4.38	4.51	4.96	4.92	5.36		51.88	6 / 1	12.72	13.01	14.39
	velocity	7.03	8.27	8.24	8.25	8.18	8.05	7.99	7.76	7.06	7.11	7.46	7.71	8.25	8.07	7.30		
H1 lead leg	L strides	22	14	14	14	14	15	15	15	15	15	18	171					
Fu Jiaho (CHN) (1999)	time	6.35	10.54	14.85	19.14	23.46	28.09	32.82	37.52	42.32	47.33	52.83	3 / 2					
reaction time	0.183 interval		4.19	4.31	4.29	4.32	4.63	4.73	4.70	4.80	5.01	5.50		52.83	3 / 2	12.79	13.68	14.51
	velocity	7.09	8.35	8.12	8.16	8.10	7.56	7.40	7.45	7.29	6.99	7.27	7.57	8.21	7.68	7.24		
H1 lead leg	L strides	22	14	14	14	15	15	16	15	16	16	18.5	175.5					
Liu Yangyang (CHN) (1995)	time	6.66	10.90	15.28	19.68	24.20	28.90	33.58	38.32	43.10	48.08	54.44	8 / 3					
reaction time	0.333 interval		4.24	4.38	4.40	4.52	4.70	4.68	4.74	4.78	4.98	6.36		54.44	8 / 3	13.02	13.90	14.50
	velocity	6.76	8.25	7.99	7.95	7.74	7.45	7.48	7.38	7.32	7.03	6.29	7.35	8.06	7.55	7.24		
H1 lead leg	L strides	22	15	15	15	15	15	15	15	15	15	18.5	175.5					
Wang Yijie (CHN) (1997)	time	6.85	11.40	16.12	20.75	25.58	30.50	35.52	40.58	45.70	51.28	58.62	7 / 4					
reaction time	0.318 interval		4.55	4.72	4.63	4.83	4.92	5.02	5.06	5.12	5.58	7.34		58.62	7 / 4	13.90	14.77	15.76
	velocity	6.57	7.69	7.42	7.56	7.25	7.11	6.97	6.92	6.84	6.27	5.45	6.82	7.55	7.11	6.66		
H1 lead leg	L strides	23	15	15	15	15	15	15	15	15	15	21	179					
Wang Daojun (CHN) (2000)	time	6.28	10.47	14.61	18.78	23.00	27.38	31.86	36.42	42.82	50.44	58.75	5 / 5					
reaction time	0.229 interval		4.19	4.14	4.17	4.22	4.38	4.48	4.56	6.40	7.62	8.31		58.75	5 / 5	12.50	13.08	18.58
	velocity	7.17	8.35	8.45	8.39	8.29	7.99	7.81	7.68	5.47	4.59	4.81	6.81	8.40	8.03	5.65		
H1 lead leg	L strides	21	14	14	14	14	15	15	15	17	19	21.5	179.5					
Xu Zhihang (CHN) (1997)	time	6.72	11.31										dnf	4 / --				
reaction time	interval		4.59															
	velocity	6.70	7.63															
H1 lead leg	L strides	22	15															

2019 Norwegian National Championships (Hamar, NOR) (TV Analysis)

FINAL

date 02-Aug-19

Henson (2020) - Athlete First: 2019 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1988)	time	5.76	9.40	13.16	17.02	21.00	25.08	29.28	33.56	37.96	42.36	47.43	7 / 1					
reaction time	interval		3.64	3.76	3.86	3.98	4.08	4.20	4.28	4.40	4.40	5.07		47.43	7 / 1	11.26	12.26	13.08
	velocity	7.81	9.62	9.31	9.07	8.79	8.58	8.33	8.18	7.95	7.95	7.89	8.43	9.33	8.56	8.03		
H1 lead leg	L strides	20	13	13	13	13	13	13	13	13	13	17.2	154.2					

2019 Müller Anniversary Games (London, GBR) (TV Analysis)

FINAL

date 20-Jul-19

Henson (2020) - Athlete First: 2019 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1987)	time	5.72	9.24	12.84	16.56	20.40	22.0	24.44	28.56	32.88	37.28	41.92		47.12	7 / 1			
	reaction time	0.160	interval	3.52	3.60	3.72	3.84	4.04	4.12	4.32	4.40	4.64	5.20	AR PB		10.84	12.00	13.36
	velocity	7.87	9.94	9.72	9.41	9.11	9.09	8.66	8.50	8.10	7.95	7.54	7.69	8.49		9.69	8.75	7.86
	H1 lead leg	L	strides	20	13	13	13	13	13	13	13	14	18	156				
Copello, Yasmani (TUR) (1991)	time	5.96	9.72	13.52	17.44	21.48	23.1	25.60		34.40	38.96	43.64		48.93	4 / 2			
	reaction time	0.183	interval	3.76	3.80	3.92	4.04	4.12		8.80	4.56	4.68	5.29			11.48		
	velocity	7.55	9.31	9.21	8.93	8.66	8.66	8.50		7.95	7.68	7.48	7.56	8.17		9.15		
	H1 lead leg	R	strides	20	13	13	13	13		14	14	17.7	130.7					
Lattin, Amere (USA) (1997)	time	5.88	9.56	13.32	17.16	21.12	22.9	25.28		34.20	38.96	43.80		49.18	8 / 3			
	reaction time	0.140	interval	3.68	3.76	3.84	3.96	4.16		8.92	4.76	4.84	5.38			11.28		
	velocity	7.65	9.51	9.31	9.11	8.84	8.73	8.41		7.85	7.35	7.23	7.43	8.13		9.31		
	H1 lead leg	L	strides	21	13	13	13	13	13	15	15	17.7	146.7					
Robinson, Byron (USA) (1991)	time	5.84	9.52	13.32	17.28	21.36	23.0	25.52		34.00	38.52	43.32		49.29	5 / 4			
	reaction time	0.154	interval	3.68	3.80	3.96	4.08	4.16		8.48	4.52	4.80	5.97			11.44		
	velocity	7.71	9.51	9.21	8.84	8.58	8.70	8.41		8.25	7.74	7.29	6.70	8.12		9.18		
	H1 lead leg	L	strides	22	15	15	15	15		15	15	20	147					
Mägi, Rasmus (EST) (1992)	time	6.12	9.92	13.72	17.64	21.76	23.5	25.96		34.88	39.52			49.71	9 / 5			
	reaction time	0.158	interval	3.80	3.80	3.92	4.12	4.20		8.92	4.64					11.52		
	velocity	7.35	9.21	9.21	8.93	8.50	8.51	8.33		7.85	7.54			8.05		9.11		
	H1 lead leg	L	strides	21	13	13	13	13		14			100					
Hyde, Jaheel (JAM) (1997)	time	5.96	9.80	13.80	17.76	21.88	23.6	26.16		34.92	39.56	44.28		49.79	2 / 6			
	reaction time	0.159	interval	3.84	4.00	3.96	4.12	4.28		8.76	4.64	4.72	5.51			11.80		
	velocity	7.55	9.11	8.75	8.84	8.50	8.47	8.18		7.99	7.54	7.42	7.26	8.03		8.90		
	H1 lead leg	L	strides	22	14	14	13	13	14		15	15	18	138				
Gibson, Jeffery (BAH) (1990)	time	6.04	9.88	13.84	17.84	22.00	23.8	26.24		35.12	39.76	44.44		49.88	1 / 7			
	reaction time	0.153	interval	3.84	3.96	4.00	4.16	4.24		8.88	4.64	4.68	5.44			11.80		
	velocity	7.45	9.11	8.84	8.75	8.41	8.40	8.25		7.88	7.54	7.48	7.35	8.02		8.90		
	H1 lead leg	R	strides	20	13	13	13				14	14	17.7	117.7				
McAlister, Chris (GBR) (1991)	time	6.28	10.08	14.04	18.00	22.12	23.8	26.28		35.04	39.60	44.40		49.93	3 / 8			
	reaction time	0.179	interval	3.80	3.96	3.96	4.12	4.16		8.76	4.56	4.80	5.53			11.72		
	velocity	7.17	9.21	8.84	8.84	8.50	8.40	8.41		7.99	7.68	7.29	7.23	8.01		8.96		
	H1 lead leg	R	strides	22	14	14	14	14	14		15	15	19.2	141.2				
McMaster, Kyron (IVB) (1997)	time	5.88												dnf	6 / --			
	reaction time	0.190	interval															
	velocity	7.65																
	H1 lead leg	L	strides	21														

2019 Chinese National Championships (Shenyang, CHN)

FINAL

date 10-Jul-19

CAA Hurdle Development (2019)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Xie Zhiyu (CHN) (2000)	time	6.27	10.14	14.03	18.00	22.05		26.26	30.80	35.25	39.97	44.69		50.01	5 / 1			
	reaction time	0.304	interval	3.87	3.89	3.97	4.05	4.21	4.54	4.45	4.72	4.72	5.32	PB		11.73	12.80	13.89
	velocity	7.18	9.04	9.00	8.82	8.64		8.31	7.71	7.87	7.42	7.42	7.52	8.00		8.95	8.20	7.56
	H1 lead leg	L	strides	22	13	13	13	13	14	14	14	14	17.5	160.5				
Wang Yijie (CHN) (1997)	time	6.02	9.93	13.84	17.92	22.08		26.44	30.85	35.39	39.97	44.69		50.04	6 / 2			
	reaction time	0.175	interval	3.91	3.91	4.08	4.16	4.36	4.41	4.54	4.58	4.72	5.35	DQ		11.90	12.93	13.84
	velocity	7.48	8.95	8.95	8.58	8.41		8.03	7.94	7.71	7.64	7.42	7.48	7.99		8.82	8.12	7.59
	H1 lead leg	L	strides	22	14	14	14	15	15	15	15	15	17.5	170.5				
Cai Jungi (CHN) (1996)	time	6.24	10.21	14.36	18.40	22.50		26.74	31.05	35.47	40.03	44.86		50.46	3 / 3 2			
	reaction time	0.196	interval	3.97	4.15	4.04	4.10	4.24	4.31	4.42	4.56	4.83	5.60			12.16	12.65	13.81
	velocity	7.21	8.82	8.43	8.66	8.54		8.25	8.12	7.92	7.68	7.25	7.14	7.93		8.63	8.30	7.60
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	19.5	176.5				
Xu Zhihang (CHN) (1997)	time	6.26	10.26	14.37	18.48	22.65		27.06	31.56	36.17	40.82	45.55		50.81	4 / 4 3			
	reaction time	0.167	interval	4.00	4.11	4.11	4.17	4.41	4.50	4.61	4.65	4.73	5.26			12.22	13.08	13.99
	velocity	7.19	8.75	8.52	8.52	8.39		7.94	7.78	7.59	7.53	7.40	7.60	7.87		8.59	8.03	7.51
	H1 lead leg	L	strides	21	14	14	14	15	15	15	15	15	18	170				
Yang Baichuan (CHN) (1995)	time	6.12	9.96	13.97	18.04	22.19		26.44	30.88	35.47	40.24	45.30		50.93	1 / 5 4			
	reaction time	0.206	interval	3.84	4.01	4.07	4.15	4.25	4.44	4.59	4.77	5.06	5.63			11.92	12.84	14.42
	velocity	7.35	9.11	8.73	8.60	8.43		8.24	7.88	7.63	7.34	6.92	7.10	7.85		8.81	8.18	7.28
	H1 lead leg	L	strides	23	15	15	15	15	15	15	15	15	20.5	178.5				
Zhuang Linfei (CHN) (1996)	time	6.20	10.08	14.02	18.06	22.21		26.60	31.08	35.76	40.56	45.45		50.99	7 / 6 5			
	reaction time	0.250	interval	3.88	3.94	4.04	4.15	4.39	4.48	4.68	4.80	4.89	5.54			11.86	13.02	14.37
	velocity	7.26	9.02	8.88	8.66	8.43		7.97	7.81	7.48	7.29	7.16	7.22	7.84		8.85	8.06	7.31

H1 lead leg	L	strides	21	13	13	14	14	14	14	15	15	15	17.8	165.8				
Wang Daojun (CHN) (2000)	time		6.12	10.17	14.25	18.40	22.59	26.96	31.56	36.22	40.94	45.70		51.23	2 / 7 6			
reaction time	0.216	interval		4.05	4.08	4.15	4.19	4.37	4.60	4.66	4.72	4.76	5.53			12.28	13.16	14.14
		velocity	7.35	8.64	8.58	8.43	8.35	8.01	7.61	7.51	7.42	7.35	7.23	7.81		8.55	7.98	7.43
H1 lead leg	L	strides	22	15	15	14	14	15	15	15	15	15	18.3	173.3				
Liu Yangyang (CHN) (1995)	time		6.45	10.56	14.80	19.22	23.70	28.28	32.83	37.46	42.06	46.70		52.00	8 / 8 7			
reaction time	0.313	interval		4.11	4.24	4.42	4.48	4.58	4.55	4.63	4.60	4.64	5.30			12.77	13.61	13.87
		velocity	6.98	8.52	8.25	7.92	7.81	7.64	7.69	7.56	7.61	7.54	7.55	7.69		8.22	7.71	7.57
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	15	17.8	174.8				

Heat 2

date 09-Jul-19

CAA Hurdle Development (2019)

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Li Guangzhen (CHN) (1995)	time		6.45	10.51	14.59	18.73	22.86	27.15	31.53	36.02	40.62	45.36		50.83	3 / 4				
reaction time	0.276	interval		4.06	4.08	4.14	4.13	4.29	4.38	4.49	4.60	4.74	5.47	DQ			12.28	12.80	13.83
		velocity	6.98	8.62	8.58	8.45	8.47	8.16	7.99	7.80	7.61	7.38	7.31	7.87			8.55	8.20	7.59
H1 lead leg	L	strides	22	14	14	14	14	14	14	15	15	15	15	17.5	168.5				
Xu Zhihang (CHN) (1997)	time		6.22	10.20	14.28	18.39	22.58	26.96	31.42	35.96	40.64	45.56		51.20	7 / 2 1				
reaction time	0.158	interval		3.98	4.08	4.11	4.19	4.38	4.46	4.54	4.68	4.92	5.64				12.17	13.03	14.14
		velocity	7.23	8.79	8.58	8.52	8.35	7.99	7.85	7.71	7.48	7.11	7.09	7.81			8.63	8.06	7.43
H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	16	19	172					
Cai Jungi (CHN) (1996)	time		6.35	10.41	14.49	18.69	22.90	27.21	31.60	36.06	40.62	45.36		51.22	6 / 3 2				
reaction time	0.189	interval		4.06	4.08	4.20	4.21	4.31	4.39	4.46	4.56	4.74	5.86				12.34	12.91	13.76
		velocity	7.09	8.62	8.58	8.33	8.31	8.12	7.97	7.85	7.68	7.38	6.83	7.81			8.51	8.13	7.63
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	15	19.5	176.5					
Liu Yangyang (CHN) (1995)	time		6.36	10.39	14.56	18.81	23.17	27.58	32.14	36.77	41.46	46.13		51.32	2 / 4 3				
reaction time	0.216	interval		4.03	4.17	4.25	4.36	4.41	4.56	4.63	4.69	4.67	5.19	PB			12.45	13.33	13.99
		velocity	7.08	8.68	8.39	8.24	8.03	7.94	7.68	7.56	7.46	7.49	7.71	7.79			8.43	7.88	7.51
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	15	18.5	175.5					
Wang Hongwen (CHN) (2000)	time		6.47	10.41	14.43	18.55	22.76	27.09	31.78	36.50	41.36	46.33		52.00	1 / 5 4				
reaction time	0.256	interval		3.94	4.02	4.12	4.21	4.33	4.69	4.72	4.86	4.97	5.67				12.08	13.23	14.55
		velocity	6.96	8.88	8.71	8.50	8.31	8.08	7.46	7.42	7.20	7.04	7.05	7.69			8.69	7.94	7.22
H1 lead leg	R	strides	21	14	14	14	14	14	15	15	15	15	18	169					
Wang Siqing (CHN) (1999)	time		6.37	10.41	14.65	18.94	23.31	27.79	32.32	36.99	41.76	46.58		52.12	4 / 6 5				
reaction time	0.197	interval		4.04	4.24	4.29	4.37	4.48	4.53	4.67	4.77	4.82	5.54	PB			12.57	13.38	14.26
		velocity	7.06	8.66	8.25	8.16	8.01	7.81	7.73	7.49	7.34	7.26	7.22	7.67			8.35	7.85	7.36
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	16	19.2	177.2					
Fu Jiaho (CHN) (1999)	time		6.37	10.43	14.64	18.88	23.22	27.69	32.32	37.05	41.79	46.65		52.29	5 / 7 6				
reaction time	0.232	interval		4.06	4.21	4.24	4.34	4.47	4.63	4.73	4.74	4.86	5.64				12.51	13.44	14.33
		velocity	7.06	8.62	8.31	8.25	8.06	7.83	7.56	7.40	7.38	7.20	7.09	7.65			8.39	7.81	7.33
H1 lead leg	L	strides	22	14	14	14	14	15	15	15	15	16	20	174					

Heat 1

date 09-Jul-19

CAA Hurdle Development (2019)

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Wang Yijie (CHN) (1997)	time		6.08	10.05	13.99	18.07	22.19	26.54	30.95	35.50	40.21	45.06		50.72	6 / 1				
reaction time	0.166	interval		3.97	3.94	4.08	4.12	4.35	4.41	4.55	4.71	4.85	5.66	PB			11.99	12.88	14.11
		velocity	7.40	8.82	8.88	8.58	8.50	8.05	7.94	7.69	7.43	7.22	7.07	7.89			8.76	8.15	7.44
H1 lead leg	L	strides	22	14	14	14	14	15	15	15	15	15	18.8	171.8					
Xie Zhiyu (CHN) (2000)	time		6.44	10.48	14.50	18.52	22.66	26.94	31.48	35.98	40.62	45.34		50.85	7 / 2				
reaction time	0.293	interval		4.04	4.02	4.02	4.14	4.28	4.54	4.50	4.64	4.72	5.51	PB			12.08	12.96	13.86
		velocity	6.99	8.66	8.71	8.71	8.45	8.18	7.71	7.78	7.54	7.42	7.26	7.87			8.69	8.10	7.58
H1 lead leg	L	strides	22	13	13	13	13	13	14	14	14	14	17.5	160.5					
Zhuang Linfei (CHN) (1996)	time		6.20	10.09	14.08	18.22	22.43	26.78	31.20	35.75	40.46	45.33		50.98	5 / 3				
reaction time	0.199	interval		3.89	3.99	4.14	4.21	4.35	4.42	4.55	4.71	4.87	5.65	PB			12.02	12.98	14.13
		velocity	7.26	9.00	8.77	8.45	8.31	8.05	7.92	7.69	7.43	7.19	7.08	7.85			8.74	8.09	7.43
H1 lead leg	L	strides	21	14	14	14	14	14	14	15	15	15	19	169					
Yang Baichuan (CHN) (1995)	time		6.32	10.36	14.59	18.84	23.11	27.39	31.80	36.27	40.89	45.76		51.20	1 / 4				
reaction time	0.218	interval		4.04	4.23	4.25	4.27	4.28	4.41	4.47	4.62	4.87	5.44				12.52	12.96	13.96
		velocity	7.12	8.66	8.27	8.24	8.20	8.18	7.94	7.83	7.58	7.19	7.35	7.81			8.39	8.10	7.52
H1 lead leg	L	strides	23	15	15	15	15	15	15	15	15	15	20.3	178.3					
Wang Daojun (CHN) (2000)	time		6.14	10.18	14.18	18.30	22.51	26.90	31.48	36.05	40.79	45.61		51.20	2 / 5				
reaction time	0.218	interval		4.04	4.00	4.12	4.21	4.39	4.58	4.57	4.74	4.82	5.59	PB			12.16	13.18	14.13
		velocity	7.33	8.66	8.75	8.50	8.31	7.97	7.64	7.66	7.38	7.26	7.16	7.81			8.63	7.97	7.43
H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	15	18.5	170.5					
Long Wei (CHN) (1997)	time		6.04	10.08	14.15	18.28	22.54	26.89	31.28	35.85	40.61	45.58		51.39	4 / 6				
reaction time	0.188	interval		4.04	4.07	4.13	4.26	4.35	4.39	4.57	4.76	4.97	5.81	PB			12.24	13.00	14.30

	velocity	7.45	8.66	8.60	8.47	8.22		8.05	7.97	7.66	7.35	7.04	6.88	7.78		8.58	8.08	7.34
H1 lead leg	L	strides	21	15	15	15	15	15	15	15	15	15	18.8	174.8				
Shang Shou (CHN) (1995)	time	6.54	10.71	14.92	19.04	23.11		27.54	32.06	36.75	41.49	46.46		52.22	8 / 7			
reaction time	0.225	interval		4.17	4.21	4.12	4.07	4.43	4.52	4.69	4.74	4.97	5.76			12.50	13.02	14.40
	velocity	6.88	8.39	8.31	8.50	8.60		7.90	7.74	7.46	7.38	7.04	6.94	7.66		8.40	8.06	7.29
H1 lead leg	L	strides	22	15	15	15	14	15	14	15	15	15	18	173				

2019 Prefontaine Classic (Stanford, CA) (TV Analysis)

FINAL

date 30-Jun-19

Henson (2020) - Athlete First: 2019 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (USA) (1997)	time	5.83	9.53	13.33	17.30	21.33		25.33	29.43	33.63	37.85	42.10		47.16	5 / 1			
reaction time	0.216	interval		3.70	3.80	3.97	4.03	4.00	4.10	4.20	4.22	4.25	5.06			11.47	12.13	12.67
	velocity	7.72	9.46	9.21	8.82	8.68		8.75	8.54	8.33	8.29	8.24	7.91	8.48		9.15	8.66	8.29
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	13	16.2	153.2				
McMaster, Kyron (IVB) (1997)	time	5.93	9.60	13.50	17.53	21.56		25.70	30.00	34.33	38.86	43.40		48.94	6 / 2			
reaction time	0.268	interval		3.67	3.90	4.03	4.03	4.14	4.30	4.33	4.53	4.54	5.54			11.60	12.47	13.40
	velocity	7.59	9.54	8.97	8.68	8.68		8.45	8.14	8.08	7.73	7.71	7.22	8.17		9.05	8.42	7.84
H1 lead leg	L	strides	21	13	13	13	13	13	14	14	14	14	17.5	159.5				
Copello, Yasmani (TUR) (1997)	time	5.90	9.73	13.63	17.63	21.70		25.86	30.36	34.90	39.46	44.00		49.37	3 / 3			
reaction time	0.201	interval		3.83	3.90	4.00	4.07	4.16	4.50	4.54	4.56	4.54	5.37			11.73	12.73	13.64
	velocity	7.63	9.14	8.97	8.75	8.60		8.41	7.78	7.71	7.68	7.71	7.45	8.10		8.95	8.25	7.70
H1 lead leg	R	strides	20	14	13	13	13	13	14	14		14	17.5	145.5				
Kendziera, Dave (USA) (1994)	time	5.73	9.50	13.43	17.43	21.46		25.70	30.10	34.66	39.30	43.97		49.46	7 / 4			
reaction time	0.247	interval		3.77	3.93	4.00	4.03	4.24	4.40	4.56	4.64	4.67	5.49			11.70	12.67	13.87
	velocity	7.85	9.28	8.91	8.75	8.68		8.25	7.95	7.68	7.54	7.49	7.29	8.09		8.97	8.29	7.57
H1 lead leg	R	strides	20	13	13	13	13	13	13	14		15	127					
Holmes, TJ (USA) (1995)	time	5.90	9.46	13.30	17.13	21.10		25.46	29.86	34.56	39.16	44.03		49.79	8 / 5			
reaction time	0.282	interval		3.56	3.84	3.83	3.97	4.36	4.40	4.70	4.60	4.87	5.76			11.23	12.73	14.17
	velocity	7.63	9.83	9.11	9.14	8.82		8.03	7.95	7.45	7.61	7.19	6.94	8.03		9.35	8.25	7.41
H1 lead leg	L	strides	20	13		13	13	14	14	14		15	116					
Rosser, Khalfah (USA) (1997)	time	5.93	9.53	13.36	17.26			25.43	29.80	34.36	39.10	43.96		49.87	9 / 6			
reaction time	0.361	interval		3.60	3.83	3.90		8.17	4.37	4.56	4.74	4.86	5.91			11.33	12.54	14.16
	velocity	7.59	9.72	9.14	8.97			8.57	8.01	7.68	7.38	7.20	6.77	8.02		9.27	8.37	7.42
H1 lead leg	R	strides	21	13		13			14	15		15	91					
Lattin, Amere (USA) (1997)	time	5.73	9.43	13.33	17.26	21.26		25.50	30.10	34.80	39.53	44.36		50.01	1 / 7			
reaction time	0.183	interval		3.70	3.90	3.93	4.00	4.24	4.60	4.70	4.73	4.83	5.65			11.53	12.84	14.26
	velocity	7.85	9.46	8.97	8.91	8.75		8.25	7.61	7.45	7.40	7.25	7.08	8.00		9.11	8.18	7.36
H1 lead leg	L	strides	21	13		13	13	13	15	15		15	118					
Valliant, Ludvy (FRA) (1995)	time	5.90	9.66	13.50	17.43	21.53		25.76	30.26	34.86	39.63	44.46		50.23	2 / 8			
reaction time	0.218	interval		3.76	3.84	3.93	4.10	4.23	4.50	4.60	4.77	4.83	5.77			11.53	12.83	14.20
	velocity	7.63	9.31	9.11	8.91	8.54		8.27	7.78	7.61	7.34	7.25	6.93	7.96		9.11	8.18	7.39
H1 lead leg	R	strides	21	13		13	13	13	14	14		14	115					
Mägi, Rasmus (EST) (1992)	time	6.06	9.93	13.96	18.03	22.16		26.43	31.00	35.50	40.13	44.80		50.25	4 / 9			
reaction time	0.208	interval		3.87	4.03	4.07	4.13	4.27	4.57	4.50	4.63	4.67	5.45			11.97	12.97	13.80
	velocity	7.43	9.04	8.68	8.60	8.47		8.20	7.66	7.78	7.56	7.49	7.34	7.96		8.77	8.10	7.61
H1 lead leg	L	strides	21	13	13	13	13	13	14	14		14	128					

2019 Japanese National Championships (Fukuoka, JPN)

FINAL

date 29-Jun-19

Yamanaka (2019) - research on athlete performance and technique- 2019 data book

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Abe, Takatoshi (JPN) (1991)	time	5.96	9.63	13.45	17.26	21.15		25.19	29.53	33.95	38.51	43.23		48.80	8 / 1			
reaction time	0.140	interval		3.67	3.82	3.81	3.89	4.04	4.34	4.42	4.56	4.72	5.57			11.30	12.27	13.70
	velocity	7.55	9.54	9.16	9.19	9.00		8.66	8.06	7.92	7.68	7.42	7.18	8.20		9.29	8.56	7.66
H1 lead leg	R	strides	21	13	13	13	13	13	14	14	15	15	18.2	162.2				
Toyoda, Masaki (JPN) (1998)	time	5.92	9.74	13.61	17.65	21.69		25.88	30.16	34.53	38.99	43.68		49.05	7 / 2			
reaction time	0.172	interval		3.82	3.87	4.04	4.04	4.19	4.28	4.37	4.46	4.69	5.37	PB		11.73	12.51	13.52
	velocity	7.60	9.16	9.04	8.66	8.66		8.35	8.18	8.01	7.85	7.46	7.45	8.15		8.95	8.39	7.77
H1 lead leg	L	strides	21	14	14	14	14	14	14	15	15	15	18.5	168.5				
Matsushita, Yuki (JPN) (1991)	time	6.09	9.84	13.74	17.70	21.71		25.93	30.25	34.75	39.31	43.99		49.47	6 / 3			
reaction time	0.161	interval		3.75	3.90	3.96	4.01	4.22	4.32	4.50	4.56	4.68	5.48			11.61	12.55	13.74
	velocity	7.39	9.33	8.97	8.84	8.73		8.29	8.10	7.78	7.68	7.48	7.30	8.09		9.04	8.37	7.64
H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	15	19.2	165.2				
Nozawa, Keisuke (JPN) (1997)	time	5.99	9.68	13.53	17.52	21.60		25.76	30.10	34.53	39.21	43.98		49.51	4 / 4			
reaction time	0.179	interval		3.69	3.85	3.99	4.08	4.16	4.34	4.43	4.68	4.77	5.53			11.53	12.58	13.88
	velocity	7.51	9.49	9.09	8.77	8.58		8.41	8.06	7.90	7.48	7.34	7.23	8.08		9.11	8.35	7.56
H1 lead leg	L	strides	21	13	13	14	14	14	14	14	15	15	19	166				

Oda, Masaya (JPN) (1995)	time	5.91	9.66	13.58	17.53	21.59	25.84	30.25	34.72	39.34	44.13	49.60	3 / 5				
reaction time	0.201	interval	3.75	3.92	3.95	4.06	4.25	4.41	4.47	4.62	4.79	5.47		PB	11.62	12.72	13.88
	velocity	7.61	9.33	8.93	8.86	8.62	8.24	7.94	7.83	7.58	7.31	7.31		8.06	9.04	8.25	7.56
H1 lead leg	L	strides	21	14	14	14	15	15	15	15	15	19.2		171.2			
Mano, Yutaro (JPN) (1996)	time	6.02	9.93	13.90	17.97	22.01	26.28	30.66	35.20	39.86	44.59	50.07	2 / 6				
reaction time	0.157	interval	3.91	3.97	4.07	4.04	4.27	4.38	4.54	4.66	4.73	5.48			11.95	12.69	13.93
	velocity	7.48	8.95	8.82	8.60	8.66	8.20	7.99	7.71	7.51	7.40	7.30		7.99	8.79	8.27	7.54
H1 lead leg	R	strides	21	14	14	14	15	15	15	15	15	152					
Sugai, Mitsuru (JPN) (1994)	time	6.06	9.76	13.66	17.58	20.60	25.86	30.23	34.80	39.46	44.43	50.27	5 / 7				
reaction time	0.168	interval	3.70	3.90	3.92	3.02	5.26	4.37	4.57	4.66	4.97	5.84			11.52	12.65	14.20
	velocity	7.43	9.46	8.97	8.93	11.59	6.65	8.01	7.66	7.51	7.04	6.85		7.96	9.11	8.30	7.39
H1 lead leg	R	strides	21	13	13	13	14	14	15	15	15	146					
Miyako, Kohei (JPN) (1997)	time	6.17	10.08	14.20	18.32	22.56	26.96	31.53	36.10	40.82	45.88	51.37	9 / 8				
reaction time	0.149	interval	3.91	4.12	4.12	4.24	4.40	4.57	4.57	4.72	5.06	5.49			12.15	13.21	14.35
	velocity	7.29	8.95	8.50	8.50	8.25	7.95	7.66	7.66	7.42	6.92	7.29		7.79	8.64	7.95	7.32
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	157					

2019 Bislett Games (Oslo, NOR) (TV Analysis)

FINAL

date 13-Jun-19

Henson (2020) - Athlete First: 2019 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1988)	time	5.58	9.14	12.84	16.64	20.61	22.3	24.64	28.88	33.12	37.52	42.03	47.33	7 / 1				
reaction time	0.148	interval	3.56	3.70	3.80	3.97	4.03	4.24	4.24	4.40	4.51	5.30		AR PB	11.06	12.24	13.15	
	velocity	8.06	9.83	9.46	9.21	8.82	8.97	8.68	8.25	8.25	7.95	7.76	7.55	8.45	9.49	8.58	7.98	
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	13	15	18	157				
Barr, Thomas (IRL) (1992)	time	5.98	9.71	13.53	17.45	21.45	23.2	25.68	29.99	34.43	39.00	43.73	49.11	3 / 2				
reaction time	0.175	interval	3.73	3.82	3.92	3.92	4.23	4.31	4.44	4.57	4.73	5.38			29.99	13.74		
	velocity	7.53	9.38	9.16	8.84	8.62	8.27	8.12	7.88	7.66	7.40	7.43	8.14	8.14	3.50	7.64		
H1 lead leg	L	strides	21	13	13	13	13	14	14	14	14	15	18	135				
McMaster, Kyron (IVB) (1997)	time	5.68	9.24	12.88	16.66	20.61	22.3	24.74	29.01	33.45	38.03	43.00	49.12	6 / 3				
reaction time	0.219	interval	3.56	3.64	3.78	3.95	4.13	4.27	4.44	4.58	4.97	6.12			10.98	12.35	13.99	
	velocity	7.92	9.83	9.62	9.26	8.86	8.97	8.47	8.20	7.88	7.64	7.04	6.54	8.14	9.56	8.50	7.51	
H1 lead leg	R	strides	20	13	12	13	13	13	14	14	14	15	18	159				
Kendziera, Dave (USA) (1994)	time	5.88	9.68	13.58	17.45	21.55	23.3	25.69	30.02	34.39	39.04	43.74	49.27	4 / 4				
reaction time	0.163	interval	3.80	3.90	3.90	3.97	4.14	4.33	4.37	4.65	4.70	5.53					13.72	
	velocity	7.65	9.21	8.97	8.78	8.58	8.45	8.08	8.01	7.53	7.45	7.23	8.12	8.12	7.65			
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	14	14	18	131				
Abe, Takatoshi (JPN) (1991)	time	6.02	9.78	13.68	17.58	21.72	23.5	25.92	30.29	34.83	39.54	44.31	49.78	8 / 5				
reaction time	0.188	interval	3.76	3.90	3.90	4.14	4.20	4.37	4.54	4.71	4.77	5.47			11.56	12.71	14.02	
	velocity	7.48	9.31	8.97	8.97	8.45	8.51	8.33	8.01	7.71	7.43	7.34	7.31	8.04	9.08	8.26	7.49	
H1 lead leg	R	strides	21	13	13	13	13	14	14	14	15	15	17.5	161.5				
Dobek, Patryk (POL) (1994)	time	5.92	9.62	13.45	17.42	21.42	23.1	25.55	29.99	34.46	39.30	44.21	49.80	2 / 6				
reaction time	0.155	interval	3.70	3.83	3.97	3.97	4.13	4.44	4.47	4.84	4.91	5.59					14.22	
	velocity	7.60	9.46	9.14	8.78	8.66	8.47	7.88	7.83	7.23	7.13	7.16	8.03	8.03	7.38			
H1 lead leg	L	strides	20	13	13	13	13	14	14	14	15	15	18	135				
Holmes, TJ (USA) (1995)	time	6.05	9.71	13.48	17.35	21.35	23.0	25.48	29.86	34.26	39.44	44.48	50.60	5 / 7				
reaction time	0.292	interval	3.66	3.77	3.87	3.87	4.13	4.38	4.40	5.18	5.04	6.12					14.62	
	velocity	7.44	9.56	9.28	8.89	8.70	8.47	7.99	7.95	6.76	6.94	6.54	7.91	7.91	7.18			
H1 lead leg	L	strides	19	13	13	13	13	13	13	13	15	15	18	132				

2019 NCAA Championships (Austin, TX) (TV Analysis)

FINAL

date 07-Jun-19

Henson (2020) - Athlete First: 2019 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Hall, Quincy (USA) (1998)	time	6.06	9.83	13.70	17.56	21.53	25.53	29.70	34.03	38.60	43.40	48.48	5 / 1					
reaction time	0.269	interval	3.77	3.87	3.86	3.97	4.00	4.17	4.33	4.57	4.80	5.08		PB	11.50	12.14	13.70	
	velocity	7.43	9.28	9.04	9.07	8.82	8.75	8.39	8.08	7.66	7.29	7.87	8.25	8.25	9.13	8.65	7.66	
H1 lead leg	R	strides	21	13	13	13	13	13	13	13	13	15	16.7	156.7				
Grimes, Norman (USA) (1998)	time	5.93	9.60	13.30	17.06	20.86	24.80	29.06	33.46	38.16	42.93	48.71	3 / 2					
reaction time	0.231	interval	3.67	3.70	3.76	3.80	3.94	4.26	4.40	4.70	4.77	5.78		PB	11.13	12.00	13.87	
	velocity	7.59	9.54	9.46	9.31	9.21	8.88	8.22	7.95	7.45	7.34	6.92	8.21	8.21	9.43	8.75	7.57	
H1 lead leg	L	strides	13	13	13	13	13	14	14	14	14	17.5	138.5					
Lattin, Amere (USA) (1997)	time	6.00	9.76	13.63	17.50	21.40	25.46	29.40	33.83	38.83	43.56	48.72	4 / 3					
reaction time	0.212	interval	3.76	3.87	3.87	3.90	4.06	4.37	4.63	4.73	5.16	5.16		PB	11.50			
	velocity	7.50	9.31	9.04	9.04	8.97	8.62	8.01	7.56	7.40	7.75	8.21	8.21	8.21	9.13			
H1 lead leg	L	strides	21	13	13	13	13	13	13	15	15	17	133					
Grant, Robert (USA) (1996)	time	6.00	9.80	13.80	17.83	21.96	26.13	30.36	34.73	39.36	43.63	48.83	7 / 4					

reaction time	0.186	interval		3.80	4.00	4.03	4.13		4.17	4.23	4.37		8.90	5.20	DQ		11.83	12.53	13.27
		velocity	7.50	9.21	8.75	8.68	8.47		8.39	8.27	8.01		7.87	7.69	8.19		8.88	8.38	7.91
H1 lead leg	R	strides		14	14	14	14		14	16	15				101				
McLaughlin, Taylor (USA) (1 time)	5.96	9.66	13.40	17.23	21.16		25.20	29.46	33.96	38.50	43.33				48.85		6 / 5 4		
reaction time	0.199	interval		3.70	3.74	3.83	3.93		4.04	4.26	4.50	4.54	4.83	5.52	PB		11.27	12.23	13.87
		velocity	7.55	9.46	9.36	9.14	8.91		8.66	8.22	7.78	7.71	7.25	7.25	8.19		9.32	8.59	7.57
H1 lead leg	R	strides		13	13	13	13		13	13	14	14	15	18	139				

2019 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis)

FINAL

date 06-Jun-19

Henson (2020) - Athlete First: 2019 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Benjamin, Rai (USA) (1997)	time		5.66	9.26	12.99	16.91	20.91		24.85	28.91	33.13	37.59	42.26		47.58	6 / 1				
	reaction time	0.160		interval		3.60	3.73	3.92	4.00		3.94	4.06	4.22	4.46	4.67	5.32		11.25	12.00	13.35
		velocity	7.95	9.72	9.38	8.93	8.75		8.88	8.62	8.29	7.85	7.49	7.52	8.41		9.33	8.75	7.87	
H1 lead leg	R	strides		20	13	13	13	13		13	13	13	13	14	17	155				
Kendziera, Dave (USA) (1994)	time		5.82	9.65	13.49	17.50	21.55		25.76	29.99	34.46	39.01	43.67		48.99	9 / 2				
	reaction time	0.142		interval		3.83	3.84	4.01	4.05		4.21	4.23	4.47	4.55	4.66	5.32		11.68	12.49	13.68
		velocity	7.73	9.14	9.11	8.73	8.64		8.31	8.27	7.83	7.69	7.51	7.52	8.16		8.99	8.41	7.68	
H1 lead leg	R	strides		20	13	13	13	13		13	13	14	14	14	17	157				
Abe, Takatoshi (JPN) (1991)	time		5.87	9.62	13.49	17.56	21.66		25.88	30.19	34.79	39.40	44.09		49.57	7 / 3				
	reaction time	0.164		interval		3.75	3.87	4.07	4.10		4.22	4.31	4.60	4.61	4.69	5.48		11.69	12.63	13.90
		velocity	7.67	9.33	9.04	8.60	8.54		8.29	8.12	7.61	7.59	7.46	7.30	8.07		8.98	8.31	7.55	
H1 lead leg	R	strides		21	13	13	13	13		13	13	14	14	15	17.5	159.5				
Barr, Thomas (IRL) (1992)	time		5.93	9.70	13.63	17.68	21.78		25.98	30.28	34.75	39.48	44.28		49.65	5 / 4				
	reaction time	0.194		interval		3.77	3.93	4.05	4.10		4.20	4.30	4.47	4.73	4.80	5.37		11.75	12.60	14.00
		velocity	7.59	9.28	8.91	8.64	8.54		8.33	8.14	7.83	7.40	7.29	7.45	8.06		8.94	8.33	7.50	
H1 lead leg	L	strides		20	13	13	13	13		13	13	14	15	15	18	160				
Selmon, Kenny (USA) (1996)	time		6.00	9.78	13.63	17.56	21.60		25.72	30.03	34.55	39.37	44.25		49.83	8 / 5				
	reaction time	0.228		interval		3.78	3.85	3.93	4.04		4.12	4.31	4.52	4.82	4.88	5.58		11.56	12.47	14.22
		velocity	7.50	9.26	9.09	8.91	8.66		8.50	8.12	7.74	7.26	7.17	7.17	8.03		9.08	8.42	7.38	
H1 lead leg	R	strides		21	13	13	13	13		13	13	14	15	15	17.7	160.7				
Hann, Mamadou Kasse (FRA)	time		5.97	9.87	13.77	17.70	21.77		25.97	30.32	34.85	39.48	44.45		50.00	1 / 6				
	reaction time	0.157		interval		3.90	3.90	3.93	4.07		4.20	4.35	4.53	4.63	4.97	5.55		11.73	12.62	14.13
		velocity	7.54	8.97	8.97	8.91	8.60		8.33	8.05	7.73	7.56	7.04	7.21	8.00		8.95	8.32	7.43	
H1 lead leg	L	strides		21	14	14	13	13		14	14	14	14	15	17.7	163.7				
Bencosme, José Reynaldo (I)	time		5.97	9.75	13.71	17.71	21.78		25.95	30.40	34.86	39.63	44.52		50.36	2 / 7				
	reaction time	0.165		interval		3.78	3.96	4.00	4.07		4.17	4.45	4.46	4.77	4.89	5.84		11.74	12.69	14.12
		velocity	7.54	9.26	8.84	8.75	8.60		8.39	7.87	7.85	7.34	7.16	6.85	7.94		8.94	8.27	7.44	
H1 lead leg	L	strides		20	13	13	13	13		13	14	14	15	15	18.5	161.5				
Dobek, Patryk (POL) (1994)	time		5.90	9.66	13.50	17.46	21.56		25.76	30.23	34.88	39.73	44.71		50.38	3 / 8				
	reaction time	0.153		interval		3.76	3.84	3.96	4.10		4.20	4.47	4.65	4.85	4.98	5.67		11.56	12.77	14.48
		velocity	7.63	9.31	9.11	8.84	8.54		8.33	7.83	7.53	7.22	7.03	7.05	7.94		9.08	8.22	7.25	
H1 lead leg	L	strides		20	13	13	13	13		14	14	15	15	15	17.7	162.7				
Mägi, Rasmus (EST) (1992)	time		6.02	9.86	13.86	17.95	22.11		26.36	30.93	35.45	40.21	45.05		50.52	4 / 9				
	reaction time	0.150		interval		3.84	4.00	4.09	4.16		4.25	4.57	4.52	4.76	4.84	5.47		11.93	12.98	14.12
		velocity	7.48	9.11	8.75	8.56	8.41		8.24	7.66	7.74	7.35	7.23	7.31	7.92		8.80	8.09	7.44	
H1 lead leg	L	strides		21	13	13	13	13		13	14	14	15	15	17.5	161.5				

2019 Bauhaus Athletics (Stockholm, SWE) (TV Analysis)

FINAL

date 30-May-19

Henson (2020) - Athlete First: 2019 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Warholm, Karsten (NOR) (1 time)	5.73	9.33	13.10	17.00	20.93		22.5	25.00	29.16	33.40	37.86	42.48		47.85	7 / 1					
	reaction time	0.146		interval		3.60	3.77	3.90	3.93		4.07	4.16	4.24	4.46	4.62	5.37		11.27	12.16	13.32
		velocity	7.85	9.72	9.28	8.97	8.91	8.89	8.60	8.41	8.25	7.85	7.58	7.45	8.36		9.32	8.63	7.88	
H1 lead leg	L	strides		20	13	13	13	13		13	13	13	13	15	17.7	156.7				
Holmes, TJ (USA) (1995)	time		5.86	9.52	13.32	17.15	21.11	22.7	25.26	29.62	34.06	38.90	43.62		49.25	6 / 2				
	reaction time	0.156		interval		3.66	3.80	3.83	3.96		4.15	4.36	4.44	4.84	4.72	5.63		11.29	12.47	14.00
		velocity	7.68	9.56	9.21	9.14	8.84	8.81	8.43	8.03	7.88	7.23	7.42	7.10	8.12		9.30	8.42	7.50	
H1 lead leg	L	strides		20	13	13	13	13		13	13	13	14	14	17.2	156.2				
Barr, Thomas (IRL) (1992)	time		6.06	9.85	13.96	18.00	22.00	23.7	26.36	30.76	35.33	40.26	44.93		50.28	5 / 3				
	reaction time	0.196		interval		3.79	4.11	4.04	4.00		4.36	4.40	4.57	4.93	4.67	5.35		11.94	12.76	14.17
		velocity	7.43	9.23	8.52	8.66	8.75	8.44	8.03	7.95	7.66	7.10	7.49	7.48	7.96		8.79	8.23	7.41	
H1 lead leg	L	strides		21	13	13	13	13		14	14	14	16	15	18	164				
Rodger, Sebastian (GBR) (1 time)	6.16	10.06	14.13	18.20	22.30		24.0	26.63	31.06	35.50	40.13	44.93		50.50	2 / 4					
	reaction time	0.139		interval		3.90	4.07	4.07	4.10		4.33	4.43	4.44	4.63	4.80	5.57		12.04	12.86	13.87
		velocity	7.31	8.97	8.60	8.60	8.54	8.33	8.08	7.90	7.88	7.56	7.29	7.18	7.92		8.72	8.16	7.57	

H1 lead leg	R	strides	22	14	14	14	14	14	14	14	15	15	19	155				
Selmon, Kenny (USA) (1996)	time		6.13	10.10	14.10	18.06	22.16	23.8	26.46	30.90	35.40	40.40	45.43	51.15	4 / 5			
reaction time	0.185	interval		3.97	4.00	3.96	4.10		4.30	4.44	4.50	5.00	5.03	5.72		11.93	12.84	14.53
		velocity	7.34	8.82	8.75	8.84	8.54	8.40	8.14	7.88	7.78	7.00	6.96	6.99	7.82	8.80	8.18	7.23
H1 lead leg	R	strides	21	13	13	13	13		14	14	14	15	15	145				
Paul, Jacob (GBR) (1995)	time		6.06	9.96	14.20	18.33	22.56	24.3	26.97	31.50	36.10	40.96	45.80	51.29	1 / 6			
reaction time	0.185	interval		3.90	4.24	4.13	4.23		4.41	4.53	4.60	4.86	4.84	5.49		12.27	13.17	14.30
		velocity	7.43	8.97	8.25	8.47	8.27	8.23	7.94	7.73	7.61	7.20	7.23	7.29	7.80	8.56	7.97	7.34
H1 lead leg	L	strides	21	14	14	14	14		14			15	15	121				
Bengtström, Carl (SWE) (2019)	time		5.93	9.83	14.00	18.13	22.43	24.2	26.86		35.96	40.90	45.76	51.35	8 / 7			
reaction time	0.190	interval		3.90	4.17	4.13	4.30		4.43		9.10	4.94	4.86	5.59		12.20		
		velocity	7.59	8.97	8.39	8.47	8.14	8.26	7.90		7.69	7.09	7.20	7.16	7.79	8.61		
H1 lead leg	L	strides	22	14	14	14	14		15			15	15	123				
Lahoulou, Abdelmalik (ALG) (2019)	time		6.06	9.80	13.80	17.93	22.06	23.7	26.40	31.00	35.66	40.80	45.86	51.82	3 / 8			
reaction time	0.151	interval		3.74	4.00	4.13	4.13		4.34	4.60	4.66	5.14	5.06	5.96		11.87	13.07	14.86
		velocity	7.43	9.36	8.75	8.47	8.47	8.44	8.06	7.61	7.51	6.81	6.92	6.71	7.72	8.85	8.03	7.07
H1 lead leg	L	strides	22	13	14	14	14		14	15		15	15	136				

2019 Chinese National Grand Prix 4 (Luoyang, CHN)

FINAL

date 29-May-19

CAA Hurdle Development (2019)

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Shang Shou (CHN) (1995)	time		6.50	10.61	14.68	18.88	23.25	27.71	32.16	36.67	41.22	45.77		50.82	4 / 1				
reaction time	0.267	interval		4.11	4.07	4.20	4.37		4.46	4.45	4.51	4.55	4.55	5.05		12.38	13.28	13.61	
		velocity	6.92	8.52	8.60	8.33	8.01		7.85	7.87	7.76	7.69	7.69	7.92	7.87	8.48	7.91	7.71	
H1 lead leg	L	strides	22	14	14	14	14		14	14	15	15	15	17.7	168.7				
Wang Yijie (CHN) (1997)	time		6.20	10.14	14.18	18.35	22.68	27.14	31.66	36.22	41.04	45.86		51.60	7 / 2				
reaction time	0.260	interval		3.94	4.04	4.17	4.33		4.46	4.52	4.56	4.82	4.82	5.74		12.15	13.31	14.20	
		velocity	7.26	8.88	8.66	8.39	8.08		7.85	7.74	7.68	7.26	7.26	6.97	7.75	8.64	7.89	7.39	
H1 lead leg	L	strides	22	14	14	14	14		15	15	15	15	15	18.5	171.5				
Long Wei (CHN) (1997)	time		6.22	10.21	14.36	18.58	22.92	27.42	32.04	36.70	41.47	46.34		51.87	2 / 3				
reaction time	0.208	interval		3.99	4.15	4.22	4.34		4.50	4.62	4.66	4.77	4.87	5.53	PB	12.36	13.46	14.30	
		velocity	7.23	8.77	8.43	8.29	8.06		7.78	7.58	7.51	7.34	7.19	7.23	7.71	8.50	7.80	7.34	
H1 lead leg	L	strides	23	15	15	15	15		15	15	15	15	15	18.2	176.2				
Cui Caizhuang (CHN) (1995)	time		6.22	10.24	14.36	18.55	22.89	27.44	32.13	36.83	41.77	46.84		52.55	5 / 4				
reaction time	0.195	interval		4.02	4.12	4.19	4.34		4.55	4.69	4.70	4.94	5.07	5.71		12.33	13.58	14.71	
		velocity	7.23	8.71	8.50	8.35	8.06		7.69	7.46	7.45	7.09	6.90	7.01	7.61	8.52	7.73	7.14	
H1 lead leg	R	strides	22	14	14	14	14		15	15	15	15	15	18.5	171.5				
Zhuang Linfei (CHN) (1996)	time		6.42	10.46		18.86	23.34	27.95	32.64	37.43	42.35	47.28		52.76	8 / 5				
reaction time	0.298	interval		4.04		8.40	4.48		4.61	4.69	4.79	4.92	4.93	5.48		12.44	13.78	14.64	
		velocity	7.01	8.66		8.33	7.81		7.59	7.46	7.31	7.11	7.10	7.30	7.58	8.44	7.62	7.17	
H1 lead leg	L	strides	21	14		14	14		15	15	15	15	15	18	142				
Fu Jiaho (CHN) (1999)	time		6.67	11.05	15.45	19.80	24.34	29.01	33.76	38.52	43.47	48.88		54.71	1 / 6				
reaction time	0.208	interval		4.38	4.40	4.35	4.54		4.67	4.75	4.76	4.95	5.41	5.83		13.13	13.96	15.12	
		velocity	6.75	7.99	7.95	8.05	7.71		7.49	7.37	7.35	7.07	6.47	6.86	7.31	8.00	7.52	6.94	
H1 lead leg	L	strides	22	14	14	14	14		15	15	15	15	17	19.5	174.5				

2019 Shimane High School Championships (Izumo, JPN)

FINAL

date 25-May-19

Shimizu (2019) - shimane high school championships 2019 - biomechanics data analysis

堀西 洗博	time		6.70	11.11	15.54	20.16	24.80	29.83	34.87	40.00	45.09	50.24		56.04	5 / 1			
reaction time		interval		4.41	4.43	4.62	4.64		5.03	5.04	5.13	5.09	5.15	5.80		13.46	14.71	15.37
		velocity	6.72	7.94	7.90	7.58	7.54		6.96	6.94	6.82	6.88	6.80	6.90	7.14	7.80	7.14	6.83
H1 lead leg		strides	21	15	15	15	15		15	15	15	15	15	18	174			
加藤 諒介	time		6.69	10.91	15.24	19.74	24.38	29.46	34.70	40.02	45.22	50.63		56.54	6 / 2			
reaction time		interval		4.22	4.33	4.50	4.64		5.08	5.24	5.32	5.20	5.41	5.91		13.05	14.96	15.93
		velocity	6.73	8.29	8.08	7.78	7.54		6.89	6.68	6.58	6.73	6.47	6.77	7.07	8.05	7.02	6.59
H1 lead leg		strides	23	15	15	15	15		15	17	17	17	17	20	186			
鎌田 真央	time		6.85	11.41	16.12	20.94	25.90	31.07	36.30	41.54	46.77	51.99		57.61	9 / 3			
reaction time		interval		4.56	4.71	4.82	4.96		5.17	5.23	5.24	5.23	5.22	5.62		14.09	15.36	15.69
		velocity	6.57	7.68	7.43	7.26	7.06		6.77	6.69	6.68	6.69	6.70	7.12	6.94	7.45	6.84	6.69
H1 lead leg		strides	24	17	17	17	17		17	17	17	17	17	20	197			
松本 達樹	time		6.64	11.26	15.91	20.58	25.36	30.53	35.87	41.30	46.64	51.96		57.83	8 / 4			
reaction time		interval		4.62	4.65	4.67	4.78		5.17	5.34	5.43	5.34	5.32	5.87		13.94	15.29	16.09
		velocity	6.78	7.58	7.53	7.49	7.32		6.77	6.55	6.45	6.55	6.58	6.81	6.92	7.53	6.87	6.53
H1 lead leg		strides	23	17	17	17	17		17	19	19	19	19	22	206			

中井 空	time	6.55	10.89	15.44	20.23	25.18	30.38	35.88	41.47	46.91	52.33		57.91	4 / 5			
	reaction time	interval	4.34	4.55	4.79	4.95	5.20	5.50	5.59	5.44	5.42	5.58			13.68	15.65	16.45
		velocity	6.87	8.06	7.69	7.31	7.07	6.73	6.36	6.26	6.43	6.46	7.17	6.91	7.68	6.71	6.38
	H1 lead leg	strides	24	15	15	17	17	17	19	19	19	19	21	202			
森田 光典	time	6.57	11.04	15.66	20.46	25.28	30.28	35.55	41.42	46.86	52.43		58.05	7 / 6			
	reaction time	interval	4.47	4.62	4.80	4.82	5.00	5.27	5.87	5.44	5.57	5.62			13.89	15.09	16.88
		velocity	6.85	7.83	7.58	7.29	7.26	7.00	6.64	5.96	6.43	6.28	7.12	6.89	7.56	6.96	6.22
	H1 lead leg	strides	21	15	15	15	15	15	16	18	17	17	20	184			

2019 Nanjing World Challenge (Nanjing, CHN)

FINAL

date 21-May-19

CAA Hurdle Development (2019)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Feng Zhiqiang (CHN) (1998)	time	6.20	10.06	13.96	17.93	22.10		26.46	31.10		40.56	45.40		50.72	2 / 7			
	reaction time	interval	3.86	3.90	3.97	4.17		4.36	4.64		9.46	4.84	5.32			11.73	13.17	14.30
		velocity	7.26	9.07	8.97	8.82	8.39	8.03	7.54		7.40	7.23	7.52	7.89		8.95	7.97	7.34
	H1 lead leg	L	strides	13	13	13	13	13	14				17.2	96.2				

2019 Seiko Golden Grand Prix (Osaka, JPN)

FINAL

date 19-May-19

Hirokawa (2019) - research on athlete performance and technique- 2019 data book

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Toyoda, Masaki (JPN) (1998)	time	6.14	9.94	13.81	17.85	22.02		26.39	30.86	35.50	40.22	44.98		50.38	3 / 1			
	reaction time	0.349	interval	3.80	3.87	4.04	4.17	4.37	4.47	4.64	4.72	4.76	5.40			11.71	13.01	14.12
		velocity	7.33	9.21	9.04	8.66	8.39	8.01	7.83	7.54	7.42	7.35	7.41	7.94		8.97	8.07	7.44
	H1 lead leg	L	strides	21	14	14	14	14	14	15	15	15	18.5	168.5				
Nozawa, Keisuke (JPN) (1991)	time	6.14	9.91	13.88	17.87	21.99		26.14	30.46	35.02	39.98	44.94		50.65	6 / 2			
	reaction time	0.254	interval	3.77	3.97	3.99	4.12	4.15	4.32	4.56	4.96	4.96	5.71			11.73	12.59	14.48
		velocity	7.33	9.28	8.82	8.77	8.50	8.43	8.10	7.68	7.06	7.06	7.01	7.90		8.95	8.34	7.25
	H1 lead leg	L	strides	21	14	14	14	14	14	14	16	15	19	169				
Sugumati, Mahau (BRA) (1991)	time	6.06	9.84	13.73	17.76	21.92		26.28	30.78	35.60	40.44	45.33		50.87	2 / 3			
	reaction time	0.160	interval	3.78	3.89	4.03	4.16	4.36	4.50	4.82	4.84	4.89	5.54			11.70	13.02	14.55
		velocity	7.43	9.26	9.00	8.68	8.41	8.03	7.78	7.26	7.23	7.16	7.22	7.86		8.97	8.06	7.22
	H1 lead leg	R	strides	20	13	13	13	13	13	14	14	14	17.5	157.5				
Inoue, Kakeru (JPN) (1996)	time	6.09	9.94	13.86	17.87	22.06		26.34	30.86	35.57	40.44	45.35		50.97	9 / 4			
	reaction time	0.175	interval	3.85	3.92	4.01	4.19	4.28	4.52	4.71	4.87	4.91	5.62			11.78	12.99	14.49
		velocity	7.39	9.09	8.93	8.73	8.35	8.18	7.74	7.43	7.19	7.13	7.12	7.85		8.91	8.08	7.25
	H1 lead leg	R	strides	21	13	13	13	14	14	15	15	15	19	165				
Chen Chieh (TPE) (1992)	time	5.92	9.58	13.37	17.18	21.20		25.41	30.03	35.00	40.09	45.20		51.05	8 / 5			
	reaction time	0.190	interval	3.66	3.79	3.81	4.02	4.21	4.62	4.97	5.09	5.11	5.85			11.26	12.85	15.17
		velocity	7.60	9.56	9.23	9.19	8.71	8.31	7.58	7.04	6.88	6.85	6.84	7.84		9.33	8.17	6.92
	H1 lead leg	L	strides	21	13	13	13	13	14	15	16	15	19	165				
Obayashi, Masayuki (JPN) (1991)	time	6.04	9.96	13.91	18.04	22.21		26.48	30.83	35.40	40.22	45.35		51.45	4 / 6			
	reaction time	0.157	interval	3.92	3.95	4.13	4.17	4.27	4.35	4.57	4.82	5.13	6.10			12.00	12.79	14.52
		velocity	7.45	8.93	8.86	8.47	8.39	8.20	8.05	7.66	7.26	6.82	6.56	7.77		8.75	8.21	7.23
	H1 lead leg	R	strides	22	14	14	14	15	15	15	15	17	20.7	175.7				
Koech, Haron (KEN) (1990)	time	6.46	10.44	14.51	18.65	22.89		27.34	31.92	36.72	41.65	46.63		52.48	5 / 7			
	reaction time	0.174	interval	3.98	4.07	4.14	4.24	4.45	4.58	4.80	4.93	4.98	5.85			12.19	13.27	14.71
		velocity	6.97	8.79	8.60	8.45	8.25	7.87	7.64	7.29	7.10	7.03	6.84	7.62		8.61	7.91	7.14
	H1 lead leg	R	strides	23	13	15	13	15	15	15	15	15	18.7	170.7				

2019 Shanghai Diamond League (Shanghai, CHN)

FINAL

date 18-May-19

Henson (2020) - Athlete First: 2019 year end hurdle report

CAA Hurdle Development (2019)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Samba, Abderrahmane (QAT) (1991)	time	5.80	9.60	13.36	17.20	21.13	23.0	25.26	29.40	33.58	37.83	42.13		47.27	4 / 1			
	reaction time	0.201	interval	3.80	3.76	3.84	3.93	4.13	4.14	4.18	4.25	4.30	5.14			11.40	12.20	12.73
		velocity	7.76	9.21	9.31	9.11	8.91	8.70	8.47	8.45	8.37	8.24	8.14	7.78	8.46	9.21	8.61	8.25
	H1 lead leg	R	strides	21	13	13	13	13	13	13	13	13	17	155				
Benjamin, Rai (USA) (1997)	time	5.73	9.36	13.16	17.03	21.16	23.0	25.26	29.40	33.50	37.73	42.33		47.80	5 / 2			
	reaction time	0.155	interval	3.63	3.80	3.87	4.13	4.10	4.14	4.10	4.23	4.60	5.47			11.30	12.37	12.93
		velocity	7.85	9.64	9.21	9.04	8.47	8.70	8.54	8.45	8.54	8.27	7.61	7.31	8.37	9.29	8.49	8.12
	H1 lead leg	R	strides	20	13	13	13	13	13	13	13	14	17	155				
Feng Zhiqiang (CHN) (1998)	time	6.20	10.12	14.19	18.29	22.63	24.4	27.19	31.93	36.70	41.70	46.63		52.11	2 / 8			
	reaction time	0.195	interval	3.92	4.07	4.10	4.34	4.56	4.74	4.77	5.00	4.93	5.48			12.09	13.64	14.70
		velocity	7.26	8.93	8.60	8.54	8.06	8.20	7.68	7.38	7.34	7.00	7.10	7.30	7.68	8.68	7.70	7.14
	H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	17	161				

2019 Kinami Memorial (Osaka, JPN)

A FINAL

date 06-May-19

Matsubayashi (2019) - research on athlete performance and technique- 2019 data book

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
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Nozawa, Keisuke (JPN) (1991)	time	6.04	9.79	13.61	17.45	21.47	25.53	29.76	34.18	38.84	43.76	49.52	8 / 1			
reaction time	interval		3.75	3.82	3.84	4.02	4.06	4.23	4.42	4.66	4.92	5.76		11.41	12.31	14.00
	velocity	7.45	9.33	9.16	9.11	8.71	8.62	8.27	7.92	7.51	7.11	6.94	8.08	9.20	8.53	7.50
H1 lead leg	L	strides	21	14	14	14	14	14	15	15	15	19	169			
Matsushita, Yuki (JPN) (1991)	time	6.11	9.93	13.83	17.74	21.72	25.94	30.23	34.70	39.31	44.01	49.57	3 / 2			
reaction time	interval		3.82	3.90	3.91	3.98	4.22	4.29	4.47	4.61	4.70	5.56		11.63	12.49	13.78
	velocity	7.36	9.16	8.97	8.95	8.79	8.29	8.16	7.83	7.59	7.45	7.19	8.07	9.03	8.41	7.62
H1 lead leg	R	strides	21	13	13	13	14	14	15	15	15	19	165			
Chen Chieh (TPE) (1992)	time	5.99	9.76	13.60	17.52	21.62	25.86	30.35	34.92	39.61	44.44	49.86	7 / 3			
reaction time	interval		3.77	3.84	3.92	4.10	4.24	4.49	4.57	4.69	4.83	5.42		11.53	12.83	14.09
	velocity	7.51	9.28	9.11	8.93	8.54	8.25	7.80	7.66	7.46	7.25	7.38	8.02	9.11	8.18	7.45
H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	18.2	162.2			
Obayashi, Masayuki (JPN) (1991)	time	6.06	10.08	14.08	18.17	22.39	26.63	30.91	35.30	39.89	44.64	50.11	9 / 4			
reaction time	interval		4.02	4.00	4.09	4.22	4.24	4.28	4.39	4.59	4.75	5.47		12.11	12.74	13.73
	velocity	7.43	8.71	8.75	8.56	8.29	8.25	8.18	7.97	7.63	7.37	7.31	7.98	8.67	8.24	7.65
H1 lead leg	R	strides	22	14	14	14	15	15	15	15	15	19	172			
Mano, Yutaro (JPN) (1996)	time	6.16	10.14	14.11	18.12	22.32	26.63	30.13	35.57	40.27	45.03	50.51	6 / 5			
reaction time	interval		3.98	3.97	4.01	4.20	4.31	3.50	5.44	4.70	4.76	5.48		11.96	12.01	14.90
	velocity	7.31	8.79	8.82	8.73	8.33	8.12	10.00	6.43	7.45	7.35	7.30	7.92	8.78	8.74	7.05
H1 lead leg	R	strides	21	14	14	14	14	15	15	15	15	18.5	169.5			

B FINAL

date 06-May-19

Matsubayashi (2019) - research on athlete performance and technique- 2019 data book

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Sugai, Mitsuru (JPN) (1994)	time	6.09	9.91	13.90	17.85	21.94	26.23	30.50	35.07	39.72	44.54	50.16	3 / 1					
reaction time	interval		3.82	3.99	3.95	4.09	4.29	4.27	4.57	4.65	4.82	5.62				11.76	12.65	14.04
	velocity	7.39	9.16	8.77	8.86	8.56	8.16	8.20	7.66	7.53	7.26	7.12	7.97			8.93	8.30	7.48
H1 lead leg	R	strides	21	13	13	13	14	14	15	15	15	19	165					
Maeno, Kei (JPN) (1991)	time	6.04	9.83	13.68	17.53	21.67	25.91	30.34	34.87	39.56	44.49	50.37	6 / 2					
reaction time	interval		3.79	3.85	3.85	4.14	4.24	4.43	4.53	4.69	4.93	5.88				11.49	12.81	14.15
	velocity	7.45	9.23	9.09	9.09	8.45	8.25	7.90	7.73	7.46	7.10	6.80	7.94			9.14	8.20	7.42
H1 lead leg	R	strides	21	13	13	14	14	15	15	15	17	19.2	169.2					
Takada, Kazunari (JPN) (1991)	time	5.89	9.79	13.66	17.48	21.60	25.88	30.21	34.80	39.56	44.63	50.50	7 / 3					
reaction time	interval		3.90	3.87	3.82	4.12	4.28	4.33	4.59	4.76	5.07	5.87				11.59	12.73	14.42
	velocity	7.64	8.97	9.04	9.16	8.50	8.18	8.08	7.63	7.35	6.90	6.81	7.92			9.06	8.25	7.28
H1 lead leg	L	strides	21	14	14	14	15	15	15	15	15	20	172					

2019 Shizuoka International Athletics Meeting (Fukuroi, JPN)**A FINAL**

date 03-May-19

Kobayashi (2019) - research on athlete performance and technique- 2019 data book

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Nozawa, Keisuke (JPN) (1991)	time	6.12	9.88	13.81	17.78	21.86	25.94	30.15	34.48	39.21	44.13	49.84	9 / 1					
reaction time	interval		3.76	3.93	3.97	4.08	4.08	4.21	4.33	4.73	4.92	5.71				11.66	12.37	13.98
	velocity	7.35	9.31	8.91	8.82	8.58	8.58	8.31	8.08	7.40	7.11	7.01	8.03			9.01	8.49	7.51
H1 lead leg	L	strides	21	14	14	14	14	14	14	14	15	15	19.2	168.2				
Chen Chieh (TPE) (1992)	time	5.96	9.58	13.28	17.13	21.10	25.26	29.76	34.35	39.24	44.33	50.05	7 / 2					
reaction time	interval		3.62	3.70	3.85	3.97	4.16	4.50	4.59	4.89	5.09	5.72				11.17	12.63	14.57
	velocity	7.55	9.67	9.46	9.09	8.82	8.41	7.78	7.63	7.16	6.88	6.99	7.99			9.40	8.31	7.21
H1 lead leg	L	strides	21	13	13	13	13	14	14	14	15	15	18.5	162.5				
Inoue, Kakeru (JPN) (1996)	time	6.14	9.94	13.88	17.90	21.99	26.26	30.68	35.22	39.97	44.84	50.34	8 / 3					
reaction time	interval		3.80	3.94	4.02	4.09	4.27	4.42	4.54	4.75	4.87	5.50				11.76	12.78	14.16
	velocity	7.33	9.21	8.88	8.71	8.56	8.20	7.92	7.71	7.37	7.19	7.27	7.95			8.93	8.22	7.42
H1 lead leg	R	strides	21	13	13	13	14	14	15	15	15	19	146					
Mano, Yutaro (JPN) (1996)	time	6.12	10.01	13.90	17.97	22.12	26.36	30.78	35.30	40.01	44.95	50.57	5 / 4					
reaction time	interval		3.89	3.89	4.07	4.15	4.24	4.42	4.52	4.71	4.94	5.62				11.85	12.81	14.17
	velocity	7.35	9.00	9.00	8.60	8.43	8.25	7.92	7.74	7.43	7.09	7.12	7.91			8.86	8.20	7.41
H1 lead leg	R	strides	21	16	16	16	17	17	17	19	19	174						

B FINAL

date 03-May-19

Kobayashi (2019) - research on athlete performance and technique- 2019 data book

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Obayashi, Masayuki (JPN) (1991)	time	6.07	10.08	14.11	18.34	22.57	26.88	31.35	35.85	40.47	45.18	50.48	6 / 1					
reaction time	interval		4.01	4.03	4.23	4.23	4.31	4.47	4.50	4.62	4.71	5.30				12.27	13.01	13.83
	velocity	7.41	8.73	8.68	8.27	8.27	8.12	7.83	7.78	7.58	7.43	7.55	7.92			8.56	8.07	7.59
H1 lead leg	R	strides	22	14	14	14	15	15	15	15	15	19	172					

C FINAL

date 03-May-19

Kobayashi (2019) - research on athlete performance and technique- 2019 data book

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Toyoda, Masaki (JPN) (1998)	time	5.94	9.69	13.45	17.42	21.42	25.58	29.90	34.42	39.32	44.34	49.94	3 / 1					
reaction time	interval		3.75	3.76	3.97	4.00	4.16	4.32	4.52	4.90	5.02	5.60	PB			11.48	12.48	14.44
	velocity	7.58	9.33	9.31	8.82	8.75	8.41	8.10	7.74	7.14	6.97	7.14	8.01			9.15	8.41	7.27
H1 lead leg		strides	14	14	14	14	15	15	15	16	16	19	152					

Sugai, Mitsuru (JPN) (1994)	time	6.09	9.83	13.73	17.77	21.89	26.28	30.75	35.44	40.19	45.08	50.56	7 / 2				
	reaction time		interval	3.74	3.90	4.04	4.12	4.39	4.47	4.69	4.75	4.89	5.48		11.68	12.98	14.33
		7.39	9.36	8.97	8.66	8.50	7.97	7.83	7.46	7.37	7.16	7.91		8.99	8.09	7.33	
	H1 lead leg	R	strides	22	13	13	13	13	14	14	15	15	15	18.5	165.5		

D FINAL

date 03-May-19

Kobayashi (2019) - research on athlete performance and technique- 2019 data book

Suguimati, Mahau (BRA) (1992)	time	6.09	9.86	13.68	17.58	21.60	25.83	30.20	34.72	39.57	44.63	50.19	5 / 1				
	reaction time		interval	3.77	3.82	3.90	4.02	4.23	4.37	4.52	4.85	5.06	5.56		11.49	12.62	14.43
		7.39	9.28	9.16	8.97	8.71	8.27	8.01	7.74	7.22	6.92	7.19	7.97		9.14	8.32	7.28
	H1 lead leg	R	strides	20	13	13	13	13	13	13	13	15	15	17.2	158.2		

2019 Asian Athletics Championships (Doha, QAT)

Sugimoto (2020) - race pattern analysis of japan's top male and female 400m hurdlers- 2019 season

FINAL

date 22-Apr-19

CAA Hurdle Development (2019)

Samba, Abderrahmane (QAT) (1992)	time	5.82	9.40	13.04	16.80	20.68	24.84	29.09	33.48	37.97	42.40	47.51	5 / 1				
	reaction time	0.179	interval	3.58	3.64	3.76	3.88	4.16	4.25	4.39	4.49	4.43	5.11	CR	10.98	12.29	13.31
		7.73	9.78	9.62	9.31	9.02	8.41	8.24	7.97	7.80	7.90	7.83	8.42		9.56	8.54	7.89
	H1 lead leg	R	strides	21	13	13	13	13	13	13	14	14	14	17.2	158.2		
Chen Chieh (TPE) (1992)	time	5.84	9.49	13.19	16.98	20.92	25.00	29.41	33.92	38.57	43.37	48.92	6 / 2				
	reaction time	0.195	interval	3.65	3.70	3.79	3.94	4.08	4.41	4.51	4.65	4.80	5.55	PB	11.14	12.43	13.96
		7.71	9.59	9.46	9.23	8.88	8.58	7.94	7.76	7.53	7.29	7.21	8.18		9.43	8.45	7.52
	H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	17.5	161.5			
Abe, Takatoshi (JPN) (1991)	time	5.97	9.64	13.33	17.10	21.04	25.19	29.66	34.27	39.06	43.93	49.74	7 / 5				Sugimoto (2020)
	reaction time	0.189	interval	3.67	3.69	3.77	3.94	4.15	4.47	4.61	4.79	4.87	5.81		11.13	12.56	14.27
		7.54	9.54	9.49	9.28	8.88	8.43	7.83	7.59	7.31	7.19	6.88	8.04		9.43	8.36	7.36
	H1 lead leg		strides	13	13	13	13	13	14	14	15	15	123				

Heat 2

date 21-Apr-19

CAA Hurdle Development (2019)

Feng Zhiqiang (CHN) (1998)	time	5.99	9.91	13.83	17.88	22.10	26.51	31.09	35.68	40.36	45.15	50.71	7 / 6				
	reaction time	0.199	interval	3.92	3.92	4.05	4.22	4.41	4.58	4.59	4.68	4.79	5.56		11.89	13.21	14.06
		7.51	8.93	8.93	8.64	8.29	7.94	7.64	7.63	7.48	7.31	7.19	7.89		8.83	7.95	7.47
	H1 lead leg	L	strides	20	13	13	13	13	14	14	15	15	17.5	160.5			

Heat 1

date 21-Apr-19

CAA Hurdle Development (2019)

Gong Debin (CHN) (1997)	time	5.96	9.81	13.63	17.68	21.81	26.19	30.81	35.55	40.27	45.12	50.96	1 / 4				
	reaction time	0.182	interval	3.85	3.82	4.05	4.13	4.38	4.62	4.74	4.72	4.85	5.84		11.72	13.13	14.31
		7.55	9.09	9.16	8.64	8.47	7.99	7.58	7.38	7.42	7.22	6.85	7.85		8.96	8.00	7.34
	H1 lead leg	L	strides	21	14	14	14	15	15	15	15	15	18.7	170.7			

2019 Chinese National Grand Prix 2 (Huangshi, CHN)**FINAL**

date 12-Apr-19

CAA Hurdle Development (2019)

Liu Yangyang (CHN) (1995)	time	6.50	10.68	15.10	19.58	24.10	28.70	33.36	38.06	42.76	47.46	52.58	4 / 1				
	reaction time	0.204	interval	4.18	4.42	4.48	4.52	4.60	4.66	4.70	4.70	5.12		13.08	13.78	14.10	
		6.92	8.37	7.92	7.81	7.74	7.61	7.51	7.45	7.45	7.45	7.81	7.61		8.03	7.62	7.45
	H1 lead leg	L	strides	21	15	15	15	15	15	15	15	15	19.2	175.2			
Wang Gouzhong (CHN) (1995)	time	6.24	10.38	14.71	19.19	23.77	28.31	33.00	37.70	42.43	47.26	52.79	8 / 2				
	reaction time	0.208	interval	4.14	4.33	4.48	4.58	4.54	4.69	4.70	4.73	4.83	5.53		12.95	13.81	14.26
		7.21	8.45	8.08	7.81	7.64	7.71	7.46	7.45	7.40	7.25	7.23	7.58		8.11	7.60	7.36
	H1 lead leg	L	strides	21	15	15	15	15	15	15	15	15	19.5	175.5			
Long Wei (CHN) (1997)	time	6.19	10.19	14.45	18.71	23.14	27.68	32.30	37.09	42.04	47.06	52.83	9 / 3				
	reaction time	0.250	interval	4.00	4.26	4.26	4.43	4.54	4.62	4.79	4.95	5.02	5.77		12.52	13.59	14.76
		7.27	8.75	8.22	8.22	7.90	7.71	7.58	7.31	7.07	6.97	6.93	7.57		8.39	7.73	7.11
	H1 lead leg	L	strides	21	15	15	15	15	15	15	15	15	19	175			
Xu Guoyu (CHN) (1997)	time	6.38	10.59	14.80	19.19	23.71	28.38	33.10	37.90	42.71	47.51	53.06	7 / 4				
	reaction time	0.215	interval	4.21	4.21	4.39	4.52	4.67	4.72	4.80	4.81	4.80	5.55		12.81	13.91	14.41
		7.05	8.31	8.31	7.97	7.74	7.49	7.42	7.29	7.28	7.29	7.21	7.54		8.20	7.55	7.29
	H1 lead leg	R	strides	21	15	15	15	15	15	15	15	16	21	178			
Yang Baichuan (CHN) (1995)	time	6.27	10.41	14.71	19.05	23.44	27.93	32.47	37.14	42.08	47.46	53.44	5 / 5				
	reaction time	0.181	interval	4.14	4.30	4.34	4.39	4.49	4.54	4.67	4.94	5.38	5.98		12.78	13.42	14.99
		7.18	8.45	8.14	8.06	7.97	7.80	7.71	7.49	7.09	6.51	6.69	7.49		8.22	7.82	7.00
	H1 lead leg	L	strides	21	15	15	15	15	15	15	17	20	178				
Zhuang Linfei (CHN) (1996)	time	6.48	10.54	14.82	19.22	23.76	28.38	33.26	38.18	43.28	48.48	54.17	2 / 6				
	reaction time	0.225	interval	4.06	4.28	4.40	4.54	4.62	4.88	4.92	5.10	5.20	5.69		12.74	14.04	15.22
		6.94	8.62	8.18	7.95	7.71	7.58	7.17	7.11	6.86	6.73	7.03	7.38		8.24	7.48	6.90
	H1 lead leg	L	strides	21	16	16	16	16	16	15	15	16	19	182			

Fu Jiaho (CHN) (1999)	time	6.60	10.84	15.16	19.62	24.20	28.90	33.78	38.58	43.36	48.62	54.39	3 / 7			
reaction time	0.200 interval		4.24	4.32	4.46	4.58	4.70	4.88	4.80	4.78	5.26	5.77		13.02	14.16	14.84
	velocity	6.82	8.25	8.10	7.85	7.64	7.45	7.17	7.29	7.32	6.65	6.93	7.35	8.06	7.42	7.08
H1 lead leg	L strides	21	16	16	16	16	15	15	15	15	15	19.2	179.2			
Wang Ziming (CHN) (1994)	time	6.37	10.51	14.75	19.09	23.66	28.48	33.44	38.54	43.81	49.30	56.18	6 / 8			
reaction time	0.242 interval		4.14	4.24	4.34	4.57	4.82	4.96	5.10	5.27	5.49	6.88		12.72	14.35	15.86
	velocity	7.06	8.45	8.25	8.06	7.66	7.26	7.06	6.86	6.64	6.38	5.81	7.12	8.25	7.32	6.62
H1 lead leg	L strides	21	16	16	16	16	15	16	16	16	16	18.7	182.7			

2019 Chinese National Grand Prix 1 (Zhaoping, CHN)**FINAL**

date 08-Apr-19

CAA Hurdle Development (2019)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Cai Jungi (CHN) (1996)	time	6.22	10.30	14.50	18.68	22.94	27.20	31.56	36.04	40.56	45.18	50.56	5 / 1					
reaction time	0.179 interval		4.08	4.20	4.18	4.26	4.26	4.36	4.48	4.52	4.62	5.38				12.46	12.88	13.62
	velocity	7.23	8.58	8.33	8.37	8.22	8.22	8.03	7.81	7.74	7.58	7.43	7.91			8.43	8.15	7.71
H1 lead leg	L strides	22	15	15	15	15	15	15	15	15	15	19	176					
Shang Shou (CHN) (1995)	time	6.35	10.47	14.53	18.68	22.97	27.41	31.84	36.47	41.06	45.68	50.75	7 / 2					
reaction time	0.213 interval		4.12	4.06	4.15	4.29	4.44	4.43	4.63	4.59	4.62	5.07				12.33	13.16	13.84
	velocity	7.09	8.50	8.62	8.43	8.16	7.88	7.90	7.56	7.63	7.58	7.89	7.88			8.52	7.98	7.59
H1 lead leg	L strides	22	15	16	16	16	16	16	15	15	15	18	180					
Wang Yijie (CHN) (1997)	time	6.20	10.22	14.28	18.44	22.64	26.96	31.46	36.10	40.88	45.78	51.60	3 / 3					
reaction time	0.280 interval		4.02	4.06	4.16	4.20	4.32	4.50	4.64	4.78	4.90	5.82				12.24	13.02	14.32
	velocity	7.26	8.71	8.62	8.41	8.33	8.10	7.78	7.54	7.32	7.14	6.87	7.75			8.58	8.06	7.33
H1 lead leg	L strides	21	16	16	16	16	15	15	15	15	15	18.5	178.5					
Yang Baichuan (CHN) (1995)	time	6.20	10.12	14.20	18.38	22.60	26.88	31.36	36.10	41.04	46.24	52.06	2 / 4					
reaction time	0.202 interval		3.92	4.08	4.18	4.22	4.28	4.48	4.74	4.94	5.20	5.82				12.18	12.98	14.88
	velocity	7.26	8.93	8.58	8.37	8.29	8.18	7.81	7.38	7.09	6.73	6.87	7.68			8.62	8.09	7.06
H1 lead leg	L strides	23	15	15	15	15	15	15	15	15	16	20.5	179.5					
Liu Yangyang (CHN) (1995)	time	6.52	10.51	15.15	19.59	24.06	28.71	33.41	38.02	42.62	47.26	52.30	8 / 5					
reaction time	0.207 interval		3.99	4.64	4.44	4.47	4.65	4.70	4.61	4.60	4.64	5.04				13.07	13.82	13.85
	velocity	6.90	8.77	7.54	7.88	7.83	7.53	7.45	7.59	7.61	7.54	7.94	7.65			8.03	7.60	7.58
H1 lead leg	L strides	22	15	16	16	16	15	15	15	15	15	18	178					
Fu Jiaho (CHN) (1999)	time	6.44	10.51	14.73	18.88	23.19	27.64	32.26	36.93	41.79	46.86	52.33	6 / 6					
reaction time	0.218 interval		4.07	4.22	4.15	4.31	4.45	4.62	4.67	4.86	5.07	5.47				12.44	13.38	14.60
	velocity	6.99	8.60	8.29	8.43	8.12	7.87	7.58	7.49	7.20	6.90	7.31	7.64			8.44	7.85	7.19
H1 lead leg	L strides	22	16	16	16	16	16	17	17	17	17	19.5	189.5					
Zhuang Linfei (CHN) (1996)	time	6.32	10.30	14.36	18.48	22.74	27.18	31.82	36.70	41.70	46.84	52.70	4 / 7					
reaction time	0.240 interval		3.98	4.06	4.12	4.26	4.44	4.64	4.88	5.00	5.14	5.86				12.16	13.34	15.02
	velocity	7.12	8.79	8.62	8.50	8.22	7.88	7.54	7.17	7.00	6.81	6.83	7.59			8.63	7.87	6.99
H1 lead leg	L strides	21	16	16	16	16	15	15	15	15	15	19	179					
Long Wei (CHN) (1997)	time	6.21	10.29	14.46	18.68	22.97	27.44	32.08	36.90	41.82	46.86	52.73	9 / 8					
reaction time	0.271 interval		4.08	4.17	4.22	4.29	4.47	4.64	4.82	4.92	5.04	5.87				12.47	13.40	14.78
	velocity	7.25	8.58	8.39	8.29	8.16	7.83	7.54	7.26	7.11	6.94	6.81	7.59			8.42	7.84	7.10
H1 lead leg	L strides	21	15	15	15	15	15	15	15	15	15	19	175					

2018 National Sports Festival (Fukui, JPN)**FINAL**

date 08-Oct-18

Morioka (2018) - race pattern analysis of Japan's top 400m hurdles - main national competitions in 2018

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kajiki, Ryo (JPN) (1995)	time	6.04	9.86	13.76	17.73	21.83	26.15	30.64	35.14	39.78	44.50	49.61	6 / 1					
reaction time	0.190 interval		3.82	3.90	3.97	4.10	4.32	4.49	4.50	4.64	4.72	5.11				11.69	12.91	13.86
	velocity	7.45	9.16	8.97	8.82	8.54	8.10	7.80	7.78	7.54	7.42	7.83	8.06			8.98	8.13	7.58
H1 lead leg	strides		13	13	13	13	13	14	14	15	15	123						

2018 IAAF Continental Cup (Ostrava, CZE) (TV Analysis)**FINAL**

date 08-Sep-18

Henson (2021) - Athlete First: 2018 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Samba, Abderrahmane (QAT)	time	5.84	9.52	13.28	17.04	20.96	24.96	29.16	33.48	37.96	42.32	47.37	3 / 1					
reaction time	0.219 interval		3.68	3.76	3.76	3.92	4.00	4.20	4.32	4.48	4.36	5.05				11.20	12.12	13.16
	velocity	7.71	9.51	9.31	9.31	8.93	8.75	8.33	8.10	7.81	8.03	7.92	8.44			9.38	8.66	7.98
H1 lead leg	R strides	21	13	13	13	13	13	13	14	14	14	17.5	158.5					
Whyte, Annsert (JAM) (1987)	time	5.76	9.36	13.04	16.84	20.80	25.08	29.32	33.16	37.16	41.24	45.32	1 / 2					
reaction time	0.168 interval		3.60	3.68	3.80	3.96	4.28	4.40	4.68	4.80	5.50					11.08	12.24	13.88
	velocity	7.81	9.72	9.51	9.21	8.84	8.45	7.95	7.48	7.29	7.27	8.25				9.48	8.58	7.56
H1 lead leg	L strides		13	13	13	13		14	14	15	15	18.5	128.5					
Warholm, Karsten (NOR) (1991)	time	5.76	9.40	13.12	17.00	21.00	25.08	29.32	33.76	38.48	43.24	48.56	4 / 3					
reaction time	0.175 interval		3.64	3.72	3.88	4.00	4.08	4.24	4.44	4.72	4.76	5.32				11.24	12.32	13.92
	velocity	7.81	9.62	9.41	9.02	8.75	8.58	8.25	7.88	7.42	7.35	7.52	8.24			9.34	8.52	7.54
H1 lead leg	L strides	20	13	13	13	13	13	13	13	15	15	18	159					

Copello, Yasmani (TUR) (19)	time	5.76	9.52	13.28	17.20	21.24	25.32	29.56	34.00	38.68	43.32	48.65	8 / 4				
	reaction time	0.184	interval	3.76	3.76	3.92	4.04	4.08	4.24	4.44	4.68	4.64	5.33		11.44	12.36	13.76
	velocity	7.81	9.31	9.31	8.93	8.66	8.58	8.25	7.88	7.48	7.54	7.50	8.22		9.18	8.50	7.63
	H1 lead leg	R	strides	20	13	13	13	13	13	14	14	17.5	143.5				
Lahoulou, Abdelmalik (ALG)	time	6.04	9.76	13.44	17.24	21.16	25.32	29.68	34.24	38.96	43.76	49.12	6 / 5				
	reaction time	0.179	interval	3.72	3.68	3.80	3.92	4.16	4.36	4.56	4.72	4.80	5.36		11.20	12.44	14.08
	velocity	7.45	9.41	9.51	9.21	8.93	8.41	8.03	7.68	7.42	7.29	7.46	8.14		9.38	8.44	7.46
	H1 lead leg	L	strides	23	13	13	13	13	14	15	15	17.2	151.2				
Abe, Takatoshi (JPN) (1991)	time	5.92	9.60	13.40	17.32	21.36	25.52	29.96	34.52	39.32	44.16	49.80	7 / 6				
	reaction time	0.192	interval	3.68	3.80	3.92	4.04	4.16	4.44	4.56	4.80	4.84	5.64		11.40	12.64	14.20
	velocity	7.60	9.51	9.21	8.93	8.66	8.41	7.88	7.68	7.29	7.23	7.09	8.03		9.21	8.31	7.39
	H1 lead leg	R	strides	20	13	13	13	13	14	14	15	15	17.5	147.5			
Fredericks, Cornel (RSA) (19)	time	5.96	9.84	13.64	17.52	21.60	25.80	30.24	34.84	39.64	44.60	50.54	2 / 7				
	reaction time	0.139	interval	3.88	3.80	3.88	4.08	4.20	4.44	4.60	4.80	4.96	5.94		11.56	12.72	14.36
	velocity	7.55	9.02	9.21	9.02	8.58	8.33	7.88	7.61	7.29	7.06	6.73	7.91		9.08	8.25	7.31
	H1 lead leg	R	strides	22	14	14	14	14	15	15	15	19.2	157.2				
McMaster, Kyron (IVB) (1997)	time	5.80	9.52	13.28	17.20	21.28	25.44	29.76	34.56	40.00	45.20	52.62	5 / 8				
	reaction time	0.166	interval	3.72	3.76	3.92	4.08	4.16	4.32	4.80	5.44	6.08	7.60		11.40	12.56	
	velocity	7.76	9.41	9.31	8.93	8.58	8.41	8.10	7.29	6.43	5.57	4.71	7.60		9.21	8.36	
	H1 lead leg	R	strides	20	13	12	13	13	13	14	15	15	141				

2018 Weltklasse (Zürich, SUI) (TV Analysis)

FINAL

date 30-Aug-18

Henson (2020) - Athlete First: 2018 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
McMaster, Kyron (IVB) (1997)	time	5.80	9.50	13.30	17.16	21.16	22.9	25.24	29.44	33.84	38.32	42.88	48.08	3 / 1				
	reaction time	0.178	interval	3.70	3.80	7.86	8.73	4.08	4.20	4.40	4.48	4.56	5.20					13.44
	velocity	7.76	9.46	9.21	8.91	8.73	8.58	8.33	7.95	7.81	7.68	7.69	8.32					7.81
	H1 lead leg	L	strides	20	13	13	13	13	13	14	14	14	17					
Warholm, Karsten (NOR) (19)	time	5.64	9.28	13.00	16.84	20.84	22.6	24.92	29.16	33.52	38.12	42.80	48.10	5 / 2				
	reaction time	0.135	interval	3.64	3.72	3.84	4.00	4.08	4.24	4.36	4.60	4.68	5.30			11.20	12.32	13.64
	velocity	7.98	9.62	9.41	9.11	8.75	8.85	8.58	8.25	8.03	7.61	7.48	7.55	8.32		9.38	8.52	7.70
	H1 lead leg	L	strides	20	13	13	13	13	13	13	15	15	18					
Copello, Yasmani (TUR) (19)	time	5.72	9.44	13.20	17.04	21.04	22.9	25.16	29.40	33.80	38.48	43.16	48.73	4 / 3				
	reaction time	0.158	interval	3.72	3.76	7.84	8.73	4.12	4.24	4.40	4.68	4.68	5.57					13.76
	velocity	7.87	9.41	9.31	8.93	8.73	8.50	8.25	7.95	7.48	7.48	7.18	8.21					7.63
	H1 lead leg	R	strides	20	13	13	13	13	13	13	14	14	18					
Mägi, Rasmus (EST) (1992)	time	5.92	9.68	13.44	17.36	21.40	23.3	25.56	30.04	34.48	39.20	43.88	49.28	7 / 4				
	reaction time	0.176	interval	3.76	3.76	3.92	4.04	4.16	4.48	4.68	4.68	5.40	6.08			11.44	12.68	13.84
	velocity	7.60	9.31	9.31	8.93	8.66	8.58	8.41	7.81	7.64	7.48	7.41	8.12			9.18	8.28	7.59
	H1 lead leg	L	strides	21	13	13	13	13	14	14	14	14	128					
Fredericks, Cornel (RSA) (19)	time	5.92	9.68	13.48	17.44	21.52	23.4	25.76	30.24	34.88	39.44	44.16	49.96	8 / 5				
	reaction time	0.144	interval	3.76	3.80	3.96	4.08	4.24	4.48	4.68	4.68	5.20	5.94			11.52	12.80	
	velocity	7.60	9.31	9.21	8.84	8.58	8.55	8.25	7.81	7.61	7.61	7.61	8.01			9.11	8.20	
	H1 lead leg	R	strides	21	14	14	14	14	15	15	15	15	107					
Bencosme, José Reynaldo (I)	time	6.04	9.88	13.76	17.60	21.96	23.8	26.12	30.48	35.12	39.52	44.32	50.01	1 / 6				
	reaction time	0.151	interval	3.84	3.88	8.20	8.40	4.16	4.36	4.56	4.80	5.69	6.37					13.84
	velocity	7.45	9.11	9.02	8.54	8.40	8.41	8.03	7.74	7.29	7.03	6.77	8.00					7.59
	H1 lead leg	L	strides	20	13	13	13	13	14	14	15	15	88					
Jackson, Bershawn (USA) (1)	time	5.76	9.68	13.80	18.00	22.32	24.2	26.56	30.84	35.28	39.80	44.72	50.63	2 / 7				
	reaction time	0.140	interval	3.92	4.12	4.20	4.32	4.24	4.28	4.48	4.68	4.92	5.91			12.24	12.84	13.88
	velocity	7.81	8.93	8.50	8.33	8.10	8.26	8.25	8.18	7.81	7.11	6.77	7.90			8.58	8.18	7.56
	H1 lead leg	L	strides	22	15	15	15	15	15	15	16	16	113					
Holmes, TJ (USA) (1995)	time	5.76	9.32	13.08	16.96	21.00	22.8	25.16	29.44	34.00	39.04	44.48	51.39	6 / 8				
	reaction time	0.186	interval	3.56	3.76	3.88	4.04	4.16	4.28	4.56	5.04	5.44	6.91			11.20	12.48	15.04
	velocity	7.81	9.83	9.31	9.02	8.66	8.77	8.41	8.18	7.68	6.94	6.43	5.79	7.78		9.38	8.41	6.98
	H1 lead leg	L	strides	20	13	13	13	13	13	14	14	16	128					

2018 Japanese National High School Championships (Nagoya, JPN)

FINAL

date 04-Aug-18

Kota (2018) - 71st high school championships: JAF scientific committee - biomechanics data collection

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Deguchi, Haruto (JPN) (2001)	time	6.26	10.36	14.66	19.04	23.52	25.4	27.98	32.47	36.95	41.45	46.01	51.17	4 / 1				
	reaction time	interval	4.10	4.30	4.38	4.48	4.46	4.49	4.48	4.50	4.56	5.16	PB			12.78	13.43	13.54
	velocity	7.19	8.54	8.14	7.99	7.81	7.85	7.80	7.81	7.78	7.68	7.75	7.82			8.22	7.82	7.75
	H1 lead leg	strides	15	15	15	15	15	15	15	15	15	15	135					
Iwabuchi, Soya (JPN)	time	6.34	10.51	14.86	19.18	23.53	25.4	28.04	32.50	36.97	41.47	46.08	51.37	5 / 2				

reaction time	interval		4.17	4.35	4.32	4.35		4.51	4.46	4.47	4.50	4.61	5.29	PB	12.84	13.32	13.58	
	velocity	7.10	8.39	8.05	8.10	8.05		7.76	7.85	7.83	7.78	7.59	7.56	7.79	8.18	7.88	7.73	
H1 lead leg	strides		15	15	15	15		15	15	15	15	15		135				
Motima, Satoshi (JPN)	time	6.21	10.24	14.40	18.57	22.92		27.43	31.93	36.54	41.21	46.15		51.66	8 / 3			
reaction time	interval		4.03	4.16	4.17	4.35		4.51	4.50	4.61	4.67	4.94	5.51	PB	12.36	13.36	14.22	
	velocity	7.25	8.68	8.41	8.39	8.05		7.76	7.78	7.59	7.49	7.09	7.26	7.74	8.50	7.86	7.38	
H1 lead leg	strides		15	15	15	15		15	15	15	15	16		136				
Hamada, Hiroshi (JPN) (2001)	time	6.41	10.56	14.81	19.10	23.46		27.79	32.25	36.82	41.61	46.50		51.98	9 / 4			
reaction time	interval		4.15	4.25	4.29	4.36		4.33	4.46	4.57	4.79	4.89	5.48	PB	12.69	13.15	14.25	
	velocity	7.02	8.43	8.24	8.16	8.03		8.08	7.85	7.66	7.31	7.16	7.30	7.70	8.27	7.98	7.37	
H1 lead leg	strides		15	15	15	15		15	15	15	15	15		135				
Kono, Shoma (JPN) (2000)	time	6.39	10.58	14.98	19.37	23.81		28.28	32.83	37.42	42.09	46.88		52.12	3 / 5			
reaction time	interval		4.19	4.40	4.39	4.44		4.47	4.55	4.59	4.67	4.79	5.24		12.98	13.46	14.05	
	velocity	7.04	8.35	7.95	7.97	7.88		7.83	7.69	7.63	7.49	7.31	7.63	7.67	8.09	7.80	7.47	
H1 lead leg	strides		15	15	15	15		15	15	15	15	15		135				
Goto, Sota (JPN)	time	6.22	10.24	14.46	18.77	23.21		27.71	32.30	36.94	41.89	46.88		52.56	6 / 6			
reaction time	interval		4.02	4.22	4.31	4.44		4.50	4.59	4.64	4.95	4.99	5.68		12.55	13.53	14.58	
	velocity	7.23	8.71	8.29	8.12	7.88		7.78	7.63	7.54	7.07	7.01	7.04	7.61	8.37	7.76	7.20	
H1 lead leg	strides		15	15	15	15		15	15	15	16	16		137				
Odate, Yuya (JPN) (2000)	time	6.46	10.56	14.81	19.12	23.57		28.16	32.87	37.69	42.78	47.88		53.37	2 / 7			
reaction time	interval		4.10	4.25	4.31	4.45		4.59	4.71	4.82	5.09	5.10	5.49		12.66	13.75	15.01	
	velocity	6.97	8.54	8.24	8.12	7.87		7.63	7.43	7.26	6.88	6.86	7.29	7.49	8.29	7.64	7.00	
H1 lead leg	strides		15	15	15	15		15	15	15	16	16		137				
Kageyama, Ayata (JPN) (200)	time	6.49	10.73	15.28	19.92	24.61		29.31	34.00	38.61	43.36	48.25		53.79	7 / 8			
reaction time	interval		4.24	4.55	4.64	4.69		4.70	4.69	4.61	4.75	4.89	5.54		13.43	14.08	14.25	
	velocity	6.93	8.25	7.69	7.54	7.46		7.45	7.46	7.59	7.37	7.16	7.22	7.44	7.82	7.46	7.37	
H1 lead leg	strides		15	15	15	15		15	15	15	15	15		135				

2018 Müller Anniversary Games (London, GBR) (TV Analysis)

FINAL

date 21-Jul-18

Henson (2020) - Athlete First: 2018 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (19	time	5.72	9.36	13.12	17.00	20.92		24.92	29.04	33.28	37.68	42.32		47.65	7 / 1			
reaction time	0.149 interval		3.64	3.76	3.88	3.92		4.00	4.12	4.24	4.40	4.64	5.33	NR PB		11.28	12.04	13.28
	velocity	7.87	9.62	9.31	9.02	8.93		8.75	8.50	8.25	7.95	7.54	7.50	8.39		9.31	8.72	7.91
H1 lead leg	L strides	20	13	13	13	13		13	13	13	13	15	17.5	156.5				
Copello, Yasmani (TUR) (19	time	5.88	9.60			21.28		25.36	29.56	33.96	38.48	43.12		48.44	5 / 2			
reaction time	0.151 interval		3.72			11.68		4.08	4.20	4.40	4.52	4.64	5.32					13.56
	velocity	7.65	9.41			8.99		8.58	8.33	7.95	7.74	7.54	7.52	8.26				7.74
H1 lead leg	R strides	20	13					13	13	14	14	14	17.5	118.5				
Barr, Thomas (IRL) (1994)	time	6.04	9.84	13.76	17.76	21.80		25.96	30.40	34.80	39.28	43.80		48.99	8 / 3			
reaction time	0.186 interval		3.80	3.92	4.00	4.04		4.16	4.44	4.40	4.48	4.52	5.19			11.72	12.64	13.40
	velocity	7.45	9.21	8.93	8.75	8.66		8.41	7.88	7.95	7.81	7.74	7.71	8.16		8.96	8.31	7.84
H1 lead leg	L strides	21	13	13	13	13		13	14	14	14	14	18	160				
Kendziera, Dave (USA) (1994)	time	5.80	9.64			21.60		25.72	30.04	34.52	39.04	43.64		49.02	3 / 4			
reaction time	0.167 interval		3.84			11.96		4.12	4.32	4.48	4.52	4.60	5.38					13.60
	velocity	7.76	9.11			8.78		8.50	8.10	7.81	7.74	7.61	7.43	8.16				7.72
H1 lead leg	R strides	20	13					13	13	14	14	15	18	120				
Mägi, Rasmus (EST) (1992)	time	5.96	9.84	13.68	17.60	21.56		25.76	30.16	34.56	39.16	43.76		49.11	9 / 5			
reaction time	0.158 interval		3.88	3.84	3.92	3.96		4.20	4.40	4.40	4.60	4.60	5.35			11.64	12.56	13.60
	velocity	7.55	9.02	9.11	8.93	8.84		8.33	7.95	7.95	7.61	7.61	7.48	8.14		9.02	8.36	7.72
H1 lead leg	L strides	21	13	13	13	13		13	14	14	14	14	17.2	159.2				
Clement, Kerron (USA) (198	time	5.88	9.68			21.40		25.60	29.96	34.56	39.24	44.00		49.43	6 / 6			
reaction time	0.205 interval		3.80			11.72		4.20	4.36	4.60	4.68	4.76	5.43					14.04
	velocity	7.65	9.21			8.96		8.33	8.03	7.61	7.48	7.35	7.37	8.09				7.48
H1 lead leg	R strides	20	13					13	13	14	14	14	16.5	117.5				
Holmes, TJ (USA) (1995)	time	5.92	9.64			21.24		25.40	29.76	34.40	39.12	44.00		49.66	4 / 7			
reaction time	0.211 interval		3.72			11.60		4.16	4.36	4.64	4.72	4.88	5.66					14.24
	velocity	7.60	9.41			9.05		8.41	8.03	7.54	7.42	7.17	7.07	8.05				7.37
H1 lead leg	L strides	20	13					13	13	14	14	15		102				
Rodger, Sebastian (GBR) (19	time	6.08	10.00		18.16	22.36		26.56	31.00	35.56	40.20	45.08		50.84	1 / 8			
reaction time	0.161 interval		3.92		8.16	4.20		4.20	4.44	4.56	4.64	4.88	5.76			12.08	12.84	14.08
	velocity	7.40	8.93		8.58	8.33		8.33	7.88	7.68	7.54	7.17	6.94	7.87		8.69	8.18	7.46
H1 lead leg	R strides	22	14		14			14	14	15	15	15		123				
Green, Jack (GBR) (1991)	time	6.08	9.96											dnf	2 / --			

reaction time 0.180 interval 3.88
 velocity 7.40 9.02
 H1 lead leg R strides 22 14

36

2018 Athletissima (Lausanne, SUI) (TV Analysis)

FINAL

date 05-Jul-18

Henson (2020) - Athlete First: 2018 year end hurdle report

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Samba, Abderrahmane (QAT) time	5.76	9.40	13.12	16.84	20.72		24.80	28.92	33.24	37.72	42.24		47.42	5 / 1			
reaction time 0.183 interval		3.64	3.72	3.72	3.88		4.08	4.12	4.32	4.48	4.52	5.18			11.08	12.08	13.32
velocity	7.81	9.62	9.41	9.41	9.02		8.58	8.50	8.10	7.81	7.74	7.72	8.44		9.48	8.69	7.88
H1 lead leg R strides	21	13	13	13	13		13	13	13	14	14	17.2	157.2				
Warholm, Karsten (NOR) (11 time	5.72	9.32	13.00	16.84	20.76		24.84	29.04	33.32	37.88	42.52		47.94	6 / 2			
reaction time 0.133 interval		3.60	3.68	3.84	3.92		4.08	4.20	4.28	4.56	4.64	5.42			11.12	12.20	13.48
velocity	7.87	9.72	9.51	9.11	8.93		8.58	8.33	8.18	7.68	7.54	7.38	8.34		9.44	8.61	7.79
H1 lead leg L strides	20	13	13	13	13		13	13	13	15	15	18	159				
Copello, Yasmani (TUR) (19 time	5.80	9.56	13.36		21.12		25.20	29.54	33.92	38.52	43.20		48.85	3 / 3			
reaction time 0.183 interval		3.76	3.80		7.76		4.08	4.34	4.38	4.60	4.68	5.65					13.66
velocity	7.76	9.31	9.21		9.02		8.58	8.06	7.99	7.61	7.48	7.08	8.19				7.69
H1 lead leg R strides	20	13	13				13	14	14	14	14	18	133				
Holmes, TJ (USA) (1995) time	5.84	9.56	13.28	17.12	21.16		25.40	29.76	34.20	38.92	43.64		48.94	7 / 4			
reaction time 0.188 interval		3.72	3.72	3.84	4.04		4.24	4.36	4.44	4.72	4.72	5.30			11.28	12.64	13.88
velocity	7.71	9.41	9.41	9.11	8.66		8.25	8.03	7.88	7.42	7.42	7.55	8.17		9.31	8.31	7.56
H1 lead leg L strides	20	13	13	13	13		13	13	13	14	14	17	156				
Mägi, Rasmus (EST) (1992) time	6.00	9.80	13.72		21.64		25.72	30.16	34.56	39.12	43.72		49.04	2 / 5			
reaction time 0.159 interval		3.80	3.92		7.92		4.08	4.44	4.40	4.56	4.60	5.32					13.56
velocity	7.50	9.21	8.93		8.84		8.58	7.88	7.95	7.68	7.61	7.52	8.16				7.74
H1 lead leg L strides	21	13	13				13	14	14	14	14	17	119				
Jackson, Bershawn (USA) (1 time	5.60	9.44	13.44	17.52	21.64		25.72	29.84	34.12	38.60	43.40		49.31	8 / 6			
reaction time 0.129 interval		3.84	4.00	4.08	4.12		4.08	4.12	4.28	4.48	4.80	5.91			11.92	12.32	13.56
velocity	8.04	9.11	8.75	8.58	8.50		8.58	8.50	8.18	7.81	7.29	6.77	8.11		8.81	8.52	7.74
H1 lead leg L strides	22	15	15	15	15		15	15	15	15	15	15	157				
Green, Jack (GBR) (1991) time	6.00	9.80	13.76		21.80		25.96	30.32		39.44	44.12		49.52	1 / 7			
reaction time 0.172 interval		3.80	3.96		8.04		4.16	4.36		9.12	4.68	5.40					13.80
velocity	7.50	9.21	8.84		8.71		8.41	8.03		7.68	7.48	7.41	8.08				7.61
H1 lead leg R strides	22	14	14		14		14	14		15	15	18.2	140.2				
McMaster, Kyron (IVB) (1997) time	5.60	9.16	12.76	16.48									dnf	4 / --			
reaction time 0.162 interval		3.56	3.60	3.72											10.88		
velocity	8.04	9.83	9.72	9.41											9.65		
H1 lead leg L strides	21	13	13	13									60				

2018 Meeting de Paris (Paris, FRA) (TV Analysis)

FINAL

date 30-Jun-18

Henson (2020) - Athlete First: 2018 year end hurdle report

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Samba, Abderrahmane (QAT) time	5.88	9.48	13.12	16.84	20.60	22.3	24.52	28.68	32.88	37.36	41.84		46.98	5 / 1			
reaction time 0.209 interval		3.60	3.64	3.72	3.76		3.92	4.16	4.20	4.48	4.48	5.14	AR PB		10.96	11.84	13.16
velocity	7.65	9.72	9.62	9.41	9.31	8.97	8.93	8.41	8.33	7.81	7.81	7.78	8.51		9.58	8.87	7.98
H1 lead leg R strides	21	13	13	13	13		13	13	14	14	14	17.2	158.2				
McMaster, Kyron (IVB) (1997) time	5.64	9.24	12.88	16.64	20.48	22.2	24.48	28.64	32.96	37.44	42.04		47.54	6 / 2			
reaction time 0.183 interval		3.60	3.64	3.76	3.84		4.00	4.16	4.32	4.48	4.60	5.50	NR PB		11.00	12.00	13.40
velocity	7.98	9.72	9.62	9.31	9.11	9.01	8.75	8.41	8.10	7.81	7.61	7.27	8.41		9.55	8.75	7.84
H1 lead leg R strides	20	12	13	13	13		13	13	14	14	14	17	156				
Warholm, Karsten (NOR) (11 time	5.72	9.32	13.04	16.84	20.72	22.5	24.76	28.84	33.08	37.44	42.44		48.06	7 / 3			
reaction time 0.158 interval		3.60	3.72	3.80	3.88		4.04	4.08	4.24	4.36	5.00	5.62			11.12	12.00	13.60
velocity	7.87	9.72	9.41	9.21	9.02	8.89	8.66	8.58	8.25	8.03	7.00	7.12	8.32		9.44	8.75	7.72
H1 lead leg L strides	20	13	13	13	13		13	13	13	13	15	17.7	156.7				
Holmes, TJ (USA) (1995) time	5.96	9.60	13.32	17.12	21.04	22.8	25.16	29.48	33.92	38.56	43.12		48.30	4 / 4			
reaction time 0.230 interval		3.64	3.72	3.80	3.92		4.12	4.32	4.44	4.64	4.56	5.18	PB		11.16	12.36	13.64
velocity	7.55	9.62	9.41	9.21	8.93	8.77	8.50	8.10	7.88	7.54	7.68	7.72	8.28		9.41	8.50	7.70
H1 lead leg L strides	20	13	13	13	13		13	14	14	14	14	17	158				
Clement, Kerron (USA) (198 time	5.92	9.64	13.32	17.16	21.16	22.9	25.44	29.80	34.28	38.80	43.48		48.83	8 / 5			
reaction time 0.233 interval		3.72	3.68	3.84	4.00		4.28	4.36	4.48	4.52	4.68	5.35			11.24	12.64	13.68
velocity	7.60	9.41	9.51	9.11	8.75	8.73	8.18	8.03	7.81	7.74	7.48	7.48	8.19		9.34	8.31	7.68
H1 lead leg R strides	20	13	13	13	13		13	13	13	13	13	16	153				
Jackson, Bershawn (USA) (1 time	5.68	9.44	13.40	17.44	21.56	23.4	25.64	29.76	34.04	38.52	43.32		49.16	2 / 6			
reaction time 0.140 interval		3.76	3.96	4.04	4.12		4.08	4.12	4.28	4.48	4.80	5.84			11.76	12.32	13.56
velocity	7.92	9.31	8.84	8.66	8.50	8.55	8.58	8.50	8.18	7.81	7.29	6.85	8.14		8.93	8.52	7.74

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	15	15	19	176				
Coroller, Victor (FRA) (1997)	time		5.96	9.72	13.64	17.64	21.72	23.5	25.92	30.36	35.04	39.76	44.56		50.03	3 / 7			
reaction time	0.165	interval		3.76	3.92	4.00	4.08		4.20	4.44	4.68	4.72	4.80	5.47			11.68	12.72	14.20
		velocity	7.55	9.31	8.93	8.75	8.58	8.51	8.33	7.88	7.48	7.42	7.29	7.31	8.00		8.99	8.25	7.39
H1 lead leg	R	strides	21	14	14	14	14		14	14	15	15	15	18.5	168.5				
Santos, Juander (DOM) (199)	time		5.92	9.72	13.60	17.64	21.72	23.5	25.92	30.36	34.96	39.84	44.80		50.71	1 / 8			
reaction time	0.168	interval		3.80	3.88	4.04	4.08		4.20	4.44	4.60	4.88	4.96	5.91			11.72	12.72	14.44
		velocity	7.60	9.21	9.02	8.66	8.58	8.51	8.33	7.88	7.61	7.17	7.06	6.77	7.89		8.96	8.25	7.27
H1 lead leg	L	strides	22	14	14	14	14		14	15	15	16	16	19	173				

2018 Japanese National Championships (Yamaguchi, JPN)

FINAL

date 23-Jun-18

Morioka (2018) - race pattern analysis of Japan's top 400m hurdles - main national competitions in 2018

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kishimoto, Takayuki (JPN) (1997)	time		5.82	9.52	13.36	17.30	21.44		25.71	30.05	34.57	39.14	43.86		49.30	4 / 1			
reaction time	0.148	interval		3.70	3.84	3.94	4.14		4.27	4.34	4.52	4.57	4.72	5.44			11.48	12.75	13.81
		velocity	7.73	9.46	9.11	8.88	8.45		8.20	8.06	7.74	7.66	7.42	7.35	8.11		9.15	8.24	7.60
H1 lead leg	R	strides	21	13	13	13	13		14	14	15	15	15	18.5	164.5				
Abe, Takatoshi (JPN) (1991)	time		5.98	9.65	13.39	17.24	21.21		25.33	29.80	34.40	39.10	43.87		49.44	7 / 2			
reaction time	0.201	interval		3.67	3.74	3.85	3.97		4.12	4.47	4.60	4.70	4.77	5.57			11.26	12.56	14.07
		velocity	7.53	9.54	9.36	9.09	8.82		8.50	7.83	7.61	7.45	7.34	7.18	8.09		9.33	8.36	7.46
H1 lead leg	R	strides	20	13	13	13	13		13	14	14	15	15	18	161				
Maeno, Kei (JPN) (1991)	time		6.02	9.82	13.74	17.76	21.98		26.22	30.62	35.17	39.76	44.45		49.86	5 / 3			
reaction time	0.215	interval		3.80	3.92	4.02	4.22		4.24	4.40	4.55	4.59	4.69	5.41			11.74	12.86	13.83
		velocity	7.48	9.21	8.93	8.71	8.29		8.25	7.95	7.69	7.63	7.46	7.39	8.02		8.94	8.16	7.59
H1 lead leg	R	strides	21	13	13	13	14		14	15	15	15	15	18.2	166.2				

2018 Bauhaus Athletics (Stockholm, SWE) (TV Analysis)

FINAL

date 10-Jun-18

Henson (2020) - Athlete First: 2018 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Samba, Abderrahmane (QAT) (1997)	time		5.88	9.60	13.40	17.24	21.20		25.28	29.40	33.76	37.96	42.28		47.41	5 / 1			
reaction time	0.194	interval		3.72	3.80	3.84	3.96		4.08	4.12	4.36	4.20	4.32	5.13	AR PB		11.36	12.16	12.88
		velocity	7.65	9.41	9.21	9.11	8.84		8.58	8.50	8.03	8.33	8.10	7.80	8.44		9.24	8.63	8.15
H1 lead leg	R	strides	21	13	13	13	13		13	13	14	14	14	17.5	158.5				
Warholm, Karsten (NOR) (1991)	time		5.68	9.36	13.20	17.08	21.12		25.20	29.36	33.68	38.00	42.44		47.81	7 / 2			
reaction time	0.134	interval		3.68	3.84	3.88	4.04		4.08	4.16	4.32	4.32	4.44	5.37	NR PB		11.40	12.28	13.08
		velocity	7.92	9.51	9.11	9.02	8.66		8.58	8.41	8.10	8.10	7.88	7.45	8.37		9.21	8.55	8.03
H1 lead leg	L	strides	20	13	13	13	13		13	13	13	15	15	18	159				
Copello, Yasmani (TUR) (1997)	time		5.80	9.60	13.48	17.44	21.52		25.68	30.00	34.40	38.92	43.48		48.91	6 / 3			
reaction time	0.202	interval		3.80	3.88	3.96	4.08		4.16	4.32	4.40	4.52	4.56	5.43			11.64	12.56	13.48
		velocity	7.76	9.21	9.02	8.84	8.58		8.41	8.10	7.95	7.74	7.68	7.37	8.18		9.02	8.36	7.79
H1 lead leg	R	strides	20	13	13	13	13		13	14	14	14	14	17.5	158.5				
Hann, Mamadou Kasse (FRA) (1997)	time		6.00	9.80	13.68	17.52	21.48		25.68	30.04	34.56	39.24	44.04		49.58	3 / 4			
reaction time	0.140	interval		3.80	3.88	3.84	3.96		4.20	4.36	4.52	4.68	4.80	5.54			11.52	12.52	14.00
		velocity	7.50	9.21	9.02	9.11	8.84		8.33	8.03	7.74	7.48	7.29	7.22	8.07		9.11	8.39	7.50
H1 lead leg	L	strides	21	13	13	13	13		14	14	15	15	15	17.7	163.7				
Green, Jack (GBR) (1991)	time		6.04	9.84	13.72	17.68	21.80		26.12	30.56	35.04	39.60	44.40		49.73	8 / 5			
reaction time	0.176	interval		3.80	3.88	3.96	4.12		4.32	4.44	4.48	4.56	4.80	5.33			11.64	12.88	13.84
		velocity	7.45	9.21	9.02	8.84	8.50		8.10	7.88	7.81	7.68	7.29	7.50	8.04		9.02	8.15	7.59
H1 lead leg	R	strides	22	14	14	13	14		15	15	15	15	16	153					
Rodger, Sebastian (GBR) (1997)	time		6.12	10.00	14.12	18.24	22.40		26.64	30.84	35.12	39.60	44.24		49.87	1 / 6			
reaction time	0.163	interval		3.88	4.12	4.12	4.16		4.24	4.20	4.28	4.48	4.64	5.63			12.12	12.60	13.40
		velocity	7.35	9.02	8.50	8.50	8.41		8.25	8.33	8.18	7.81	7.54	7.10	8.02		8.66	8.33	7.84
H1 lead leg	R	strides	22	14	14	14	14		14	14	15	15	15	19	170				
Mägi, Rasmus (EST) (1992)	time		6.00	9.88	13.88	17.84	21.96		26.20	30.64	35.20	39.88	44.56		50.11	4 / 7			
reaction time	0.135	interval		3.88	4.00	3.96	4.12		4.24	4.44	4.56	4.68	4.68	5.55			11.84	12.80	13.92
		velocity	7.50	9.02	8.75	8.84	8.50		8.25	7.88	7.68	7.48	7.48	7.21	7.98		8.87	8.20	7.54
H1 lead leg	L	strides	21	13	13	13	13		14	14	14	14	14	17.2	160.2				

2018 NCAA Championships (Eugene, OR) (TV Analysis)

FINAL

date 08-Jun-18

Henson (2020) - Athlete First: 2018 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Benjamin, Rai (ANT) (1997)	time		5.83	9.56	13.33	17.06	21.00		25.00	29.03	33.23	37.46	41.90		47.02	5 / 1			
reaction time		interval		3.73	3.77	3.73	3.94		4.00	4.03	4.20	4.23	4.44	5.12	AR PB		11.23	11.97	12.87
		velocity	7.72	9.38	9.28	9.38	8.88		8.75	8.68	8.33	8.27	7.88	7.81	8.51		9.35	8.77	8.16
H1 lead leg	R	strides	20	13	13	13	13		13	13	13	13	13	16.2	153.2				
Selmon, Kenny (USA) (1996)	time		5.96		13.53	17.30	21.13		25.16		33.60	38.13	42.80		48.12	4 / 2			
reaction time		interval			7.57	3.77	3.83		4.03		8.44	4.53	4.67	5.32	PB		11.34		

	velocity	7.55	9.25	9.28	9.14		8.68	8.29	7.73	7.49	7.52	8.31		9.26				
H1 lead leg	R	strides		13	13		13		14	15	17.5	85.5						
Kendziera, Dave (USA) (1994)	time	5.86	13.43	17.20	21.03		25.06		38.43	43.03		48.42	3 / 3					
reaction time	interval		7.57	3.77	3.83		4.03		13.37	4.60	5.39	PB		11.34				
	velocity	7.68	9.25	9.28	9.14		8.68		7.85	7.61	7.42	8.26		9.26				
H1 lead leg	R	strides		13	13		13		15	19	73							
Mowatt, Kemar (JAM) (1995)	time	5.86	9.53	13.23	17.00	21.00	25.13	29.40	33.80	38.36	43.13		48.83	6 / 4				
reaction time	interval		3.67	3.70	3.77	4.00	4.13	4.27	4.40	4.56	4.77	5.70		11.14	12.40	13.73		
	velocity	7.68	9.54	9.46	9.28	8.75	8.47	8.20	7.95	7.68	7.34	7.02	8.19		9.43	8.47	7.65	
H1 lead leg	L	strides	13	13	13	13	13	14	14	15	15	18.5	141.5					

2018 Bislett Games (Oslo, NOR) (TV Analysis)

FINAL

date 07-Jun-18

Henson (2020) - Athlete First: 2018 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Samba, Abderrahmane (QAT)	time	5.76	9.36	13.08	16.92	20.88	22.7	25.04	29.28	33.72	38.00	42.40		47.60	5 / 1			
reaction time	0.189 interval		3.60	3.72	3.84	3.96		4.16	4.24	4.44	4.28	4.40	5.20			11.16	12.36	13.12
	velocity	7.81	9.72	9.41	9.11	8.84	8.81	8.41	8.25	7.88	8.18	7.95	7.69	8.40		9.41	8.50	8.00
H1 lead leg	R	strides	21	13	13	13		13	14	14	14	14	17.2	159.2				
Warholm, Karsten (NOR) (1988)	time	5.68	9.24	12.96	16.80	20.80	22.6	24.88	29.16	33.48	37.92	42.64		48.22	7 / 2			
reaction time	0.165 interval		3.56	3.72	3.84	4.00		4.08	4.28	4.32	4.44	4.72	5.58			11.12	12.36	13.48
	velocity	7.92	9.83	9.41	9.11	8.75	8.85	8.58	8.18	8.10	7.88	7.42	7.17	8.30		9.44	8.50	7.79
H1 lead leg	L	strides	20	13	13	13		13	13	13	13	14	17.5	155.5				
Copello, Yasmani (TUR) (1987)	time	5.84	9.48			21.16	23.0	25.20	29.44	33.84	38.28	43.00		48.54	4 / 3			
reaction time	0.210 interval		3.64			11.68		4.04	4.24	4.40	4.44	4.72	5.54					13.56
	velocity	7.71	9.62			8.99	8.70	8.66	8.25	7.95	7.88	7.42	7.22	8.24				7.74
H1 lead leg	R	strides	20	13	13			13	13	14	14	14	18	132				
Holmes, TJ (USA) (1995)	time	5.76	9.36			20.84	22.6	24.96	29.36	33.84	38.56	43.24		48.64	3 / 4			
reaction time	0.210 interval		3.60			11.48		4.12	4.40	4.48	4.72	4.68	5.40					13.88
	velocity	7.81	9.72			9.15	8.85	8.50	7.95	7.81	7.42	7.48	7.41	8.22				7.56
H1 lead leg	L	strides	20	13	13			13	14	14	14	14	17	132				
Clement, Kerron (USA) (1988)	time	5.84	9.56	13.32	17.20	21.32	23.1	25.64	30.04	34.56	39.20	43.84		49.30	6 / 5			
reaction time	0.159 interval		3.72	3.76	3.88	4.12		4.32	4.40	4.52	4.64	4.64	5.46			11.36	12.84	13.80
	velocity	7.71	9.41	9.31	9.02	8.50	8.66	8.10	7.95	7.74	7.54	7.54	7.33	8.11		9.24	8.18	7.61
H1 lead leg	R	strides	20	13	13	13		13	13	13	13	13	16	153				
Mägi, Rasmus (EST) (1992)	time	5.88	9.60	13.36	17.20	21.28	23.1	25.48	30.00	34.44	39.08	43.80		49.35	8 / 6			
reaction time	0.142 interval		3.72	3.76	3.84	4.08		4.20	4.52	4.44	4.64	4.72	5.55			11.32	12.80	13.80
	velocity	7.65	9.41	9.31	9.11	8.58	8.66	8.33	7.74	7.88	7.54	7.42	7.21	8.11		9.28	8.20	7.61
H1 lead leg	L	strides	21	13	13	13		13	14	14	14	14	142					
Hann, Mamadou Kasse (FRA) (1987)	time	5.92	9.72			21.48	23.3	25.68	30.08	34.48	39.16	43.96		49.50	2 / 7			
reaction time	0.159 interval		3.80			11.76		4.20	4.40	4.40	4.68	4.80	5.54					13.88
	velocity	7.60	9.21			8.93	8.58	8.33	7.95	7.95	7.48	7.29	7.22	8.08				7.56
H1 lead leg	L	strides	21	13				14	14	14	14	15	17	122				
Barr, Thomas (IRL) (1994)	time	5.96	9.72			21.52	23.4	25.84	30.24	34.80	39.48	44.16		49.53	1 / 8			
reaction time	0.197 interval		3.76			11.80		4.32	4.40	4.56	4.68	4.68	5.37					13.92
	velocity	7.55	9.31			8.90	8.55	8.10	7.95	7.68	7.48	7.48	7.45	8.08				7.54
H1 lead leg	L	strides	21	13				14	14	14	14	15	18	123				

2018 Golden Gala Pietro Mennea (Rome, ITA) (TV Analysis)

FINAL

date 31-May-18

Henson (2020) - Athlete First: 2018 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Samba, Abderrahmane (QAT)	time	5.76	9.44	13.20	17.04	20.92		25.04	29.24	33.56	37.96	42.36		47.48	4 / 1			
reaction time	0.158 interval		3.68	3.76	3.84	3.88		4.12	4.20	4.32	4.40	4.40	5.12	AR PB		11.28	12.20	13.12
	velocity	7.81	9.51	9.31	9.11	9.02		8.50	8.33	8.10	7.95	7.95	7.81	8.42		9.31	8.61	8.00
H1 lead leg	R	strides	21	13	13	13		13	13	13	14	14	17	157				
Warholm, Karsten (NOR) (1988)	time	5.68	9.24	12.92	16.76	20.68		24.80	28.96	33.24	37.68	42.40		47.82	7 / 2			
reaction time	0.155 interval		3.56	3.68	3.84	3.92		4.12	4.16	4.28	4.44	4.72	5.42	NR PB		11.08	12.20	13.44
	velocity	7.92	9.83	9.51	9.11	8.93		8.50	8.41	8.18	7.88	7.42	7.38	8.36		9.48	8.61	7.81
H1 lead leg	L	strides	20	13	13	13		13	13	13	13	14	17.5	155.5				
Copello, Yasmani (TUR) (1987)	time	5.84	9.56	13.32	17.16	21.12		25.20	29.40	33.84	38.36	43.12		48.63	5 / 3			
reaction time	0.205 interval		3.72	3.76	3.84	3.96		4.08	4.20	4.44	4.52	4.76	5.51			11.32	12.24	13.72
	velocity	7.71	9.41	9.31	9.11	8.84		8.58	8.33	7.88	7.74	7.35	7.26	8.23		9.28	8.58	7.65
H1 lead leg	R	strides	20	13	13	13		13	13	14	14	14	18	158				
Holmes, TJ (USA) (1995)	time	5.96	9.72	13.60	17.56	21.60		25.88	30.20	34.68	39.40	43.92		49.00	3 / 4			
reaction time	0.194 interval		3.76	3.88	3.96	4.04		4.28	4.32	4.48	4.72	4.52	5.08			11.60	12.64	13.72
	velocity	7.55	9.31	9.02	8.84	8.66		8.18	8.10	7.81	7.42	7.74	7.87	8.16		9.05	8.31	7.65
H1 lead leg	L	strides	20	13	13	13		13	13	13	14	14	17	156				

Mägi, Rasmus (EST) (1992)	time	6.04	9.92	13.76	17.68	21.72	25.88	30.28	34.72	39.32	43.92	49.19	9 / 5				
	reaction time	0.140	interval	3.88	3.84	3.92	4.04	4.16	4.40	4.44	4.60	4.60	5.27		11.64	12.60	13.64
	velocity	7.45	9.02	9.11	8.93	8.66	8.41	7.95	7.88	7.61	7.61	7.59	8.13		9.02	8.33	7.70
	H1 lead leg	L	strides	21	13	13	13	13	14	14	14	14	17	159			
Clement, Kerron (USA) (198)	time	5.88	9.64	13.44	17.40	21.44	25.68	30.04	34.52	39.08	43.96	49.48	6 / 6				
	reaction time	0.159	interval	3.76	3.80	3.96	4.04	4.24	4.36	4.48	4.56	4.88	5.52		11.52	12.64	13.92
	velocity	7.65	9.31	9.21	8.84	8.66	8.25	8.03	7.81	7.68	7.17	7.25	8.08		9.11	8.31	7.54
	H1 lead leg	R	strides	20	13	13	13	13	13	13	13	14	16.5	154.5			
Bencosme, José Reynaldo (I)	time	6.04	9.80	13.64	17.52	21.48	25.60	30.00	34.48	39.28	44.12	49.79	2 / 7				
	reaction time	0.153	interval	3.76	3.84	3.88	3.96	4.12	4.40	4.48	4.80	5.67		11.48	12.48	14.12	
	velocity	7.45	9.31	9.11	9.02	8.84	8.50	7.95	7.81	7.29	7.23	7.05	8.03		9.15	8.41	7.44
	H1 lead leg	L	strides	20	13	13	13	13	14	14	15	15	143				
Bett, Nicholas (KEN) (1990)	time	5.96	9.68	13.48	17.40	21.52	25.76	30.12	34.76	39.52	44.36	49.95	8 / 8				
	reaction time	0.180	interval	3.72	3.80	3.92	4.12	4.24	4.36	4.64	4.76	4.84	5.59		11.44	12.72	14.24
	velocity	7.55	9.41	9.21	8.93	8.50	8.25	8.03	7.54	7.35	7.23	7.16	8.01		9.18	8.25	7.37
	H1 lead leg	R	strides	22	13	13	13	13	13	15	15	15	145				
Lambrugh, Mario (ITA) (199)	time	5.84	9.80	13.76	17.88							dnf	1 / --				
	reaction time	0.135	interval	3.96	3.96	4.12								12.04			
	velocity	7.71	8.84	8.84	8.50									8.72			
	H1 lead leg	R	strides	22	14	14	14					64					

2018 Shimane High School Championships (Izumo, JPN)

FINAL

date 26-May-18

Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
田中 壘	time	6.47	10.65	14.90	19.23	23.72	28.30	33.00	37.92	42.95	48.02	53.66	4 / 1					
	reaction time	4.18	4.25	4.33	4.49	4.58	4.58	4.70	4.92	5.03	5.07	5.64			12.76	13.77	15.02	
	velocity	6.96	8.37	8.24	8.08	7.80	7.64	7.45	7.11	6.96	6.90	7.09	7.45		8.23	7.63	6.99	
	H1 lead leg	strides	22	15	15	15	15	15	15	17	17	17	19	182				
藤岡 哲也	time	6.53	10.88	15.32	19.72	24.27	28.90	33.73	38.82	44.03	49.30	55.32	3 / 2					
	reaction time	4.35	4.44	4.40	4.55	4.63	4.63	4.83	5.09	5.21	5.27	6.02			13.19	14.01	15.57	
	velocity	6.89	8.05	7.88	7.95	7.69	7.56	7.25	6.88	6.72	6.64	6.64	7.23		7.96	7.49	6.74	
	H1 lead leg	strides	23	15	15	15	15	16	16	16	16	20	182					
今岡 紘希	time	6.57	10.98	15.42	19.90	24.57	29.37	34.40	39.62	44.92	50.13	55.97	6 / 3					
	reaction time	4.41	4.44	4.48	4.67	4.80	4.80	5.03	5.22	5.30	5.21	5.84			13.33	14.50	15.73	
	velocity	6.85	7.94	7.88	7.81	7.49	7.29	6.96	6.70	6.60	6.72	6.85	7.15		7.88	7.24	6.68	
	H1 lead leg	strides	22	15	15	15	15	17	17	17	17	20	185					
松本 達樹	time	6.55	11.10	15.70	20.45	25.32	30.30	35.35	40.53	46.02	51.50	57.39	5 / 4					
	reaction time	4.55	4.60	4.75	4.87	4.98	4.98	5.05	5.18	5.49	5.48	5.89			13.90	14.90	16.15	
	velocity	6.87	7.69	7.61	7.37	7.19	7.03	6.93	6.76	6.38	6.39	6.79	6.97		7.55	7.05	6.50	
	H1 lead leg	strides	24	18	17	17	17	17	17	17	19	22	204					

2018 Seiko Golden Grand Prix (Osaka, JPN)

FINAL

date 20-May-18

Morioka (2018) - race pattern analysis of Japan's top 400m hurdles - main national competitions in 2018

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Abe, Takatoshi (JPN) (1991)	time	5.91	9.51	13.16	16.90	20.74	24.74	29.03	33.60	38.47	43.41	48.97	7 / 1					
	reaction time	0.194	interval	3.60	3.65	3.74	3.84	4.00	4.29	4.57	4.87	4.94	5.56			10.99	12.13	14.38
	velocity	7.61	9.72	9.59	9.36	9.11	8.75	8.16	7.66	7.19	7.09	7.19	8.17		9.55	8.66	7.30	
	H1 lead leg	R	strides	20	13	13	13	13	13	14	16	15	18	161				
Kishimoto, Takayuki (JPN) (time	5.85	9.54	13.33	17.22	21.24	25.44	29.91	34.51	39.13	43.88	49.36	5 / 2					
	reaction time	0.140	interval	3.69	3.79	3.89	4.02	4.20	4.47	4.60	4.62	4.75	5.48			11.37	12.69	13.97
	velocity	7.69	9.49	9.23	9.00	8.71	8.33	7.83	7.61	7.58	7.37	7.30	8.10		9.23	8.27	7.52	
	H1 lead leg	R	strides	20	13	13	13	14	14	15	15	15	18.2	163.2				

2018 Doha Diamond League (Doha, QAT) (TV Analysis)

FINAL

date 04-May-18

Henson (2020) - Athlete First: 2018 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Samba, Abderrahmane (QAT)	time	5.80	9.44	13.16	16.96	20.92	24.96	29.16	33.48	37.88	42.36	47.57	4 / 1					
	reaction time	0.192	interval	3.64	3.72	3.80	3.96	4.04	4.20	4.32	4.40	4.48	5.21	NR PB		11.16	12.20	13.20
	velocity	7.76	9.62	9.41	9.21	8.84	8.66	8.33	8.10	7.95	7.81	7.68	8.41		9.41	8.61	7.95	
	H1 lead leg	R	strides	20	13	13	13	13	13	13	14	17.5	142.5					
Jackson, Bershawn (USA) (1	time	5.72	9.56	13.64	17.84	22.04	26.20	30.32	34.56	39.00	43.60	49.08	2 / 2					
	reaction time	0.176	interval	3.84	4.08	4.20	4.20	4.16	4.12	4.24	4.44	4.60	5.48			12.12	12.48	13.28
	velocity	7.87	9.11	8.58	8.33	8.33	8.41	8.50	8.25	7.88	7.61	7.30	8.15		8.66	8.41	7.91	
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	19	161					
McMaster, Kyron (IVB) (1997)	time	5.92	9.68	13.52	17.44	21.48	25.64	30.00	34.52	39.12	43.84	49.46	5 / 3					
	reaction time	0.215	interval	3.76	3.84	3.92	4.04	4.16	4.36	4.52	4.60	4.72	5.62			11.52	12.56	13.84
	velocity	7.60	9.31	9.11	8.93	8.66	8.41	8.03	7.74	7.61	7.42	7.12	8.09		9.11	8.36	7.59	

H1 lead leg	L	strides	21	13	13	13	13	14	14	14	14	17	146						
Copello, Yasmani (TUR) (1991)	time		6.04	9.80	13.72	17.68	21.76	25.92	30.32	34.80	39.48	44.28	49.95	3 / 4					
reaction time	0.224	interval		3.76	3.92	3.96	4.08	4.16	4.40	4.48	4.68	4.80	5.67		11.64	12.64	13.96		
		velocity	7.45	9.31	8.93	8.84	8.58	8.41	7.95	7.81	7.48	7.29	7.05	8.01		9.02	8.31	7.52	
H1 lead leg	R	strides	20	13	13	13	13	13	14	14	14	14	18.2	145.2					
Fredericks, Cornel (RSA) (1991)	time		5.96	9.72	13.60	17.52	21.64	25.88	30.32	34.88	39.64	44.40	50.03	1 / 5					
reaction time	0.164	interval		3.76	3.88	3.92	4.12	4.24	4.44	4.56	4.76	4.76	5.63		11.56	12.80	14.08		
		velocity	7.55	9.31	9.02	8.93	8.50	8.25	7.88	7.68	7.35	7.35	7.10	8.00		9.08	8.20	7.46	
H1 lead leg	R	strides	22	14	14	14	14	14	15	15	15	15	19	156					
Clement, Kerron (USA) (1988)	time		6.16	10.00	13.88	17.88	22.08	26.40	30.76	35.24	39.96	44.76	50.19	6 / 6					
reaction time	0.276	interval		3.84	3.88	4.00	4.20	4.32	4.36	4.48	4.72	4.80	5.43		11.72	12.88	14.00		
		velocity	7.31	9.11	9.02	8.75	8.33	8.10	8.03	7.81	7.42	7.29	7.37	7.97		8.96	8.15	7.50	
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	14	14	139						
Green, Jack (GBR) (1991)	time		6.12	10.00	13.92	18.04	22.32	26.64	31.12	35.56	40.20	44.96	50.22	8 / 7					
reaction time	0.230	interval		3.88	3.92	4.12	4.28	4.32	4.48	4.44	4.64	4.76	5.26		11.92	13.08	13.84		
		velocity	7.35	9.02	8.93	8.50	8.18	8.10	7.81	7.88	7.54	7.35	7.60	7.96		8.81	8.03	7.59	
H1 lead leg	R	strides	22	14	13	14	14	14	14	15	15	15	150						
Hussein, Kariem (SUI) (1989)	time		6.04	9.88	13.84	17.88	22.00	26.28	30.72	35.36	40.32	45.12	51.40	7 / 8					
reaction time	0.230	interval		3.84	3.96	4.04	4.12	4.28	4.44	4.64	4.96	5.12	5.78		11.84	12.84			
		velocity	7.45	9.11	8.84	8.66	8.50	8.18	7.88	7.54	7.06	7.06	7.78		8.87	8.18			
H1 lead leg	L	strides	20	13	13	13	13	13	13	14	14	15	141						

2018 Shizuoka International Athletics Meeting (Fukuroi, JPN)

A FINAL

date 03-May-18

Morioka (2018) - race pattern analysis of Japan's top 400m hurdles - main national competitions in 2018

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Abe, Takatoshi (JPN) (1991)	time		5.97	9.64	13.38	17.15	20.99	24.96	29.20	33.67	38.27	43.06	48.68	6 / 1					
reaction time	0.222	interval		3.67	3.74	3.77	3.84	3.97	4.24	4.47	4.60	4.79	5.62	PB			11.18	12.05	13.86
		velocity	7.54	9.54	9.36	9.28	9.11	8.82	8.25	7.83	7.61	7.31	7.12	8.22			9.39	8.71	7.58
H1 lead leg	R	strides	20	13	13	13	13	13	14	14	15	15	18	161					
Kishimoto, Takayuki (JPN) (1991)	time		5.89	9.68	13.53	17.50	21.55	25.74	30.16	34.70	39.29	43.98	49.33	1 / 2					
reaction time	0.170	interval		3.79	3.85	3.97	4.05	4.19	4.42	4.54	4.59	4.69	5.35				11.61	12.66	13.82
		velocity	7.64	9.23	9.09	8.82	8.64	8.35	7.92	7.71	7.63	7.46	7.48	8.11			9.04	8.29	7.60
H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	15	18.2	164.2					

B FINAL

date 03-May-18

Morioka (2018) - race pattern analysis of Japan's top 400m hurdles - main national competitions in 2018

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Obayashi, Masayuki (JPN) (1991)	time		6.01	9.75	13.93	18.07	22.26	26.48	30.77	35.21	39.76	44.48	49.93	6 / 1					
reaction time	0.168	interval		3.74	4.18	4.14	4.19	4.22	4.29	4.44	4.55	4.72	5.45	PB			12.06	12.70	13.71
		velocity	7.49	9.36	8.37	8.45	8.35	8.29	8.16	7.88	7.69	7.42	7.34	8.01			8.71	8.27	7.66
H1 lead leg	R	strides	22	15	15	15	15	15	15	15	15	15	19.7	176.7					
Yamamoto, Tatsuhiro (JPN) (1991)	time		6.14	10.04	14.03	18.10	22.27	26.59	31.03	35.60	40.18	44.76	49.94	8 / 2					
reaction time	0.171	interval		3.90	3.99	4.07	4.17	4.32	4.44	4.57	4.58	4.58	5.18	PB			11.96	12.93	13.73
		velocity	7.33	8.97	8.77	8.60	8.39	8.10	7.88	7.66	7.64	7.64	7.72	8.01			8.78	8.12	7.65
H1 lead leg	L	strides	22	14	14	14	14	15	15	15	15	15	18.2	171.2					

C FINAL

date 03-May-18

Morioka (2018) - race pattern analysis of Japan's top 400m hurdles - main national competitions in 2018

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Inoue, Kakeru (JPN) (1996)	time		6.14	9.99	13.86	17.76	21.75	25.94	30.26	34.78	39.45	44.19	49.54	5 / 1					
reaction time	0.182	interval		3.85	3.87	3.90	3.99	4.19	4.32	4.52	4.67	4.74	5.35	PB			11.62	12.50	13.93
		velocity	7.33	9.09	9.04	8.97	8.77	8.35	8.10	7.74	7.49	7.38	7.48	8.07			9.04	8.40	7.54
H1 lead leg	R	strides	21	14	14	14	14	14	15	15	15	15	18.5	169.5					

2018 Commonwealth Games (Gold Coast, AUS) (TV Analysis)

FINAL

date 12-Apr-18

Henson (2020) - Athlete First: 2018 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
McMaster, Kyron (IVB) (1997)	time		5.94	9.67	13.41	17.28	21.25	25.36	29.56	33.93	38.44	43.04	48.25	5 / 1					
reaction time	0.156	interval		3.73	3.74	3.87	3.97	4.11	4.20	4.37	4.51	4.60	5.21				11.34	12.28	13.48
		velocity	7.58	9.38	9.36	9.04	8.82	8.52	8.33	8.01	7.76	7.61	7.68	8.29			9.26	8.55	7.79
H1 lead leg	L	strides	21	13	13	13	13	13	13	13	14	14	17	158					
Gibson, Jeffery (BAH) (1990)	time		6.00	9.84	13.68	17.58	21.55	25.69	30.06	34.53	39.17	43.77	49.10	8 / 2					
reaction time	0.146	interval		3.84	3.84	3.90	3.97	4.14	4.37	4.47	4.64	4.60	5.33				11.58	12.48	13.71
		velocity	7.50	9.11	9.11	8.97	8.82	8.45	8.01	7.83	7.54	7.61	7.50	8.15			9.07	8.41	7.66
H1 lead leg	R	strides		13	13	13	13	13	14	14	14	14	17.7	138.7					
Hyde, Jaheel (JAM) (1997)	time		5.80	9.54	13.24	17.08	21.15	25.22	29.49	34.03	38.67	43.47	49.16	3 / 3					
reaction time	0.157	interval		3.74	3.70	3.84	4.07	4.07	4.27	4.54	4.64	4.80	5.69				11.28	12.41	13.98
		velocity	7.76	9.36	9.46	9.11	8.60	8.60	8.20	7.71	7.54	7.29	7.03	8.14			9.31	8.46	7.51
H1 lead leg	L	strides	22	14	14	14	14	14	14	15	15	15	18.7	169.7					
Green, Jack (GBR) (1991)	time		6.17	9.97	13.74	17.65	21.75	25.99	30.30	34.70	39.24	43.77	49.18	7 / 4					

reaction time	0.185	interval		3.80	3.77	3.91	4.10		4.24	4.31	4.40	4.54	4.53	5.41		11.48	12.65	13.47
		velocity	7.29	9.21	9.28	8.95	8.54		8.25	8.12	7.95	7.71	7.73	7.39	8.13	9.15	8.30	7.80
H1 lead leg	R	strides	22	14	13	13	14		14	14	14	15	15	19.2	167.2			

2017 National Sport Festival (Matsuyama, JPN)**FINAL**

date 07-Oct-17

Morioka (2018) - Analysis of the race patterns of the top 400m hurdles in Japan

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kishimoto, Takayuki (JPN)	(time	5.84	9.54	13.41	17.41	21.51		25.78	30.08	34.60	39.27	44.01		49.39	/ 1			
	reaction time	0.149	interval	3.70	3.87	4.00	4.10	4.27	4.30	4.52	4.67	4.74	5.38			11.57	12.67	13.93
			velocity	7.71	9.46	9.04	8.75	8.54	8.20	8.14	7.74	7.49	7.38	7.43	8.10	9.08	8.29	7.54
H1 lead leg			strides	13	13	13	13	14	14	15	15	15		125				

2017 Chinese National Games (Tianjin, CHN)**FINAL**

date 04-Sep-17

Zhou (2020) - analysis of competitive performance characteristics of outstanding men's 400m hurdlers

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Feng Zhiqiang (CHN) (1998)	time	5.7	9.6	13.5	17.3	21.6		26.0	30.3	34.8	39.5	44.1		49.66	/ 1			
	reaction time		interval	3.90	3.90	3.80	4.30	4.40	4.30	4.50	4.70	4.60	5.56	PB		11.60	13.00	13.80
			velocity	7.89	8.97	8.97	9.21	8.14	7.95	8.14	7.78	7.45	7.61	7.19	8.05	9.05	8.08	7.61
H1 lead leg			strides	21	13	13	13	13	14	15	15	15	15	18	165			

2017 Weltklasse (Zürich, SUI) (TV Analysis)**FINAL**

date 24-Aug-17

Henson (2020) - Athlete First: 2017 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
McMaster, Kyron (IVB) (1997)	time	5.72	9.42	13.16		21.00		25.08	29.32	33.76	38.24	42.88		48.07	4 / 1			
	reaction time	0.153	interval	3.70	3.74	7.84		4.08	4.24	4.44	4.48	4.64	5.19					13.56
			velocity	7.87	9.46	9.36	8.93	8.58	8.25	7.88	7.81	7.54	7.71	8.32				7.74
H1 lead leg	R		strides	20	13	13		13	13	14	14	14	17.2	131.2				
Warholm, Karsten (NOR) (1988)	time	5.76	9.32	13.00	16.80	20.76		24.84	29.08	33.52	38.28	43.00		48.22	6 / 2			
	reaction time	0.164	interval	3.56	3.68	3.80	3.96	4.08	4.24	4.44	4.76	4.72	5.22	NR PB		11.04	12.28	13.92
			velocity	7.81	9.83	9.51	9.21	8.84	8.58	8.25	7.88	7.35	7.42	7.66	8.30	9.51	8.55	7.54
H1 lead leg	L		strides	20	13	13	13	13	13	13	15	15	17.7	145.7				
Hussein, Kariem (SUI) (1989)	time	6.00	9.72	13.56		21.56		25.68	29.84	34.20	38.60	43.12		48.45	3 / 3			
	reaction time	0.148	interval	3.72	3.84	8.00		4.12	4.16	4.36	4.40	4.52	5.33	=PB				13.28
			velocity	7.50	9.41	9.11	8.75	8.50	8.41	8.03	7.95	7.74	7.50	8.26				7.91
H1 lead leg	L		strides	20	13	13		14	14	14	14	14	17.2	133.2				
Clement, Kerron (USA) (1988)	time	5.96	9.68	13.44	17.28	21.32		25.52	29.80	34.16	38.72	43.56		49.20	7 / 4			
	reaction time	0.167	interval	3.72	3.76	3.84	4.04	4.20	4.28	4.36	4.56	4.84	5.64			11.32	12.52	13.76
			velocity	7.55	9.41	9.31	9.11	8.66	8.33	8.18	8.03	7.68	7.23	7.09	8.13	9.28	8.39	7.63
H1 lead leg	R		strides	20	13	13	13	13	13	13	13	15	17	143				
Copello, Yasmani (TUR) (1988)	time	5.84	9.56	13.36		21.28		25.48	29.88	34.40	39.08	43.80		49.23	5 / 5			
	reaction time	0.181	interval	3.72	3.80	7.92		4.20	4.40	4.52	4.68	4.72	5.43					13.92
			velocity	7.71	9.41	9.21	8.84	8.33	7.95	7.74	7.48	7.42	7.37	8.13				7.54
H1 lead leg	R		strides	20	13	13		13	14	14	14	14	17.5	118.5				
Green, Jack (GBR) (1991)	time	6.00	9.72	13.48	17.40	21.52		25.84	30.24	34.76	39.44	44.12		49.41	8 / 6			
	reaction time	0.218	interval	3.72	3.76	3.92	4.12	4.32	4.40	4.52	4.68	4.68	5.29			11.40	12.84	13.88
			velocity	7.50	9.41	9.31	8.93	8.50	8.10	7.95	7.74	7.48	7.56	8.10		9.21	8.18	7.56
H1 lead leg	L		strides	21	13	13	14	14	15	15	15	15	18.5	151.5				
van Zyl, LJ (RSA) (1985)	time	5.96	9.68	13.56		21.60		25.80	30.12	34.60	39.20	44.24		49.92	1 / 7			
	reaction time	0.188	interval	3.72	3.88	8.04		4.20	4.32	4.48	4.60	5.04	5.68					14.12
			velocity	7.55	9.41	9.02	8.71	8.33	8.10	7.81	7.61	6.94	7.04	8.01				7.44
H1 lead leg	L		strides	22	14	14		14	15	15	15	16	19	129				
Jackson, Bershawn (USA) (1988)	time	5.60	9.36	13.32		21.52		25.64	29.80	34.16	38.88	43.96		50.02	2 / 8			
	reaction time	0.127	interval	3.76	3.96	8.20		4.12	4.16	4.36	4.72	5.08	6.06					14.16
			velocity	8.04	9.31	8.84	8.54	8.50	8.41	8.03	7.42	6.89	6.60	8.00				7.42
H1 lead leg	L		strides	22	15	15		15	15	15	15	17	20	134				

2017 IAAF World Championships (London, GBR)**FINAL (TV Analysis)**

date 09-Aug-17

Henson (2020) - Athlete First: 2017 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1988)	time	5.68	9.32	13.04	16.80	20.64		24.72	28.96	33.40	38.04	42.84		48.35	5 / 1			
	reaction time	0.175	interval	3.64	3.72	3.76	3.84	4.08	4.24	4.44	4.64	4.80	5.51			11.12	12.16	13.88
			velocity	7.92	9.62	9.41	9.31	9.11	8.58	8.25	7.88	7.54	7.29	7.26	8.27	9.44	8.63	7.56
H1 lead leg	L		strides	20	13	13	13	13	13	13	13	15	15	18.5	159.5			
Copello, Yasmani (TUR) (1988)	time	5.92	9.60	13.36	17.24	21.24		25.44	29.72	34.16	38.64	43.16		48.49	8 / 2			
	reaction time	0.211	interval	3.68	3.76	3.88	4.00	4.20	4.28	4.44	4.48	4.52	5.33			11.32	12.48	13.44
			velocity	7.60	9.51	9.31	9.02	8.75	8.33	8.18	7.88	7.81	7.74	7.50	8.25	9.28	8.41	7.81
H1 lead leg	R		strides	20	13	13	13	13	13	14	14	14	18	159				
Clement, Kerron (USA) (1988)	time	5.92	9.72	13.52	17.28	21.20		25.32	29.52	33.84	38.32	43.12		48.52	4 / 3			

reaction time	0.153	interval	3.80	3.80	3.76	3.92	4.12	4.20	4.32	4.48	4.80	5.40		11.36	12.24	13.60	
		velocity	7.60	9.21	9.21	9.31	8.93	8.50	8.33	8.10	7.81	7.29	7.41	8.24	9.24	8.58	7.72
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	14	17	155			
Mowatt, Kemar (JAM) (1995)	time		5.92	9.72	13.52	17.40	21.40	25.64	29.92	34.36	39.00	43.64		48.99	3 / 4		
reaction time	0.189	interval	3.80	3.80	3.88	4.00	4.24	4.28	4.44	4.64	4.64	5.35		11.48	12.52	13.72	
		velocity	7.60	9.21	9.21	9.02	8.75	8.25	8.18	7.88	7.54	7.54	7.48	8.16	9.15	8.39	7.65
H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	15	18	164			
Holmes, TJ (USA) (1995)	time		6.04	9.88	13.84	17.80	21.84	25.92	30.24	34.64	39.20	43.72		49.00	7 / 5		
reaction time	0.210	interval	3.84	3.96	3.96	4.04	4.08	4.32	4.40	4.56	4.52	5.28		11.76	12.44	13.48	
		velocity	7.45	9.11	8.84	8.84	8.66	8.58	8.10	7.95	7.68	7.74	7.58	8.16	8.93	8.44	7.79
H1 lead leg	L	strides	20	13	13	13	13	13	14	14	14	14	17.2	158.2			
Santos, Juander (DOM) (199)	time		5.84	9.64	13.52	17.40	21.32	25.44	29.76	34.28	38.84	43.52		49.04	2 / 6		
reaction time	0.158	interval	3.80	3.88	3.88	3.92	4.12	4.32	4.52	4.56	4.68	5.52		11.56	12.36	13.76	
		velocity	7.71	9.21	9.02	8.93	8.50	8.10	7.74	7.68	7.48	7.25	8.16	9.08	8.50	7.63	
H1 lead leg	R	strides	22	14	14	14	14	14	15	15	15	15	19	171			
Samba, Abderrahmane (QAT)	time		5.80	9.56	13.36	17.16	21.08	25.24	29.48	33.88	38.44	43.04		49.74	6 / 7		
reaction time	0.206	interval	3.76	3.80	3.80	3.92	4.16	4.24	4.40	4.56	4.60	6.70		11.36	12.32	13.56	
		velocity	7.76	9.31	9.21	9.21	8.93	8.41	8.25	7.95	7.68	7.61	5.97	8.04	9.24	8.52	7.74
H1 lead leg	R	strides	21	13	13	13	13	13	13	14	14	14	19	160			
Hussein, Kariem (SUI) (1989)	time		6.00	9.84	13.72	17.72	21.80	26.00	30.40	34.92	39.52	44.28		50.07	9 / 8		
reaction time	0.163	interval	3.84	3.88	4.00	4.08	4.20	4.40	4.52	4.60	4.76	5.79		11.72	12.68	13.88	
		velocity	7.50	9.11	9.02	8.75	8.58	8.33	7.95	7.74	7.61	7.35	6.91	7.99	8.96	8.28	7.56
H1 lead leg	L	strides	20	13	13	13	13	14	14	14	14	14	17.2	159.2			

Semi-Final 2

date 07-Aug-17

Morioka (2018) - Analysis of the race patterns of the top 400m hurdles in Japan

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Abe, Takatoshi (JPN) (1991)	time		5.98	9.65	13.39	17.16	21.06	25.10	29.50	34.20	39.10	44.07		49.93	4 / 5				
reaction time	0.212	interval	3.67	3.74	3.77	3.90	4.04	4.40	4.70	4.90	4.97	5.86				11.18	12.34	14.57	
		velocity	7.53	9.54	9.36	9.28	8.97	8.66	7.95	7.45	7.14	7.04	6.83	8.01	9.39	8.51	7.21		
H1 lead leg	R	strides	20	13	13	13	13	13	14	14	15	15	18	161					

Heat 1

date 06-Aug-17

Morioka (2018) - Analysis of the race patterns of the top 400m hurdles in Japan

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Abe, Takatoshi (JPN) (1991)	time		6.22	9.89	13.66	17.46	21.36	25.46	29.86	34.40	39.00	43.90		49.65	3 / 2				
reaction time	0.316	interval	3.67	3.77	3.80	3.90	4.10	4.40	4.54	4.60	4.90	5.75				11.24	12.40	14.04	
		velocity	7.23	9.54	9.28	9.21	8.97	8.54	7.95	7.71	7.61	7.14	6.96	8.06	9.34	8.47	7.48		
H1 lead leg	R	strides	20	13	13	13	13	13	14	14	15	15	18	161					

2017 Japanese National High School Championships (Yamagata, JPN)

FINAL

date 31-Jul-17

Kota (2017) - 70th high school championships: JAF scientific committee - biomechanics data collection

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Shirao, Yusuke (JPN) (1999)	time		6.26	10.11	14.13	18.25	22.64	27.08	31.55	36.12	40.89	45.78		51.44	6 / 1				
reaction time	0.172	interval	3.85	4.02	4.12	4.39	4.44	4.47	4.57	4.77	4.89	5.66				11.99	13.30	14.23	
		velocity	7.19	9.09	8.71	8.50	7.97	7.88	7.83	7.66	7.34	7.16	7.07	7.78	8.76	7.89	7.38		
H1 lead leg		strides		13	13	13	14	14	15	15	15	15	15	127					
Yamauchi, Hiromu (JPN) (19)	time		6.19	10.18	14.30	18.55	22.97	27.59	32.13	36.77	41.56	46.66		51.97	9 / 2				
reaction time	0.168	interval	3.99	4.12	4.25	4.42	4.62	4.54	4.54	4.64	4.79	5.10	5.31			12.36	13.58	14.53	
		velocity	7.27	8.77	8.50	8.24	7.92	7.58	7.71	7.54	7.31	6.86	7.53	7.70	8.50	7.73	7.23		
H1 lead leg		strides		14	14	14	14	15	15	15	15	16	132						
Tanabe, Jo (JPN) (1999)	time		6.41	10.43	14.53	18.75	23.14	27.64	32.25	37.05	41.89	46.88		52.41	8 / 3				
reaction time	0.187	interval	4.02	4.10	4.22	4.39	4.50	4.61	4.80	4.84	4.99	5.53				12.34	13.50	14.63	
		velocity	7.02	8.71	8.54	8.29	7.97	7.78	7.59	7.29	7.23	7.01	7.23	7.63	8.51	7.78	7.18		
H1 lead leg		strides		15	14	15	14	15	15	15	15	15	133						
Onodera, Shota (JPN) (1999)	time		6.42	10.51	14.66	19.04	23.59	28.13	32.68	37.34	42.28	47.30		52.56	7 / 4				
reaction time	0.183	interval	4.09	4.15	4.38	4.55	4.54	4.55	4.66	4.94	5.02	5.26				12.62	13.64	14.62	
		velocity	7.01	8.56	8.43	7.99	7.69	7.71	7.69	7.51	7.09	6.97	7.60	7.61	8.32	7.70	7.18		
H1 lead leg		strides		14	14	14	16	15	15	15	17	17	137						
Arisaka, Tomotaka (JPN) (19)	time		6.26	10.36	14.56	18.94	23.47	28.13	32.75	37.49	42.29	47.13		52.58	4 / 5				
reaction time	0.200	interval	4.10	4.20	4.38	4.53	4.66	4.62	4.74	4.80	4.84	5.45				12.68	13.81	14.38	
		velocity	7.19	8.54	8.33	7.99	7.73	7.51	7.58	7.38	7.29	7.23	7.34	7.61	8.28	7.60	7.30		
H1 lead leg		strides		14	14	14	14	15	15	15	15	15	131						
Hanaoka, Kazuma (JPN) (20)	time		6.31	10.39	14.53	18.74	23.09	27.59	32.20	36.97	41.99	47.18		52.88	5 / 6				
reaction time	0.192	interval	4.08	4.14	4.21	4.35	4.50	4.61	4.77	5.02	5.19	5.70				12.43	13.46	14.98	
		velocity	7.13	8.58	8.45	8.31	8.05	7.78	7.59	7.34	6.97	6.74	7.02	7.56	8.45	7.80	7.01		
H1 lead leg		strides		15	15	15	15	15	15	15	17	17	139						
Yamada, Hiromasa (JPN)	time		6.37	10.43	14.65	19.00	23.66	28.45	33.25	38.10	43.09	47.98		53.24	3 / 7				
reaction time	0.243	interval	4.06	4.22	4.35	4.66	4.79	4.80	4.85	4.99	4.89	5.26				12.63	14.25	14.73	

	velocity	7.06	8.62	8.29	8.05	7.51	7.31	7.29	7.22	7.01	7.16	7.60	7.51	8.31	7.37	7.13
H1 lead leg	strides		14	14	14	15	15	15	15	16	16		134			
Ido, Takahiro (JPN) (1999)	time	6.21	10.36	14.61	19.00	23.56	28.28	32.87	37.75	42.69	47.80		53.27	2 / 8		
reaction time	0.143 interval		4.15	4.25	4.39	4.56	4.72	4.59	4.88	4.94	5.11	5.47		12.79	13.87	14.93
	velocity	7.25	8.43	8.24	7.97	7.68	7.42	7.63	7.17	7.09	6.85	7.31	7.51	8.21	7.57	7.03
H1 lead leg	strides		15	15	15	15	15	15	15	15	15		135			

2017 European U20 Championships (Grosseto, ITA) (TV Analysis)

FINAL

date 23-Jul-17

Henson (2020) - Athlete First: 2017 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Happio, Wilfried (FRA) (1998)	time	5.88	9.64	13.56	17.60	21.84	26.04	30.56	34.92	39.48	44.24		49.93	6 / 1				
reaction time	0.234 interval		3.76	3.92	4.04	4.24	4.20	4.52	4.36	4.56	4.76	5.69	NJR PB		11.72	12.96	13.68	
	velocity	7.65	9.31	8.93	8.66	8.25	8.33	7.74	8.03	7.68	7.35	7.03	8.01		8.96	8.10	7.68	
H1 lead leg	L strides		13	13	13	13	13	14	14	15	15	18	141					
Sibilio, Alessandro (ITA) (1998)	time	6.16	10.20	14.24	18.44	22.72	27.00	31.48	35.96	40.44	45.04		50.34	5 / 2				
reaction time	0.191 interval		4.04	4.04	4.20	4.28	4.28	4.48	4.48	4.48	4.60	5.30	PB		12.28	13.04	13.56	
	velocity	7.31	8.66	8.66	8.33	8.18	8.18	7.81	7.81	7.81	7.61	7.55	7.95		8.55	8.05	7.74	
H1 lead leg	R strides		15	15	15	15	15	15	15	15	15	18	153					
Pineda, David José (ESP) (1998)	time	5.84	9.60	13.44	17.40	21.52	25.80	30.40	34.96	39.68	44.52		50.41	3 / 3				
reaction time	0.283 interval		3.76	3.84	3.96	4.12	4.28	4.60	4.56	4.72	4.84	5.89	NJR PB		11.56	13.00	14.12	
	velocity	7.71	9.31	9.11	8.84	8.50	8.18	7.61	7.68	7.42	7.23	6.79	7.93		9.08	8.08	7.44	
H1 lead leg	L strides		15	15	15	15	15	17	17	17	17	21	164					
Ören, Sinan (TUR) (1998)	time	5.92	9.68	13.56	17.52	21.68	25.96	30.60	35.28	40.00	44.92		50.84	7 / 4				
reaction time	0.258 interval		3.76	3.88	3.96	4.16	4.28	4.64	4.68	4.72	4.92	5.92	NJR PB		11.60	13.08	14.32	
	velocity	7.60	9.31	9.02	8.84	8.41	8.18	7.54	7.48	7.42	7.11	6.76	7.87		9.05	8.03	7.33	
H1 lead leg	R strides		14	14	13	13		14	15	15	15	18	131					
Čukman, Hrvoje (CRO) (1998)	time	5.88	9.72	13.60	17.60	21.72	26.08	30.72	35.52	40.32	45.16		50.92	1 / 5				
reaction time	0.226 interval		3.84	3.88	4.00	4.12	4.36	4.64	4.80	4.80	4.84	5.76	PB		11.72	13.12	14.44	
	velocity	7.65	9.11	9.02	8.75	8.50	8.03	7.54	7.29	7.29	7.23	6.94	7.86		8.96	8.00	7.27	
H1 lead leg	R strides		13	13	13	13	13	15	15	15	15	18	143					
Sinčukovs, Maksims (LAT) (1998)	time	5.84	9.56	13.40	17.28	21.48	25.84	30.36	34.92	39.84	44.80		50.98	4 / 6				
reaction time	0.178 interval		3.72	3.84	3.88	4.20	4.36	4.52	4.56	4.92	4.96	6.18	NJR PB		11.44	13.08	14.44	
	velocity	7.71	9.41	9.11	9.02	8.33	8.03	7.74	7.68	7.11	7.06	6.47	7.85		9.18	8.03	7.27	
H1 lead leg	L strides		14	14	13	15	15	15	15	16	16	20	153					
Porras, Aleix (ESP) (1999)	time	5.80	9.76	13.60	17.60	21.84	26.24	30.92	35.60	40.40	45.32		51.36	8 / 7				
reaction time	0.231 interval		3.96	3.84	4.00	4.24	4.40	4.68	4.68	4.80	4.92	6.04			11.80	13.32	14.40	
	velocity	7.76	8.84	9.11	8.75	8.25	7.95	7.48	7.48	7.29	7.11	6.62	7.79		8.90	7.88	7.29	
H1 lead leg	R strides		14	14	15	15		15	15	15	15	18	136					
Nylander, Viktor (SWE) (1998)	time	5.88	9.76	13.68	17.80	22.04	26.52	31.24	36.08	41.08	46.24		52.76	2 / 8				
reaction time	0.187 interval		3.88	3.92	4.12	4.24	4.48	4.72	4.84	5.00	5.16	6.52			11.92	13.44	15.00	
	velocity	7.65	9.02	8.93	8.50	8.25	7.81	7.42	7.23	7.00	6.78	6.13	7.58		8.81	7.81	7.00	
H1 lead leg	R strides		13	14	14	14	14	15	15	15	15	19	148					

2017 Müller's Anniversary Games (London, GBR) (TV Analysis)

FINAL

date 09-Jul-17

Henson (2020) - Athlete First: 2017 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Clement, Kerron (USA) (1988)	time	6.00	9.72	13.44	17.24	21.24	25.48	29.80	34.16	38.60	43.08		48.02	7 / 1				
reaction time	0.157 interval		3.72	3.72	3.80	4.00	4.24	4.32	4.36	4.44	4.48	4.94			11.24	12.56	13.28	
	velocity	7.50	9.41	9.41	9.21	8.75	8.25	8.10	8.03	7.88	7.81	8.10	8.33		9.34	8.36	7.91	
H1 lead leg	R strides		20	13	13	13	13	13	13	13	13	16	153					
McMaster, Kyron (IVB) (1997)	time	5.76	9.32	13.04	16.72	20.60	24.68	28.96	33.36	37.92	42.76		48.12	6 / 2				
reaction time	0.164 interval		3.56	3.72	3.68	3.88	4.08	4.28	4.40	4.56	4.84	5.36			10.96	12.24	13.80	
	velocity	7.81	9.83	9.41	9.51	9.02	8.58	8.18	7.95	7.68	7.23	7.46	8.31		9.58	8.58	7.61	
H1 lead leg	R strides		20	13	13	13	13	14	14	14	15	18	160					
Copello, Yasmani (TUR) (1998)	time	6.00	9.68	13.52	17.40	21.40	25.52	29.88	34.32	38.76	43.16		48.24	8 / 3				
reaction time	0.187 interval		3.68	3.84	3.88	4.00	4.12	4.36	4.44	4.44	4.40	5.08			11.40	12.48	13.28	
	velocity	7.50	9.51	9.11	9.02	8.75	8.50	8.03	7.88	7.88	7.95	7.87	8.29		9.21	8.41	7.91	
H1 lead leg	R strides		20	13	13	13	13	14	14	14	14	17.2	158.2					
Stigler, Michael (USA) (1992)	time	6.04	9.72	13.56	17.40	21.40	25.64	29.96	34.36	38.72	43.16		48.32	4 / 4				
reaction time	0.199 interval		3.68	3.84	3.84	4.00	4.24	4.32	4.40	4.36	4.44	5.16			11.36	12.56	13.20	
	velocity	7.45	9.51	9.11	9.11	8.75	8.25	8.10	7.95	8.03	7.88	7.75	8.28		9.24	8.36	7.95	
H1 lead leg	R strides		22	13	13	13	13	15	15	15	15	18	165					
Futch, Eric (USA) (1993)	time	5.96	9.72	13.56	17.48	21.60	25.80	30.04	34.40	38.84	43.40		48.68	5 / 5				
reaction time	0.189 interval		3.76	3.84	3.92	4.12	4.20	4.24	4.36	4.44	4.56	5.28			11.52	12.56	13.36	
	velocity	7.55	9.31	9.11	8.93	8.50	8.33	8.25	8.03	7.88	7.68	7.58	8.22		9.11	8.36	7.86	
H1 lead leg	R strides		22	14	14	14	15	14	15	15	15	18	169					

Green, Jack (GBR) (1991)	time	6.16	9.92	13.68	17.48	21.44	25.72	30.00	34.40	38.92	43.52		48.77	9 / 6			
reaction time	0.213	interval	3.76	3.76	3.80	3.96	4.28	4.28	4.40	4.52	4.60	5.25			11.32	12.52	13.52
	velocity	7.31	9.31	9.31	9.21	8.84	8.18	8.18	7.95	7.74	7.61	7.62	8.20		9.28	8.39	7.77
H1 lead leg	R	strides	22	14	13	13	14	14	15	15	15	18.7	166.7				
Downing, Quincy (USA) (1991)	time	5.96	9.76	13.48	17.28	21.16	25.16	29.52	34.04	38.64	43.40		48.81	2 / 7			
reaction time	0.144	interval	3.80	3.72	3.80	3.88	4.00	4.36	4.52	4.60	4.76	5.41			11.32	12.24	13.88
	velocity	7.55	9.21	9.41	9.21	9.02	8.75	8.03	7.74	7.61	7.35	7.39	8.20		9.28	8.58	7.56
H1 lead leg	R	strides	21	13	13	13	13	14	14	14	15	17.5	160.5				
Paul, Jacob (GBR) (1995)	time	6.00	9.72	13.56	17.48	21.56	25.72	30.04	34.48	39.08	43.76		49.49	1 / 8			
reaction time	0.156	interval	3.72	3.84	3.92	4.08	4.16	4.32	4.44	4.60	4.68	5.73	PB		11.48	12.56	13.72
	velocity	7.50	9.41	9.11	8.93	8.58	8.41	8.10	7.88	7.61	7.48	6.98	8.08		9.15	8.36	7.65
H1 lead leg	L	strides	21	14	14	14	14	14	15	15	15		150				
Hann, Mamadou Kasse (FRA) (1991)	time	6.08	9.96	13.84	17.64	21.60	25.72	30.16	34.64	39.36	44.16		49.50	3 / 9			
reaction time	0.151	interval	3.88	3.88	3.80	3.96	4.12	4.44	4.48	4.72	4.80	5.34			11.56	12.52	14.00
	velocity	7.40	9.02	9.02	9.21	8.84	8.50	7.88	7.81	7.42	7.29	7.49	8.08		9.08	8.39	7.50
H1 lead leg	L	strides	21	14	14	13	13	13	14	14	15	14		145			

2017 Nambu Memorial (Sapporo, JPN)**FINAL**

date 09-Jul-17

(2017) - tfdata-store.com/2017/07/11/post-1019/

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Ishida, Yusuke (JPN) (1995)	time	6.14	9.93	13.82	17.77	21.79	26.06	30.35	34.87	39.53	44.20		49.35	6 / 1				
reaction time	interval	3.79	3.89	3.95	4.02	4.27	4.27	4.29	4.52	4.66	4.67	5.15	PB		11.63	12.58	13.85	
	velocity	7.33	9.23	9.00	8.86	8.71	8.20	8.16	7.74	7.51	7.49	7.77	8.11		9.03	8.35	7.58	
H1 lead leg	L	strides	21	13	13	13	14	14	15	15	15	18	164					
Matsushita, Yuki (JPN) (1991)	time	6.16	9.90	13.73	17.65	21.68	25.91	30.28	34.80	39.46	44.13		49.41	7 / 2				
reaction time	interval	3.74	3.83	3.92	4.03	4.23	4.23	4.37	4.52	4.66	4.67	5.28			11.49	12.63	13.85	
	velocity	7.31	9.36	9.14	8.93	8.68	8.27	8.01	7.74	7.51	7.49	7.58	8.10		9.14	8.31	7.58	
H1 lead leg	R	strides	21	13	13	13	14	14	15	15	15	18.5	164.5					
Maeno, Kei (JPN) (1991)	time	6.03	9.77	13.64	17.57	21.78	26.03	30.40	34.85	39.44	44.11		49.48	4 / 3				
reaction time	interval	3.74	3.87	3.93	4.21	4.25	4.25	4.37	4.45	4.59	4.67	5.37			11.54	12.83	13.71	
	velocity	7.46	9.36	9.04	8.91	8.31	8.24	8.01	7.87	7.63	7.49	7.45	8.08		9.10	8.18	7.66	
H1 lead leg	R	strides	21	13	13	14	14	15	15	15	15	18.2	166.2					
Nozawa, Keisuke (JPN) (1991)	time	5.99	9.69	13.47	17.32	21.34	25.50	29.77	34.25	39.04	44.30		50.68	8 / 6				
reaction time	interval	3.70	3.78	3.85	4.02	4.16	4.16	4.27	4.48	4.79	5.26	6.38			11.33	12.45	14.53	
	velocity	7.51	9.46	9.26	9.09	8.71	8.41	8.20	7.81	7.31	6.65	6.27	7.89		9.27	8.43	7.23	
H1 lead leg	L	strides	21	13	13	14	14	14	14	15	16	20	167					

2017 Athletissima (Lausanne, SUI) (TV Analysis)**FINAL**

date 06-Jul-17

Henson (2020) - Athlete First: 2017 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Hussein, Kariem (SUI) (1989)	time	5.96	9.76	13.68	17.68	21.72	25.88	30.16	34.48	39.00	43.56		48.79	5 / 1				
reaction time	0.170	interval	3.80	3.92	4.00	4.04	4.16	4.28	4.32	4.52	4.56	5.23			11.72	12.48	13.40	
	velocity	7.55	9.21	8.93	8.75	8.66	8.41	8.18	8.10	7.74	7.68	7.65	8.20		8.96	8.41	7.84	
H1 lead leg	L	strides	20	13	13	13	13	14	14	14	14	17	158					
Robinson, Byron (USA) (1991)	time	5.84	9.64	13.68	17.80	21.88	26.00	30.12	34.40	38.80	43.36		48.88	4 / 2				
reaction time	0.151	interval	3.80	4.04	4.12	4.08	4.12	4.12	4.28	4.40	4.56	5.52			11.96	12.32	13.24	
	velocity	7.71	9.21	8.66	8.50	8.58	8.50	8.50	8.18	7.95	7.68	7.25	8.18		8.78	8.52	7.93	
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	20	177					
Mági, Rasmus (EST) (1992)	time	6.08	9.92	13.80	17.72	21.68	25.84	30.24	34.64	39.20	43.72		48.94	7 / 3				
reaction time	0.127	interval	3.84	3.88	3.92	3.96	4.16	4.40	4.40	4.56	4.52	5.22			11.64	12.52	13.48	
	velocity	7.40	9.11	9.02	8.93	8.84	8.41	7.95	7.95	7.68	7.74	7.66	8.17		9.02	8.39	7.79	
H1 lead leg	L	strides	21	13	13	13	13	14	14	14	14	17.2	159.2					
Jackson, Bershawn (USA) (1991)	time	5.72	9.64	13.84	18.12	22.32	26.44	30.56	34.76	39.12	43.64		49.04	3 / 4				
reaction time	0.140	interval	3.92	4.20	4.28	4.20	4.12	4.12	4.20	4.36	4.52	5.40			12.40	12.44	13.08	
	velocity	7.87	8.93	8.33	8.18	8.33	8.50	8.50	8.33	8.03	7.74	7.41	8.16		8.47	8.44	8.03	
H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	19	176					
Fredericks, Cornel (RSA) (1991)	time	6.00	9.76	13.60	17.48	21.48	25.56	29.80	34.20	38.80	43.52		49.32	8 / 5				
reaction time	0.137	interval	3.76	3.84	3.88	4.00	4.08	4.24	4.40	4.60	4.72	5.80			11.48	12.32	13.72	
	velocity	7.50	9.31	9.11	9.02	8.75	8.58	8.25	7.95	7.61	7.42	6.90	8.11		9.15	8.52	7.65	
H1 lead leg	R	strides	22	14	14	14	14	15	15	15	15	20	172					
Stigler, Michael (USA) (1992)	time	6.00	9.80	13.72	17.68	21.76	26.04	30.36	34.72	39.32	44.12		49.86	6 / 6				
reaction time	0.224	interval	3.80	3.92	3.96	4.08	4.28	4.32	4.36	4.60	4.80	5.74			11.68	12.68	13.76	
	velocity	7.50	9.21	8.93	8.84	8.58	8.18	8.10	8.03	7.61	7.29	6.97	8.02		8.99	8.28	7.63	
H1 lead leg	R	strides	22	13	13	13	15	15	15	15	15	18	167					
van Zyl, LJ (RSA) (1985)	time	5.92	9.68	13.64	17.68	21.80	25.96	30.28	34.68	39.28	44.12		50.04	2 / 7				

reaction time	0.152	interval		3.76	3.96	4.04	4.12		4.16	4.32	4.40	4.60	4.84	5.92		11.76	12.60	13.84
		velocity	7.60	9.31	8.84	8.66	8.50		8.41	8.10	7.95	7.61	7.23	6.76	7.99	8.93	8.33	7.59
H1 lead leg	L	strides	22	14	14	14	14		15	15	15	16	16	19.2	174.2			
Mfomkpa, Alain-Hervé (SUI)	time		6.04	9.80	13.72	17.64	21.68		25.96	30.36	35.04	40.00	45.24		51.45	1 / 8		
reaction time	0.156	interval		3.76	3.92	3.92	4.04		4.28	4.40	4.68	4.96	5.24	6.21		11.60	12.72	14.88
		velocity	7.45	9.31	8.93	8.93	8.66		8.18	7.95	7.48	7.06	6.68	6.44	7.77	9.05	8.25	7.06
H1 lead leg	L	strides	21	13	13	13	13		14	14	14	15	16	146				

2017 USATF Championships (Sacramento, CA) (TV Analysis)

FINAL

date 25-Jun-17

Henson (2020) - Athlete First: 2017 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Futch, Eric (USA) (1993)	time		5.96	9.79	13.65	17.58	21.65		25.65	29.82	34.03	38.34	42.79		48.18	4 / 1			
reaction time		interval		3.83	3.86	3.93	4.07		4.00	4.17	4.21	4.31	4.45	5.39	PB		11.62	12.24	12.97
		velocity	7.55	9.14	9.07	8.91	8.60		8.75	8.39	8.31	8.12	7.87	7.42	8.30		9.04	8.58	8.10
H1 lead leg	R	strides	22	14	14	13	13			14	15	15	15	18	153				
Stigler, Michael (USA) (1992)	time		6.10	9.79	13.58	17.38	21.31		29.89	34.20	38.55	43.07		48.26	8 / 2				
reaction time		interval		3.69	3.79	3.80	3.93		8.58	4.31	4.35	4.52	5.19	PB		11.28	12.51	13.18	
		velocity	7.38	9.49	9.23	9.21	8.91		8.16	8.12	8.05	7.74	7.71	8.29		9.31	8.39	7.97	
H1 lead leg	R	strides	22	13	13	13	13			15	15	15	18.2	137.2					
Holmes, TJ (USA) (1995)	time		5.93	9.65	13.41	17.07	20.93		24.86	29.31	33.65	38.34	43.14		48.44	2 / 3			
reaction time		interval		3.72	3.76	3.66	3.86		3.93	4.45	4.34	4.69	4.80	5.30	PB		11.14	12.24	13.83
		velocity	7.59	9.41	9.31	9.56	9.07		8.91	7.87	8.06	7.46	7.29	7.55	8.26		9.43	8.58	7.59
H1 lead leg	L	strides	20	13	13	13	13		13	14	14	15	15	18	161				
Robinson, Byron (USA) (1995)	time		5.79	9.55	13.51	17.58	21.68		25.69	29.87	34.07	38.42	42.86		48.50	6 / 4			
reaction time		interval		3.76	3.96	4.07	4.10		4.01	4.18	4.20	4.35	4.44	5.64	PB		11.79	12.29	12.99
		velocity	7.77	9.31	8.84	8.60	8.54		8.73	8.37	8.33	8.05	7.88	7.09	8.25		8.91	8.54	8.08
H1 lead leg	L	strides	22	15	15	15	15		15	15	15	15	15	19.5	176.5				
Dutch, Johnny (USA) (1989)	time		5.96	9.62	13.41	17.20	21.20		25.31	29.51	33.79	38.27	43.00		48.60	3 / 5			
reaction time		interval		3.66	3.79	3.79	4.00		4.11	4.20	4.28	4.48	4.73	5.60		11.24	12.31	13.49	
		velocity	7.55	9.56	9.23	9.23	8.75		8.52	8.33	8.18	7.81	7.40	7.14	8.23		9.34	8.53	7.78
H1 lead leg	R	strides	22	13	13	13	13		14	14	15	15	15	19	166				
Downing, Quincy (USA) (1995)	time		5.89	9.55	13.20	16.93	20.82		29.17	33.62	38.24	43.07		48.70	7 / 6				
reaction time		interval		3.66	3.65	3.73	3.89		8.35	4.45	4.62	4.83	5.63			11.04	12.24	13.90	
		velocity	7.64	9.56	9.59	9.38	9.00		8.38	7.87	7.58	7.25	7.10	8.21		9.51	8.58	7.55	
H1 lead leg	R	strides	21	13	13	13	13			14	14	15	17.7	133.7					
Clement, Kerron (USA) (1988)	time		6.07	9.90	13.69	17.48	21.41		25.55	29.86	34.21	38.79	43.45		48.91	5 / 7			
reaction time		interval		3.83	3.79	3.79	3.93		4.14	4.31	4.35	4.58	4.66	5.46		11.41	12.38	13.59	
		velocity	7.41	9.14	9.23	9.23	8.91		8.45	8.12	8.05	7.64	7.51	7.33	8.18		9.20	8.48	7.73
H1 lead leg	R	strides	20	13	13	13	13		13	13	13	13	13	16.5	153.5				
Jackson, Bershawn (USA) (1995)	time		5.79	9.69	13.79	17.93	22.14		30.31	34.58	39.03	43.83		49.51	1 / 8				
reaction time		interval		3.90	4.10	4.14	4.21		8.17	4.27	4.45	4.80	5.68			12.14	12.38	13.52	
		velocity	7.77	8.97	8.54	8.45	8.31		8.57	8.20	7.87	7.29	7.04	8.08		8.65	8.48	7.77	
H1 lead leg	L	strides	22	15		15	15			15	15	17	19.2	133.2					

2017 Japanese National Championships (Osaka, JPN)

FINAL

date 24-Jun-17

Morioka (2018) - Analysis of the race patterns of the top 400m hurdles in Japan

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Abe, Takatoshi (JPN) (1991)	time		6.01	9.71	13.53	17.37	21.39		25.54	29.98	34.50	39.17	43.91		49.32	1 / 1			
reaction time	0.193	interval		3.70	3.82	3.84	4.02		4.15	4.44	4.52	4.67	4.74	5.41			11.36	12.61	13.93
		velocity	7.49	9.46	9.16	9.11	8.71		8.43	7.88	7.74	7.49	7.38	7.39	8.11		9.24	8.33	7.54
H1 lead leg		strides		13	13	13	13		13	14	14	15	15		123				
Ishida, Yusuke (JPN) (1995)	time		6.16	9.96	13.86	17.77	21.76		26.06	30.38	34.90	39.59	44.34		49.79	1 / 2			
reaction time	0.185	interval		3.80	3.90	3.91	3.99		4.30	4.32	4.52	4.69	4.75	5.45			11.61	12.61	13.96
		velocity	7.31	9.21	8.97	8.95	8.77		8.14	8.10	7.74	7.46	7.37	7.34	8.03		9.04	8.33	7.52
H1 lead leg		strides		13	13	13	13		14	14	15	15	15		125				
Matsushita, Yuki (JPN) (1991)	time		6.14	9.96	13.88	17.80	21.79		26.09	30.43	34.92	39.54	44.33		49.92	1 / 3			
reaction time	0.155	interval		3.82	3.92	3.92	3.99		4.30	4.34	4.49	4.62	4.79	5.59			11.66	12.63	13.90
		velocity	7.33	9.16	8.93	8.93	8.77		8.14	8.06	7.80	7.58	7.31	7.16	8.01		9.01	8.31	7.55
H1 lead leg		strides		13	13	13	13		14	14	15	15	15		125				

2017 Bauhaus Athletics (Stockholm, SWE) (TV Analysis)

FINAL

date 18-Jun-17

Henson (2020) - Athlete First: 2017 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1991)	time		5.76	9.48	13.24	17.04	21.00		25.20	29.44	33.92	38.68	43.44		48.82	7 / 1			
reaction time	0.139	interval		3.72	3.76	3.80	3.96		4.20	4.24	4.48	4.76	4.76	5.38			11.28	12.40	14.00
		velocity	7.81	9.41	9.31	9.21	8.84		8.33	8.25	7.81	7.35	7.35	7.43	8.19		9.31	8.47	7.50
H1 lead leg	L	strides	20	13	13	13	13		13	13	13	15	15	17.7	158.7				

Mági, Rasmus (EST) (1992)	time	6.04	9.84	17.64	21.68	25.88	30.24	34.68	39.24	43.84	49.16	3 / 2				
	reaction time	0.142	interval	3.80	7.80	4.04	4.20	4.36	4.44	4.56	4.60	5.32	11.60	12.60	13.60	
	velocity	7.45	9.21	8.97	8.66	8.33	8.03	7.88	7.68	7.61	7.52	8.14	9.05	8.33	7.72	
	H1 lead leg	L	strides	21	13	13	13	14	14	14	14	17.5	119.5			
Copello, Yasmani (TUR) (1992)	time	6.00	9.72	17.48	21.56	25.72	30.12	34.60	39.20	43.84	49.18	6 / 3				
	reaction time	0.178	interval	3.72	7.76	4.08	4.16	4.40	4.48	4.60	4.64	5.34	11.48	12.64	13.72	
	velocity	7.50	9.41	9.02	8.58	8.41	7.95	7.81	7.61	7.54	7.49	8.13	9.15	8.31	7.65	
	H1 lead leg	R	strides	20	13	13	13	14	14	14	14	17.7	132.7			
Green, Jack (GBR) (1991)	time	6.08	9.88	13.60	17.44	21.48	25.76	30.12	34.60	39.16	43.80	8 / 4				
	reaction time	0.203	interval	3.80	3.72	3.84	4.04	4.28	4.36	4.48	4.56	4.64	5.49	11.36	12.68	13.68
	velocity	7.40	9.21	9.41	9.11	8.66	8.18	8.03	7.81	7.68	7.54	7.29	8.12	9.24	8.28	7.68
	H1 lead leg	R	strides	22	14	13	13	14	15	15	15	15	19.2	169.2		
Hann, Mamadou Kasse (FRA) (1992)	time	6.04	9.92	17.76	21.88	26.08	30.60	35.16	39.80	44.44	49.72	5 / 5				
	reaction time	0.158	interval	3.88	7.84	4.12	4.20	4.52	4.56	4.64	4.64	5.28	11.72	12.84	13.84	
	velocity	7.45	9.02	8.93	8.50	8.33	7.74	7.68	7.54	7.54	7.58	8.05	8.96	8.18	7.59	
	H1 lead leg	L	strides	21	13	13	14	14	14	14	14	117				
Jackson, Bershawn (USA) (1992)	time	5.72	9.52	17.68	21.80	25.92	30.12	34.64	39.36	44.08	50.28	4 / 6				
	reaction time	0.135	interval	3.80	8.16	4.12	4.12	4.20	4.52	4.72	4.72	6.20	11.96	12.44	13.96	
	velocity	7.87	9.21	8.58	8.50	8.50	8.33	7.74	7.42	7.42	6.45	7.96	8.78	8.44	7.52	
	H1 lead leg	L	strides	22	15	15	15	15	16	15	113					
Andersson, Isak (SWE) (1992)	time	6.08	9.96	18.16	22.36	26.64	31.12	35.64	40.24	44.92	50.50	1 / 7				
	reaction time	0.202	interval	3.88	8.20	4.20	4.28	4.48	4.52	4.60	4.68	5.58	PB	12.08	12.96	13.80
	velocity	7.40	9.02	8.54	8.33	8.18	7.81	7.74	7.61	7.48	7.17	7.92	8.69	8.10	7.61	
	H1 lead leg	R	strides	23	15	15	15	15	15	15	113					
van Zyl, LJ (RSA) (1985)	time	5.88	9.64	17.40	21.44	25.60	30.00	39.04	43.88	51.42	2 / 8					
	reaction time	0.143	interval	3.76	7.76	4.04	4.16	4.40	9.04	4.84	7.54	11.52	12.60	13.88		
	velocity	7.65	9.31	9.02	8.66	8.41	7.95	7.74	7.23	5.31	7.78	9.11	8.33	7.56		
	H1 lead leg	L	strides	22	14	14	14	15	16	95						

2017 Bislett Games (Oslo, NOR) (TV Analysis)

FINAL

date 15-Jun-17

Henson (2020) - Athlete First: 2017 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Warholm, Karsten (NOR) (1992)	time	5.86	9.46	13.06	16.93	20.86	25.00	29.30	33.56	38.20	42.90	48.25	7 / 1					
	reaction time	0.149	interval	3.60	3.60	3.87	4.14	4.30	4.26	4.64	4.70	5.35	NR PB	11.07	12.37	13.60		
	velocity	7.68	9.72	9.72	9.04	8.91	8.45	8.14	8.22	7.54	7.45	7.48	8.29	9.49	8.49	7.72		
	H1 lead leg	L	strides	20	13	13	13	13	13	13	15	15	17.5	158.5				
Copello, Yasmani (TUR) (1992)	time	5.96	9.70	13.53	17.46	21.50	25.60	30.00	34.30	38.76	43.20	48.44	4 / 2					
	reaction time	0.188	interval	3.74	3.83	3.93	4.10	4.40	4.30	4.46	4.44	5.24	11.50	12.54	13.20			
	velocity	7.55	9.36	9.14	8.91	8.66	8.54	7.95	8.14	7.85	7.88	7.63	8.26	9.13	8.37	7.95		
	H1 lead leg	R	strides	20	13	13	13	13	14	14	14	14	17.5	158.5				
Barr, Thomas (IRL) (1992)	time	6.13	9.83	13.60	25.83	30.23	34.70	39.26	43.80	48.95	1 / 3							
	reaction time	0.193	interval	3.70	3.77	12.23	4.40	4.47	4.56	4.54	5.15	13.57						
	velocity	7.34	9.46	9.28	8.59	7.95	7.83	7.68	7.71	7.77	8.17	7.74						
	H1 lead leg	L	strides	22	13	13	14	14	14	15	18.5	123.5						
Hann, Mamadou Kasse (FRA) (1992)	time	6.03	9.80	13.53	17.36	21.26	25.46	29.76	34.26	39.00	43.73	48.97	5 / 4					
	reaction time	0.176	interval	3.77	3.73	3.83	4.20	4.30	4.50	4.74	4.73	5.24	11.33	12.40	13.97			
	velocity	7.46	9.28	9.38	9.14	8.97	8.33	8.14	7.78	7.38	7.40	7.63	8.17	9.27	8.47	7.52		
	H1 lead leg	L	strides	21	13	13	14	14	15	15	17.2	163.2						
Mági, Rasmus (EST) (1992)	time	6.03	9.83	13.70	17.66	21.73	25.86	30.33	34.73	39.23	43.80	49.10	3 / 5					
	reaction time	0.147	interval	3.80	3.87	3.96	4.13	4.47	4.40	4.50	4.57	5.30	11.63	12.67	13.47			
	velocity	7.46	9.21	9.04	8.84	8.60	8.47	7.83	7.95	7.78	7.66	7.55	8.15	9.03	8.29	7.80		
	H1 lead leg	L	strides	21	13	13	13	14	14	14	14	17.2	146.2					
Hussein, Kariem (SUI) (1989)	time	6.03	9.70	13.53	17.56	25.86	30.20	34.53	39.03	43.73	49.37	2 / 6						
	reaction time	0.162	interval	3.67	3.83	4.03	8.30	4.34	4.33	4.50	4.70	5.64	11.53	12.64	13.53			
	velocity	7.46	9.54	9.14	8.68	8.43	8.06	8.08	7.78	7.45	7.09	8.10	9.11	8.31	7.76			
	H1 lead leg	L	strides	20	13	13	14	14	14	15	17.2	133.2						
van Zyl, LJ (RSA) (1985)	time	5.96	9.66	13.43	17.46	21.60	25.86	30.30	34.73	39.30	44.06	49.89	8 / 7					
	reaction time	0.158	interval	3.70	3.77	4.03	4.26	4.44	4.43	4.57	4.76	5.83	11.50	12.84	13.76			
	velocity	7.55	9.46	9.28	8.68	8.45	8.22	7.88	7.90	7.66	7.35	6.86	8.02	9.13	8.18	7.63		
	H1 lead leg	L	strides	22	14	14	14	15	15	15	152							
Clement, Kerron (USA) (1992)	time	5.90	9.53	13.16	16.93	20.83	25.03	29.53	34.36	39.20	44.46	50.52	6 / 8					
	reaction time	0.164	interval	3.63	3.63	3.77	4.20	4.50	4.83	4.84	5.26	6.06	11.03	12.60	14.93			
	velocity	7.63	9.64	9.64	9.28	8.97	8.33	7.78	7.25	7.23	6.65	6.60	7.92	9.52	8.33	7.03		
	H1 lead leg	R	strides	20	13	13	13	15	15	14	16	145						

2017 Shimane High School Championships (Izumo, JPN)

FINAL

date 27-May-17

Shimizu (2018) - shimane high school championships 2018 - biomechanics data analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
阿川 公希	time	6.27	10.37	14.60	18.90	23.33		27.97	33.00	37.93	43.03	48.40		54.54	7 / 1			
	reaction time		interval	4.10	4.23	4.30	4.43	4.64	5.03	4.93	5.10	5.37	6.14			12.63	14.10	15.40
		velocity	7.18	8.54	8.27	8.14	7.90	7.54	6.96	7.10	6.86	6.52	6.51	7.33		8.31	7.45	6.82
	H1 lead leg	strides	22	15	15	15	15	15	16	16	17	17	21	184				

2017 Seiko Golden Grand Prix (Kawasaki, JPN)

FINAL

date 21-May-17

(2017) - tfdata-store.com/2017/05/22/post-605/
Morioka (2018) - Analysis of the race patterns of the top 400m hurdles in Japan

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Abe, Takatoshi (JPN) (1991)	time	5.97	9.67	13.49	17.34	21.31		25.38	29.75	34.22	38.89	43.66		49.20	2 / 2			Morioka (2018)
	reaction time	0.191	interval	3.70	3.82	3.85	3.97	4.07	4.37	4.47	4.67	4.77	5.54			11.37	12.41	13.91
		velocity	7.54	9.46	9.16	9.09	8.82	8.60	8.01	7.83	7.49	7.34	7.22	8.13		9.23	8.46	7.55
	H1 lead leg	R	strides	20	13	13	13	13	14	14	15	15	18	161				
Konishi, Yuta (JPN) (1990)	time	6.13	9.99	13.86	17.82	21.94		26.18	30.45	34.89	39.54	44.38		49.95	4 / 5			(2017) - tfdata-store.com
	reaction time	0.146	interval	3.86	3.87	3.96	4.12	4.24	4.27	4.44	4.65	4.84	5.57			11.69	12.63	13.93
		velocity	7.34	9.07	9.04	8.84	8.50	8.25	8.20	7.88	7.53	7.23	7.18	8.01		8.98	8.31	7.54
	H1 lead leg	L	strides	20	13	13	13	14	14	15	15	15	19	164				

2017 Gunma High School Athletics Meeting (Maebashi, JPN)

FINAL

date 21-May-17

(2017) - tfdata-store.com/2017/05/20/post-584/

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Shirao, Yusuke (JPN) (1999)	time	6.15	9.89	13.73	17.72	21.85		26.07	30.42	34.99	39.74	44.70		50.42	5 / 1			
	reaction time		interval	3.74	3.84	3.99	4.13	4.22	4.35	4.57	4.75	4.96	5.72	PB		11.57	12.70	14.28
		velocity	7.32	9.36	9.11	8.77	8.47	8.29	8.05	7.66	7.37	7.06	6.99	7.93		9.08	8.27	7.35
	H1 lead leg	R	strides	21	13	13	14	14	14	15	15	15	18.5	166.5				

2017 Jamaica International Invitational (Kingston, JAM) (TV Analysis)

FINAL

date 20-May-17

Henson (2020) - Athlete First: 2017 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
McMaster, Kyron (IVB) (1997)	time		9.51	13.28	17.08	21.02		24.99	29.13	33.43	37.90			47.80	5 / 1			
	reaction time			interval	3.77	3.80	3.94	3.97	4.14	4.30	4.47			NR PB				12.05
		velocity	8.41	9.28	9.21	8.88		8.82	8.45	8.14	7.83			8.37				8.71
	H1 lead leg	R	strides		13	13	13	13	13	14	14	14		107				
Hyde, Jaheel (JAM) (1997)	time	5.84	9.64	13.51	17.48	21.55		25.62	29.86	34.16	38.57	43.21		48.52	3 / 2			
	reaction time		interval	3.80	3.87	3.97	4.07	4.07	4.24	4.30	4.41	4.64	5.31	PB		11.64	12.38	13.35
		velocity	7.71	9.21	9.04	8.82	8.60	8.60	8.25	8.14	7.94	7.54	7.53	8.24		9.02	8.48	7.87
	H1 lead leg	L	strides	22	14	14	14	14	14	15	15	15	18.5	153.5				
Jackson, Bershawn (USA) (1997)	time	5.74	9.54	13.54	17.65	21.75		25.86	29.93	34.16	38.54	43.21		48.63	4 / 3			
	reaction time		interval	3.80	4.00	4.11	4.10	4.11	4.07	4.23	4.38	4.67	5.42			11.91	12.28	13.28
		velocity	7.84	9.21	8.75	8.52	8.54	8.52	8.60	8.27	7.99	7.49	7.38	8.23		8.82	8.55	7.91
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	19	161				
Culson, Javier (PUR) (1983)	time		9.61	13.28	17.08	21.05		25.19	29.46	33.86	38.47	43.27		48.76	6 / 4			
	reaction time			interval	3.67	3.80	3.97	4.14	4.27	4.40	4.61	4.80	5.49					12.38
		velocity	8.32	9.54	9.21	8.82		8.45	8.20	7.95	7.59	7.29	7.29	8.20				7.60
	H1 lead leg		strides		13	13	13	13	13	13	14	14	17.2	123.2				

2017 Tokyo High School Championships (Tokyo, JPN)

FINAL

date 14-May-17

(2017) - tfdata-store.com/2017/05/14/post-470/

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Inoue, Daichi (JPN) (1999)	time	6.25	10.05	13.95	17.90	21.88		26.05	30.69	35.34	40.18	45.08		50.37	5 / 1			
	reaction time		interval	3.80	3.90	3.95	3.98	4.17	4.64	4.65	4.84	4.90	5.29	PB		11.65	12.79	14.39
		velocity	7.20	9.21	8.97	8.86	8.79	8.39	7.54	7.53	7.23	7.14	7.56	7.94		9.01	8.21	7.30
	H1 lead leg		strides		13	13	13	13	15	15	15	15		125				

2017 Shanghai Diamond League (Shanghai, CHN) (TV Analysis)

FINAL

date 13-May-17

Henson (2021) - Athlete First: 2017 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Jackson, Bershawn (USA) (1997)	time	5.64	9.40	13.40	17.56	21.60		25.68	29.76	33.96	38.40	43.04		48.63	4 / 1			
	reaction time	0.127	interval	3.76	4.00	4.16	4.04	4.08	4.08	4.20	4.44	4.64	5.59			11.92	12.20	13.28
		velocity	7.98	9.31	8.75	8.41	8.66	8.58	8.58	8.33	7.88	7.54	7.16	8.23		8.81	8.61	7.91
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	19	176				
van Zyl, LJ (RSA) (1985)	time	5.88	9.64	13.52	17.52	21.60		25.80	30.16	34.60	39.12	43.76		49.35	7 / 2			
	reaction time	0.155	interval	3.76	3.88	4.00	4.08	4.20	4.36	4.44	4.52	4.64	5.59			11.64	12.64	13.60
		velocity	7.65	9.31	9.02	8.75	8.58	8.33	8.03	7.88	7.74	7.54	7.16	8.11		9.02	8.31	7.72
	H1 lead leg	L	strides	22	14	14	14	15	14	15	15	15	19	171				
Mägi, Rasmus (EST) (1992)	time	6.08	9.92	13.80	17.76	21.84		26.04	30.44	34.88	39.48	44.12		49.38	8 / 3			
	reaction time	0.138	interval	3.84	3.88	3.96	4.08	4.20	4.40	4.44	4.60	4.64	5.26			11.68	12.68	13.68
		velocity	7.40	9.11	9.02	8.84	8.58	8.33	7.95	7.88	7.61	7.54	7.60	8.10		8.99	8.28	7.68
	H1 lead leg	L	strides	21	13	13	13	13	14	14	14	14	17.5	159.5				

Clement, Kerron (USA) (1988)	time	5.96	9.72	13.48	17.36	21.40	25.60	29.96	34.48	39.24	44.04	49.43	6 / 4			
	reaction time	0.155	interval	3.76	3.76	3.88	4.04	4.20	4.36	4.52	4.76	4.80	5.39	11.40	12.60	14.08
	velocity	7.55	9.31	9.31	9.02	8.66	8.33	8.03	7.74	7.35	7.29	7.42	8.09	9.21	8.33	7.46
	H1 lead leg	R	strides	20	13	13	13	13	13	13	14	14	16.5	155.5		
Culson, Javier (PUR) (1984)	time	5.84	9.48	13.24	17.12	21.16	25.40	29.76	34.36	39.08	44.08	49.90	2 / 5			
	reaction time	0.194	interval	3.64	3.76	3.88	4.04	4.24	4.36	4.60	4.72	5.00	5.82	11.28	12.64	14.32
	velocity	7.71	9.62	9.31	9.02	8.66	8.25	8.03	7.61	7.42	7.00	6.87	8.02	9.31	8.31	7.33
	H1 lead leg	L	strides	20	13	13	13	13	13	14	14	15	17.5	158.5		
Hussein, Kariem (SUI) (1989)	time	6.04	9.92	13.92	18.08	22.24	26.40	30.72	35.12			50.02	9 / 6			
	reaction time	0.177	interval	3.88	4.00	4.16	4.16	4.16	4.32	4.40			12.04	12.64		
	velocity	7.45	9.02	8.75	8.41	8.41	8.41	8.10	7.95			8.00	8.72	8.31		
	H1 lead leg	L	strides	20	13	13	13	13	14	14		113				
Whyte, Annsert (JAM) (1987)	time	5.76	9.36	13.16	17.00	20.92	25.08	29.56	34.24	39.08	44.16	50.18	3 / 7			
	reaction time	0.154	interval	3.60	3.80	3.84	3.92	4.16	4.48	4.68	4.84	5.08	6.02	11.24	12.56	14.60
	velocity	7.81	9.72	9.21	9.11	8.93	8.41	7.81	7.48	7.23	6.89	6.64	7.97	9.34	8.36	7.19
	H1 lead leg	L	strides	21	13	14	14	13	14	15	15	16	19.2	169.2		
Bett, Nicholas (KEN) (1990)	time	6.04	9.72	13.52	17.40	21.40	25.52	30.00	34.64	39.52		51.09	5 / 8			
	reaction time	0.189	interval	3.68	3.80	3.88	4.00	4.12	4.48	4.64	4.88		11.36	12.60		
	velocity	7.45	9.51	9.21	9.02	8.75	8.50	7.81	7.54	7.17		7.83	9.24	8.33		
	H1 lead leg	R	strides	21	13	13	13	13	13	13	15	15	142			

2017 Doha Diamond League (Doha, QAT) (TV Analysis)

FINAL

date 05-May-17

Henson (2020) - Athlete First: 2017 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Samba, Abderrahmane (QAT)	time	5.80	9.43	13.03	16.66	20.43	24.40	28.56	32.96	37.66	42.60		48.44	4 / 1				
	reaction time	0.185	interval	3.63	3.60	3.63	3.77	3.97	4.16	4.40	4.70	4.94	5.84	10.86	11.90	14.04		
	velocity	7.76	9.64	9.72	9.64	9.28	8.82	8.41	7.95	7.45	7.09	6.85	8.26	9.67	8.82	7.48		
	H1 lead leg	R	strides	20	13	13	13	13	13	14	14	15	18	159				
Clement, Kerron (USA) (1988)	time	6.06	9.86	13.60	17.40	21.40	25.60	29.90	34.36	39.20	44.06		49.40	6 / 2				
	reaction time	0.176	interval	3.80	3.74	3.80	4.00	4.20	4.30	4.46	4.84	4.86	5.34	11.34	12.50	14.16		
	velocity	7.43	9.21	9.36	9.21	8.75	8.33	8.14	7.85	7.23	7.20	7.49	8.10	9.26	8.40	7.42		
	H1 lead leg	R	strides	20	13	13	13	13	13	13	14	14	16	155				
van Zyl, LJ (RSA) (1985)	time	5.96	9.83	13.70	17.80	21.96	26.16	30.53	34.90	39.43	44.06		49.49	8 / 3				
	reaction time	0.156	interval	3.87	3.87	4.10	4.16	4.20	4.37	4.37	4.53	4.63	5.43	11.84	12.73	13.53		
	velocity	7.55	9.04	9.04	8.54	8.41	8.33	8.01	8.01	7.73	7.56	7.37	8.08	8.87	8.25	7.76		
	H1 lead leg	L	strides	22	14	14	14	14	15	15	15	15	18.7	170.7				
Bett, Nicholas (KEN) (1990)	time	6.23	9.96	13.70	17.63	21.63	25.83	30.13	34.53	39.16	44.16		49.70	5 / 4				
	reaction time	0.168	interval	3.73	3.74	3.93	4.00	4.20	4.30	4.40	4.63	5.00	5.54	11.40	12.50	14.03		
	velocity	7.22	9.38	9.36	8.91	8.75	8.33	8.14	7.95	7.56	7.00	7.22	8.05	9.21	8.40	7.48		
	H1 lead leg	R	strides	21	13	13	13	13	13	13	13	15	17	157				
Fredericks, Cornel (RSA) (1985)	time	6.00	9.76	13.63	17.53	21.56	25.70	30.06	34.53	39.26	44.20		49.96	1 / 5				
	reaction time	0.147	interval	3.76	3.87	3.90	4.03	4.14	4.36	4.47	4.73	4.94	5.76	11.53	12.53	14.14		
	velocity	7.50	9.31	9.04	8.97	8.68	8.45	8.03	7.83	7.40	7.09	6.94	8.01	9.11	8.38	7.43		
	H1 lead leg	R	strides	22	14	14	14	14	15	15	15	16	19.5	172.5				
Shoab, Mohamed (SUD) (1985)	time	6.03	9.86	13.80	17.70	21.70	25.86	30.16	34.66	39.26	44.16		50.37	2 / 6				
	reaction time	0.206	interval	3.83	3.94	3.90	4.00	4.16	4.30	4.50	4.60	4.90	6.21	11.67	12.46	14.00		
	velocity	7.46	9.14	8.88	8.97	8.75	8.41	8.14	7.78	7.61	7.14	6.44	7.94	9.00	8.43	7.50		
	H1 lead leg	R	strides	21	13	13	13	13	13	13	14	14	18	158				
Mucheru, Bonface (KEN) (1985)	time	6.23	10.16	14.16	18.23	22.40	26.66	31.03	35.50	40.10	44.86		50.61	3 / 7				
	reaction time	0.155	interval	3.93	4.00	4.07	4.17	4.26	4.37	4.47	4.60	4.76	5.75	12.00	12.80	13.83		
	velocity	7.22	8.91	8.75	8.60	8.39	8.22	8.01	7.83	7.61	7.35	6.96	7.90	8.75	8.20	7.59		
	H1 lead leg	R	strides	22	15	15	15	15	15	15	15	15	18.5	175.5				
Whyte, Annsert (JAM) (1987)	time	5.86	9.66	13.46	17.36	21.40	25.66	30.00	34.56	39.40	44.66		50.80	7 / 8				
	reaction time	0.154	interval	3.80	3.80	3.90	4.04	4.26	4.34	4.56	4.84	5.26	6.14	11.50	12.64	14.66		
	velocity	7.68	9.21	9.21	8.97	8.66	8.22	8.06	7.68	7.23	6.65	6.51	7.87	9.13	8.31	7.16		
	H1 lead leg	L	strides	21	14	14	14	14	14	15	15	16	151					

2017 Shizuoka International Athletics Meeting (Fukuroi, JPN)

A FINAL

date 03-May-17

Morioka (2018) - Analysis of the race patterns of the top 400m hurdles in Japan

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kishimoto, Takayuki (JPN) (1985)	time	5.93	9.65	13.50	17.44	21.51	25.76	30.16	34.73	39.42	44.26		49.93	1 / 1				
	reaction time		interval	3.72	3.85	3.94	4.07	4.25	4.40	4.57	4.69	4.84	5.67	11.51	12.72	14.10		
	velocity	7.59	9.41	9.09	8.88	8.60	8.24	7.95	7.66	7.46	7.23	7.05	8.01	9.12	8.25	7.45		
	H1 lead leg		strides	13	13	13	13	14	14	15	15	15	125					

B FINAL

date 03-May-17

Morioka (2018) - Analysis of the race patterns of the top 400m hurdles in Japan

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Abe, Takatoshi (JPN) (1991) time	6.04	9.78	13.58	17.45	21.42		25.56	30.01	34.81	39.66	44.56		50.15	/ 1			
reaction time		interval	3.74	3.80	3.87	3.97	4.14	4.45	4.80	4.85	4.90	5.59			11.41	12.56	14.55
velocity	7.45	9.36	9.21	9.04	8.82		8.45	7.87	7.29	7.22	7.14	7.16	7.98		9.20	8.36	7.22
H1 lead leg		strides	13	13	13	13	13	14	16	15	15		125				

2017 Osaka University Athletics Championships (Osaka, JPN)**FINAL**

date 05-Apr-17

(2017.04.13) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Obayashi, Masayuki (JPN) (1 time	6.02	9.82	13.79	17.86	22.09		26.46	31.03	35.82	40.69	46.01		51.94	7 / 1			
reaction time		interval	3.80	3.97	4.07	4.23	4.37	4.57	4.79	4.87	5.32	5.93			11.84	13.17	14.98
velocity	7.48	9.21	8.82	8.60	8.27		8.01	7.66	7.31	7.19	6.58	6.75	7.70		8.87	7.97	7.01
H1 lead leg		strides															

2017 North-West University Pukke Invitational (Sasolburg, RSA) (TV Analysis)**FINAL**

date 28-Mar-17

Henson (2020) - Athlete First: 2017 year end hurdle report

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Samba, Abderrahmane (QA1 time	5.92	9.60	13.32	17.12	21.00		25.08	29.40	33.84	38.44	43.00		48.31	5 / 1			
reaction time		interval	3.68	3.72	3.80	3.88	4.08	4.32	4.44	4.60	4.56	5.31	PB		11.20	12.28	13.60
velocity	7.60	9.51	9.41	9.21	9.02		8.58	8.10	7.88	7.61	7.68	7.53	8.28		9.38	8.55	7.72
H1 lead leg	R	strides	13	13	13	13	13	13	14	14	14	17.5	137.5				
Shoab, Mohamed (SUD) (19 time	5.96	9.72	13.52	17.36	21.28		25.40	29.68	34.12	38.76	43.60		49.93	1 / 2			
reaction time		interval	3.76	3.80	3.84	3.92	4.12	4.28	4.44	4.64	4.84	6.33	NJR PB		11.40	12.32	13.92
velocity	7.55	9.31	9.21	9.11	8.93		8.50	8.18	7.88	7.54	7.23	6.32	8.01		9.21	8.52	7.54
H1 lead leg	R	strides	13	13	13	13	13	13	13	14	14	18.5	137.5				
Maritz, Hardus (NAM) (1990) time	6.08	9.96	13.88	17.92	22.12		26.36	30.68	35.12	39.88	44.76		50.38	3 / 3			
reaction time		interval	3.88	3.92	4.04	4.20	4.24	4.32	4.44	4.76	4.88	5.62			11.84	12.76	14.08
velocity	7.40	9.02	8.93	8.66	8.33		8.25	8.10	7.88	7.35	7.17	7.12	7.94		8.87	8.23	7.46
H1 lead leg	R	strides	13	13	13	13	13	13	13	14	14		119				
van Zyl, LJ (RSA) (1985) time	6.08	10.04	13.96	18.00	22.04		26.24	30.56	35.00	39.64	44.56		50.48	4 / 4			
reaction time		interval	3.96	3.92	4.04	4.04	4.20	4.32	4.44	4.64	4.92	5.92			11.92	12.56	14.00
velocity	7.40	8.84	8.93	8.66	8.66		8.33	8.10	7.88	7.54	7.11	6.76	7.92		8.81	8.36	7.50
H1 lead leg	L	strides	22	14	14	14	14	15	15	15	15	152					

2016 Japanese National Youth Championships (Mizuho, JPN)**Heat 2**

date 23-Oct-16

(2016.11.17) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Nagiko, Kazushi (JPN) time	6.53	10.87	15.16	19.47	23.86		28.36	32.99	37.95	43.20	48.69		54.86	8 / 1			
reaction time		interval	4.34	4.29	4.31	4.39	4.50	4.63	4.96	5.25	5.49	6.17			12.94	13.52	15.70
velocity	6.89	8.06	8.16	8.12	7.97		7.78	7.56	7.06	6.67	6.38	6.48	7.29		8.11	7.77	6.69
H1 lead leg		strides															
Ito, Masahiro (JPN) (1999) time					23.65				38.41				55.05	7 / 2			
reaction time									14.76								
velocity					7.82				7.11				7.27				
H1 lead leg																	
Shikota, Ryomi (JPN) time					23.93				38.96				55.84	3 / 3			
reaction time									15.03								
velocity					7.73				6.99				7.16				
H1 lead leg																	
Kanbara, Daichi (JPN) time					23.85				38.93				56.20	5 / 4			
reaction time									15.08								
velocity					7.76				6.96				7.12				
H1 lead leg																	
Gotoh, Keita (JPN) (1999) time					24.01				39.19				56.49	4 / 5			
reaction time									15.18								
velocity					7.71				6.92				7.08				
H1 lead leg																	
Kawaguchi, Takuto (JPN) time					24.15				39.79				58.08	6 / 6			
reaction time									15.64								
velocity					7.66				6.71				6.89				
H1 lead leg																	

Heat 1

date 23-Oct-16

(2016.11.17) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Noda, Keisuke (JPN) (1999) time	6.49	10.65	14.85	19.10	23.43		27.86	32.49	37.47	42.48	47.45		52.99	8 / 1			
reaction time		interval	4.16	4.20	4.25	4.33	4.43	4.63	4.98	5.01	4.97	5.54			12.61	13.39	14.96
velocity	6.93	8.41	8.33	8.24	8.08		7.90	7.56	7.03	6.99	7.04	7.22	7.55		8.33	7.84	7.02
H1 lead leg		strides															
Takeda, Kai (JPN) time					24.21				38.17				55.10	7 / 2			

Copello, Yasmani (TUR) (19f	time	5.88	9.52	17.24	21.24	25.28	33.92	38.40	43.00		48.24	4 / 3					
reaction time	0.186	interval	3.64	7.72	4.00	4.04	8.64	4.48	4.60	5.24			11.36				
		velocity	7.65	9.62	9.07	8.75	8.66	8.10	7.81	7.61	7.63			9.24			
H1 lead leg	R	strides	20	13		13		14	14	17.5	104.5						
Culson, Javier (PUR) (1984)	time	5.76	9.36	16.92	20.84	24.96	33.52	38.12	42.92		48.55	5 / 4					
reaction time	0.207	interval	3.60	7.56	3.92	4.12	8.56	4.60	4.80	5.63			11.16				
		velocity	7.81	9.72	9.26	8.93	8.50	8.18	7.61	7.29	7.10			9.41			
H1 lead leg	L	strides	20	13		13		14	14	17.2	104.2						
Mägi, Rasmus (EST) (1992)	time	6.04	9.80	17.48	21.44	25.52	34.28	38.88	43.44		48.66	3 / 5					
reaction time	0.147	interval	3.76	7.68	3.96	4.08	8.76	4.60	4.56	5.22			11.44				
		velocity	7.45	9.31	9.11	8.84	8.58	7.99	7.61	7.68	7.66			9.18			
H1 lead leg	L	strides	20	13		13		14	14	17	104						
Lahoulou, Abdelmalik (ALG)	time	6.08	9.84	13.60	17.48	21.48	25.60	29.96	34.44	39.08	43.84		48.92	8 / 6			
reaction time	0.191	interval	3.76	3.76	3.88	4.00	4.12	4.36	4.48	4.64	4.76	5.08		11.40	12.48	13.88	
		velocity	7.40	9.31	9.31	9.02	8.75	8.50	8.03	7.81	7.54	7.35	7.87	8.18	9.21	8.41	7.56
H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15		144				
Hann, Mamadou Kasse (FR)	time	6.08	9.92	17.76	21.76	25.88	34.60	39.28	44.08		49.46	1 / 7					
reaction time	0.115	interval	3.84	7.84	4.00	4.12	8.72	4.68	4.80	5.38			11.68				
		velocity	7.40	9.11	8.93	8.75	8.50	8.03	7.48	7.29	7.43	8.09		8.99			
H1 lead leg	R	strides	20	13		13		14	14		87						

2016 Athletissime (Laussane, SUI) (TV Analysis)

FINAL

date 25-Aug-16

Henson (2020) - Athlete First: 2016 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Mägi, Rasmus (EST) (1992)	time	5.86	9.63	13.43	17.30	21.30	25.46	29.80	34.26	38.80	43.36		48.59	4 / 1				
reaction time	0.113	interval	3.77	3.80	3.87	4.00	4.16	4.34	4.46	4.54	4.56	5.23			11.44	12.50	13.56	
		velocity	7.68	9.28	9.21	9.04	8.75	8.41	8.06	7.85	7.71	7.68	7.65	8.23		9.18	8.40	7.74
H1 lead leg	L	strides	21	13	13	13	13	14	14	14	14	14	17.2	159.2				
Bett, Nicholas (KEN) (1990)	time	5.90	9.56	13.36	17.30	21.33	25.36	29.50	33.93	38.46	43.20		48.68	6 / 2				
reaction time	0.162	interval	3.66	3.80	3.94	4.03	4.03	4.14	4.43	4.53	4.74	5.48			11.40	12.20	13.70	
		velocity	7.63	9.56	9.21	8.88	8.68	8.45	7.90	7.73	7.38	7.30	8.22		9.21	8.61	7.66	
H1 lead leg	R	strides	20	13	13	13	13	13	15	15	15	17	160					
Fernández, Sérgio (ESP) (19f	time	5.96	9.80	13.73	17.70	21.76	25.93	30.26	34.73	39.26	43.80		49.22	3 / 3				
reaction time	0.146	interval	3.84	3.93	3.97	4.06	4.17	4.33	4.47	4.53	4.54	5.42			11.74	12.56	13.54	
		velocity	7.55	9.11	8.91	8.82	8.62	8.39	8.08	7.83	7.73	7.71	7.38	8.13		8.94	8.36	7.75
H1 lead leg	L	strides	20	13	13	13	13	14	14	14	14	17	158					
Mörö, Oskari (FIN) (1993)	time	6.00	9.83	13.86	17.86	21.96	26.26	30.60	35.06	39.63	44.33		49.81	2 / 4				
reaction time	0.129	interval	3.83	4.03	4.00	4.10	4.30	4.34	4.46	4.57	4.70	5.48			11.86	12.74	13.73	
		velocity	7.50	9.14	8.68	8.75	8.54	8.14	8.06	7.85	7.66	7.45	7.30	8.03		8.85	8.24	7.65
H1 lead leg	L	strides	21	14	14	13	13	14	14	15	15	18	166					
Cray, Eric Shauwn (PHI) (198f	time	5.60	9.36	13.33	17.46	21.76	26.10	30.30	34.73	39.30	44.13		49.88	7 / 5				
reaction time	0.132	interval	3.76	3.97	4.13	4.30	4.34	4.20	4.43	4.57	4.83	5.75			11.86	12.84	13.83	
		velocity	8.04	9.31	8.82	8.47	8.14	8.06	8.33	7.90	7.66	7.25	6.96	8.02		8.85	8.18	7.59
H1 lead leg	R	strides	22	14	14	14	14	15	15	15	15	16	154					
Mfomkpa, Alain-Hervé (SUI)	time	5.96	9.83	13.73	17.73	22.10	26.47	30.93	35.67	40.57		51.58	8 / 6					
reaction time	0.182	interval	3.87	3.90	4.00	4.37	4.37	4.46	4.74	4.90					11.77	13.20		
		velocity	7.55	9.04	8.97	8.75	8.01	8.01	7.85	7.38	7.14		7.75		8.92	7.95		
H1 lead leg	L	strides	21	13	13	13	14	14	15	15	15		133					
Mucheru, Bonface (KEN) (1f	time	5.96	9.67	13.46	17.30	21.20	25.26	29.56	34.00	38.50	44.73		68.05	5 / 7				
reaction time	0.153	interval	3.71	3.79	3.84	3.90	4.06	4.30	4.44	4.50	6.23	23.32			11.34	12.26	15.17	
		velocity	7.55	9.43	9.23	9.11	8.97	8.62	8.14	7.88	7.78	5.62	1.72	5.88		9.26	8.56	6.92
H1 lead leg	R	strides	22	13	13	13	13	13	15	15	15	17	149					

2016 Olympic Games (Rio de Janeiro, BRA)

FINAL

date 18-Aug-16

Zhou (2020) - analysis of competitive performance characteristics of outstanding men's 400m hurdlers

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Clement, Kerron (USA) (198f	time	5.6	9.2	12.8	16.6	20.5	24.4	28.7	32.9	37.4	41.9		47.73	5 / 1				
reaction time	0.227	interval	3.60	3.60	3.80	3.90	3.90	4.30	4.20	4.50	4.50	5.83			11.00	12.10	13.20	
		velocity	8.04	9.72	9.72	9.21	8.97	8.97	8.14	8.33	7.78	7.78	6.86	8.38		9.55	8.68	7.95
H1 lead leg		strides	21	13	13	13	13	14	15	15	15	15	18	165				
Mucheru, Bonface (KEN) (1f	0.165	no information available											NR PB	47.78	7 / 2			
Copello, Yasmani (TUR) (19f	0.186	no information available											NR PB	47.92	2 / 3			
Barr, Thomas (IRL) (1992)	0.191	no information available											NR PB	47.94	4 / 4			
Whyte, Annsert (JAM) (1987	0.167	no information available											PB	48.07	6 / 5			
Mägi, Rasmus (EST) (1992)	0.182	no information available											NR PB	48.40	1 / 6			
Koech, Haron (KEN) (1990)	0.159	no information available												49.09	8 / 7			

2016 Japanese National High School Championships (Okayama, JPN)

FINAL

date 31-Jul-16

Kota (2016) - 69th high school championships: JAF scientific committee - biomechanics data collection

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Shirao, Yusuke (JPN) (1999)	time	6.31	10.28	14.45	18.77	23.21		27.71	32.23	36.79	41.42	46.11		51.40	7 / 1			
	reaction time	0.192						4.50	4.52	4.56	4.63	4.69	5.29			12.46	13.46	13.88
	interval		3.97	4.17	4.32	4.44		7.78	7.74	7.68	7.56	7.46	7.56	7.78		8.43	7.80	7.56
	velocity	7.13	8.82	8.39	8.10	7.88		15	15	15	15	15	15					
H1 lead leg			13	13	14	14							129					
Arisaka, Tomotaka (JPN) (1999)	time	6.21	10.23	14.48	18.85	23.17		27.71	32.33	37.07	41.81	46.48		51.81	2 / 2			
	reaction time	0.147						4.54	4.62	4.74	4.74	4.67	5.33			12.64	13.48	14.15
	interval		4.02	4.25	4.37	4.32		7.71	7.58	7.38	7.38	7.49	7.50	7.72		8.31	7.79	7.42
	velocity	7.25	8.71	8.24	8.01	8.10		15	15	15	15	15	15					
H1 lead leg			14	14	14	14							131					
Michishita, Koya (JPN) (1998)	time	6.31	10.56	14.80	19.22	23.69		28.28	32.97	37.65	42.43	47.26		52.60	5 / 3			
	reaction time	0.168						4.59	4.69	4.68	4.78	4.83	5.34			12.91	13.75	14.29
	interval		4.25	4.24	4.42	4.47		7.63	7.46	7.48	7.32	7.25	7.49	7.60		8.13	7.64	7.35
	velocity	7.13	8.24	8.25	7.92	7.83		15	15	15	15	15	15					
H1 lead leg			14	14	14	14							131					
Muratomi, Kotaro (JPN) (1998)	time	6.17	10.23	14.40	18.70	23.09		27.58	32.33	37.09	41.92	46.93		52.68	4 / 4			
	reaction time	0.178						4.49	4.75	4.76	4.83	5.01	5.75			12.53	13.63	14.60
	interval		4.06	4.17	4.30	4.39		7.80	7.37	7.35	7.25	6.99	6.96	7.59		8.38	7.70	7.19
	velocity	7.29	8.62	8.39	8.14	7.97		14	15	15	15	15	15					
H1 lead leg			14	14	14	14							130					
Nataura, Yusuke (JPN) (1998)	time	6.27	10.41	14.73	19.17	23.62		28.06	32.53	37.12	41.83	46.88		52.93	8 / 5			
	reaction time	0.151						4.44	4.47	4.59	4.71	5.05	6.05			12.90	13.36	14.35
	interval		4.14	4.32	4.44	4.45		7.88	7.83	7.63	7.43	6.93	6.61	7.56		8.14	7.86	7.32
	velocity	7.18	8.45	8.10	7.88	7.87		15	15	15	15	15	16					
H1 lead leg			15	15	15	15							136					
Sato, Shunma (JPN) (1998)	time	6.47	10.58	14.90	19.25	23.79		28.29	32.88	37.69	42.66	47.71		53.19	9 / 6			
	reaction time	0.197						4.50	4.59	4.81	4.97	5.05	5.48			12.78	13.63	14.83
	interval		4.11	4.32	4.35	4.54		7.78	7.63	7.28	7.04	6.93	7.30	7.52		8.22	7.70	7.08
	velocity	6.96	8.52	8.10	8.05	7.71		15	15	15	16	16	16					
H1 lead leg			14	15	15	16							137					
Honma, Ryota (JPN) (1998)	time	6.47	10.63	14.90	19.24	23.62		28.23	32.86	37.89	42.98	47.98		53.23	3 / 7			
	reaction time	0.167						4.61	4.63	5.03	5.09	5.00	5.25			12.77	13.62	15.12
	interval		4.16	4.27	4.34	4.38		7.59	7.56	6.96	6.88	7.00	7.62	7.51		8.22	7.71	6.94
	velocity	6.96	8.41	8.20	8.06	7.99		15	15	17	17	17	17					
H1 lead leg			15	15	15	15							141					
Miyoshi, Ren (JPN) (1998)	time	6.33	10.36	14.48	18.72	23.11		27.63	32.33	37.30	42.39	47.60		53.42	6 / 8			
	reaction time	0.200						4.52	4.70	4.97	5.09	5.21	5.82			12.39	13.61	15.27
	interval		4.03	4.12	4.24	4.39		7.74	7.45	7.04	6.88	6.72	6.87	7.49		8.47	7.71	6.88
	velocity	7.11	8.68	8.50	8.25	7.97		15	15	17	17	17	17					
H1 lead leg			15	15	15	15							141					

2016 Japanese National Championships (Nagoya, JPN)

FINAL

date 24-Jun-16

Morioka (2016) - race pattern of top 400m hurdlers in japan

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Nozawa, Keisuke (JPN) (1997)	time	5.98	9.63	13.43	17.30	21.27		25.47	29.71	34.16	38.73	43.57		49.14	5 / 1			
	reaction time	0.174						4.20	4.24	4.45	4.57	4.84	5.57			11.32	12.41	13.86
	interval		3.65	3.80	3.87	3.97		8.33	8.25	7.87	7.66	7.23	7.18	8.14		9.28	8.46	7.58
	velocity	7.53	9.59	9.21	9.04	8.82		14	14	14	15	15	15					
H1 lead leg			13	13	13	14							125					
Matsushita, Yuki (JPN) (1991)	time	6.09	9.93	13.80	17.72	21.74		25.93	30.25	34.75	39.32	43.96		49.31	6 / 2			
	reaction time	0.169						4.19	4.32	4.50	4.57	4.64	5.35			11.63	12.53	13.71
	interval		3.84	3.87	3.92	4.02		8.35	8.10	7.78	7.66	7.54	7.48	8.11		9.03	8.38	7.66
	velocity	7.39	9.11	9.04	8.93	8.71		14	14	15	15	15	15					
H1 lead leg			13	13	13	13							125					
Konishi, Yuta (JPN) (1990)	time	6.08	9.90	13.77	17.67	21.62		25.84	30.09	34.56	39.16	43.98		49.55	4 / 3			
	reaction time	0.165						4.22	4.25	4.47	4.60	4.82	5.57			11.59	12.42	13.89
	interval		3.82	3.87	3.90	3.95		8.29	8.24	7.83	7.61	7.26	7.18	8.07		9.06	8.45	7.56
	velocity	7.40	9.16	9.04	8.97	8.86		14	14	15	15	15	15					
H1 lead leg			13	13	13	13							125					

2016 London Anniversary Games (London, GBR) (TV Analysis)

FINAL

date 23-Jul-16

Henson (2020) - Athlete First: 2016 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Clement, Kerron (USA) (1988)	time	5.92	9.68	13.44	17.28	21.36		25.64	29.96	34.36	38.76	43.28		48.40	7 / 1			
	reaction time	0.164						4.28	4.32	4.40	4.40	4.52	5.12			11.36	12.68	13.32
	interval		3.76	3.76	3.84	4.08		8.18	8.10	7.95	7.95	7.74	7.81	8.26		9.24	8.28	7.88
	velocity	7.60	9.31	9.31	9.11	8.58		13	13	13	13	13	16	153				
H1 lead leg	R		20	13	13	13												
Culson, Javier (PUR) (1984)	time	5.80	9.48	13.20	17.08	21.08		25.24	29.56	33.88	38.40	43.08		48.63	3 / 2			
	reaction time	0.173						4.16	4.32	4.32	4.52	4.68	5.55			11.28	12.48	13.52
	interval		3.68	3.72	3.88	4.00		8.41	8.10	8.10	7.74	7.48	7.21	8.23		9.31	8.41	7.77
	velocity	7.76	9.51	9.41	9.02	8.75		13	13	13	14	14	17	156				
H1 lead leg	L		20	13	13	13												
Copello, Yasmani (TUR) (1998)	time	5.84	9.56	13.40	17.28	21.28		25.48	29.80	34.24	38.80	43.36		48.70	6 / 3			
	reaction time	0.189						4.20	4.32	4.44	4.56	4.56	5.34			11.44	12.52	13.56
	interval		3.72	3.84	3.88	4.00		8.33	8.10	7.88	7.68	7.68	7.49	8.21		9.18	8.39	7.74
	velocity	7.71	9.41	9.11	9.02	8.75		13	14	14	14	14	17.2	158.2				
H1 lead leg	R		20	13	13	13												

van Zyl, LJ (RSA) (1985)	time	5.88	9.60	13.36	17.28	21.36	25.60	29.92	34.28	38.76	43.40		48.92	2 / 4			
	reaction time	0.153	interval	3.72	3.76	3.92	4.08	4.24	4.32	4.36	4.48	4.64	5.52		11.40	12.64	13.48
	velocity	7.65	9.41	9.31	8.93	8.58	8.25	8.10	8.03	7.81	7.54	7.25	8.18		9.21	8.31	7.79
	H1 lead leg	L	strides	22	14	14	14	14	15	15	15	15	19		171		
Green, Jack (GBR) (1991)	time	6.12	10.00	13.84	17.80	21.92	26.12	30.40	34.72	39.20	43.76		48.99	9 / 5			
	reaction time	0.187	interval	3.88	3.84	3.96	4.12	4.20	4.28	4.32	4.48	4.56	5.23		11.68	12.60	13.36
	velocity	7.35	9.02	9.11	8.84	8.50	8.33	8.18	8.10	7.81	7.68	7.65	8.16		8.99	8.33	7.86
	H1 lead leg	R	strides	22	14	13	13	14	15	15	15	15	18.7		168.7		
Rodger, Sebastian (GBR) (1984)	time	6.16	10.04	13.92	17.96	22.08	26.28	30.60	35.04	39.52	44.04		49.35	8 / 6			
	reaction time	0.155	interval	3.88	3.88	4.04	4.12	4.20	4.32	4.44	4.48	4.52	5.31		11.80	12.64	13.44
	velocity	7.31	9.02	9.02	8.66	8.50	8.33	8.10	7.88	7.81	7.74	7.53	8.11		8.90	8.31	7.81
	H1 lead leg	R	strides	22	14	14	14	14	14	15	15	15	18		169		
Dutch, Johnny (USA) (1989)	time	5.84	9.60	13.56	17.60	21.80	26.08	30.40	34.80	39.24	43.92		49.60	5 / 7			
	reaction time	0.193	interval	3.76	3.96	4.04	4.20	4.28	4.32	4.40	4.44	4.68	5.68		11.76	12.80	13.52
	velocity	7.71	9.31	8.84	8.66	8.33	8.18	8.10	7.95	7.88	7.48	7.04	8.06		8.93	8.20	7.77
	H1 lead leg	R	strides	22	13	13	13	13	14	14	15	15	18.5		165.5		
Tinsley, Michael (USA) (1984)	time	5.80	9.60	13.28	17.16	21.32	25.68	30.12	34.60	39.32	44.28		50.72	4 / 8			
	reaction time	0.188	interval	3.80	3.68	3.88	4.16	4.36	4.44	4.48	4.72	4.96	6.44		11.36	12.96	14.16
	velocity	7.76	9.21	9.51	9.02	8.41	8.03	7.88	7.81	7.42	7.06	6.21	7.89		9.24	8.10	7.42
	H1 lead leg	L	strides	21	13	13	13	14	14	14	14	15	14.5				
Paul, Jacob (GBR) (1995)	time	6.04	9.84	13.76	17.76	21.92	26.24	30.68	35.36	40.16	45.12		50.84	1 / 9			
	reaction time	0.136	interval	3.80	3.92	4.00	4.16	4.32	4.44	4.68	4.80	4.96	5.72		11.72	12.92	14.44
	velocity	7.45	9.21	8.93	8.75	8.41	8.10	7.88	7.48	7.29	7.06	6.99	7.87		8.96	8.13	7.27
	H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	14.6				

2016 USA Olympic Trials (Eugene, OR) (TV Analysis)

FINAL

date 10-Jul-16

Henson (2020) - Athlete First: 2016 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Clement, Kerron (USA) (1988)	time	6.00	9.71	13.34	17.18	21.15	25.26	29.53	33.93	38.50	43.24		48.50	7 / 1				
	reaction time	0.180	interval	3.71	3.63	3.84	3.97	4.11	4.27	4.40	4.57	4.74	5.26			11.18	12.35	13.71
	velocity	7.50	9.43	9.64	9.11	8.82	8.52	8.20	7.95	7.66	7.38	7.60	8.25			9.39	8.50	7.66
	H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	16.5		153.5			
Robinson, Byron (USA) (1991)	time	5.90	9.67	13.68	17.75	21.75	25.79	30.00	34.33	38.84	43.44		48.79	2 / 2				
	reaction time	0.185	interval	3.77	4.01	4.07	4.00	4.04	4.21	4.33	4.51	4.60	5.35		PB	11.85	12.25	13.44
	velocity	7.63	9.28	8.73	8.60	8.75	8.66	8.31	8.08	7.76	7.61	7.48	8.20			8.86	8.57	7.81
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	15	19.2		176.2			
Tinsley, Michael (USA) (1984)	time	5.84	9.47	13.18	16.98	20.99	25.12	29.36	33.77	38.40	43.28		48.82	6 / 3				
	reaction time	0.180	interval	3.63	3.71	3.80	4.01	4.13	4.24	4.41	4.63	4.88	5.54			11.14	12.38	13.92
	velocity	7.71	9.64	9.43	9.21	8.73	8.47	8.25	7.94	7.56	7.17	7.22	8.19			9.43	8.48	7.54
	H1 lead leg	L	strides	21	13	13	13	14	14	14	15	16	18.7		165.7			
Babineaux, Ricky (USA) (1991)	time	6.00	9.84	13.68	17.62	21.59	25.66	30.03	34.53	39.10	43.74		48.88	4 / 4				
	reaction time	0.187	interval	3.84	3.84	3.94	3.97	4.07	4.37	4.50	4.57	4.64	5.14		PB	11.62	12.41	13.71
	velocity	7.50	9.11	9.11	8.88	8.82	8.60	8.01	7.78	7.66	7.54	7.78	8.18			9.04	8.46	7.66
	H1 lead leg	R	strides	20	13	13	13	13	14	14	14	14	17.5		158.5			
Dutch, Johnny (USA) (1989)	time	5.90	9.51	13.24	17.08	20.99	24.99	29.13	33.47	38.04	42.87		48.92	5 / 5				
	reaction time	0.227	interval	3.61	3.73	3.84	3.91	4.00	4.14	4.34	4.57	4.83	6.05			11.18	12.05	13.74
	velocity	7.63	9.70	9.38	9.11	8.95	8.75	8.45	8.06	7.66	7.25	6.61	8.18			9.39	8.71	7.64
	H1 lead leg	R	strides	22	13	13	13	14	14	15	15	15	19.7		166.7			
Anderson, Jeshua (USA) (1991)	time	6.00	9.67	13.45	17.35	21.39	25.49	29.73	34.13	38.74	43.58		49.42	8 / 6				
	reaction time	0.191	interval	3.67	3.78	3.90	4.04	4.10	4.24	4.40	4.61	4.84	5.84		DQ	11.35	12.38	13.85
	velocity	7.50	9.54	9.26	8.97	8.66	8.54	8.25	7.95	7.59	7.23	6.85	8.09			9.25	8.48	7.58
	H1 lead leg	L	strides	20	13	13	13	13	13	13	14	14	17		156			
Downing, Quincy (USA) (1991)	time	5.97	9.74	13.61	17.42	21.39	25.49	29.86	34.33	39.10	43.91		49.60	3 / 7				
	reaction time	0.196	interval	3.77	3.87	3.81	3.97	4.10	4.37	4.47	4.77	4.81	5.69			11.45	12.44	14.05
	velocity	7.54	9.28	9.04	9.19	8.82	8.54	8.01	7.83	7.34	7.28	7.03	8.06			9.17	8.44	7.47
	H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	18		162			
Jackson, Bershawn (USA) (1991)	time	5.90	9.68	13.61	17.68	21.82	25.86	30.00	34.30	39.07	43.98		49.96	1 / 7				
	reaction time	0.233	interval	3.78	3.93	4.07	4.14	4.04	4.14	4.30	4.77	4.91	5.98			11.78	12.32	13.98
	velocity	7.63	9.26	8.91	8.60	8.45	8.66	8.45	8.14	7.34	7.13	6.69	8.01			8.91	8.52	7.51
	H1 lead leg	L	strides	22	15	15	15	15	15	15	16	16	19.5		178.5			

2016 European Championships (Amsterdam, NED) (TV Analysis)

FINAL

date 08-Jul-16

Henson (2020) - Athlete First: 2016 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Copello, Yasmani (TUR) (1991)	time	5.88	9.56	13.44	17.44	21.48	25.60	29.80	34.24	39.80	43.52		48.98	6 / 1				

reaction time	0.175	interval	3.68	3.88	4.00	4.04	4.12	4.20	4.44	5.56	3.72	5.46		11.56	12.36	13.72	
		velocity	7.65	9.51	9.02	8.75	8.66	8.50	8.33	7.88	6.29	9.41	7.33	8.17	9.08	8.50	7.65
H1 lead leg	R	strides	20	13	13	13	13	13	14	14	14	14	18	145			
Fernández, Sérgio (ESP) (1991)	time		6.04	9.88	13.84	17.96	22.04	26.16	30.28	34.68	39.20	43.84		49.06	5 / 2		
reaction time	0.138	interval	3.84	3.96	4.12	4.08	4.12	4.12	4.40	4.52	4.64	5.22		11.92	12.32	13.56	
		velocity	7.45	9.11	8.84	8.50	8.58	8.50	8.50	7.95	7.74	7.54	7.66	8.15	8.81	8.52	7.74
H1 lead leg	L	strides	20	13	13	13	13	13	14	14	14	14	17.5	144.5			
Hussein, Kariem (SUI) (1989)	time		5.88	9.64	13.52	17.60	21.72	25.88	29.92	34.36	38.92	43.68		49.10	3 / 3		
reaction time	0.134	interval	3.76	3.88	4.08	4.12	4.16	4.04	4.44	4.56	4.76	5.42		11.72	12.32	13.76	
		velocity	7.65	9.31	9.02	8.58	8.50	8.41	8.66	7.88	7.68	7.35	7.38	8.15	8.96	8.52	7.63
H1 lead leg	L	strides	20	13	13	13	13	14	14	14	15	15	18	162			
Mörö, Oskari (FIN) (1993)	time		6.04	9.84	13.68	17.64	21.68	25.92	30.16	34.60	39.24	43.92		49.24	7 / 4		
reaction time	0.155	interval	3.80	3.84	3.96	4.04	4.24	4.24	4.44	4.64	4.68	5.32		11.60	12.52	13.76	
		velocity	7.45	9.21	9.11	8.84	8.66	8.25	8.25	7.88	7.54	7.48	7.52	8.12	9.05	8.39	7.63
H1 lead leg	L	strides	21	14	14	13	13	14	15	15	15	15	18.2	152.2			
Williams, Rhys (GBR) (1984)	time		6.00	9.68	13.56	17.64	21.72	25.88	30.16	34.64	39.32	44.20		49.63	8 / 5		
reaction time	0.141	interval	3.68	3.88	4.08	4.08	4.16	4.28	4.48	4.68	4.88	5.43		11.64	12.52	14.04	
		velocity	7.50	9.51	9.02	8.58	8.58	8.41	8.18	7.81	7.48	7.17	7.37	8.06	9.02	8.39	7.48
H1 lead leg	R	strides	22	14	14	14	14	14	15	15	15	19	156				
Warholm, Karsten (NOR) (1988)	time		5.88	9.52	13.36	17.36	21.40	25.60	29.76	34.16	39.04	44.08		49.82	4 / 6		
reaction time	0.153	interval	3.64	3.84	4.00	4.04	4.20	4.16	4.40	4.88	5.04	5.74		11.48	12.40	14.32	
		velocity	7.65	9.62	9.11	8.75	8.66	8.33	8.41	7.95	7.17	6.94	6.97	8.03	9.15	8.47	7.33
H1 lead leg	L	strides	20	13	13	13	13	13	13	14	15	18	145				
Kučera, Martin (SVK) (1990)	time		6.08	9.96	13.92	18.08	22.20		30.60	35.00	39.64	44.52		49.82	1 / 7		
reaction time	0.121	interval	3.88	3.96	4.16	4.12		8.40	4.40	4.64	4.88	5.30		12.00	12.52	13.92	
		velocity	7.40	9.02	8.84	8.41	8.50		8.33	7.95	7.54	7.17	7.55	8.03	8.75	8.39	7.54
H1 lead leg	R	strides	20	13	13	13	13		13	14	14	16.7	116.7				
Green, Jack (GBR) (1991)	time		6.08	10.00	13.96	18.12	22.24							dnf	2 / --		
reaction time	0.187	interval	3.92	3.96	4.16	4.12								12.04			
		velocity	7.40	8.93	8.84	8.41	8.50							8.72			
H1 lead leg	L	strides	22	14	14	14	14						64				

Heat 2

date 07-Jul-16

Henson (2020) - Athlete First: 2016 year end hurdle report

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Copello, Yasmani (TUR) (1991)	time	5.84	9.48	13.28	17.28	21.20	25.08	29.28	33.64	38.16	42.80		48.42	5 / 1			
reaction time	0.173	interval	3.64	3.80	4.00	3.92	3.88	4.20	4.36	4.52	4.64	5.62	NR PB		11.44	12.00	13.52
		velocity	7.71	9.62	9.21	8.75	8.93	9.02	8.33	8.03	7.74	7.54	7.12	8.26	9.18	8.75	7.77
H1 lead leg	R	strides	20	13	13	13	13	13	14	14	14	14	18	159			

2016 Bauhaus Athletics (Stockholm, SWE) (TV Analysis)

FINAL

date 16-Jun-16

Henson (2020) - Athlete First: 2016 year end hurdle report

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Culson, Javier (PUR) (1984)	time	5.80	9.53	13.20	17.07	21.16	25.43	29.77	34.17	38.83	43.70		49.43	5 / 1			
reaction time	0.184	interval	3.73	3.67	3.87	4.09	4.27	4.34	4.40	4.66	4.87	5.73		11.27	12.70	13.93	
		velocity	7.76	9.38	9.54	9.04	8.56	8.20	8.06	7.95	7.51	7.19	6.98	8.09	9.32	8.27	7.54
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	14	14	17.2	156.2			
Clement, Kerron (USA) (1988)	time	5.97	9.73	13.53	17.37	21.47	25.73	30.17	34.70	39.37	44.37		49.87	6 / 2			
reaction time	0.150	interval	3.76	3.80	3.84	4.10	4.26	4.44	4.53	4.67	5.00	5.50		11.40	12.80	14.20	
		velocity	7.54	9.31	9.21	9.11	8.54	8.22	7.88	7.73	7.49	7.00	7.27	8.02	9.21	8.20	7.39
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	14	17.2	155.2			
Dobek, Patryk (POL) (1994)	time	5.97	9.73	13.53	17.37	21.37	25.63	30.03	34.60	39.30	44.23		49.89	7 / 3			
reaction time	0.163	interval	3.76	3.80	3.84	4.00	4.26	4.40	4.57	4.70	4.93	5.66		11.40	12.66	14.20	
		velocity	7.54	9.31	9.21	9.11	8.75	8.22	7.95	7.66	7.45	7.10	7.07	8.02	9.21	8.29	7.39
H1 lead leg	L	strides	20	13	13	13	13	13	14	14	14	15	18	160			
van Zyl, LJ (RSA) (1985)	time	5.93	9.77		17.63	21.77	26.07	30.33	34.70	39.37	44.23		50.21	3 / 4			
reaction time	0.159	interval	3.84		7.86	4.14	4.30	4.26	4.37	4.67	4.86	5.98		11.70	12.70	13.90	
		velocity	7.59	9.11		8.91	8.45	8.14	8.22	8.01	7.49	7.20	6.69	7.97	8.97	8.27	7.55
H1 lead leg	L	strides	22	14		14	14	14	15	15	15	20	144				
Bett, Nicholas (KEN) (1990)	time	6.20	9.93		17.73	21.87	26.07	30.43	34.87	39.67	44.93		51.14	2 / 5			
reaction time	0.159	interval	3.73		7.80	4.14	4.20	4.36	4.44	4.80	5.26	6.21		11.53	12.70	14.50	
		velocity	7.26	9.38		8.97	8.45	8.33	8.03	7.88	7.29	6.65	6.44	7.82	9.11	8.27	7.24
H1 lead leg	R	strides	21	13		13	13	13	13	15	15	17.5	120.5				

2016 Racers Grand Prix (Kingston, JAM) (TV Analysis)

FINAL

date 11-Jun-16

Henson (2020) - Athlete First: 2016 year end hurdle report

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Dutch, Johnny (USA) (1989)	time	5.67	9.33	13.13	17.03	21.10	25.27	29.43	33.77	38.17	42.70		48.10	5 / 1			

reaction time	interval		3.66	3.80	3.90	4.07		4.17	4.16	4.34	4.40	4.53	5.40		11.36	12.40	13.27
	velocity		7.94	9.56	9.21	8.97	8.60	8.39	8.41	8.06	7.95	7.73	7.41	8.32	9.24	8.47	7.91
H1 lead leg	R	strides	22	13	13	13	13	14	14	15	15	15	18.2	165.2			
Cato, Roxroy (JAM) (1988)	time		5.73	9.57		17.60	21.93	26.23	30.47	34.72	39.07			48.98	7 / 2		
reaction time	interval			3.84		8.03	4.33	4.30	4.24	4.25	4.35				11.87	12.87	
	velocity		7.85	9.11		8.72	8.08	8.14	8.25	8.24	8.05			8.17	8.85	8.16	
H1 lead leg	L	strides	22	14		14	15	15	15	15	15			110			

2016 Bislett Games (Oslo, NOR) (TV Analysis)

FINAL

date 09-Jun-16

Henson (2021) - Athlete First: 2016 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Copello, Yasmani (TUR) (1988)	time		5.88	9.56	13.40	17.26	21.48	25.64	30.04	34.40	38.88	43.44		48.79	1 / 1				
reaction time	0.164	interval		3.68	3.84	3.86	4.22	4.16	4.40	4.36	4.48	4.56	5.35			11.38	12.78	13.40	
		velocity	7.65	9.51	9.11	9.07	8.29	8.41	7.95	8.03	7.81	7.68	7.48	8.20	9.23	8.22	7.84		
H1 lead leg	R	strides	20	13		13	13	13	14	14	14	14	17.7	145.7					
Culson, Javier (PUR) (1984)	time		5.76	9.40	13.08	17.00	21.04	25.28	29.48	33.84	38.36	43.24		48.99	8 / 2				
reaction time	0.175	interval		3.64	3.68	3.92	4.04	4.24	4.20	4.36	4.52	4.88	5.75			11.24	12.48	13.76	
		velocity	7.81	9.62	9.51	8.93	8.66	8.25	8.33	8.03	7.74	7.17	6.96	8.16	9.34	8.41	7.63		
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	14	14	17.5	156.5					
Tinsley, Michael (USA) (1984)	time		5.84	9.52	13.28	17.20	21.32	25.64	29.96	34.40	38.92	43.60		49.02	5 / 3				
reaction time	0.121	interval		3.68	3.76	3.92	4.12	4.32	4.32	4.44	4.52	4.68	5.42			11.36	12.76	13.64	
		velocity	7.71	9.51	9.31	8.93	8.50	8.10	8.10	7.88	7.74	7.48	7.38	8.16	9.24	8.23	7.70		
H1 lead leg	L	strides	21	13	13	13	14	14	14	14	15	15	18	164					
Clement, Kerron (USA) (1988)	time		5.96	9.72	13.56	17.48	21.68	25.92	30.28	34.72	39.28	44.08		49.61	6 / 4				
reaction time	0.194	interval		3.76	3.84	3.92	4.20	4.24	4.36	4.44	4.56	4.80	5.53			11.52	12.80	13.80	
		velocity	7.55	9.31	9.11	8.93	8.33	8.25	8.03	7.88	7.68	7.29	7.23	8.06	9.11	8.20	7.61		
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	13	16.5	153.5					
Warholm, Karsten (NOR) (1988)	time		5.92	9.72	13.64	17.60	21.80	26.00	30.36	34.96	39.76	44.60		49.80	7 / 5				
reaction time	0.163	interval		3.80	3.92	3.96	4.20	4.20	4.36	4.60	4.80	4.84	5.20			11.68	12.76	14.24	
		velocity	7.60	9.21	8.93	8.84	8.33	8.33	8.03	7.61	7.29	7.23	7.69	8.03	8.99	8.23	7.37		
H1 lead leg	L	strides	20	13	13	13	13	13	13	15	15	15	143						
Bett, Nicholas (KEN) (1990)	time		6.08	9.72	13.48	17.40	21.52	25.72	30.00	34.44	39.04	44.00		49.85	4 / 6				
reaction time	0.177	interval		3.64	3.76	3.92	4.12	4.20	4.28	4.44	4.60	4.96	5.85			11.32	12.60	14.00	
		velocity	7.40	9.62	9.31	8.93	8.50	8.33	8.18	7.88	7.61	7.06	6.84	8.02	9.28	8.33	7.50		
H1 lead leg	R	strides	21	13		13	13	13	13	13	15	15	17.2	146.2					
Dobek, Patryk (POL) (1994)	time		6.00	9.80	13.64	17.56	21.76	26.00	30.48	35.00	39.68	44.52		50.27	3 / 7				
reaction time	0.174	interval		3.80	3.84	3.92	4.20	4.24	4.48	4.52	4.68	4.84	5.75			11.56	12.92	14.04	
		velocity	7.50	9.21	9.11	8.93	8.33	8.25	7.81	7.74	7.48	7.23	6.96	7.96	9.08	8.13	7.48		
H1 lead leg	L	strides	20	13		13	13	13	14	14	14	14	17.2	145.2					
Kjerpeset, Øyrynd Strømmen	time		6.08	9.92	13.84	17.92	22.24	26.56	31.00	35.48	40.24	45.16		50.98	2 / 8				
reaction time	0.153	interval		3.84	3.92	4.08	4.32	4.32	4.44	4.48	4.76	4.92	5.82			11.84	13.08	14.16	
		velocity	7.40	9.11	8.93	8.58	8.10	8.10	7.88	7.81	7.35	7.11	6.87	7.85	8.87	8.03	7.42		
H1 lead leg	L	strides	21	13		13	13	14	14	14	14	15	131						

2016 Prefontaine Classic (Eugene, OR) (TV Analysis)

FINAL

date 28-May-16

(H8 5m short)

Henson (2020) - Athlete First: 2016 year end hurdle report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tinsley, Michael (USA) (1984)	time		5.92	9.56	13.44	17.44	21.64	25.88	30.12	33.88	39.00	43.60		48.74	3 / 1				
reaction time		interval		3.64	3.88	4.00	4.20	4.24	4.24	3.76	5.12	4.60	5.14			11.52	12.68	13.48	
		velocity	7.60	9.62	9.02	8.75	8.33	8.25	8.25	7.98	7.81	7.61	7.78	8.21	9.11	8.28	7.79		
H1 lead leg	L	strides	21	13	13	13	14	14			17	15	18	138					
Clement, Kerron (USA) (1988)	time		6.08	9.92	13.72	17.72		26.00	30.28	34.04	39.08	43.68		48.87	7 / 2				
reaction time		interval		3.84	3.80	4.00		8.28	4.28	3.76	5.04	4.60	5.19			11.64	12.56	13.40	
		velocity	7.40	9.11	9.21	8.75		8.45	8.18	7.98	7.94	7.61	7.71	8.18	9.02	8.36	7.84		
H1 lead leg	R	strides	20	13	13	13			13	13		15	17	117					
Jackson, Bershawn (USA) (1988)	time		5.76	9.60	13.72	17.96	22.24	26.40	30.48	34.24	39.16	43.72		49.04	4 / 3				
reaction time		interval		3.84	4.12	4.24	4.28	4.16	4.08	3.76	4.92	4.56	5.32			12.20	12.52	13.24	
		velocity	7.81	9.11	8.50	8.25	8.18	8.41	8.58	7.98	8.13	7.68	7.52	8.16	8.61	8.39	7.93		
H1 lead leg	L	strides	22	15	15	15	15	15			17	15	19	148					
Gibson, Jeffery (BAH) (1990)	time		6.04	9.88	13.80	17.76		26.16	30.44	34.32	39.48	44.00		49.16	6 / 4				
reaction time		interval		3.84	3.92	3.96		8.40	4.28	3.88	5.16	4.52	5.16			11.72	12.68	13.56	
		velocity	7.45	9.11	8.93	8.84		8.33	8.18	7.73	7.75	7.74	7.75	8.14	8.96	8.28	7.74		
H1 lead leg	R	strides	20	13	13	13			13	11	16	14	17	130					
Copello, Yasmani (TUR) (1988)	time		6.00	9.84	13.72	17.76		26.16	30.40	34.32	39.52	44.20		49.43	1 / 5				
reaction time		interval		3.84	3.88	4.04		8.40	4.24	3.92	5.20	4.68	5.23			11.76	12.64	13.80	
		velocity	7.50	9.11	9.02	8.66		8.33	8.25	7.65	7.69	7.48	7.65	8.09	8.93	8.31	7.61		

H1 lead leg	R	strides	20	13	13	13		13	12	16	14	17.5	131.5					
Hussein, Kariem (SUI) (1989)	time		6.00	9.80	13.72	17.72		26.04	30.20	34.08	39.32	44.08		49.47	8 / 6			
reaction time	interval			3.80	3.92	4.00		8.32	4.16	3.88	5.24	4.76	5.39			11.72	12.48	13.88
	velocity		7.50	9.21	8.93	8.75		8.41	8.41	7.73	7.63	7.35	7.42	8.09		8.96	8.41	7.56
H1 lead leg	L	strides	20	13	13	13		13	13		15	17.7	117.7					
Culson, Javier (PUR) (1984)	time		5.88	9.60	13.40	17.40	21.56	25.80	30.16	33.96	39.28	44.08		49.51	2 / 7			
reaction time	interval			3.72	3.80	4.00	4.16	4.24	4.36	3.80	5.32	4.80	5.43			11.52	12.76	13.92
	velocity		7.65	9.41	9.21	8.75	8.41	8.25	8.03	7.89	7.52	7.29	7.37	8.08		9.11	8.23	7.54
H1 lead leg	L	strides	20	13	13	13	13	13		11	16	14	17	143				
Bett, Nicholas (KEN) (1990)	time		6.24	10.04	13.88	17.96	22.20	26.52	31.00	35.08	40.48	45.44		51.33	5 / 8			
reaction time	interval			3.80	3.84	4.08	4.24	4.32	4.48	4.08	5.40	4.96	5.89			11.72	13.04	14.44
	velocity		7.21	9.21	9.11	8.58	8.25	8.10	7.81	7.35	7.41	7.06	6.79	7.79		8.96	8.05	7.27
H1 lead leg	R	strides	21	13	13	13	13	13		13	17	15		131				

2016 Kansai Business Championships (Osaka, JPN)

FINAL

date 20-May-16

(2017) - tfdata-store.com/2017/05/22/post-605/

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Konishi, Yuta (JPN) (1990)	time	6.12	10.01	13.90	17.83	21.95		26.32	30.64	35.10	39.72	44.44		49.76	5 / 1			
reaction time	interval		3.89	3.89	3.93	4.12		4.37	4.32	4.46	4.62	4.72	5.32			11.71	12.81	13.80
	velocity	7.35	9.00	9.00	8.91	8.50		8.01	8.10	7.85	7.58	7.42	7.52	8.04		8.97	8.20	7.61
H1 lead leg	strides		13	13	13	13		14	14	15	15	15		125				
Yoshida, Kazuaki (JPN) (1988)	time	6.20	10.12	14.08	18.08	22.27		26.71	31.11	35.58	40.21	44.99		50.60	6 / 2			
reaction time	interval		3.92	3.96	4.00	4.19		4.44	4.40	4.47	4.63	4.78	5.61			11.88	13.03	13.88
	velocity	7.26	8.93	8.84	8.75	8.35		7.88	7.95	7.83	7.56	7.32	7.13	7.91		8.84	8.06	7.56
H1 lead leg	strides		13	13	13	13		15	15	15	15	15		127				

2016 Shanghai Golden Grand Prix (Shanghai, CHN) (TV Analysis)

FINAL

date 14-May-16

Henson (2020) - Athlete First: 2016 year end hurdle report

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tinsley, Michael (USA) (1984)	time	5.84	9.52	13.28	17.20	21.24		25.48	29.88	34.36	38.92	43.52		48.90	6 / 1			
reaction time	0.198 interval		3.68	3.76	3.92	4.04		4.24	4.40	4.48	4.56	4.60	5.38			11.36	12.68	13.64
	velocity	7.71	9.51	9.31	8.93	8.66		8.25	7.95	7.81	7.68	7.61	7.43	8.18		9.24	8.28	7.70
H1 lead leg	L	strides	21	13	13	13	13	14	14	14	15	15	18.2					
Dobek, Patryk (POL) (1994)	time	5.92	9.68	13.52	17.52	21.56		25.72	30.08	34.48	39.08	43.68		49.01	1 / 2			
reaction time	0.178 interval		3.76	3.84	4.00	4.04		4.16	4.36	4.40	4.60	4.60	5.33			11.60	12.56	13.60
	velocity	7.60	9.31	9.11	8.75	8.66		8.41	8.03	7.95	7.61	7.61	7.50	8.16		9.05	8.36	7.72
H1 lead leg	L	strides	21	13	13	13	13	13	14	14	14	14	17.5	159.5				
Gibson, Jeffery (BAH) (1990)	time	5.92	9.68	13.56	17.52	21.56		25.72	30.08	34.60	39.16	43.76		49.11	4 / 3			
reaction time	0.213 interval		3.76	3.88	3.96	4.04		4.16	4.36	4.52	4.56	4.60	5.35			11.60	12.56	13.68
	velocity	7.60	9.31	9.02	8.84	8.66		8.41	8.03	7.74	7.68	7.61	7.48	8.14		9.05	8.36	7.68
H1 lead leg	R	strides	20	13	13	13	13	13	13	14	14	14	17.5	157.5				
van Zyl, LJ (RSA) (1985)	time	5.92	9.60	13.48	17.52	21.64		25.92	30.24	34.56	39.04	43.60		49.13	8 / 4			
reaction time	0.168 interval		3.68	3.88	4.04	4.12		4.28	4.32	4.32	4.48	4.56	5.53			11.60	12.72	13.36
	velocity	7.60	9.51	9.02	8.66	8.50		8.18	8.10	8.10	7.81	7.68	7.23	8.14		9.05	8.25	7.86
H1 lead leg	L	strides	22	14	14	14	14	14	15	15	15	15	19	171				
Copello, Yasmani (TUR) (1988)	time	5.76	9.44	13.28	17.16	21.12		25.24	29.64	34.08	38.80	43.52		49.14	2 / 5			
reaction time	0.162 interval		3.68	3.84	3.88	3.96		4.12	4.40	4.44	4.72	4.72	5.62			11.40	12.48	13.88
	velocity	7.81	9.51	9.11	9.02	8.84		8.50	7.95	7.88	7.42	7.42	7.12	8.14		9.21	8.41	7.56
H1 lead leg	R	strides	20	13	13	13	13	13	14	14	15	15	18	161				
Bett, Nicholas (KEN) (1990)	time	5.96	9.76	13.56	17.56	21.68		25.88	30.12	34.40	39.00	43.64		49.31	5 / 6			
reaction time	0.150 interval		3.80	3.80	4.00	4.12		4.20	4.24	4.28	4.60	4.64	5.67			11.60	12.56	13.52
	velocity	7.55	9.21	9.21	8.75	8.50		8.33	8.25	8.18	7.61	7.54	7.05	8.11		9.05	8.36	7.77
H1 lead leg	R	strides	21	13	13	13	13	13	13	13	15	13	17.2	157.2				
Clement, Kerron (USA) (1988)	time	6.00	9.76	13.64	17.48	21.48		25.72	30.08	34.60	39.28	44.08		49.56	3 / 7			
reaction time	0.180 interval		3.76	3.88	3.84	4.00		4.24	4.36	4.52	4.68	4.80	5.48			11.48	12.60	14.00
	velocity	7.50	9.31	9.02	9.11	8.75		8.25	8.03	7.74	7.48	7.29	7.30	8.07		9.15	8.33	7.50
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	13	16.5	153.5				
Culson, Javier (PUR) (1984)	time	5.76	9.40	13.12	17.12	21.24		25.48	29.88	34.32	39.00	43.88		49.58	7 / 8			
reaction time	0.211 interval		3.64	3.72	4.00	4.12		4.24	4.40	4.44	4.68	4.88	5.70			11.36	12.76	14.00
	velocity	7.81	9.62	9.41	8.75	8.50		8.25	7.95	7.88	7.48	7.17	7.02	8.07		9.24	8.23	7.50
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	14	14	17.2	156.2				
Mucheru, Bonface (KEN) (1988)	time	6.04	9.96	14.04	18.12	22.36		26.64	31.00	35.40				50.16	9 / 9			
reaction time	0.123 interval		3.92	4.08	4.08	4.24		4.28	4.36	4.40						12.08	12.88	
	velocity	7.45	8.93	8.58	8.58	8.25		8.18	8.03	7.95				7.97		8.69	8.15	
H1 lead leg	R	strides	22	15	15	15	15	15	15	15				127				

2016 Seiko Golden Grand Prix (Kawasaki, JPN)

FINAL

date 08-May-16

Morioka (2016) - race pattern of top 400m hurdlers in japan

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Nozawa, Keisuke (JPN) (1991) time	5.96	9.58	13.27	17.06	21.03		25.05	29.15	33.45	38.05	42.89		48.67	4 / 1			
reaction time	0.155	interval	3.62	3.69	3.79	3.97	4.02	4.10	4.30	4.60	4.84	5.78	PB		11.10	12.09	13.74
velocity	7.55	9.67	9.49	9.23	8.82		8.71	8.54	8.14	7.61	7.23	6.92	8.22		9.46	8.68	7.64
H1 lead leg	L	strides	21	13	13	14	14	14	15	15	15	19.2	167.2				
Matsushita, Yuki (JPN) (1991) time	6.02	9.82	13.66	17.58	21.57		25.77	30.17	34.69	39.26	43.88		49.10	3 / 3			
reaction time	0.191	interval	3.80	3.84	3.92	3.99	4.20	4.40	4.52	4.57	4.62	5.22			11.56	12.59	13.71
velocity	7.48	9.21	9.11	8.93	8.77		8.33	7.95	7.74	7.66	7.58	7.66	8.15		9.08	8.34	7.66
H1 lead leg	R	strides	21	13	13	13	14	14	15	15	15	18.5	164.5				

2016 Kinan Memorial (Osaka, JPN)

FINAL

date 08-May-16

(2016.05.24) - https://twitter.com/touchdown_time/media?lang=en&lang=en&lang=en&lang=en

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tanabe, Shotaro (JPN) (1994) time	5.99	9.78	13.71	17.68	21.75		25.97	30.42	34.97	39.61	44.39		49.64	8 / 1			
reaction time	interval	3.79	3.93	3.97	4.07		4.22	4.45	4.55	4.64	4.78	5.25	PB		11.69	12.74	13.97
velocity	7.51	9.23	8.91	8.82	8.60		8.29	7.87	7.69	7.54	7.32	7.62	8.06		8.98	8.24	7.52
H1 lead leg		strides															

2016 Shizuoka International Athletics Meeting (Fukuroi, JPN)

FINAL

date 03-May-16

Morioka (2016) - race pattern of top 400m hurdlers in japan

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Nozawa, Keisuke (JPN) (1991) time	5.94	9.56	13.26	17.10	21.09		25.13	29.38	33.93	38.68	43.53		49.07	/ 1			
reaction time	interval	3.62	3.70	3.84	3.99		4.04	4.25	4.55	4.75	4.85	5.54	PB		11.16	12.28	14.15
velocity	7.58	9.67	9.46	9.11	8.77		8.66	8.24	7.69	7.37	7.22	7.22	8.15		9.41	8.55	7.42
H1 lead leg		strides	13	13	14	14	14	14	15	15	15		127				

2015 Japanese National Junior Championships (Nagoya, JPN)

FINAL

date 18-Oct-15

Yasunori (2015) - race pattern analysis of the top 400m hurdlers in Japan

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Watanabe, Yoshiro (JPN) (1991) time	6.01	9.75	13.64	17.68	21.78		26.08	30.52	35.02	39.66	44.50		49.97	5 / 1			
reaction time	interval	3.74	3.89	4.04	4.10		4.30	4.44	4.50	4.64	4.84	5.47	PB		11.67	12.84	13.98
velocity	7.49	9.36	9.00	8.66	8.54		8.14	7.88	7.78	7.54	7.23	7.31	8.00		9.00	8.18	7.51
H1 lead leg		strides	14	14	14	14	15	15	15	15	15		131				
Toyoda, Masaki (JPN) (1998) time	6.28	10.32	14.42	18.76	23.10		27.40	31.58	35.98	40.45	45.02		50.16	4 / 2			
reaction time	interval	4.04	4.10	4.34	4.34		4.30	4.18	4.40	4.47	4.57	5.14	PB		12.48	12.82	13.44
velocity	7.17	8.66	8.54	8.06	8.06		8.14	8.37	7.95	7.83	7.66	7.78	7.97		8.41	8.19	7.81
H1 lead leg		strides	14	14	14	14	15	15	15	15	15		131				
Obayashi, Masayuki (JPN) (1991) time	6.10	9.94	14.08	18.28	22.62		26.89	31.26	35.76	40.30	44.94		50.18	6 / 3			
reaction time	interval	3.84	4.14	4.20	4.34		4.27	4.37	4.50	4.54	4.64	5.24	PB		12.18	12.98	13.68
velocity	7.38	9.11	8.45	8.33	8.06		8.20	8.01	7.78	7.71	7.54	7.63	7.97		8.62	8.09	7.68
H1 lead leg		strides	15	15	15	15	15	15	15	15	15		135				

2015 IAAF World Championships (Beijing, CHN) (TV Analysis)

FINAL

date 25-Aug-15

Henson (2021) - Athlete First: major championships report

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Bett, Nicholas (KEN) (1990) time	6.04	9.76	13.48	17.24	21.24		25.28	29.40	33.60	37.96	42.56		47.79	9 / 1			
reaction time	0.162	interval	3.72	3.72	3.76	4.00	4.04	4.12	4.20	4.36	4.60	5.23	NR PB		11.20	12.16	13.16
velocity	7.45	9.41	9.41	9.31	8.75		8.66	8.50	8.33	8.03	7.61	7.65	8.37		9.38	8.63	7.98
H1 lead leg	R	strides	13	13	13	13	13	13	13	13	15	17	136				
Kudryavtsev, Denis (RUS) (1988) time	5.84	9.48	13.20	16.96	20.84		24.84	29.08	33.40	37.96	42.68		48.05	6 / 2			
reaction time	0.146	interval	3.64	3.72	3.76	3.88	4.00	4.24	4.32	4.56	4.72	5.37	NR PB		11.12	12.12	13.60
velocity	7.71	9.62	9.41	9.31	9.02		8.75	8.25	8.10	7.68	7.42	7.45	8.32		9.44	8.66	7.72
H1 lead leg	L	strides	13	13	13	13	13	14	14	15	15	19	142				
Gibson, Jeffery (BAH) (1990) time	5.88	9.64	13.36	17.16	21.12		25.08	29.28	33.60	38.08	42.72		48.17	7 / 3			
reaction time	0.184	interval	3.76	3.72	3.80	3.96	3.96	4.20	4.32	4.48	4.64	5.45	NR PB		11.28	12.12	13.44
velocity	7.65	9.31	9.41	9.21	8.84		8.84	8.33	8.10	7.81	7.54	7.34	8.30		9.31	8.66	7.81
H1 lead leg	R	strides	13	13	12	13	13	13	14	14	14	17.5	136.5				
Clement, Kerron (USA) (1988) time	5.96	9.68	13.40	17.16	21.12		25.20	29.32	33.60	38.16	42.96		48.18	8 / 4			
reaction time	0.174	interval	3.72	3.72	3.76	3.96	4.08	4.12	4.28	4.56	4.80	5.22			11.20	12.16	13.64
velocity	7.55	9.41	9.41	9.31	8.84		8.58	8.50	8.18	7.68	7.29	7.66	8.30		9.38	8.63	7.70
H1 lead leg	R	strides	13	13	13	13	13	13	13	15	15	17	138				
Mucheru, Bonface (KEN) (1988) time	5.96		13.56	17.32	21.20		25.32	29.64	34.04	38.48	43.00		48.33	4 / 5			
reaction time	0.164	interval	7.60	3.76	3.88		4.12	4.32	4.40	4.44	4.52	5.33			11.36	12.32	13.36
velocity	7.55		9.21	9.31	9.02		8.50	8.10	7.95	7.88	7.74	7.50	8.28		9.24	8.52	7.86
H1 lead leg	R	strides	15		13	13		15	15	15	15	18.5	119.5				
Copello, Yasmani (TUR) (1991) time	6.00		13.52	17.40	21.40		29.88	34.28	38.84	43.84			48.96	2 / 6			
reaction time	0.204	interval	7.52	3.88	4.00		8.48	4.40	4.56	5.00	5.12				11.40	12.48	13.96

	velocity	7.50	9.31	9.02	8.75		8.25	7.95	7.68	7.00	7.81	8.17		9.21	8.41	7.52	
H1 lead leg	R strides	13	13	13			14	14	14	17.5	98.5						
Dobek, Patryk (POL) (1994)	time	6.00	13.64	17.48	21.52		25.68	30.04	34.52	39.16	43.84		49.14	3 / 7			
reaction time	0.176 interval		7.64	3.84	4.04		4.16	4.36	4.48	4.64	4.68	5.30		11.48	12.56	13.80	
	velocity	7.50	9.16	9.11	8.66		8.41	8.03	7.81	7.54	7.48	7.55	8.14		9.15	8.36	7.61
H1 lead leg	L strides	13	13	13			14	14	14	14		95					
Tinsley, Michael (USA) (1984)	time	5.72	9.32	13.08	16.88	20.88	25.04	29.16	33.48	38.20	43.04		50.02	5 / 8			
reaction time	0.134 interval		3.60	3.76	3.80	4.00	4.16	4.12	4.32	4.72	4.84	6.98		11.16	12.28	13.88	
	velocity	7.87	9.72	9.31	9.21	8.75	8.41	8.50	8.10	7.42	7.23	5.73	8.00		9.41	8.55	7.56
H1 lead leg	L strides	21	13	13	13	14		14	14	16	15	133					

2015 Japanese National High School Championships (Wakayama, JPN)

FINAL

date 31-Jul-15

Enomoto (2015) - 68th high school championships: JAF scientific committee - biomechanics data collection

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Takada, Kazunari (JPN) (1999)	time	6.12	10.03	14.08	18.13	22.34		26.66	31.10	35.69	40.27	44.91		50.27	6 / 1			
reaction time	interval		3.91	4.05	4.05	4.21		4.32	4.44	4.59	4.58	4.64	5.36	PB		12.01	12.97	13.81
	velocity	7.35	8.95	8.64	8.64	8.31		8.10	7.88	7.63	7.64	7.54	7.46	7.96		8.74	8.10	7.60
H1 lead leg	R strides	14	14	14	15			14	15	15	15	15		131				
Toyada, Masaki (JPN) (1998)	time	6.12	10.04	14.01	18.15	22.32		26.74	31.30	35.82	40.52	45.28		50.85	9 / 2			
reaction time	interval		3.92	3.97	4.14	4.17		4.42	4.56	4.52	4.70	4.76	5.57			12.03	13.15	13.98
	velocity	7.35	8.93	8.82	8.45	8.39		7.92	7.68	7.74	7.45	7.35	7.18	7.87		8.73	7.98	7.51
H1 lead leg	R strides	14	14	14	15			15	15	15	15	15		132				
Yamamoto, Tatsuhiro (JPN)	time	6.19	10.13	14.25	18.37	22.62		27.06	31.60	36.14	40.77	45.63		51.32	7 / 3			
reaction time	interval		3.94	4.12	4.12	4.25		4.44	4.54	4.54	4.63	4.86	5.69	PB		12.18	13.23	14.03
	velocity	7.27	8.88	8.50	8.50	8.24		7.88	7.71	7.71	7.56	7.20	7.03	7.79		8.62	7.94	7.48
H1 lead leg	R strides	14	14	14	15			15	15	15	15	15		132				
Fujii, Ryusei (JPN) (1998)	time	6.19	10.24	14.55	18.97	23.37		27.78	32.23	36.69	41.27	45.96		51.34	4 / 4			
reaction time	interval		4.05	4.31	4.42	4.40		4.41	4.45	4.46	4.58	4.69	5.38	PB		12.78	13.26	13.73
	velocity	7.27	8.64	8.12	7.92	7.95		7.94	7.87	7.85	7.64	7.46	7.43	7.79		8.22	7.92	7.65
H1 lead leg	R strides	14	15	15	15			15	15	15	15	15		134				
Tashiro, Masahito (JPN) (1996)	time	6.12	10.01	14.03	18.13	22.37		26.74	31.21	35.85	40.76	46.15		51.92	8 / 5			
reaction time	interval		3.89	4.02	4.10	4.24		4.37	4.47	4.64	4.91	5.39	5.77			12.01	13.08	14.94
	velocity	7.35	9.00	8.71	8.54	8.25		8.01	7.83	7.54	7.13	6.49	6.93	7.70		8.74	8.03	7.03
H1 lead leg	R strides	14	15	15	15			15	15	15	15	17		136				
Hamamura, Kazuki (JPN) (1991)	time	6.16	10.33	14.43	18.64	22.96		27.38	31.97	36.75	41.86	47.31		53.19	3 / 6			
reaction time	interval		4.17	4.10	4.21	4.32		4.42	4.59	4.78	5.11	5.45	5.88			12.48	13.33	15.34
	velocity	7.31	8.39	8.54	8.31	8.10		7.92	7.63	7.32	6.85	6.42	6.80	7.52		8.41	7.88	6.84
H1 lead leg	R strides	15	15	15	15			15	16	15	17	17		140				
Takahashi, Rui (JPN) (1997)	time	6.32	10.44	14.75	19.04	23.34		27.64	32.12	36.60	41.21	46.33		53.24	5 / 7			
reaction time	interval		4.12	4.31	4.29	4.30		4.30	4.48	4.48	4.61	5.12	6.91			12.72	13.08	14.21
	velocity	7.12	8.50	8.12	8.16	8.14		8.14	7.81	7.81	7.59	6.84	5.79	7.51		8.25	8.03	7.39
H1 lead leg	0.167 L strides	15	15	15	15			15	17	15	17	16		140				
Minato, Ozora (JPN) (1997)	time	6.47	10.53	14.70	18.85	23.16		27.66	32.45	37.60	43.04	48.43		54.55	2 / 8			
reaction time	interval		4.06	4.17	4.15	4.31		4.50	4.79	5.15	5.44	5.39	6.12			12.38	13.60	15.98
	velocity	6.96	8.62	8.39	8.43	8.12		7.78	7.31	6.80	6.43	6.49	6.54	7.33		8.48	7.72	6.57
H1 lead leg	R strides	15	15	15	15			17	17	16	17	17		144				

2015 Japanese National Championships (Niigata, JPN)

FINAL

date 28-Jun-15

Yasunori (2015) - race pattern analysis of the top 400m hurdlers in Japan

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Matsushita, Yuki (JPN) (1991)	time	6.11	9.91	13.83	17.78	21.88		26.15	30.57	35.21	39.86	44.55		49.76	6 / 1			
reaction time	0.169 interval		3.80	3.92	3.95	4.10		4.27	4.42	4.64	4.65	4.69	5.21			11.67	12.79	13.98
	velocity	7.36	9.21	8.93	8.86	8.54		8.20	7.92	7.54	7.53	7.46	7.68	8.04		9.00	8.21	7.51
H1 lead leg	R strides	21	13	13	13	13		14	14	15	15	15	19	165				
Kishimoto, Takayuki (JPN) (1997)	time	6.01	9.76	13.61	17.55	21.64		25.91	30.26	34.78	39.42	44.26		49.81	5 / 2			
reaction time	0.134 interval		3.75	3.85	3.94	4.09		4.27	4.35	4.52	4.64	4.84	5.55			11.54	12.71	14.00
	velocity	7.49	9.33	9.09	8.88	8.56		8.20	8.05	7.74	7.54	7.23	7.21	8.03		9.10	8.26	7.50
H1 lead leg	R strides	21	13	13	13	13		14	14	15	15	15	19	165				
Konishi, Yuta (JPN) (1990)	time	6.21	10.05	14.00	18.02	22.12		26.37	30.71	35.21	39.86	44.58		50.06	4 / 3			
reaction time	0.166 interval		3.84	3.95	4.02	4.10		4.25	4.34	4.50	4.65	4.72	5.48			11.81	12.69	13.87
	velocity	7.25	9.11	8.86	8.71	8.54		8.24	8.06	7.78	7.53	7.42	7.30	7.99		8.89	8.27	7.57
H1 lead leg	L strides	21	13	13	13	13		14	14	15	15	15	19	165				

2015 Seiko Golden Grand Prix (Kawasaki, JPN)

FINAL

date 10-May-15

Yasunori (2015) - race pattern analysis of the top 400m hurdlers in Japan

Konishi, Yuta (JPN) (1990)	time	6.17	10.14	14.16	18.30	22.42		26.57	30.79	35.21	39.71	44.38		49.70	/ 2			
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reaction time	interval	3.97	4.02	4.14	4.12	4.15	4.22	4.42	4.50	4.67	5.32		12.13	12.49	13.59
	velocity	7.29	8.82	8.71	8.45	8.43	8.29	7.92	7.78	7.49	7.52	8.05	8.66	8.41	7.73
H1 lead leg	strides	14	14	14	14	15	15	15	15	15		131			

2015 Shizuoka International Athletics Meeting (Fukuroi, JPN)

FINAL

date 03-May-15

Yasunori (2015) - race pattern analysis of the top 400m hurdlers in Japan

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Konishi, Yuta (JPN) (1990)	time	6.17	10.04	13.98	18.00	22.15		26.32	30.76	35.30	39.97	44.64		49.98	/ 3			
	reaction time	0.189	interval	3.87	3.94	4.02	4.15	4.17	4.44	4.54	4.67	4.67	5.34			11.83	12.76	13.88
			velocity	7.29	9.04	8.88	8.71	8.43	8.39	7.88	7.71	7.49	7.49	8.00		8.88	8.23	7.56
H1 lead leg	strides		14	14	14	14		14	15	15	15	15		130				

B Race

date 03-May-15

Yasunori (2015) - race pattern analysis of the top 400m hurdlers in Japan

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Matsushita, Yuki (JPN) (1991)	time	6.04	9.88	13.78	17.72	21.76		26.03	30.40	35.00	39.67	44.47		49.78	/ 3			
	reaction time	0.164	interval	3.84	3.90	3.94	4.04	4.27	4.37	4.60	4.67	4.80	5.31			11.68	12.68	14.07
			velocity	7.45	9.11	8.97	8.88	8.66	8.20	8.01	7.61	7.49	7.29	8.04		8.99	8.28	7.46
H1 lead leg	strides		13	13	13	13		14	14	15	15	15		125				

2014 European Championships (Zurich, SUI)

FINAL

date 15-Aug-14

Green (2015) - twitter.com/jackpgreen (from Behm?)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Hussein, Kariem (SUI) (1989)	time	6.04	9.80	13.72	17.72	21.76		25.88	30.08	34.40	38.80	43.44		48.96	/ 1			
	reaction time	0.169	interval	3.76	3.92	4.00	4.04	4.12	4.20	4.32	4.40	4.64	5.52	PB		11.68	12.36	13.36
			velocity	7.45	9.31	8.93	8.75	8.66	8.50	8.33	8.10	7.95	7.54	8.17		8.99	8.50	7.86
H1 lead leg	L strides		13	13	13	13		14	14	14	14	15		123				
Mägi, Rasmus (EST) (1992)	time	6.10	9.90	13.78	17.70	21.74		25.86	30.26	34.70	39.30	43.90		49.06	/ 2			
	reaction time	0.156	interval	3.80	3.88	3.92	4.04	4.12	4.40	4.44	4.60	4.60	5.16			11.60	12.56	13.64
			velocity	7.38	9.21	9.02	8.93	8.66	8.50	7.95	7.88	7.61	7.61	7.75	8.15	9.05	8.36	7.70
H1 lead leg	L strides		13	13	13	13		13	14	14	14	14		121				
Kudryatsev, Denis (RUS) (1989)	time	6.12	9.92	13.80	17.68	21.64		25.76	30.12	34.48	39.08	43.84		49.16	/ 3			
	reaction time	0.158	interval	3.80	3.88	3.88	3.96	4.12	4.36	4.36	4.60	4.76	5.32			11.56	12.44	13.72
			velocity	7.35	9.21	9.02	9.02	8.84	8.50	8.03	8.03	7.61	7.35	7.52	8.14	9.08	8.44	7.65
H1 lead leg	L strides		13	13	13	13		13	14	14	15	15		123				
Chalyy, Timofey (RUS) (1994)	time	6.08	9.88	13.84	17.84	21.92		26.08	30.56	35.12	39.80	44.52		49.56	/ 4			
	reaction time	0.159	interval	3.80	3.96	4.00	4.08	4.16	4.48	4.56	4.68	4.72	5.04			11.76	12.72	13.96
			velocity	7.40	9.21	8.84	8.75	8.58	8.41	7.81	7.68	7.48	7.42	7.94	8.07	8.93	8.25	7.52
H1 lead leg	L strides		13	13	13	13		13	14	14	14	14		121				
Franz, Felix (GER) (1993)	time	6.03	9.91	13.75	17.83	21.91		26.11	30.55	35.07	39.79	44.51		49.83	/ 5			
	reaction time	0.174	interval	3.88	3.84	4.08	4.08	4.20	4.44	4.52	4.72	4.72	5.32			11.80	12.72	13.96
			velocity	7.46	9.02	9.11	8.58	8.58	8.33	7.88	7.74	7.42	7.42	7.52	8.03	8.90	8.25	7.52
H1 lead leg	L strides		13	13	13	13		13	14	14	14	14		121				
Bekrić, Emir (SRB) (1991)	time	6.00	9.78	13.58	17.46	21.42		25.46	29.78	34.30	39.06	44.06		49.90	/ 6			
	reaction time	0.233	interval	3.78	3.80	3.88	3.96	4.04	4.32	4.52	4.76	5.00	5.84			11.46	12.32	14.28
			velocity	7.50	9.26	9.21	9.02	8.84	8.66	8.10	7.74	7.35	7.00	6.85	8.02	9.16	8.52	7.35
H1 lead leg	L strides		13	13	13	13		13	14	14	14	14		121				
Königsmark, Varg (GER) (1989)	time	6.03	9.79	13.71	17.59	21.51		25.71	30.03	34.55	39.31	44.35		49.91	/ 7			
	reaction time	0.190	interval	3.76	3.92	3.88	3.92	4.20	4.32	4.52	4.76	5.04	5.56			11.56	12.44	14.32
			velocity	7.46	9.31	8.93	9.02	8.93	8.33	8.10	7.74	7.35	6.94	7.19	8.01	9.08	8.44	7.33
H1 lead leg	L strides		13	13	13	13		14	14	14	15	15		124				
Mörö, Oskari (FIN) (1993)	time	6.10	9.86	13.70	17.78	21.90		26.18	30.54	35.02	39.74	44.62		50.14	/ 8			
	reaction time	0.149	interval	3.76	3.84	4.08	4.12	4.28	4.36	4.48	4.72	4.88	5.52			11.68	12.76	14.08
			velocity	7.38	9.31	9.11	8.58	8.50	8.18	8.03	7.81	7.42	7.17	7.25	7.98	8.99	8.23	7.46
H1 lead leg	R strides		13	13	13	13		14	14	14	14	15		123				

2014 Japanese National Championships (Fukushima, JPN)

FINAL

date 08-Jun-14

Yasunori (2014) - race pattern analysis of Japanese top 400m hurdlers for major domestic competitions

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kishimoto, Takayuki (JPN) (1990)	time	5.89	9.64	13.53	17.52	21.62		25.89	30.28	34.75	39.32	44.01		49.49	4 / 1			
	reaction time		interval	3.75	3.89	3.99	4.10	4.27	4.39	4.47	4.57	4.69	5.48			11.63	12.76	13.73
			velocity	7.64	9.33	9.00	8.77	8.54	8.20	7.97	7.83	7.66	7.46	7.30	8.08	9.03	8.23	7.65
H1 lead leg	R strides		21	13	13	13		14	14	15	15	15		185				
Nakamura, Akihiko (JPN) (1989)	time	6.09	10.03	14.05	18.12	22.32		26.62	31.01	35.55	40.19	44.74		49.95	5 / 2			
	reaction time		interval	3.94	4.02	4.07	4.20	4.30	4.39	4.54	4.64	4.55	5.21			12.03	12.89	13.73
			velocity	7.39	8.88	8.71	8.60	8.33	8.14	7.97	7.71	7.54	7.69	7.68	8.01	8.73	8.15	7.65
H1 lead leg	R strides		21	13	13	14		14	14	14	15	15	19	165				
Konishi, Yuta (JPN) (1990)	time	5.99	9.83	13.68	17.58	21.55		25.74	30.06	34.60	39.27	44.19		49.97	7 / 3			
	reaction time		interval	3.84	3.85	3.90	3.97	4.19	4.32	4.54	4.67	4.92	5.78			11.59	12.48	14.13
			velocity	7.51	9.11	9.09	8.97	8.35	8.10	7.71	7.49	7.11	6.92	8.00		9.06	8.41	7.43

H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	15	19.2	171.2				
Tateno, Tetsuya (JPN) (1991)	time		6.04	9.81	13.63	17.55	21.59	25.79	30.23	34.77	39.57	44.47		49.98	6 / 4			
reaction time	interval			3.77	3.82	3.92	4.04	4.20	4.44	4.54	4.80	4.90	5.51			11.51	12.68	14.24
	velocity		7.45	9.28	9.16	8.93	8.66	8.33	7.88	7.71	7.29	7.14	7.26	8.00		9.12	8.28	7.37
H1 lead leg	R	strides	22	14	14	14	14	15	15	15	16	16	19.2	174.2				
Yoshida, Kazuaki (JPN) (198)	time		5.96	9.75	13.60	17.55	21.60	25.87	30.27	34.76	39.40	44.27		50.05	9 / 5			
reaction time	interval			3.79	3.85	3.95	4.05	4.27	4.40	4.49	4.64	4.87	5.78			11.59	12.72	14.00
	velocity		7.55	9.23	9.09	8.86	8.64	8.20	7.95	7.80	7.54	7.19	6.92	7.99		9.06	8.25	7.50
H1 lead leg	L	strides	21	13	13	13	13	13	15	15	15	15	18.2	164.2				

2014 Seiko Golden Grand Prix (Tokyo, JPN)

FINAL

date 11-May-14

Yasunori (2014) - race pattern analysis of Japanese top 400m hurdlers for major domestic competitions

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kishimoto, Takayuki (JPN) (time		5.92	9.64	13.46	17.41	21.60	25.97	30.47	34.97	39.61	44.33		49.81	/ 4				
reaction time	interval			3.72	3.82	3.95	4.19	4.37	4.50	4.50	4.64	4.72	5.48				11.49	13.06	13.86
	velocity		7.60	9.41	9.16	8.86	8.35	8.01	7.78	7.78	7.54	7.42	7.30	8.03			9.14	8.04	7.58
H1 lead leg	strides			13	13	13	13	14	14	15	15	15		125					
Abe, Takatoshi (JPN) (1991)	time		6.14	9.94	13.78	17.70	21.74	25.84	30.28	34.87	39.82	44.94		51.14	/ 7				
reaction time	interval			3.80	3.84	3.92	4.04	4.10	4.44	4.59	4.95	5.12	6.20				11.56	12.58	14.66
	velocity		7.33	9.21	9.11	8.93	8.66	8.54	7.88	7.63	7.07	6.84	6.45	7.82			9.08	8.35	7.16
H1 lead leg	strides			13	13	13	13	14	14	14	15	16		125					
Fueki, Yasuhiro (JPN) (1985)	time		6.01	9.90	13.80	17.72	21.77	25.92	30.39	35.04	39.98	45.25		51.68	/ 8				
reaction time	interval			3.89	3.90	3.92	4.05	4.15	4.47	4.65	4.94	5.27	6.43				11.71	12.67	14.86
	velocity		7.49	9.00	8.97	8.93	8.64	8.43	7.83	7.53	7.09	6.64	6.22	7.74			8.97	8.29	7.07
H1 lead leg	strides			14	14	14	14	14	14	15	15	16		130					

2014 Shizuoka International Athletics Meeting (Fukuroi, JPN)

A FINAL

date 03-May-14

Yasunori (2014) - race pattern analysis of Japanese top 400m hurdlers for major domestic competitions

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kishimoto, Takayuki (JPN) (time		5.96	9.71	13.56	17.60	21.75	26.07	30.49	35.03	39.70	44.42		49.75	/ 1				
reaction time	interval			3.75	3.85	4.04	4.15	4.32	4.42	4.54	4.67	4.72	5.33				11.64	12.89	13.93
	velocity		7.55	9.33	9.09	8.66	8.43	8.10	7.92	7.71	7.49	7.42	7.50	8.04			9.02	8.15	7.54
H1 lead leg	strides			13	13	13	13	14	14	15	15	15		125					
Abe, Takatoshi (JPN) (1991)	time		6.19	10.04	13.96	18.03	22.12	26.42	30.77	35.26	39.91	44.68		50.32	/ 3				
reaction time	interval			3.85	3.92	4.07	4.09	4.30	4.35	4.49	4.65	4.77	5.64				11.84	12.74	13.91
	velocity		7.27	9.09	8.93	8.60	8.56	8.14	8.05	7.80	7.53	7.34	7.09	7.95			8.87	8.24	7.55
H1 lead leg	strides			13	13	13	13	14	14	14	14	15		123					

B FINAL

date 03-May-14

Yasunori (2014) - race pattern analysis of Japanese top 400m hurdlers for major domestic competitions

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Yoshida, Kazuaki (JPN) (198)	time		6.04	9.91	13.87	17.83	21.92	26.09	30.48	34.95	39.60	44.42		50.15	/ 1				
reaction time	interval			3.87	3.96	3.96	4.09	4.17	4.39	4.47	4.65	4.82	5.73				11.79	12.65	13.94
	velocity		7.45	9.04	8.84	8.84	8.56	8.39	7.97	7.83	7.53	7.26	6.98	7.98			8.91	8.30	7.53
H1 lead leg	strides			13	13	13	13	13	15	15	15	15		125					

C FINAL

date 03-May-14

Yasunori (2014) - race pattern analysis of Japanese top 400m hurdlers for major domestic competitions

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kato, Seiya (JPN) (1992)	time		6.17	10.01	13.93	17.93	22.13	26.35	30.74	35.26	39.90	44.74		50.40	/ 1				
reaction time	interval			3.84	3.92	4.00	4.20	4.22	4.39	4.52	4.64	4.84	5.66	PB			11.76	12.81	14.00
	velocity		7.29	9.11	8.93	8.75	8.33	8.29	7.97	7.74	7.54	7.23	7.07	7.94			8.93	8.20	7.50
H1 lead leg	strides			13	13	13	14	14	15	15	15	15		127					
Ideura, Noriuki (JPN) (1987)	time		6.36	10.40	14.47	18.61	22.78	26.95	31.22	35.59	40.19	45.01		50.59	/ 2				
reaction time	interval			4.04	4.07	4.14	4.17	4.17	4.27	4.37	4.60	4.82	5.58				12.25	12.61	13.79
	velocity		7.08	8.66	8.60	8.45	8.39	8.39	8.20	8.01	7.61	7.26	7.17	7.91			8.57	8.33	7.61
H1 lead leg	strides			14	14	14	14	15	15	15	15	15		131					

2013 IAAF World Championships (Moscow, RUS) (TV Analysis)

FINAL

date 15-Aug-13

Henson (2021) - Athlete First: major championships report

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Gordon, Jehue (TRI) (1991)	time		5.73	9.40	13.20	17.07	20.97	24.97	29.07	33.27	37.63	42.17		47.69	6 / 1				
reaction time	0.174 interval			3.67	3.80	3.87	3.90	4.00	4.10	4.20	4.36	4.54	5.52				11.34	12.00	13.10
	velocity		7.85	9.54	9.21	9.04	8.97	8.75	8.54	8.33	8.03	7.71	7.25	8.39			9.26	8.75	8.02
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	14	14	17.7	156.7					
Tinsley, Michael (USA) (1984)	time		5.63	9.13	12.80	16.57	20.43	24.50	28.67	33.03	37.57	42.20		47.70	3 / 2				
reaction time	0.133 interval			3.50	3.67	3.77	3.86	4.07	4.17	4.36	4.54	4.63	5.50	PB			10.94	12.10	13.53
	velocity		7.99	10.00	9.54	9.28	9.07	8.60	8.39	8.03	7.71	7.56	7.27	8.39			9.60	8.68	7.76
H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	15	18.5	164.5					
Bekrić, Emir (SRB) (1991)	time		5.90	9.50	13.20	17.00	20.87	24.93	29.23	33.63	38.20	42.73		48.05	8 / 3				
reaction time	0.202 interval			3.60	3.70	3.80	3.87	4.06	4.30	4.40	4.57	4.53	5.32	NR PB			11.10	12.23	13.50

	velocity	7.63	9.72	9.46	9.21	9.04		8.62	8.14	7.95	7.66	7.73	7.52	8.32		9.46	8.59	7.78
H1 lead leg	L strides	21	13	13	13	13		13	14	14	14	14	16.7	158.7				
Cisneros, Omar (CUB) (1989)	time	5.80	9.33	13.03	16.87	20.77		24.83	29.07	33.43	38.00	42.63		48.12	5 / 4			
reaction time	0.219 interval		3.53	3.70	3.84	3.90		4.06	4.24	4.36	4.57	4.63	5.49			11.07	12.20	13.56
	velocity	7.76	9.92	9.46	9.11	8.97		8.62	8.25	8.03	7.66	7.56	7.29	8.31		9.49	8.61	7.74
H1 lead leg	L strides	21	13	13	13	13		13	14	14	14	14	17.5	159.5				
Sánchez, Félix (DOM) (1977)	time	5.80	9.40	13.26	17.17	21.23		25.37	29.60	33.90	38.33	42.90		48.22	4 / 5			
reaction time	0.175 interval		3.60	3.86	3.91	4.06		4.14	4.23	4.30	4.43	4.57	5.32			11.37	12.43	13.30
	velocity	7.76	9.72	9.07	8.95	8.62		8.45	8.27	8.14	7.90	7.66	7.52	8.30		9.23	8.45	7.89
H1 lead leg	L strides	22	13	14	13	14		14	14		15	15	18	152				
Culson, Javier (PUR) (1984)	time	5.70	9.33	13.00	16.70	20.60		24.63	28.87	33.27	37.87	42.60		48.38	7 / 6			
reaction time	0.189 interval		3.63	3.67	3.70	3.90		4.03	4.24	4.40	4.60	4.73	5.78			11.00	12.17	13.73
	velocity	7.89	9.64	9.54	9.46	8.97		8.68	8.25	7.95	7.61	7.40	6.92	8.27		9.55	8.63	7.65
H1 lead leg	L strides	20	13	13	13	13		13	13	13	14	14	17.2	156.2				
Hann, Mamadou Kasse (SEN)	time	6.00	9.77	13.60	17.37	21.33		25.33	29.60	34.17	38.70	43.37		48.68	2 / 7			
reaction time	0.195 interval		3.77	3.83	3.77	3.96		4.00	4.27	4.57	4.53	4.67	5.31			11.37	12.23	13.77
	velocity	7.50	9.28	9.14	9.28	8.84		8.75	8.20	7.66	7.73	7.49	7.53	8.22		9.23	8.59	7.63
H1 lead leg	L strides	20	13	13	13	13		13	14		14	14	16.7	143.7				
Clement, Kerron (USA) (1988)	time	5.93	9.70	13.53	17.33	21.27		25.37	29.50	34.03	38.70	43.50		49.08	1 / 8			
reaction time	0.165 interval		3.77	3.83	3.80	3.94		4.10	4.13	4.53	4.67	4.80	5.58			11.40	12.17	14.00
	velocity	7.59	9.28	9.14	9.21	8.88		8.54	8.47	7.73	7.49	7.29	7.17	8.15		9.21	8.63	7.50
H1 lead leg	R strides	20	13	13	13	13		13	13		15	15	16.7	144.7				

2013 Chinese National Grand Prix Final (Shenyang, CHN)

FINAL

date 16-Jun-13

Li (2008) - research on training characteristics of Li Zhilong's of Chinese men's 400m hurdles

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Li Zhilong (CHN) (1988)	time	6.16	10.08	14.08	18.12	22.28		26.56	30.92	35.36	39.96	44.72		49.96	/ 1			
reaction time	interval		3.92	4.00	4.04	4.16		4.28	4.36	4.44	4.60	4.76	5.24			11.96	12.80	13.80
	velocity	7.31	8.93	8.75	8.66	8.41		8.18	8.03	7.88	7.61	7.35	7.63	8.01		8.78	8.20	7.61
H1 lead leg	strides																	

2013 Chinese National Championships (Suzhou, CHN)

FINAL

date 30-May-13

Li (2008) - research on training characteristics of Li Zhilong's of Chinese men's 400m hurdles

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Li Zhilong (CHN) (1988)	time	6.08	9.96	13.96	18.00	22.16		26.48	30.92	35.52	40.32	45.56		51.41	/ 3			
reaction time	interval		3.88	4.00	4.04	4.16		4.32	4.44	4.60	4.80	5.24	5.85			11.92	12.92	14.64
	velocity	7.40	9.02	8.75	8.66	8.41		8.10	7.88	7.61	7.29	6.68	6.84	7.78		8.81	8.13	7.17
H1 lead leg	strides																	

2013 Chinese National Grand Prix (Zhaoqing, CHN)

FINAL

date 28-Apr-13

Li (2008) - research on training characteristics of Li Zhilong's of Chinese men's 400m hurdles

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Li Zhilong (CHN) (1988)	time	6.24	10.16	14.20	18.28	22.44		26.72	31.16	35.76	40.48	45.44		50.96	/ 2			
reaction time	interval		3.92	4.04	4.08	4.16		4.28	4.44	4.60	4.72	4.96	5.52			12.04	12.88	14.28
	velocity	7.21	8.93	8.66	8.58	8.41		8.18	7.88	7.61	7.42	7.06	7.25	7.85		8.72	8.15	7.35
H1 lead leg	strides																	

2012 Chinese National Championships (Kunshan, CHN)

FINAL

date 23-Sep-12

Li (2008) - research on training characteristics of Li Zhilong's of Chinese men's 400m hurdles

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Li Zhilong (CHN) (1988)	time	6.04	9.88	13.84	17.88	22.00		26.28	30.72	35.24	39.92	44.76		50.25	/ 1			
reaction time	interval		3.84	3.96	4.04	4.12		4.28	4.44	4.52	4.68	4.84	5.49			11.84	12.84	14.04
	velocity	7.45	9.11	8.84	8.66	8.50		8.18	7.88	7.74	7.48	7.23	7.29	7.96		8.87	8.18	7.48
H1 lead leg	strides																	

2012 Olympic Games (London, GBR)

FINAL

date 06-Aug-12

Hillier (2012) - uka 2012 olympic games report: 400m hurdles

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Sánchez, Félix (DOM) (1977)	time	5.76	9.25	12.94	16.71	20.68	22.48	24.86	29.04	33.28	37.68	42.27		47.63	7 / 1			
reaction time	0.158 interval		3.49	3.69	3.77	3.97		4.18	4.18	4.24	4.40	4.59	5.36			10.95	12.33	13.23
	velocity	7.81	10.03	9.49	9.28	8.82	8.90	8.37	8.37	8.25	7.95	7.63	7.46	8.40		9.59	8.52	7.94
H1 lead leg	L strides	21	13	13	13	13		14	14	15	15	15	18.5	164.5				
Tinsley, Michael (USA) (1984)	time	5.79	9.39	13.06	16.87	20.87	22.67	25.08	29.26	33.49	37.97	42.43		47.91	6 / 2			
reaction time	0.184 interval		3.60	3.67	3.81	4.00		4.21	4.18	4.23	4.48	4.46	5.48	PB		11.08	12.39	13.17
	velocity	7.77	9.72	9.54	9.19	8.75	8.82	8.31	8.37	8.27	7.81	7.85	7.30	8.35		9.48	8.47	7.97
H1 lead leg	L strides	21	13	13	13	14		14	14	14	15	15	18	164				
Culson, Javier (PUR) (1984)	time	5.68	9.19	12.84	16.56	20.47	22.27	24.46	28.72	33.20	37.69	42.40		48.10	5 / 3			
reaction time	0.196 interval		3.51	3.65	3.72	3.91		3.99	4.26	4.48	4.49	4.71	5.70			10.88	12.16	13.68
	velocity	7.92	9.97	9.59	9.41	8.95	8.98	8.77	8.22	7.81	7.80	7.43	7.02	8.32		9.65	8.63	7.68
H1 lead leg	L strides	21	13	13	13	13		13	13	14	14	14	17.5	158.5				

Greene, David (Dai) (GBR)	(1 time)	5.82	9.44	13.18	16.98	20.96	22.76	25.12	29.32	33.64	38.10	42.84	48.24	3 / 4			
reaction time	0.150 interval		3.62	3.74	3.80	3.98		4.16	4.20	4.32	4.46	4.74	5.40		11.16	12.34	13.52
	velocity	7.73	9.67	9.36	9.21	8.79	8.79	8.41	8.33	8.10	7.85	7.38	7.41	8.29	9.41	8.51	7.77
H1 lead leg	R strides	22	14	14	14	14		14	15	15	15	16	19.2	172.2			
Taylor, Angelo (USA) (1978)	time	5.79	9.27	12.85	16.56	20.39	22.19	24.49	28.67	33.13	37.80	42.59	48.25	4 / 5			
reaction time	0.158 interval		3.48	3.58	3.71	3.83		4.10	4.18	4.46	4.67	4.79	5.66		10.77	12.11	13.92
	velocity	7.77	10.06	9.78	9.43	9.14	9.01	8.54	8.37	7.85	7.49	7.31	7.07	8.29	9.75	8.67	7.54
H1 lead leg	L strides	21	13	13	13	13		14	14	14	15	15	18.2	163.2			
Gordon, Jehue (TRI) (1991)	time	5.72	9.28	13.07	16.92	20.93	22.73	25.02	29.14	33.40	38.05	43.07	48.86	8 / 6			
reaction time	0.165 interval		3.56	3.79	3.85	4.01		4.09	4.12	4.26	4.65	5.02	5.79		11.20	12.22	13.93
	velocity	7.87	9.83	9.23	9.09	8.73	8.80	8.56	8.50	8.22	7.53	6.97	6.91	8.19	9.38	8.59	7.54
H1 lead leg	L strides	21	13	13	13	13		13	14	15	15	15	145				
Green, Leford (JAM) (1986)	time	5.98	9.75	13.31	17.20	21.32	23.12	25.69	30.12	34.71	39.27	42.88	49.12	9 / 7			
reaction time	0.194 interval		3.77	3.56	3.89	4.12		4.37	4.43	4.59	4.56	3.61	6.24		11.22	12.92	12.76
	velocity	7.53	9.28	9.83	9.00	8.50	8.65	8.01	7.90	7.63	7.68	9.70	6.41	8.14	9.36	8.13	8.23
H1 lead leg	L strides	21	13	13	13	13		13	14	15	15	15	145				
Clement, Kerron (USA) (1988)	time	5.87	9.54	13.10	16.86	20.78	22.58	24.89	29.20	33.78	38.56	43.44	49.15	2 / 8			
reaction time	0.148 interval		3.67	3.56	3.76	3.92		4.11	4.31	4.58	4.78	4.88	5.71		10.99	12.34	14.24
	velocity	7.67	9.54	9.83	9.31	8.93	8.86	8.52	8.12	7.64	7.32	7.17	7.01	8.14	9.55	8.51	7.37
H1 lead leg	R strides	21	13	13	13	13		13	13	15	15	15	144				

Semi-Final 1

date 04-Aug-12

Hillier (2012) - uka 2012 olympic games report: 400m hurdles

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Greene, David (Dai) (GBR)	(1 time)	5.91	9.54	13.28	17.13	21.07	22.67	25.17	29.38	33.67	38.17	42.79		48.19	7 / 4			
reaction time	0.181 interval		3.63	3.74	3.85	3.94		4.10	4.21	4.29	4.50	4.62	5.40			11.22	12.25	13.41
	velocity	7.61	9.64	9.36	9.09	8.88	8.82	8.54	8.31	8.16	7.78	7.58	7.41	8.30		9.36	8.57	7.83
H1 lead leg	R strides	22	14	14	14	14		14	15	15	15	15	152					

Heat 5

date 03-Aug-12

Haines (2012) - mikhainesperformance.wordpress.com/2012/08/05/broadening-my-horizons-400m-hurdles-analysis

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Taylor, Angelo (USA) (1978)	time	5.92	9.44	13.26	17.06	21.02	22.62	25.24	29.66	34.08	38.68	43.64		49.29	3 / 1			
reaction time	0.187 interval		3.52	3.82	3.80	3.96		4.22	4.42	4.42	4.60	4.96	5.65			11.14	12.60	13.98
	velocity	7.60	9.94	9.16	9.21	8.84	8.84	8.29	7.92	7.92	7.61	7.06	7.08	8.12		9.43	8.33	7.51
H1 lead leg	L strides	21	13	13	13	13		14	14	14	14	14	18	161				

Heat 3

date 03-Aug-12

Hillier (2012) - uka 2012 olympic games report: 400m hurdles

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Greene, David (Dai) (GBR)	(1 time)	6.02	9.76	13.59	17.48	21.52	23.12	25.75	30.04	34.44	39.01	43.64		48.98	1 / 1			
reaction time	0.167 interval		3.74	3.83	3.89	4.04		4.23	4.29	4.40	4.57	4.63	5.34			11.46	12.56	13.60
	velocity	7.48	9.36	9.14	9.00	8.66	8.65	8.27	8.16	7.95	7.66	7.56	7.49	8.17		9.16	8.36	7.72
H1 lead leg	R strides	22	14	14	14	14		14	15	15	15	15	152					

2012 Italian National Championships (Napoli, ITA)

FINAL

date 08-Jul-12

FIDAL - Centro Studi & Ricerche (2012) - www.youtube.com/watch?v=Jmz79eerIOs

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Bencosme, José Reynaldo (I)	time	6.20	10.00	13.93	17.93	21.97		26.05	30.36	34.75	39.24	43.91		49.33	6 / 1			
reaction time	interval		3.80	3.93	4.00	4.04		4.08	4.31	4.39	4.49	4.67	5.42	PB		11.73	12.43	13.55
	velocity	7.26	9.21	8.91	8.75	8.66		8.58	8.12	7.97	7.80	7.49	7.38	8.11		8.95	8.45	7.75
H1 lead leg	R strides																	

2012 Japanese National Championships (Osaka, JPN)

FINAL

date 09-Jun-12

Yasunori (2013) - race pattern analysis for the top Japanese 400m hurdlers in major domestic competitions

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kishimoto, Takayuki (JPN)	(1 time)	5.76	9.43	13.25	17.15	21.25		25.49	29.74	34.16	38.66	43.28		48.41	5 / 1			
reaction time	interval		3.67	3.82	3.90	4.10		4.24	4.25	4.42	4.50	4.62	5.13	PB		11.39	12.59	13.54
	velocity	7.81	9.54	9.16	8.97	8.54		8.25	8.24	7.92	7.78	7.58	7.80	8.26		9.22	8.34	7.75
H1 lead leg	R strides	21	13	13	13	13		14	14	15	15	15	18	164				
Nakamura, Akihiko (JPN)	(19 time)	6.09	9.96	14.01	18.15	22.34		26.63	30.98	35.42	40.01	44.49		49.38	6 / 2			
reaction time	interval		3.87	4.05	4.14	4.19		4.29	4.35	4.44	4.59	4.48	4.89	PB		12.06	12.83	13.51
	velocity	7.39	9.04	8.64	8.45	8.35		8.16	8.05	7.88	7.63	7.81	8.18	8.10		8.71	8.18	7.77
H1 lead leg	L strides	21	13	13	13	13		14	14	14	15	15	18.2	163.2				
Tateno, Tetsuya (JPN) (1991)	time	6.12	9.96	13.81	17.80	21.85		26.09	30.43	34.83	39.48	44.20		49.49	7 / 3			
reaction time	interval		3.84	3.85	3.99	4.05		4.24	4.34	4.40	4.65	4.72	5.29	=PB		11.68	12.63	13.77
	velocity	7.35	9.11	9.09	8.77	8.64		8.25	8.06	7.95	7.53	7.42	7.56	8.08		8.99	8.31	7.63
H1 lead leg	R strides	22	14	14	14	14		15	15	15	16	16	19.5	174.5				
Imazeki, Yuta (JPN) (1987)	time	6.19	10.14	14.11	18.25	22.48		26.72	30.96	35.25	39.69	44.21		49.50	8 / 4			
reaction time	interval		3.95	3.97	4.14	4.23		4.24	4.24	4.29	4.44	4.52	5.29			12.06	12.71	13.25
	velocity	7.27	8.86	8.82	8.45	8.27		8.25	8.25	8.16	7.88	7.74	7.56	8.08		8.71	8.26	7.92
H1 lead leg	R strides	22	14	14	14	14		15	15	15	15	15	18.7	171.7				

Abe, Takatoshi (JPN) (1991)	time	6.02	9.79	13.57	17.42	21.46	25.66	29.93	34.45	39.15	43.99		49.57	4 / 5			
	reaction time	interval	3.77	3.78	3.85	4.04	4.20	4.27	4.52	4.70	4.84	5.58			11.40	12.51	14.06
		velocity	7.48	9.28	9.26	9.09	8.66	8.33	8.20	7.74	7.45	7.23	7.17	8.07	9.21	8.39	7.47
	H1 lead leg	R	strides	20	13	13	13	13	14	14	15	15	15	18.2	163.2		

2012 Shizuoka International Athletics Meeting (Fukuroi, JPN)

A FINAL

date 03-May-12

Yasunori (2013) - race pattern analysis for the top Japanese 400m hurdlers in major domestic competitions

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kishimoto, Takayuki (JPN) (time	5.77	9.51	13.31	17.25	21.35	25.69	30.04	34.54	39.09	43.69		48.88	/ 1				
	reaction time	interval	3.74	3.80	3.94	4.10	4.34	4.35	4.50	4.55	4.60	5.19			11.48	12.79	13.65	
		velocity	7.80	9.36	9.21	8.88	8.54	8.06	8.05	7.78	7.69	7.61	7.71	8.18	9.15	8.21	7.69	
	H1 lead leg		strides	13	13	13	13	14	14	15	15	15	125					
Imazeki, Yuta (JPN) (1987)	time	6.22	10.11	14.01	18.00	22.15	26.30	30.59	35.08	39.68	44.38		49.76	/ 3				
	reaction time	interval	3.89	3.90	3.99	4.15	4.15	4.29	4.49	4.60	4.70	5.38			11.78	12.59	13.79	
		velocity	7.23	9.00	8.97	8.77	8.43	8.43	8.16	7.80	7.61	7.45	7.43	8.04	8.91	8.34	7.61	
	H1 lead leg		strides	14	14	14	14	15	15	15	15	15	131					

B FINAL

date 03-May-12

Yasunori (2013) - race pattern analysis for the top Japanese 400m hurdlers in major domestic competitions

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Nozawa, Keisuke (JPN) (1991)	time	6.17	10.07	14.07	18.12	22.32	26.54	30.89	35.34	39.98	44.75		50.00	/ 1				
	reaction time	interval	3.90	4.00	4.05	4.20	4.22	4.35	4.45	4.64	4.77	5.25			11.95	12.77	13.86	
		velocity	7.29	8.97	8.75	8.64	8.33	8.29	8.05	7.87	7.54	7.34	7.62	8.00	8.79	8.22	7.58	
	H1 lead leg		strides	14	14	14	14	14	14	14	14	15	127					
Tateno, Tetsuya (JPN) (1991)	time	6.14	10.04	13.96	17.95	21.99	26.24	30.64	35.13	39.78	44.62		50.15	/ 2				
	reaction time	interval	3.90	3.92	3.99	4.04	4.25	4.40	4.49	4.65	4.84	5.53			11.81	12.69	13.98	
		velocity	7.33	8.97	8.93	8.77	8.66	8.24	7.95	7.80	7.53	7.23	7.98	8.89	8.27	7.51		
	H1 lead leg		strides	14	14	14	14	15	15	15	15	15	131					

D FINAL

date 03-May-12

Yasunori (2013) - race pattern analysis for the top Japanese 400m hurdlers in major domestic competitions

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kino, Tomoharu (JPN) (1987)	time	6.07	9.92	13.87	17.87	21.97	26.26	30.68	35.28	40.07	44.83		50.08	/ 1				
	reaction time	interval	3.85	3.95	4.00	4.10	4.29	4.42	4.60	4.79	4.76	5.25			11.80	12.81	14.15	
		velocity	7.41	9.09	8.86	8.75	8.54	8.16	7.92	7.61	7.31	7.35	7.62	7.99	8.90	8.20	7.42	
	H1 lead leg		strides	13	13	13	14	14	15	15	15	15	127					

2011 Chinese National Championships (Hefei, CHN)

FINAL

date 09-Sep-11

Li (2008) - research on training characteristics of Li Zhilong's of Chinese men's 400m hurdles

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Li Zhilong (CHN) (1988)	time	6.08	9.92	13.92	17.92	22.04	26.36	30.68	35.08	39.60	44.20		49.47	/ 1				
	reaction time	interval	3.84	4.00	4.00	4.12	4.32	4.32	4.40	4.52	4.60	5.27	PB		11.84	12.76	13.52	
		velocity	7.40	9.11	8.75	8.75	8.50	8.10	8.10	7.95	7.74	7.61	7.59	8.09	8.87	8.23	7.77	
	H1 lead leg		strides	22	15	15	15	15	15	15	15	15	18	175				

2011 IAAF World Championships (Daegu, KOR)

FINAL

date 01-Sep-11

Behm (2011) - Le quatrache: Démus enfin!

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Greene, David (Dai) (GBR) (time	5.9	9.6	13.3	17.2	21.1	25.2	29.4	33.8	38.3	42.9		48.26	6 / 1				
	reaction time	0.153	interval	3.7	3.7	3.9	3.9	4.1	4.2	4.4	4.5	4.6	5.4			11.30	12.20	13.50
		velocity	7.63	9.46	9.46	8.97	8.97	8.54	8.33	7.95	7.78	7.61	7.46	8.29	9.29	8.61	7.78	
	H1 lead leg	R	strides	21	14	14	14	14	15	15	15	15	18.5	169.5				
Culson, Javier (PUR) (1984)	time	5.8	9.4	13.1	16.9	20.9	24.9	29.2	33.5	38.1	42.8		48.44	3 / 2				
	reaction time	0.190	interval	3.6	3.7	3.8	4.0	4.0	4.3	4.3	4.6	4.7	5.6			11.10	12.30	13.60
		velocity	7.76	9.72	9.46	9.21	8.75	8.75	8.14	8.14	7.61	7.45	7.09	8.26	9.46	8.54	7.72	
	H1 lead leg	L	strides	20	13	13	13	13	13	13	14	14	18	157				
van Zyl, LJ (RSA) (1985)	time	5.8	9.5	13.1	17.0	21.0	24.9	29.1	33.5	38.1	43.0		48.80	8 / 3				
	reaction time	0.177	interval	3.7	3.6	3.9	4.0	3.9	4.2	4.4	4.6	4.9	5.8			11.20	12.10	13.90
		velocity	7.76	9.46	9.72	8.97	8.75	8.97	8.33	7.95	7.61	7.14	6.90	8.20	9.38	8.68	7.55	
	H1 lead leg	L	strides	21	14	14	14	14	15	15	16	16	20	173				
Sánchez, Félix (DOM) (1977)	time	5.8	9.5	13.1	16.9	21.0	25.1	29.3	33.7	38.3	43.3		48.87	7 / 4				
	reaction time	0.179	interval	3.7	3.6	3.8	4.1	4.1	4.2	4.4	4.6	5.0	5.6			11.10	12.40	14.00
		velocity	7.76	9.46	9.72	9.21	8.54	8.54	8.33	7.95	7.61	7.00	7.18	8.18	9.46	8.47	7.50	
	H1 lead leg	R	strides	20	13	13	13	14	14	15	15	16	19	165				
Fredericks, Cornel (RSA) (19	time	5.8	9.5	13.3	17.2	21.3	25.3	29.5	34.0	38.6	43.4		49.12	4 / 5				
	reaction time	0.170	interval	3.7	3.8	3.9	4.1	4.0	4.2	4.5	4.6	4.8	5.7			11.40	12.30	13.90
		velocity	7.76	9.46	9.21	8.97	8.54	8.75	8.33	7.78	7.61	7.29	6.99	8.14	9.21	8.54	7.55	
	H1 lead leg	L	strides	21	14	14	14	15	15	15	16	16	20	174				
Jackson, Bershawn (USA) (1	time	5.7	9.3	13.3	17.2	21.2	25.4	29.6	33.8	38.4	43.3		49.24	5 / 6				
	reaction time	0.151	interval	3.6	4.0	3.9	4.0	4.2	4.2	4.2	4.6	4.9	5.9			11.50	12.40	13.70
		velocity	7.89	9.72	8.75	8.97	8.75	8.33	8.33	8.33	7.61	7.14	6.73	8.12	9.13	8.47	7.66	
	H1 lead leg	L	strides	22	15	15	15	15	15	15	15	17	20	179				

Taylor, Angelo (USA) (1978)	time	5.8	9.4	13.0	16.7	20.7	24.8	29.1	33.6	38.3	43.2	49.31	1 / 7					
	reaction time	0.150	interval	3.6	3.6	3.7	4.0	4.1	4.3	4.5	4.7	4.9	6.1		10.90	12.40	14.10	
	velocity	7.76	9.72	9.72	9.46	8.75	8.54	8.14	7.78	7.45	7.14	6.55	8.11		9.63	8.47	7.45	
	H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	16	19	166			
Derevyagin, Aleksandr (RUS)	time	6.0	9.7	13.7	17.6	21.6	25.8	30.2	34.6	39.0	43.7	49.32	2 / 8					
	reaction time	0.187	interval	3.7	4.0	3.9	4.0	4.2	4.4	4.4	4.4	4.7	5.6		11.60	12.60	13.50	
	velocity	7.50	9.46	8.75	8.97	8.75	8.33	7.95	7.95	7.95	7.45	7.12	8.11		9.05	8.33	7.78	
	H1 lead leg	L	strides	22	15	15	16	15	15	15	15	15	18	176				

Heat 1

date 29-Aug-11

Beck (2011) - 400-meter-hürdensprinter im aufschwung

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Fleischhauer, Georg (GER)	time	6.16	9.96	13.84	17.78	21.77	25.85	30.08	34.48	38.96	43.52	48.72	48.72	4 / 3				
	reaction time	0.176	interval	3.80	3.88	3.94	3.99	4.08	4.23	4.40	4.48	4.56	5.20	PB		11.62	12.30	13.44
	velocity	7.31	9.21	9.02	8.88	8.77	8.58	8.27	7.95	7.81	7.68	7.69	8.21		9.04	8.54	7.81	
	H1 lead leg		strides	21	13	13	13	13	13	14	14	14	141					

2011 Japanese National High School Championships (Kitakami, JPN)

FINAL

date 05-Aug-11

Abe (2011) - 64th high school championships: JAF scientific committee - biomechanics data collection

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Okada, Sohei (JPN) (1993)	time	6.15	10.17	14.27	18.44	22.60	26.86	31.44	36.26	41.26	46.26	51.72	51.72	7 / 1				
	reaction time	interval	4.02	4.10	4.17	4.16	4.26	4.58	4.82	5.00	5.00	5.46				12.29	13.00	14.82
	velocity	7.32	8.71	8.54	8.39	8.41	8.22	7.64	7.26	7.00	7.00	7.33	7.73		8.54	8.08	7.09	
	H1 lead leg		strides															
Matsumoto, Takahiro (JPN)	time	6.22	10.40	14.69	19.02	23.37	27.77	32.19	36.82	41.71	46.74	52.34	52.34	6 / 2				
	reaction time	interval	4.18	4.29	4.33	4.35	4.40	4.42	4.63	4.89	5.03	5.60				12.80	13.17	14.55
	velocity	7.23	8.37	8.16	8.08	8.05	7.95	7.92	7.56	7.16	6.96	7.14	7.64		8.20	7.97	7.22	
	H1 lead leg		strides															
Sato, Yota (JPN) (1992)	time	6.22	10.24	14.40	18.62	22.85	27.24	31.79	36.64	41.84	47.06	52.48	52.48	8 / 3				
	reaction time	interval	4.02	4.16	4.22	4.23	4.39	4.55	4.85	5.20	5.22	5.42				12.40	13.17	15.27
	velocity	7.23	8.71	8.41	8.29	8.27	7.97	7.69	7.22	6.73	6.70	7.38	7.62		8.47	7.97	6.88	
	H1 lead leg		strides															

2011 German National Championship (Kassel, GER)

FINAL

date 24-Jul-11

Beck (2011) - 400-meter-hürdensprinter im aufschwung

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Gollnow, David (GER) (1989)	time	6.26	10.12	13.94	17.80	21.81	25.96	30.34	34.93	39.62	44.35	49.56	49.56	6 / 1				
	reaction time	0.175	interval	3.86	3.82	3.86	4.01	4.15	4.38	4.59	4.69	4.73	5.21			11.54	12.54	14.01
	velocity	7.19	9.07	9.16	9.07	8.73	8.43	7.99	7.63	7.46	7.40	7.68	8.07		9.10	8.37	7.49	
	H1 lead leg		strides	21	13	13	13	13	14	14	15	15	144					

2011 European U23 Championships (Ostrava, CZE)

FINAL

date 16-Jul-11

Beck (2011) - 400-meter-hürdensprinter im aufschwung

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Gollnow, David (GER) (1989)	time	6.22	10.16	14.19	18.16	22.30	26.62	31.02	35.54	40.20	44.84	49.97	49.97	2 / 6				
	reaction time	0.201	interval	3.94	4.03	3.97	4.14	4.32	4.40	4.52	4.66	4.64	5.13			11.94	12.86	13.82
	velocity	7.23	8.88	8.68	8.82	8.45	8.10	7.95	7.74	7.51	7.54	7.80	8.00		8.79	8.16	7.60	
	H1 lead leg		strides	21	13	13	13	14	14	14	15	15	145					

2011 Asian Championships (Kobe, JPN)

FINAL

date 09-Jul-11

Yasuhori (2012) - race pattern analysis of top Japanese 400m hurdlers at major domestic competitions 2009-11

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Abe, Takatoshi (JPN) (1991)	time	6.03	9.75	13.55	17.44	21.39	25.56	29.86	34.38	39.20	44.05	49.64	49.64	1 / 1				
	reaction time	0.168	interval	3.72	3.80	3.89	3.95	4.17	4.30	4.52	4.82	4.85	5.59			11.41	12.42	14.19
	velocity	7.46	9.41	9.21	9.00	8.86	8.39	8.14	7.74	7.26	7.22	7.16	8.06		9.20	8.45	7.40	
	H1 lead leg		strides	13	13	13	13	14	14	14	16	15	125					

2011 DLV Junioren-Gala (Mannheim, GER)

FINAL

date 03-Jul-11

Beck (2011) - 400-meter-hürdensprinter im aufschwung

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Königsmark, Varg (GER) (19)	time	6.12	10.02	14.06	18.10	22.22	26.44	30.74	35.22	39.97	44.86	50.46	50.46	1 / 1				
	reaction time	interval	3.90	4.04	4.04	4.12	4.22	4.30	4.48	4.75	4.89	5.60				11.98	12.64	14.12
	velocity	7.35	8.97	8.66	8.66	8.50	8.29	8.14	7.81	7.37	7.16	7.14	7.93		8.76	8.31	7.44	
	H1 lead leg		strides	20	13	13	13	13	14	14	15	15	143					

2011 Weltklasse in Biberach (Biberach, GER)

FINAL

date 28-Jun-11

Beck (2011) - 400-meter-hürdensprinter im aufschwung

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Fleischhauer, Georg (GER)	time	6.30	10.16	14.06	18.02	22.04	26.26	30.58	35.00	39.64	44.26	49.50	49.50	1 / 2				
	reaction time	interval	3.86	3.90	3.96	4.02	4.22	4.32	4.42	4.64	4.62	5.24				11.72	12.56	13.68
	velocity	7.14	9.07	8.97	8.84	8.71	8.29	8.10	7.92	7.54	7.58	7.63	8.08		8.96	8.36	7.68	
	H1 lead leg		strides	20	13	13	13	13	13	13	14	14	139					

2011 German National Junior Championship (Bremen, GER)

FINAL

date 26-Jun-11

Beck (2011) - 400-meter-hürdensprinter im aufschwung

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Königsmark, Varg (GER) (19) time	6.22	10.12	14.14	18.21	22.40		26.84	31.38	35.98	40.54	45.18		50.24	/ 1			
reaction time	interval	3.90	4.02	4.07	4.19		4.44	4.54	4.60	4.56	4.64	5.06			11.99	13.17	13.80
	velocity	7.23	8.97	8.71	8.60	8.35	7.88	7.71	7.61	7.68	7.54	7.91	7.96		8.76	7.97	7.61
H1 lead leg	strides	20	13	13	13	13	14	14	14	14	14		142				

2011 Chinese National Grand Prix (Fuzhou, CHN)

FINAL

date 26-Jun-11

Li (2008) - research on training characteristics of Li Zhilong's of Chinese men's 400m hurdles

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Li Zhilong (CHN) (1988) time	6.08	9.88	13.84	17.80	21.88		26.16	30.48	35.04	39.68	44.48		49.58	/ 2			
reaction time	interval	3.80	3.96	3.96	4.08		4.28	4.32	4.56	4.64	4.80	5.10	PB		11.72	12.68	14.00
	velocity	7.40	9.21	8.84	8.84	8.58	8.18	8.10	7.68	7.54	7.29	7.84	8.07		8.96	8.28	7.50
H1 lead leg	strides																

2011 Poks Memorial (Hässleholm, SWE)

FINAL

date 12-Jun-11

Blomkvist (2011) - www.elitlandslag.se/SprintHäck/LängSprintHäck.aspx

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Carbe, Jonathan (SWE) (199) time	6.44	10.58	14.84	19.26	23.70		28.42	33.16	37.94	42.94	47.94		53.59	/ 1			
reaction time	interval	4.14	4.26	4.42	4.44		4.72	4.74	4.78	5.00	5.00	5.65			12.82	13.90	14.78
	velocity	6.99	8.45	8.22	7.92	7.88	7.42	7.38	7.32	7.00	7.00	7.08	7.46		8.19	7.55	7.10
H1 lead leg	L strides		14	14	14	14	15	15	15	15	15	19	150				
Christensson, Jim (SWE) (1987) time	6.60	10.90	15.36	19.80	24.28		28.84	33.44	38.16	43.16	48.16		53.73	/ 2			
reaction time	interval	4.30	4.46	4.44	4.48		4.56	4.60	4.72	5.00	5.00	5.57			13.20	13.64	14.72
	velocity	6.82	8.14	7.85	7.88	7.81	7.68	7.61	7.42	7.00	7.00	7.18	7.44		7.95	7.70	7.13
H1 lead leg	L strides		15	15	15	15	15	15	15	16	16	19	156				
Nilsson, Anton (SWE) (1992) time	6.42	10.52	14.82	19.14	23.66		28.24	33.02	37.88	42.90	48.24		54.22	/ 3			
reaction time	interval	4.10	4.30	4.32	4.52		4.58	4.78	4.86	5.02	5.34	5.98			12.72	13.88	15.22
	velocity	7.01	8.54	8.14	8.10	7.74	7.64	7.32	7.20	6.97	6.55	6.69	7.38		8.25	7.56	6.90
H1 lead leg	L strides		14	14	14	14	14	15	15	15	16	19	150				
Forsberg, Anton (SWE) (199) time		10.76	15.06	19.36	23.78			33.10	37.88	42.84	48.08		54.40	/ 4			
reaction time	interval		4.30	4.30	4.42			9.32	4.78	4.96	5.24	6.32	PB			13.74	14.98
	velocity		7.43	8.14	8.14	7.92		7.51	7.32	7.06	6.68	6.33	7.35			7.64	7.01
H1 lead leg	R strides		14	14	14	14	15	15	15	15	15	19	150				

2011 Japanese National Championships (Kumagaya, JPN)

FINAL

date 11-Jun-11

Yasuho (2012) - race pattern analysis of top Japanese 400m hurdlers at major domestic competitions 2009-11

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kishimoto, Takayuki (JPN) (1987) time	5.94	9.74	13.63	17.62	21.81		25.91	30.21	34.63	39.23	43.92		49.28	/ 1			
reaction time	interval	3.80	3.89	3.99	4.19		4.10	4.30	4.42	4.60	4.69	5.36			11.68	12.59	13.71
	velocity	7.58	9.21	9.00	8.77	8.35	8.54	8.14	7.92	7.61	7.46	7.46	8.12		8.99	8.34	7.66
H1 lead leg	strides		13	13	13	14	14	14	14	15	15		125				
Imazeki, Yuta (JPN) (1987) time	6.21	10.15	14.19	18.21	22.26		26.33	30.53	34.93	39.52	44.22		49.61	/ 2			
reaction time	interval	3.94	4.04	4.02	4.05		4.07	4.20	4.40	4.59	4.70	5.39			12.00	12.32	13.69
	velocity	7.25	8.88	8.66	8.71	8.64	8.60	8.33	7.95	7.63	7.45	7.42	8.06		8.75	8.52	7.67
H1 lead leg	strides		14	14	14	14	15	15	15	15	15		131				
Abe, Takatoshi (JPN) (1991) time	6.19	10.08	14.02	18.02	22.14		26.41	30.71	35.20	39.74	44.41		49.81	/ 3			
reaction time	interval	3.89	3.94	4.00	4.12		4.27	4.30	4.49	4.54	4.67	5.40			11.83	12.69	13.70
	velocity	7.27	9.00	8.88	8.75	8.50	8.20	8.14	7.80	7.71	7.49	7.41	8.03		8.88	8.27	7.66
H1 lead leg	strides		13	13	13	13	14	14	15	15	15		125				
Ideura, Noriuki (JPN) (1987) time	6.27	10.24	14.24	18.29	22.44		26.66	30.98	35.40	39.92	44.57		49.87	/ 4			
reaction time	interval	3.97	4.00	4.05	4.15		4.22	4.32	4.42	4.52	4.65	5.30	PB		12.02	12.69	13.59
	velocity	7.18	8.82	8.75	8.64	8.43	8.29	8.10	7.92	7.74	7.53	7.55	8.02		8.74	8.27	7.73
H1 lead leg	strides		14	14	14	14	14	15	15	15	15		130				

2011 Friidrott (Stockholm, SWE)

FINAL

date 07-Jun-11

Blomkvist (2011) - www.elitlandslag.se/SprintHäck/LängSprintHäck.aspx

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Bäckman, Mattias (SWE) (19) time	6.72	11.00	15.44	19.78	24.34		29.02	33.90	38.66	43.90	49.04		54.66	/ 1			
reaction time	interval	4.28	4.44	4.34	4.56		4.68	4.88	4.76	5.24	5.14	5.62			13.06	14.12	15.14
	velocity	6.70	8.18	7.88	8.06	7.68	7.48	7.17	7.35	6.68	6.81	7.12	7.32		8.04	7.44	6.94
H1 lead leg	L strides		15	15	15	15	15	15	15	15	15	19	154				
Nilsson, Anton (SWE) (1992) time	6.40	10.60	14.84	19.14	23.56		28.16	32.86	37.78	43.20	48.62		54.86	/ 2			
reaction time	interval	4.20	4.24	4.30	4.42		4.60	4.70	4.92	5.42	5.42	6.24			12.74	13.72	15.76
	velocity	7.03	8.33	8.25	8.14	7.92	7.61	7.45	7.11	6.46	6.46	6.41	7.29		8.24	7.65	6.66
H1 lead leg	L strides		14	14	14	14	14	15	15	16	16	19	151				
Sjöstedt, Carl (SWE) (84 cm) time	6.80	11.20	15.58	20.10	24.74		29.54	34.54	39.58	44.86	50.08		55.82	/ 3			
reaction time	interval	4.40	4.38	4.52	4.64		4.80	5.00	5.04	5.28	5.22	5.74			13.30	14.44	15.54

	velocity	6.62	7.95	7.99	7.74	7.54		7.29	7.00	6.94	6.63	6.70	6.97	7.17		7.89	7.27	6.76
H1 lead leg	L	strides	15	15	15	15		15	16	16	17	17	19	160				
Widlund, Hampus (SWE) (1987)	time	6.72	11.10	15.64	20.24	24.94		29.74	34.82	39.96	45.28	50.84		57.57	/ 4			
reaction time	interval		4.38	4.54	4.60	4.70		4.80	5.08	5.14	5.32	5.56	6.73			13.52	14.58	16.02
	velocity	6.70	7.99	7.71	7.61	7.45		7.29	6.89	6.81	6.58	6.29	5.94	6.95		7.77	7.20	6.55
H1 lead leg	R	strides	14	14	14	14		15		15	15	17	19	137				

2011 Shizuoka International Athletics Meeting (Fukuroi, JPN)

Race A

date 03-May-11

Yasuho (2012) - race pattern analysis of top Japanese 400m hurdlers at major domestic competitions 2009-11

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kishimoto, Takayuki (JPN) (1987)	time	5.97	9.76	13.66	17.66	21.85		26.09	30.38	34.75	39.35	43.96		49.27	/ 2			
reaction time	interval		3.79	3.90	4.00	4.19		4.24	4.29	4.37	4.60	4.61	5.31	PB		11.69	12.72	13.58
	velocity	7.54	9.23	8.97	8.75	8.35		8.25	8.16	8.01	7.61	7.59	7.53	8.12		8.98	8.25	7.73
H1 lead leg		strides	13	13	13	14		14	14	14	15	15		125				
Imazeki, Yuta (JPN) (1987)	time	6.21	10.16	14.13	18.17	22.32		26.56	30.85	35.29	39.84	44.46		49.71	/ 3			
reaction time	interval		3.95	3.97	4.04	4.15		4.24	4.29	4.44	4.55	4.62	5.25			11.96	12.68	13.61
	velocity	7.25	8.86	8.82	8.66	8.43		8.25	8.16	7.88	7.69	7.58	7.62	8.05		8.78	8.28	7.71
H1 lead leg		strides	14	14	14	14		15	15	15	15	15		131				

Race B

date 03-May-11

Yasuho (2012) - race pattern analysis of top Japanese 400m hurdlers at major domestic competitions 2009-11

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tamesue, Dai (JPN) (1978)	time	6.03	9.77	13.71	17.75	21.84		26.06	30.40	34.94	39.63	44.40		49.89	/ 1			
reaction time	interval		3.74	3.94	4.04	4.09		4.22	4.34	4.54	4.69	4.77	5.49			11.72	12.65	14.00
	velocity	7.46	9.36	8.88	8.66	8.56		8.29	8.06	7.71	7.46	7.34	7.29	8.02		8.96	8.30	7.50
H1 lead leg		strides	13	13	13	13		14	14	15	15	15		125				

2010 Commonwealth Games (Dehli, IND)

FINAL

date 10-Oct-10

Arnold (2010) - 400mH planning and peaking

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Greene, David (Dai) (GBR) (1981)	time	6.1	9.9	13.7	17.7	21.7	23.5	25.9	30.1	34.4	38.9	43.5		48.52	6 / 1			
reaction time	0.163 interval		3.8	3.8	4.0	4.0		4.2	4.2	4.3	4.5	4.6	5.02			11.60	12.40	13.40
	velocity	7.38	9.21	9.21	8.75	8.75	8.51	8.33	8.33	8.14	7.78	7.61	7.97	8.24		9.05	8.47	7.84
H1 lead leg	R	strides	21	14	14	14	14	14	15	15	15	15	19	170				
van Zyl, LJ (RSA) (1985)	0.201	no information available												48.63	7 / 2			
Williams, Rhys (GBR) (1984)	time	6.2	10.2	14.2	18.3	22.5	24.3	26.8	31.1	35.4	39.9	44.2		49.19	5 / 3			
reaction time	0.214 interval		4.0	4.0	4.1	4.2		4.3	4.3	4.3	4.5	4.3	4.99			12.10	12.80	13.10
	velocity	7.26	8.75	8.75	8.54	8.33	8.23	8.14	8.14	8.14	7.78	8.14	8.02	8.13		8.68	8.20	8.02
H1 lead leg	R	strides	22	14	14	14	14	14	15	15	15	15	18.5	170.5				
Kosgei, Vincent (KEN) (1985)	0.225	no information available												PB 49.36	9 / 4			
Yates, Richard (GBR) (1986)	time	6.2	10.1	14.1	18.2	22.4		26.5	30.9	35.3	39.8	44.5		49.84	4 / 5			
reaction time	0.225 interval		3.9	4.0	4.1	4.2		4.1	4.4	4.4	4.5	4.7	5.34			12.00	12.70	13.60
	velocity	7.26	8.97	8.75	8.54	8.33		8.54	7.95	7.95	7.78	7.45	7.49	8.03		8.75	8.27	7.72
H1 lead leg	R	strides	21	14	14	14	14	14	14	14	15	15	18	167				
Cole, Brendan (AUS) (1981)	0.221	no information available												50.14	8 / 6			
Findlay, Adrian (JAM) (1982)	0.169	no information available												50.48	3 / 7			
Hughes, David (GBR) (1984)	time	6.0	9.9	13.7	17.8	21.9	23.7	26.1	30.6	35.3	40.1	44.9		50.48	2 / 8			
reaction time	0.170 interval		3.9	3.8	4.1	4.1		4.2	4.5	4.7	4.8	4.8	5.58			11.78	12.82	14.30
	velocity	7.50	8.97	9.21	8.58	8.50	8.44	8.33	7.78	7.45	7.29	7.29	7.17	7.92		8.91	8.19	7.34
H1 lead leg	R	strides	20	13	13	13	13	13	13	15	15	15	17.7	160.7				

Heat 3

date 09-Oct-10

Arnold (2010) - 400mH planning and peaking

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Yates, Richard (GBR) (1986)	time	6.0	9.9	13.8	17.9	22.1	23.9	26.3	30.6	35.0	39.6	44.3		49.83	5 / 1			
reaction time	0.233 interval		3.9	3.9	4.1	4.2		4.2	4.3	4.4	4.6	4.7	5.53			11.90	12.70	13.70
	velocity	7.50	8.97	8.97	8.54	8.33	8.37	8.33	8.14	7.95	7.61	7.45	7.23	8.03		8.82	8.27	7.66
H1 lead leg		strides																

Heat 2

date 09-Oct-10

Arnold (2010) - 400mH planning and peaking

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Greene, David (Dai) (GBR) (1981)	time	6.1	10.0	14.0	18.0	22.3	24.1	26.6	30.9	35.4	40.0	44.6		49.98	4 / 1			
reaction time	0.177 interval		3.9	4.0	4.0	4.3		4.3	4.3	4.5	4.6	4.6	5.38			11.90	12.90	13.70
	velocity	7.38	8.97	8.75	8.75	8.14	8.30	8.14	8.14	7.78	7.61	7.61	7.43	8.00		8.82	8.14	7.66
H1 lead leg		strides																

Heat 1

date 09-Oct-10

Arnold (2010) - 400mH planning and peaking

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Williams, Rhys (GBR) (1984)	time	6.1	10.1	14.1	18.1	22.2	24.0	26.4	30.7	35.3	39.9	44.4		49.81	4 / 1			
reaction time	0.209 interval		4.0	4.0	4.0	4.1		4.2	4.3	4.6	4.6	4.5	5.41			12.00	12.60	13.70
	velocity	7.38	8.75	8.75	8.75	8.54	8.33	8.33	8.14	7.61	7.61	7.78	7.39	8.03		8.75	8.33	7.66

H1 lead leg strides

Hughes, David (GBR) (1984)	time	5.9	9.8	13.8	17.8	21.9	23.7	26.2	30.6	35.2	40.0	44.8		50.55	6 / 3				
	reaction time	0.180	interval	3.9	4.0	4.0	4.1	4.3	4.4	4.6	4.8	4.8	5.75			11.90	12.80	14.20	
			velocity	7.63	8.97	8.75	8.75	8.54	8.44	8.14	7.95	7.61	7.29	7.29	6.96	7.91	8.82	8.20	7.39
	H1 lead leg		strides																

2010 Japanese National High School Championships (Okinawa, JPN)

FINAL

date 31-Jul-10

Matsuo (2010) - 63rd high school championships: JAF scientific committee - biomechanics data collection

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kato, Seiya (JPN) (1992)	time	6.37	10.32	14.27	18.24	22.41		26.63	30.98	35.62	40.46	45.45		51.04	/ 1			
	reaction time		interval	3.95	3.95	3.97	4.17	4.22	4.35	4.64	4.84	4.99	5.59			11.87	12.74	14.47
			velocity	7.06	8.86	8.86	8.82	8.29	8.05	7.54	7.23	7.01	7.16	7.84		8.85	8.24	7.26
	H1 lead leg		strides		13	13	13	14	14	15	15	15	15	127				
Nagano, Yuichi (JPN) (1993)	time	6.44	10.41	14.45	18.52	22.67		26.97	31.37	35.91	40.90	46.09		52.03	/ 2			
	reaction time		interval	3.97	4.04	4.07	4.15	4.30	4.40	4.54	4.99	5.19	5.94			12.08	12.85	14.72
			velocity	6.99	8.82	8.66	8.60	8.14	7.95	7.71	7.01	6.74	6.73	7.69		8.69	8.17	7.13
	H1 lead leg		strides		13	13	13	14	14	14	15	15	15	124				
Chiba, Yuto (JPN) (1992)	time	6.37	10.37	14.46	18.61	22.86		27.25	31.82	36.61	41.70	46.87		52.47	/ 3			
	reaction time		interval	4.00	4.09	4.15	4.25	4.39	4.57	4.79	5.09	5.17	5.60			12.24	13.21	15.05
			velocity	7.06	8.75	8.56	8.43	7.97	7.66	7.31	6.88	6.77	7.14	7.62		8.58	7.95	6.98
	H1 lead leg		strides		15	15	15	15	15	15	16	16	137					

2010 European Championships (Barcelona, ESP)

FINAL

date 31-Jul-10

Behm (2010) - les haies bases

Arnold (2010) - 400mH planning and peaking

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Greene, David (Dai) (GBR) (1984)	time	6.08	9.86	13.70	17.56	21.52		25.54	29.70	33.96	38.38	42.96		48.12	3 / 1			
	reaction time	0.175	interval	3.78	3.84	3.86	3.96	4.02	4.16	4.26	4.42	4.58	5.16			11.48	12.14	13.26
			velocity	7.40	9.26	9.11	9.07	8.71	8.41	8.22	7.92	7.64	7.75	8.31		9.15	8.65	7.92
	H1 lead leg	R	strides		21	14	14	14	14	15	15	15	19	170				
Williams, Rhys (GBR) (1984)	time	6.20	10.06	13.96	17.78	21.72		25.72	29.86	34.12	38.62	43.36		48.96	5 / 2			
	reaction time	0.195	interval	3.86	3.90	3.82	3.94	4.00	4.14	4.26	4.50	4.74	5.60	PB		11.58	12.08	13.50
			velocity	7.26	9.07	8.97	9.16	8.75	8.45	8.22	7.78	7.38	7.14	8.17		9.07	8.69	7.78
	H1 lead leg	R	strides		22	14	14	14	15	15	15	15	19.5	171.5				
Melnykov, Stanislav (UKR) (1984)	time	6.1	9.9	13.7	17.5	21.5		25.7	29.9	34.4	39.0	43.7		49.09	6 / 3			
	reaction time	0.314	interval	3.8	3.8	3.8	4.0	4.2	4.2	4.5	4.6	4.7	5.4			11.40	12.40	13.80
			velocity	7.38	9.21	9.21	9.21	8.33	8.33	7.78	7.61	7.45	7.42	8.15		9.21	8.47	7.61
	H1 lead leg	R	strides		21	13	13	13	14	14	15	15	18	164				
Kechi, Heni (FRA) (1980)	time	6.1	10.0	14.0	18.1	22.3		26.5	30.7	35.0	39.4	44.0		49.34	7 / 4			
	reaction time	0.186	interval	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.4	4.6	5.3			12.00	12.60	13.30
			velocity	7.38	8.97	8.75	8.54	8.33	8.33	8.14	7.95	7.61	7.49	8.11		8.75	8.33	7.89
	H1 lead leg	R	strides		22	15	15	15	15	15	15	15	19.5	176.5				
Iakovakis, Periklis (GRE) (1977)	0.225													49.38	1 / 5			
Prokok, Josef (CZE) (1987)	0.217													PB	49.68	2 / 6		
Derevyagin, Aleksandr (RUS) (1987)	0.200													49.70	4 / 7			
Bellaabouss, Fadil (FRA) (1984)	time	6.2	10.3	14.5										62.94	8 / 8			
	reaction time	0.180	interval	4.1	4.2													
			velocity	7.26	8.54	8.33								6.36				
	H1 lead leg	L	strides		21	14	14							49				

Semi-Final 2

date 29-Jul-10

Arnold (2010) - 400mH planning and peaking

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Williams, Rhys (GBR) (1984)	time	6.32	10.18	14.08	18.14	22.28		26.48	30.80	35.20	39.72	44.40		49.61	4 / 1			
	reaction time	0.223	interval	3.86	3.90	4.06	4.14	4.20	4.32	4.40	4.52	4.68	5.21			11.82	12.66	13.60
			velocity	7.12	9.07	8.97	8.62	8.33	8.10	7.95	7.74	7.48	7.68	8.06		8.88	8.29	7.72
	H1 lead leg	R	strides															

Semi-Final 1

date 29-Jul-10

Arnold (2010) - 400mH planning and peaking

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Greene, David (Dai) (GBR) (1984)	time	6.10	9.84	13.72	17.62	21.68		25.86	30.18	34.70	39.32	44.02		49.48	3 / 1			
	reaction time	0.225	interval	3.74	3.88	3.90	4.06	4.18	4.32	4.52	4.62	4.70	5.46			11.52	12.56	13.84
			velocity	7.38	9.36	9.02	8.97	8.37	8.10	7.74	7.58	7.45	7.33	8.08		9.11	8.36	7.59
	H1 lead leg	R	strides															
Woodward, Nathan (GBR) (1984)	time		9.96	13.86	17.86	21.86		26.06	30.38	34.90	39.72	44.70		50.51	7 / 4			
	reaction time	0.214	interval		3.90	4.00	4.00	4.20	4.32	4.52	4.82	4.98	5.81				12.52	14.32
			velocity		8.03	8.97	8.75	8.33	8.10	7.74	7.26	7.03	6.88	7.92			8.39	7.33
	H1 lead leg	L	strides															

Heat 4

date 28-Jul-10

Arnold (2010) - 400mH planning and peaking

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
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Greene, David (Dai) (GBR) († time	6.22	10.04	13.94	17.84	21.88	26.08	30.46	34.90	39.56	44.40		50.11	4 / 1					
reaction time	0.189	interval	3.82	3.90	3.90	4.04	4.20	4.38	4.44	4.66	4.84	5.71		11.62	12.62	13.94		
		velocity	7.23	9.16	8.97	8.97	8.66	8.33	7.99	7.88	7.51	7.23	7.01	7.98	9.04	8.32	7.53	
H1 lead leg	R	strides																

Heat 2

date 28-Jul-10

Arnold (2010) - 400mH planning and peaking

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Williams, Rhys (GBR) (1984) time	6.22	10.00	13.82	17.68	21.72	25.90	30.26	34.76	39.42	44.16			49.35	5 / 1				
reaction time	0.208	interval	3.78	3.82	3.86	4.04	4.18	4.36	4.50	4.66	4.74	5.19			11.46	12.58	13.90	
		velocity	7.23	9.26	9.16	9.07	8.66	8.37	8.03	7.78	7.51	7.38	7.71	8.11	9.16	8.35	7.55	
H1 lead leg	R	strides																

Heat 1

date 28-Jul-10

Arnold (2010) - 400mH planning and peaking

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Woodward, Nathan (GBR) († time	6.22	10.14	14.16	18.16	22.30	26.54	30.88	35.32	40.06	45.02			50.45	8 / 3				
reaction time	0.187	interval	3.92	4.02	4.00	4.14	4.24	4.34	4.44	4.74	4.96	5.43			11.94	12.72	14.14	
		velocity	7.23	8.93	8.71	8.75	8.45	8.25	8.06	7.88	7.38	7.06	7.37	7.93	8.79	8.25	7.43	
H1 lead leg	L	strides																

2010 Japanese National Championships (Marugume, JPN)**FINAL**

date 05-Jun-10

Yasuho (2012) - race pattern analysis of top Japanese 400m hurdlers at major domestic competitions 2009-11

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Narisako, Kenji (JPN) (1984) time	6.07	9.86	13.71	17.60	21.59	25.73	30.07	34.51	39.01	43.58			49.01	/ 1				
reaction time	0.165	interval	3.79	3.85	3.89	3.99	4.14	4.34	4.44	4.50	4.57	5.43			11.53	12.47	13.51	
		velocity	7.41	9.23	9.09	9.00	8.77	8.45	8.06	7.88	7.78	7.66	7.37	8.16	9.11	8.42	7.77	
H1 lead leg		strides	13	13	13	13	13	14	14	15	15		123					
Kawakita, Naohiro (JPN) (1987) time	6.16	10.07	13.98	17.95	22.02	26.31	30.65	35.19	39.78	44.42			49.63	/ 2				
reaction time	0.169	interval	3.91	3.91	3.97	4.07	4.29	4.34	4.54	4.59	4.64	5.21			11.79	12.70	13.77	
		velocity	7.31	8.95	8.95	8.82	8.60	8.16	8.06	7.71	7.63	7.54	7.68	8.06	8.91	8.27	7.63	
H1 lead leg		strides	13	13	13	13	14	14	14	15	15		124					
Koike, Takayuki (JPN) (1984) time	6.02	9.79	13.71	17.66	21.78	26.03	30.40	34.94	39.51	44.23			49.76	/ 3				
reaction time	0.197	interval	3.77	3.92	3.95	4.12	4.25	4.37	4.54	4.57	4.72	5.53			11.64	12.74	13.83	
		velocity	7.48	9.28	8.93	8.86	8.50	8.24	8.01	7.71	7.66	7.42	7.23	8.04	9.02	8.24	7.59	
H1 lead leg		strides	14	14	14	14	15	15	15	15	15		131					
Imazeki, Yuta (JPN) (1987) time	6.17	10.19	14.36	18.55	22.85	27.20	31.54	35.93	40.36	44.79			49.81	/ 4				
reaction time	0.181	interval	4.02	4.17	4.19	4.30	4.35	4.34	4.39	4.43	4.43	5.02			12.38	12.99	13.25	
		velocity	7.29	8.71	8.39	8.35	8.14	8.05	8.06	7.97	7.90	7.90	7.97	8.03	8.48	8.08	7.92	
H1 lead leg		strides	14	14	14	14	15	15	15	15	15		131					

2010 Osaka Grand Prix (Osaka, JPN)**FINAL**

date 08-May-10

Yasuho (2012) - race pattern analysis of top Japanese 400m hurdlers at major domestic competitions 2009-11

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Koike, Takayuki (JPN) (1984) time	6.11	9.91	13.75	17.59	21.59	25.76	30.08	34.53	39.03	43.85			49.42	/ 3				
reaction time		interval	3.80	3.84	3.84	4.00	4.17	4.32	4.45	4.50	4.82	5.57			11.48	12.49	13.77	
		velocity	7.36	9.21	9.11	9.11	8.75	8.39	8.10	7.87	7.78	7.26	7.18	8.09	9.15	8.41	7.63	
H1 lead leg		strides	14	14	14	14	15	15	15	15	15		131					
Imazeki, Yuta (JPN) (1987) time	6.29	10.26	14.21	18.28	22.42	26.69	31.06	35.60	40.10	44.64			49.77	/ 4				
reaction time		interval	3.97	3.95	4.07	4.14	4.27	4.37	4.54	4.50	4.54	5.13			11.99	12.78	13.58	
		velocity	7.15	8.82	8.86	8.60	8.45	8.20	8.01	7.71	7.78	7.71	7.80	8.04	8.76	8.22	7.73	
H1 lead leg		strides	14	14	14	14	15	15	15	15	15		131					
Kishimoto, Takayuki (JPN) († time	5.97	9.84	13.85	17.86	22.06	26.28	30.60	35.09	39.71	44.45			49.95	/ 6				
reaction time		interval	3.87	4.01	4.01	4.20	4.22	4.32	4.49	4.62	4.74	5.50			11.89	12.74	13.85	
		velocity	7.54	9.04	8.73	8.73	8.33	8.29	8.10	7.80	7.58	7.38	7.27	8.01	8.83	8.24	7.58	
H1 lead leg		strides	13	13	13	14	14	15	15	15	15		127					

2010 Shizuoka International Athletics Meeting (Fukuroi, JPN)**Race A**

date 03-May-10

Yasuho (2012) - race pattern analysis of top Japanese 400m hurdlers at major domestic competitions 2009-11

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Imazeki, Yuta (JPN) (1987) time	6.42	10.37	14.41	18.51	22.71	26.96	31.25	35.69	40.21	44.81			50.09	/ 1				
reaction time		interval	3.95	4.04	4.10	4.20	4.25	4.29	4.44	4.52	4.60	5.28			12.09	12.74	13.56	
		velocity	7.01	8.86	8.66	8.54	8.33	8.24	8.16	7.88	7.74	7.61	7.58	7.99	8.68	8.24	7.74	
H1 lead leg		strides	14	14	14	14	15	15	15	15	15		131					

2009 IAAF World Championships (Berlin, GER)**FINAL**

date 18-Aug-09

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Clement, Kerron (USA) (1981) time	5.92	9.60	13.32	17.15	21.09	25.26	29.49	33.85	38.35	42.90			47.91	3 / 1				
reaction time	0.176	interval	3.68	3.72	3.83	3.94	4.17	4.23	4.36	4.50	4.55	5.01			11.23	12.34	13.41	
		velocity	7.60	9.51	9.41	9.14	8.88	8.39	8.27	8.03	7.78	7.69	7.98	8.35	9.35	8.51	7.83	
H1 lead leg	R	strides	20	13	13	13	13	13	13	13	13	16.2	153.2					
Culson, Javier (PUR) (1984) time	5.97	9.67	13.45	17.37	21.49	25.60	29.87	34.17	38.56	43.03			48.09	8 / 2				

reaction time	0.187	interval		3.70	3.78	3.92	4.12		4.11	4.27	4.30	4.39	4.47	5.06	NR	11.40	12.50	13.16
		velocity		7.54	9.46	9.26	8.93	8.50	8.52	8.20	8.14	7.97	7.83	7.91	8.32	9.21	8.40	7.98
H1 lead leg	L	strides		20	13	13	13	13	13	13	13	14	14	16.7	155.7			
Jackson, Bershawn (USA) (1	time			5.76	9.63	13.59	17.71	21.87	26.01	30.17	34.43	38.79	43.22		48.23	5 / 3		
reaction time	0.141	interval			3.87	3.96	4.12	4.16	4.14	4.16	4.26	4.36	4.43	5.01		11.95	12.46	13.05
		velocity		7.81	9.04	8.84	8.50	8.41	8.45	8.41	8.22	8.03	7.90	7.98	8.29	8.79	8.43	8.05
H1 lead leg	L	strides		22	14	14	14	14	15	15	15	15	15	19	172			
Gordon, Jehue (TRI) (1991)	time			6.04	9.76	13.60	17.40	21.32	25.36	29.59	33.96	38.44	43.00		48.26	2 / 4		
reaction time	0.172	interval			3.72	3.84	3.80	3.92	4.04	4.23	4.37	4.48	4.56	5.26	NR	11.36	12.19	13.41
		velocity		7.45	9.41	9.11	9.21	8.93	8.66	8.27	8.01	7.81	7.68	7.60	8.29	9.24	8.61	7.83
H1 lead leg	L	strides		21	13	13	13	13	13	13	13	14	14	17	157			
Iakovákis, Periklís (GRE) (197	time			6.17	9.89	13.67	17.55	21.57	25.71	29.94	34.24	38.63	43.15		48.42	7 / 5		
reaction time	0.189	interval			3.72	3.78	3.88	4.02	4.14	4.23	4.30	4.39	4.52	5.27		11.38	12.39	13.21
		velocity		7.29	9.41	9.26	9.02	8.71	8.45	8.27	8.14	7.97	7.74	7.59	8.26	9.23	8.47	7.95
H1 lead leg	R	strides		21	13	13	13	13	14	14	14	14	15	18.5	162.5			
McFarlane, Danny (JAM) (19	time			6.01	9.70	13.52	17.42	21.40	25.48	29.79	34.09	38.57	43.26		48.65	1 / 6		
reaction time	0.162	interval			3.69	3.82	3.90	3.98	4.08	4.31	4.30	4.48	4.69	5.39		11.41	12.37	13.47
		velocity		7.49	9.49	9.16	8.97	8.79	8.58	8.12	8.14	7.81	7.46	7.42	8.22	9.20	8.49	7.80
H1 lead leg	L	strides		21	13	13	13	13	13	14	14	14	15	18	161			
Greene, David (Dai) (GBR) (1	time			6.07	9.86	13.71	17.65	21.76	25.93	30.19	34.52	38.92	43.46		48.68	6 / 7		
reaction time	0.148	interval			3.79	3.85	3.94	4.11	4.17	4.26	4.33	4.40	4.54	5.22		11.58	12.54	13.27
		velocity		7.41	9.23	9.09	8.88	8.52	8.39	8.22	8.08	7.95	7.71	7.66	8.22	9.07	8.37	7.91
H1 lead leg	R	strides		22	14	14	14	14	14	15	15	15	15	19	171			
Sánchez, Félix (DOM) (1977)	time			5.88	9.92	13.82	17.78	21.82	26.13	30.43	34.97	39.63	44.35		50.11	4 / 8		
reaction time	0.171	interval			4.04	3.90	3.96	4.04	4.31	4.30	4.54	4.66	4.72	5.76		11.90	12.65	13.92
		velocity		7.65	8.66	8.97	8.84	8.66	8.12	8.14	7.71	7.51	7.42	6.94	7.98	8.82	8.30	7.54
H1 lead leg	L	strides		21	15	13	13	13	14	14	15	15	15	148				

Semi-Final 2

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Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

Jackson, Bershawn (USA) (1	time			5.74	9.58	13.50	17.61	21.70	25.87	30.04	34.28	38.64	43.09		48.23	5 / 1			
reaction time	0.146	interval			3.84	3.92	4.11	4.09	4.17	4.17	4.24	4.36	4.45	5.14		11.87	12.43	13.05	
		velocity		7.84	9.11	8.93	8.52	8.56	8.39	8.39	8.25	8.03	7.87	7.78	8.29	8.85	8.45	8.05	
H1 lead leg	L	strides		22	14	14			15	15	15	15	15	18.7	143.7				
Greene, David (Dai) (GBR) (1	time			6.05	9.79	13.65	17.51	21.54	25.66	29.94	34.24	38.62	43.10		48.27	4 / 2			
reaction time	0.156	interval			3.74	3.86	3.86	4.03	4.12	4.28	4.30	4.38	4.48	5.17	PB	11.46	12.43	13.16	
		velocity		7.44	9.36	9.07	9.07	8.68	8.50	8.18	8.14	7.99	7.81	7.74	8.29	9.16	8.45	7.98	
H1 lead leg		strides							14	14	15	15	15	18.7	91.7				
Iakovákis, Periklís (GRE) (197	time			6.09	9.74	13.49	17.35	21.39	25.38	29.66	33.98	38.48	43.22		48.73	3 / 3			
reaction time	0.180	interval			3.65	3.75	3.86	4.04	3.99	4.28	4.32	4.50	4.74	5.51		11.26	12.31	13.56	
		velocity		7.39	9.59	9.33	9.07	8.66	8.77	8.18	8.10	7.78	7.38	7.26	8.21	9.33	8.53	7.74	
H1 lead leg		strides							14	14	14	14	15	19	90				
Phillips, Isa (JAM) (1984)	time			5.98	9.52	13.19	17.02	20.93	25.04	29.38	33.78	38.48	43.19		48.93	6 / 4			
reaction time	0.238	interval			3.54	3.67	3.83	3.91	4.11	4.34	4.40	4.70	4.71	5.74		11.04	12.36	13.81	
		velocity		7.53	9.89	9.54	9.14	8.95	8.52	8.06	7.95	7.45	7.43	6.97	8.17	9.51	8.50	7.60	
H1 lead leg	L	strides		21	13	13	13	13	13	14	14	15	14	18.7	161.7				

Semi-Final 1

date 16-Aug-09

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

Clement, Kerron (USA) (198	time			5.97	9.72	13.44	17.22	21.12	25.24	29.48	33.82	38.28	42.89		48.00	3 / 1			
reaction time	0.158	interval			3.75	3.72	3.78	3.90	4.12	4.24	4.34	4.46	4.61	5.11		11.25	12.26	13.41	
		velocity		7.54	9.33	9.41	9.26	8.97	8.50	8.25	8.06	7.85	7.59	7.83	8.33	9.33	8.56	7.83	
H1 lead leg		strides							13	13	13	13	13	16	81				
Sánchez, Félix (DOM) (1977)	time			5.93	9.58	13.35	17.20	21.18	25.29	29.56	33.94	38.42	43.02		48.34	1 / 2			
reaction time	0.154	interval			3.65	3.77	3.85	3.98	4.11	4.27	4.38	4.48	4.60	5.32		11.27	12.36	13.46	
		velocity		7.59	9.59	9.28	9.09	8.79	8.52	8.20	7.99	7.81	7.61	7.52	8.27	9.32	8.50	7.80	
H1 lead leg		strides			13	13	13	13	13	14	14	15	15	18.5	141.5				
Culson, Javier (PUR) (1984)	time			5.91	9.55	13.32	17.22	21.25	25.35	29.56	33.88	38.38	43.06		48.43	5 / 3			
reaction time	0.176	interval			3.64	3.77	3.90	4.03	4.10	4.21	4.32	4.50	4.68	5.37		11.31	12.34	13.50	
		velocity		7.61	9.62	9.28	8.97	8.68	8.54	8.31	8.10	7.78	7.48	7.45	8.26	9.28	8.51	7.78	
H1 lead leg	L	strides			13	13	13	13	13	13	13	14	14	17	136				
McFarlane, Danny (JAM) (19	time			5.99	9.65	13.40	17.29	21.34	25.46	29.78	34.08	38.54	43.16		48.49	4 / 4			
reaction time	0.161	interval			3.66	3.75	3.89	4.05	4.12	4.32	4.30	4.46	4.62	5.33		11.30	12.49	13.38	
		velocity		7.51	9.56	9.33	9.00	8.64	8.50	8.10	8.14	7.85	7.58	7.50	8.25	9.29	8.41	7.85	
H1 lead leg	L	strides			13	13	13	13	13	14	14	14	15	17.7	139.7				

Gordon, Jehue (TRI) (1991)	time	6.00	9.68	13.50	17.36	21.39	25.60	29.84	34.22	38.80	43.44		48.77	7 / 5			
	reaction time	0.162	interval	3.68	3.82	3.86	4.03	4.21	4.24	4.38	4.58	4.64	5.33		11.36	12.48	13.60
	velocity	7.50	9.51	9.16	9.07	8.68	8.31	8.25	7.99	7.64	7.54	7.50	8.20		9.24	8.41	7.72
	H1 lead leg		strides	13	13	13	13	13	13	14	14	17	123				
van Zyl, L.J. (RSA) (1985)	time	5.96	9.70	13.46	17.34	21.36	25.54	29.92	34.30	38.70	43.34		48.80	6 / 6			
	reaction time	0.168	interval	3.74	3.76	3.88	4.02	4.18	4.38	4.38	4.40	4.64	5.46		11.38	12.58	13.42
	velocity	7.55	9.36	9.31	9.02	8.71	8.37	7.99	7.99	7.95	7.54	7.33	8.20		9.23	8.35	7.82
	H1 lead leg	L	strides	22	14	14	14	14	15	15	15	15	19.2	171.2			

Heat 4

date 15-Aug-09

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Greene, David (Dai) (GBR) (1981)	time	6.16	9.98	13.88	17.93	22.03	26.20	30.44	34.76	39.22	43.64		48.76	7 / 1				
	reaction time	0.165	interval	3.82	3.90	4.05	4.10	4.17	4.24	4.32	4.46	4.42	5.12			11.77	12.51	13.20
	velocity	7.31	9.16	8.97	8.64	8.54	8.39	8.25	8.10	7.85	7.92	7.81	8.20			8.92	8.39	7.95
	H1 lead leg		strides															
van Zyl, L.J. (RSA) (1985)	time	5.98	9.79	13.67	17.64	21.66	25.83	30.26	34.78	39.43	44.18		49.48	3 / 2				
	reaction time	0.171	interval	3.81	3.88	3.97	4.02	4.17	4.43	4.52	4.65	4.75	5.30			11.66	12.62	13.92
	velocity	7.53	9.19	9.02	8.82	8.71	8.39	7.90	7.74	7.53	7.37	7.55	8.08			9.01	8.32	7.54
	H1 lead leg		strides															
Taylor, Angelo (USA) (1978)	time	6.04	9.75	13.48	17.39	21.46	25.87	30.36	34.88	39.48	44.42		49.64	5 / 4				
	reaction time	0.171	interval	3.71	3.73	3.91	4.07	4.41	4.49	4.52	4.60	4.94	5.22			11.35	12.97	14.06
	velocity	7.45	9.43	9.38	8.95	8.60	7.94	7.80	7.74	7.61	7.09	7.66	8.06			9.25	8.10	7.47
	H1 lead leg		strides															

Heat 3

date 15-Aug-09

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Clement, Kerron (USA) (1981)	time	6.07	9.83	13.64	17.49	21.47	25.63	29.89	34.17	38.71	43.33		48.39	5 / 1				
	reaction time	0.169	interval	3.76	3.81	3.85	3.98	4.16	4.26	4.28	4.54	4.62	5.06			11.42	12.40	13.44
	velocity	7.41	9.31	9.19	9.09	8.79	8.41	8.22	8.18	7.71	7.58	7.91	8.27			9.19	8.47	7.81
	H1 lead leg		strides															
McFarlane, Danny (JAM) (1981)	time	6.04	9.76	13.62	17.59	21.65	25.72	29.98	34.26	38.79	43.43		48.65	6 / 2				
	reaction time	0.187	interval	3.72	3.86	3.97	4.06	4.07	4.26	4.28	4.53	4.64	5.22			11.55	12.39	13.45
	velocity	7.45	9.41	9.07	8.82	8.62	8.60	8.22	8.18	7.73	7.54	7.66	8.22			9.09	8.47	7.81
	H1 lead leg		strides															
Gordon, Jehue (TRI) (1991)	time	6.05	9.78	13.53	17.36	21.33	25.55	29.77	34.17	38.91	43.45		48.66	8 / 3				
	reaction time	0.173	interval	3.73	3.75	3.83	3.97	4.22	4.22	4.40	4.74	4.54	5.21	NR		11.31	12.41	13.68
	velocity	7.44	9.38	9.33	9.14	8.82	8.29	8.29	7.95	7.38	7.71	7.68	8.22			9.28	8.46	7.68
	H1 lead leg		strides															
Sánchez, Félix (DOM) (1977)	time	6.03	9.65	13.42	17.30	21.27	25.46	29.81	34.27	38.89	43.53		48.76	7 / 4				
	reaction time	0.172	interval	3.62	3.77	3.88	3.97	4.19	4.35	4.46	4.62	4.64	5.23			11.27	12.51	13.72
	velocity	7.46	9.67	9.28	9.02	8.82	8.35	8.05	7.85	7.58	7.54	7.65	8.20			9.32	8.39	7.65
	H1 lead leg		strides															

Heat 2

date 15-Aug-09

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Culson, Javier (PUR) (1984)	time	6.02	9.79	13.60	17.66	21.86	26.13	30.49	34.97	39.47	44.11		49.27	1 / 1				
	reaction time	0.212	interval	3.77	3.81	4.06	4.20	4.27	4.36	4.48	4.50	4.64	5.16			11.64	12.83	13.62
	velocity	7.48	9.28	9.19	8.62	8.33	8.20	8.03	7.81	7.78	7.54	7.75	8.12			9.02	8.18	7.71
	H1 lead leg		strides															
Jackson, Bershawn (USA) (1981)	time	6.14	10.20	14.38	18.60	22.89	27.07	31.28	35.58	40.00	44.44		49.34	2 / 2				
	reaction time	0.151	interval	4.06	4.18	4.22	4.29	4.18	4.21	4.30	4.42	4.44	4.90			12.46	12.68	13.16
	velocity	7.33	8.62	8.37	8.29	8.16	8.37	8.31	8.14	7.92	7.88	8.16	8.11			8.43	8.28	7.98
	H1 lead leg		strides															
Yoshida, Kazuaki (JPN) (1981)	time	6.00	9.79	13.61	17.51	21.55	25.73	30.07	34.49	39.07	43.87		49.45	4 / 3				
	reaction time	0.152	interval	3.79	3.82	3.90	4.04	4.18	4.34	4.42	4.58	4.80	5.58	PB		11.51	12.56	13.80
	velocity	7.50	9.23	9.16	8.97	8.66	8.37	8.06	7.92	7.64	7.29	7.17	8.09			9.12	8.36	7.61
	H1 lead leg		strides															

Heat 1

date 15-Aug-09

Graubner (2009) - biomechanical analyses at the 12th IAAF world championships

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Phillips, Isa (JAM) (1984)	time	6.05	9.66	13.33	17.18	21.19	25.38	29.79	34.23	38.85	43.55		48.99	8 / 1				
	reaction time	0.224	interval	3.61	3.67	3.85	4.01	4.19	4.41	4.44	4.62	4.70	5.44			11.13	12.61	13.76
	velocity	7.44	9.70	9.54	9.09	8.73	8.35	7.94	7.88	7.58	7.45	7.35	8.16			9.43	8.33	7.63
	H1 lead leg		strides															
Iakovákis, Periklís (GRE) (1977)	time	6.13	9.87	13.68	17.52	21.43	25.53	29.80	34.14	38.74	43.53		49.12	4 / 2				
	reaction time	0.179	interval	3.74	3.81	3.84	3.91	4.10	4.27	4.34	4.60	4.79	5.59			11.39	12.28	13.73
	velocity	7.34	9.36	9.19	9.11	8.95	8.54	8.20	8.06	7.61	7.31	7.16	8.14			9.22	8.55	7.65
	H1 lead leg		strides															

Dutch, Johnny (USA) (1989)	time	5.95	9.65	13.50	17.39	21.43	25.66	29.93	34.35	38.91	43.67		49.38	6 / 3				
	reaction time	0.165	interval	3.70	3.85	3.89	4.04	4.23	4.27	4.42	4.56	4.76	5.71		11.44	12.54	13.74	
			velocity	7.56	9.46	9.09	9.00	8.66	8.27	8.20	7.92	7.68	7.35	7.01	8.10	9.18	8.37	7.64
	H1 lead leg		strides															

2009 Japanese National High School Championships (Nara, JPN)

FINAL

date 31-Jul-09

Matsuo (2009) - 62nd high school championships: JAF scientific committee - biomechanics data collection

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Abe, Takatoshi (JPN) (1991)	time	6.11	10.05	14.17	18.39	22.76	27.15	31.62	36.22	40.96	45.76		51.04	/ 1				
	reaction time	interval	3.94	4.12	4.22	4.37	4.39	4.47	4.60	4.74	4.80	5.28			12.28	13.23	14.14	
		velocity	7.36	8.88	8.50	8.29	8.01	7.97	7.83	7.61	7.38	7.29	7.58	7.84		8.55	7.94	7.43
	H1 lead leg	strides		13	13	13	14	14	15	15	15	15		127				
Oyama, Takumi (JPN) (1991)	time	6.39	10.51	14.83	19.23	23.64	28.24	32.88	37.52	42.26	47.01		52.26	/ 2				
	reaction time	interval		4.12	4.32	4.40	4.41	4.60	4.64	4.64	4.74	4.75	5.25		12.84	13.65	14.13	
		velocity	7.04	8.50	8.10	7.95	7.94	7.61	7.54	7.54	7.38	7.37	7.62	7.65		8.18	7.69	7.43
	H1 lead leg	strides		14	14	14	14	15	15	15	15	15		131				
Kato, Seiya (JPN) (1992)	time	6.32	10.46	14.73	19.05	23.45	28.05	32.74	37.47	42.24	47.00		52.42	/ 3				
	reaction time	interval		4.14	4.27	4.32	4.40	4.60	4.69	4.73	4.77	4.76	5.42		12.73	13.69	14.26	
		velocity	7.12	8.45	8.20	8.10	7.95	7.61	7.46	7.40	7.34	7.35	7.38	7.63		8.25	7.67	7.36
	H1 lead leg	strides		14	14	14	14	15	15	15	15	15		131				

2009 Japanese National Championships (Hiroshima, JPN)

FINAL

date 27-Jun-09

Yasuohri (2012) - race pattern analysis of top Japanese 400m hurdlers at major domestic competitions 2009-11

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Narisako, Kenji (JPN) (1984)	time	6.02	9.76	13.53	17.38	21.33	25.56	29.90	34.37	39.02	43.86		49.53	6 / 1				
	reaction time	interval	3.74	3.77	3.85	3.95	4.23	4.34	4.47	4.65	4.84	5.67			11.36	12.52	13.96	
		velocity	7.48	9.36	9.28	9.09	8.86	8.27	8.06	7.83	7.53	7.23	7.05	8.08		9.24	8.39	7.52
	H1 lead leg	strides		13	13	13	13	14	14	15	15	15		125				
Yoshikata, Masahira (JPN) (1991)	time	6.06	9.86	13.75	17.75	21.84	26.04	30.44	34.93	39.55	44.29		49.61	5 / 2				
	reaction time	interval		3.80	3.89	4.00	4.09	4.20	4.40	4.49	4.62	4.74	5.32		11.69	12.69	13.85	
		velocity	7.43	9.21	9.00	8.75	8.56	8.33	7.95	7.80	7.58	7.38	7.52	8.06		8.98	8.27	7.58
	H1 lead leg	strides		13	13	13	13	13	15	15	15	15		125				
Kawakita, Naohiro (JPN) (1991)	time	6.13	9.97	13.86	17.85	21.95	26.30	30.75	35.30	39.94	44.59		49.74	4 / 3				
	reaction time	interval		3.84	3.89	3.99	4.10	4.35	4.45	4.55	4.64	4.65	5.15		11.72	12.90	13.84	
		velocity	7.34	9.11	9.00	8.77	8.54	8.05	7.87	7.69	7.54	7.53	7.77	8.04		8.96	8.14	7.59
	H1 lead leg	strides		13	13	13	13	14	14	14	15	15		124				

2009 Osaka Grand Prix (Osaka, JPN)

FINAL

date 09-May-09

Yasuohri (2012) - race pattern analysis of top Japanese 400m hurdlers at major domestic competitions 2009-11

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Narisako, Kenji (JPN) (1984)	time	6.04	9.73	13.50	17.30	21.19	25.28	29.63	34.02	38.61	43.36		48.77	/ 3				
	reaction time	interval	3.69	3.77	3.80	3.89	4.09	4.35	4.39	4.59	4.75	5.41			11.26	12.33	13.73	
		velocity	7.45	9.49	9.28	9.21	9.00	8.56	8.05	7.97	7.63	7.37	7.39	8.20		9.33	8.52	7.65
	H1 lead leg	strides		13	13	13	13	13	14	14	15	15		123				
Yoshikata, Masahira (JPN) (1991)	time	6.06	9.85	13.75	17.66	21.76	25.91	30.25	34.62	39.16	43.83		49.34	/ 4				
	reaction time	interval		3.79	3.90	3.91	4.10	4.15	4.34	4.37	4.54	4.67	5.51		11.60	12.59	13.58	
		velocity	7.43	9.23	8.97	8.95	8.54	8.43	8.06	8.01	7.71	7.49	7.26	8.11		9.05	8.34	7.73
	H1 lead leg	strides		14	14	14	14	14	15	15	15	15		130				
Koike, Takayuki (JPN) (1984)	time	6.02	9.79	13.63	17.57	21.59	25.78	30.15	34.77	39.44	44.28		49.93	/ 7				
	reaction time	interval		3.77	3.84	3.94	4.02	4.19	4.37	4.62	4.67	4.84	5.65		11.55	12.58	14.13	
		velocity	7.48	9.28	9.11	8.88	8.71	8.35	8.01	7.58	7.49	7.23	7.08	8.01		9.09	8.35	7.43
	H1 lead leg	strides		14	14	14	14	14	14	15	15	15		129				

2009 Shizuoka International Athletics Meeting (Fukuroi, JPN)

Race A

date 03-May-09

Yasuohri (2012) - race pattern analysis of top Japanese 400m hurdlers at major domestic competitions 2009-11

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Narisako, Kenji (JPN) (1984)	time	6.06	9.76	13.61	17.48	21.47	25.54	29.81	34.13	38.68	43.43		48.99	/ 1				
	reaction time	interval	3.70	3.85	3.87	3.99	4.07	4.27	4.32	4.55	4.75	5.56			11.42	12.33	13.62	
		velocity	7.43	9.46	9.09	8.04	8.77	8.60	8.20	8.10	7.69	7.37	7.19	8.16		9.19	8.52	7.71
	H1 lead leg	strides		13	13	13	13	13	14	14	15	15		123				

Race C

date 03-May-09

Yasuohri (2012) - race pattern analysis of top Japanese 400m hurdlers at major domestic competitions 2009-11

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Yoshikata, Masahira (JPN) (1991)	time	6.09	9.86	13.80	17.75	21.85	25.99	30.41	34.90	39.55	44.39		49.95	/ 1				
	reaction time	interval		3.77	3.94	3.95	4.10	4.14	4.42	4.49	4.65	4.84	5.56		11.66	12.66	13.98	
		velocity	7.39	9.28	8.88	8.86	8.54	8.45	7.92	7.80	7.53	7.23	7.19	8.01		9.01	8.29	7.51
	H1 lead leg	strides		14	14	14	14	14	15	15	15	15		130				

2008 IAAF World Athletic Final (Stuttgart, GER)

FINAL

date 13-Sep-08

Graubner (2009) - <http://www.fgs.uni-halle.de>

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
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Clement, Kerron (USA) (1981)	time	6.09	9.88	13.72	17.62	21.68	25.82	30.14	34.56	39.06	43.86		48.96	4 / 1				
reaction time	0.175	interval	3.79	3.84	3.90	4.06	4.14	4.32	4.42	4.50	4.80	5.10			11.53	12.52	13.72	
H1 lead leg		velocity	7.39	9.23	9.11	8.97	8.62	8.45	8.10	7.92	7.78	7.29	7.84	8.17		9.11	8.39	7.65
		strides																
McFarlane, Danny (JAM) (1981)	time	6.05	9.78	13.61	17.52	21.54	25.59	29.94	34.33	38.89	43.62		49.00	5 / 2				
reaction time	0.166	interval	3.73	3.83	3.91	4.02	4.05	4.35	4.39	4.56	4.73	5.38			11.47	12.42	13.68	
H1 lead leg		velocity	7.44	9.38	9.14	8.95	8.71	8.64	8.05	7.97	7.68	7.40	7.43	8.16		9.15	8.45	7.68
		strides																
Phillips, Isa (JAM) (1984)	time	6.09	9.79	13.63	17.63	21.80	26.11	30.35	34.80	39.34	44.00		49.22	2 / 3				
reaction time	0.185	interval	3.70	3.84	4.00	4.17	4.31	4.24	4.45	4.54	4.66	5.22			11.54	12.72	13.65	
H1 lead leg		velocity	7.39	9.46	9.11	8.75	8.39	8.12	8.25	7.87	7.71	7.51	7.66	8.13		9.10	8.25	7.69
		strides																
Buckley, Markino (JAM) (1981)	time	6.29	10.11	13.99	17.87	21.90	26.09	30.49	34.94	39.48	44.11		49.52	1 / 4				
reaction time	0.276	interval	3.82	3.88	3.88	4.03	4.19	4.40	4.45	4.54	4.63	5.41			11.58	12.62	13.62	
H1 lead leg		velocity	7.15	9.16	9.02	8.68	8.35	7.95	7.87	7.71	7.56	7.39	8.08		9.07	8.32	7.71	
		strides																
van Zyl, L.J. (RSA) (1985)	time	6.01	9.86	13.81	17.79	21.80	25.97	30.32	34.81	39.36	44.12		49.95	3 / 5				
reaction time	0.158	interval	3.85	3.95	3.98	4.01	4.17	4.35	4.49	4.55	4.76	5.83			11.78	12.53	13.80	
H1 lead leg		velocity	7.49	9.09	8.86	8.79	8.39	8.05	7.80	7.69	7.35	6.86	8.01		8.91	8.38	7.61	
		strides																
Plawgo, Marek (POL) (1981)	0.161	no information available											51.13	7 / 6				
McCoy, Reuben (USA) (1986)	0.212	no information available											51.38	6 / 7				
Bennett, LaRon (USA) (1982)	0.172	no information available											52.02	8 / 8				

2008 Olympic Games (Beijing, CHN)

FINAL

date 18-Aug-08

Behm (2008) - Pekin 2008: Le quatrache masculin - féminin

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Taylor, Angelo (USA) (1978)	time	5.7	9.4	13.1	16.7	20.6		24.6	28.8	33.1	37.5	42.0		47.25	6 / 1			
reaction time	0.164	interval	3.7	3.7	3.6	3.9		4.0	4.2	4.3	4.4	4.5	5.25	PB		11.00	12.10	13.20
H1 lead leg	R	velocity	7.89	9.46	9.46	9.72	8.97	8.75	8.33	8.14	7.95	7.78	7.62	8.47		9.55	8.68	7.95
		strides	21	13	13	13	13	14	14	14	14	14	17.5	160.5				
Clement, Kerron (USA) (1981)	time	5.9	9.5	13.1	16.9	20.7		24.7	28.9	33.2	37.7	42.5		47.98	4 / 2			
reaction time	0.265	interval	3.6	3.6	3.8	3.8		4.0	4.2	4.3	4.5	4.8	5.48			11.00	12.00	13.60
H1 lead leg	L	velocity	7.63	9.72	9.72	9.21	9.21	8.75	8.33	8.14	7.78	7.29	7.30	8.34		9.55	8.75	7.72
		strides	20	13	13	13	13	13	13	13	13	15	17	156				
Jackson, Bershawn (USA) (1981)	time	5.6	9.2	13.2	17.3	21.5		25.5	29.5	33.7	38.0	42.6		48.06	7 / 3			
reaction time	0.145	interval	3.6	4.0	4.1	4.2		4.0	4.0	4.2	4.3	4.6	5.46			11.70	12.20	13.10
H1 lead leg	R	velocity	8.04	9.72	8.75	8.54	8.33	8.75	8.75	8.33	8.14	7.61	7.33	8.32		8.97	8.61	8.02
		strides	23	15	15	15	15	15	15	15	15	15	19.5	177.5				
McFarlane, Danny (JAM) (1981)	time	5.8	9.4	13.2	17.0	20.8		24.9	29.2	33.5	38.0	42.8		48.30	5 / 4			
reaction time	0.213	interval	3.6	3.8	3.8	3.8		4.1	4.3	4.3	4.5	4.8	5.50			11.20	12.20	13.60
H1 lead leg	R	velocity	7.76	9.72	9.21	9.21	9.21	8.54	8.14	8.14	7.78	7.29	7.27	8.28		9.38	8.61	7.72
		strides	21	13	13	13	13	14	14	14	15	15	17	162				
van Zyl, L.J. (RSA) (1985)	time	5.7	9.6	13.3	17.5	21.6		25.7	29.9	34.2	38.6	43.3		48.42	8 / 5			
reaction time	0.253	interval	3.9	3.7	4.2	4.1		4.1	4.2	4.3	4.4	4.7	5.12			11.80	12.40	13.40
H1 lead leg	L	velocity	7.89	8.97	9.46	8.33	8.54	8.54	8.33	8.14	7.95	7.45	7.81	8.26		8.90	8.47	7.84
		strides	21	14	14	14	14	15	15	15	15	15	18	170				
Plawgo, Marek (POL) (1981)	time	5.9	9.7	13.4	17.3	21.3		25.4	29.8	34.1	38.6	43.3		48.52	3 / 6			
reaction time	0.226	interval	3.8	3.7	3.9	4.0		4.1	4.4	4.3	4.5	4.7	5.22			11.40	12.50	13.50
H1 lead leg	R	velocity	7.63	9.21	9.46	8.97	8.75	8.54	7.95	8.14	7.78	7.45	7.66	8.24		9.21	8.40	7.78
		strides	20	13	13	13	13	14	14	14	14	14	17	159				
Buckley, Markino (JAM) (1981)	time	5.9	9.9	13.9	17.8	21.7		25.9	30.2	34.5	39.0	43.5		48.60	9 / 7			
reaction time	0.264	interval	4.0	4.0	3.9	3.9		4.2	4.3	4.3	4.5	4.5	5.10			11.90	12.40	13.30
H1 lead leg	R	velocity	7.63	8.75	8.75	8.97	8.97	8.33	8.14	8.14	7.78	7.78	7.84	8.23		8.82	8.47	7.89
		strides	21	13	13	13	13	14	14	14	14	14	17	160				
Iakovákis, Perikís (GRE) (1971)	time	5.9	9.7	13.3	17.1	20.9		25.0	29.5	34.0	38.7	43.6		49.96	2 / 8			
reaction time	0.195	interval	3.8	3.6	3.8	3.8		4.1	4.5	4.5	4.7	4.9	6.36			11.20	12.40	14.10
H1 lead leg	L	velocity	7.63	9.21	9.72	9.21	9.21	8.54	7.78	7.78	7.45	7.14	6.29	8.01		9.38	8.47	7.45
		strides	21	13	13	13	14	14	14	15	16	16	18.5	167.5				

2008 Japanese National High School Championships (Kumagaya, JPN)

FINAL

date 31-Jul-08

Abe (2008) - 61st high school championships: JAF scientific committee - biomechanics data collection

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Kishimoto, Takayuki (JPN) (1981)	time	6.06	10.08	14.24	18.51	22.91		27.37	31.75	36.21	40.75	45.40		50.64	/ 1			
reaction time		interval	4.02	4.16	4.27	4.40		4.46	4.38	4.46	4.54	4.65	5.24			12.45	13.24	13.65
H1 lead leg		velocity	7.43	8.71	8.41	8.20	7.95	7.85	7.99	7.85	7.71	7.53	7.63	7.90		8.43	7.93	7.69

H1 lead leg	strides	15	15	15	15	15	15	15	15	15	15	135					
Mizuno, Tatsuhiko (JPN) (19	time	6.14	10.08	14.20	18.33	22.61	27.12	31.69	36.27	40.96	45.72	51.41	/ 2				
reaction time	interval		3.94	4.12	4.13	4.28	4.51	4.57	4.58	4.69	4.76	5.69		12.19	13.36	14.03	
	velocity	7.33	8.88	8.50	8.47	8.18	7.76	7.66	7.64	7.46	7.35	7.03	7.78	8.61	7.86	7.48	
H1 lead leg	strides	14	14	14	14	14	15	15	15	15	15	131					
Abe, Takatoshi (JPN) (1991)	time	6.42	10.57	14.76	19.00	23.25	27.56	32.01	36.57	41.37	46.41	52.16	/ 3				
reaction time	interval		4.15	4.19	4.24	4.25	4.31	4.45	4.56	4.80	5.04	5.75		12.58	13.01	14.40	
	velocity	7.01	8.43	8.35	8.25	8.24	8.12	7.87	7.68	7.29	6.94	6.96	7.67	8.35	8.07	7.29	
H1 lead leg	strides	14	14	14	14	14	15	15	15	15	15	131					

2008 USA Olympic Trials (Eugene, OR)

FINAL

date 29-Jun-08

USATF Hurdle Development (2008)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Jackson, Bershawn (USA) (1	time	5.79	9.54	13.61	17.87	22.19	26.18	30.25	34.45	38.71	43.13	48.17	48.17	4 / 1				
reaction time	interval		3.75	4.07	4.26	4.32	3.99	4.07	4.20	4.26	4.42	5.04			12.08	12.38	12.88	
	velocity	7.77	9.33	8.60	8.22	8.10	8.77	8.60	8.33	8.22	7.92	7.94	8.30		8.69	8.48	8.15	
H1 lead leg	L strides	23	15	15	15	15	15	15	15	15	15	15	158					
Clement, Kerron (USA) (198	time	6.04	9.78	13.55	17.50	21.60	25.74	30.03	34.45	38.87	43.43	48.36	48.36	5 / 2				
reaction time	interval		3.74	3.77	3.95	4.10	4.14	4.29	4.42	4.42	4.56	4.93			11.46	12.53	13.40	
	velocity	7.45	9.36	9.28	8.86	8.54	8.45	8.16	7.92	7.92	7.68	8.11	8.27		9.16	8.38	7.84	
H1 lead leg	R strides	20	13	13	13	13	13	13	13	13	13	15	139					
Taylor, Angelo (USA) (1978)	time	6.07	9.71	13.43	17.40	21.67	25.96	30.28	34.64	39.02	43.47	48.42	48.42	3 / 3				
reaction time	interval		3.64	3.72	3.97	4.27	4.29	4.32	4.36	4.38	4.45	4.95			11.33	12.88	13.19	
	velocity	7.41	9.62	9.41	8.82	8.20	8.16	8.10	8.03	7.99	7.87	8.08	8.26		9.27	8.15	7.96	
H1 lead leg	L strides	21	13	13	13	14	14	14	14	14	14	14	144					
Gaymon, Justin (USA) (1986	time	6.07	9.97	13.73	17.73	21.70	25.82	30.09	34.50	38.87	43.32	48.46	48.46	8 / 4				
reaction time	interval		3.90	3.76	4.00	3.97	4.12	4.27	4.41	4.37	4.45	5.14	PB		11.66	12.36	13.23	
	velocity	7.41	8.97	9.31	8.75	8.82	8.50	8.20	7.94	8.01	7.87	7.78	8.25		9.01	8.50	7.94	
H1 lead leg	R strides	22	14	14	14	14	15	15	15	15	15	15	153					
Dutch, Johnny (USA) (1989)	time	6.03	9.82	13.66	17.71	21.85	26.10	30.34	34.66	38.97	43.37	48.52	48.52	7 / 5				
reaction time	interval		3.79	3.84	4.05	4.14	4.25	4.24	4.32	4.31	4.40	5.15	PB		11.68	12.63	13.03	
	velocity	7.46	9.23	9.11	8.64	8.45	8.24	8.25	8.10	8.12	7.95	7.77	8.24		8.99	8.31	8.06	
H1 lead leg	R strides	22	13	13	13	13	14	14	15	15	15	15	147					
Johnson, Brandon (USA) (1	time	5.84	9.59	13.41	17.37	21.54	25.64	29.96	34.38	38.89	43.38	48.72	48.72	2 / 6				
reaction time	interval		3.75	3.82	3.96	4.17	4.10	4.32	4.42	4.51	4.49	5.34			11.53	12.59	13.42	
	velocity	7.71	9.33	9.16	8.84	8.39	8.54	8.10	7.92	7.76	7.80	7.49	8.21		9.11	8.34	7.82	
H1 lead leg	L strides	21	13	13	13	13	13	14	14	14	14	14	142					
McCoy, Reuben (USA) (1986	time	6.07	9.88	13.68	17.67	21.81	26.01	30.31	34.70	39.12	43.71	49.18	49.18	6 / 7				
reaction time	interval		3.81	3.80	3.99	4.14	4.20	4.30	4.39	4.42	4.59	5.47			11.60	12.64	13.40	
	velocity	7.41	9.19	9.21	8.77	8.45	8.33	8.14	7.97	7.92	7.63	7.31	8.13		9.05	8.31	7.84	
H1 lead leg	R strides	21	13	13	13	13	14	14	15	15	15	15	146					
Bennett, LaRon (USA) (1982	time	6.16	10.11	13.99	18.10	22.29	26.21	31.18	35.77	40.39	45.18	50.89	50.89	1 / 8				
reaction time	interval		3.95	3.88	4.11	4.19	3.92	4.97	4.59	4.62	4.79	5.71			11.94	13.08	14.00	
	velocity	7.31	8.86	9.02	8.52	8.35	8.93	7.04	7.63	7.58	7.31	7.01	7.86		8.79	8.03	7.50	
H1 lead leg	R strides	22	14	14	14	14	15	15	15	15	15	15	153					

2008 Japanese National Championships (Kawasaki, JPN)

FINAL

date 27-Jun-08

Yasunori (2009) - race pattern analysis of prestigious Japanese 400m hurdlers

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tamesue, Dai (JPN) (1978)	time	5.82	9.49	13.38	17.32	21.31	25.45	29.69	34.13	38.78	43.65	49.17	49.17	/ 1				
reaction time	interval		3.67	3.89	3.94	3.99	4.14	4.24	4.44	4.65	4.87	5.52			11.50	12.37	13.96	
	velocity	7.73	9.54	9.00	8.88	8.77	8.45	8.25	7.88	7.53	7.19	7.25	8.14		9.13	8.49	7.52	
H1 lead leg	strides	13	13	13	13	13	14	14	15	15	15	15	125					
Narisako, Kenji (JPN) (1984)	time	6.02	9.77	13.61	17.46	21.43	25.50	29.84	34.28	38.88	43.72	49.47	49.47	/ 2				
reaction time	interval		3.75	3.84	3.85	3.97	4.07	4.34	4.44	4.60	4.84	5.75			11.44	12.38	13.88	
	velocity	7.48	9.33	9.11	9.09	8.82	8.60	8.06	7.88	7.61	7.23	6.96	8.09		9.18	8.48	7.56	
H1 lead leg	strides	13	13	13	13	13	13	14	14	15	15	15	123					
Koike, Takayuki (JPN) (1984)	time	5.92	9.62	13.44	17.31	21.36	25.56	29.93	34.40	39.07	44.11	50.09	50.09	/ 3				
reaction time	interval		3.70	3.82	3.87	4.05	4.20	4.37	4.47	4.67	5.04	5.98			11.39	12.62	14.18	
	velocity	7.60	9.46	9.16	9.04	8.64	8.33	8.01	7.83	7.49	6.94	6.69	7.99		9.22	8.32	7.40	
H1 lead leg	strides	13	13	13	13	13	13	14	14	15	15	15	123					

2008 Osaka Grand Prix (Osaka, JPN)

FINAL

date 10-May-08

Yasunori (2009) - race pattern analysis of prestigious Japanese 400m hurdlers

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Narisako, Kenji (JPN) (1984)	time	5.97	9.59	13.36	17.16	21.11	25.21	29.56	33.98	38.58	43.37	49.00	49.00	9 / 1				
reaction time	interval		3.62	3.77	3.80	3.95	4.10	4.35	4.42	4.60	4.79	5.63			11.19	12.40	13.81	

	velocity	7.54	9.67	9.28	9.21	8.86		8.54	8.05	7.92	7.61	7.31	7.10	8.16		9.38	8.47	7.60
H1 lead leg	strides		13	13	13	13		13	14	14	15	15		123				

2008 Shizuoka International Athletics Meeting (Fukuroi, JPN)

Race 2

date 03-May-08

Yasunori (2009) - race pattern analysis of prestigious Japanese 400m hurdlers

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Narisako, Kenji (JPN) (1984)	time	6.04	9.74	13.56	17.40	21.35		25.62	29.92	34.46	39.10	43.82		49.44	/ 1			
	reaction time		interval					4.27	4.30	4.54	4.64	4.72	5.62			11.36	12.52	13.90
	velocity	7.45	9.46	9.16	9.11	8.86		8.20	8.14	7.71	7.54	7.42	7.12	8.09		9.24	8.39	7.55
H1 lead leg	strides		13	13	13	13		14	14	15	15	15		125				

2007 IAAF World Athletic Final (Stuttgart, GER)

FINAL

date 22-Sep-07

Graubner (2007) - <http://www.fgs.uni-halle.de>

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Plawgo, Marek (POL) (1981)	time	5.88	9.62	13.44	17.26	21.36		25.56	30.00	34.43	38.88	43.36		48.35	4 / 1			
	reaction time	0.130	interval					4.20	4.44	4.43	4.45	4.48	4.99			11.38	12.74	13.36
	velocity	7.65	9.36	9.16	9.16	8.54		8.33	7.88	7.90	7.87	7.81	8.02	8.27		9.23	8.24	7.86
H1 lead leg	strides																	
Clement, Kerron (USA) (1988)	time	6.26	9.80	13.54	17.36	21.32		25.44	29.85	34.43	38.96	43.57		48.35	6 / 2			
	reaction time	0.178	interval					4.12	4.41	4.58	4.53	4.61	4.78			11.10	12.49	13.72
	velocity	7.19	9.89	9.36	9.16	8.84		8.50	7.94	7.64	7.73	7.59	8.37	8.27		9.46	8.41	7.65
H1 lead leg	strides																	
Carter, James (USA) (1978)	time	6.00	9.52	13.35	17.14	21.18		25.30	29.54	33.92	38.52	43.16		48.36	5 / 3			
	reaction time	0.132	interval					4.12	4.24	4.38	4.60	4.64	5.20			11.14	12.40	13.62
	velocity	7.50	9.94	9.14	9.23	8.66		8.50	8.25	7.99	7.61	7.54	7.69	8.27		9.43	8.47	7.71
H1 lead leg	strides																	
Jackson, Bershawn (USA) (1981)	time	5.86	9.68	13.68	17.80	21.96		26.02	30.14	34.38	38.72	43.33		48.58	2 / 4			
	reaction time	0.167	interval					4.06	4.12	4.24	4.34	4.61	5.25			11.94	12.34	13.19
	velocity	7.68	9.16	8.75	8.50	8.41		8.62	8.50	8.25	8.06	7.59	7.62	8.23		8.79	8.51	7.96
H1 lead leg	strides																	
Taylor, Angelo (USA) (1978)	time	6.34	9.94	13.72	17.54	21.52		25.80	30.44	35.09	39.64	44.18		49.27	8 / 5			
	reaction time	0.152	interval					4.28	4.64	4.65	4.55	4.54	5.09			11.20	12.90	13.74
	velocity	7.10	9.72	9.26	9.16	8.79		8.18	7.54	7.53	7.69	7.71	7.86	8.12		9.38	8.14	7.64
H1 lead leg	strides																	
Ferguson, Kenneth (USA) (1981)	time	6.14	9.62	13.42	17.39	21.58		25.93	30.36	34.86	39.39	44.04		49.45	7 / 6			
	reaction time	0.153	interval					4.35	4.43	4.50	4.53	4.65	5.41			11.25	12.97	13.68
	velocity	7.33	10.06	9.21	8.82	8.35		8.05	7.90	7.78	7.73	7.53	7.39	8.09		9.33	8.10	7.68
H1 lead leg	strides																	
Sánchez, Félix (DOM) (1977)	time	6.02	9.70	13.46	17.34	21.44		25.76	30.24	34.78	39.38	44.20		49.61	3 / 7			
	reaction time	0.151	interval					4.32	4.48	4.54	4.60	4.82	5.41			11.32	12.90	13.96
	velocity	7.48	9.51	9.31	9.02	8.54		8.10	7.81	7.71	7.61	7.26	7.39	8.06		9.28	8.14	7.52
H1 lead leg	strides																	
van Zyl, L.J. (RSA) (1985)	time	5.95	9.72	13.58	17.54	21.66		26.02	30.37	34.85	39.46	44.25		49.62	1 / 8			
	reaction time	0.189	interval					4.36	4.35	4.48	4.61	4.79	5.37			11.59	12.83	13.88
	velocity	7.56	9.28	9.07	8.84	8.50		8.03	8.05	7.81	7.59	7.31	7.45	8.06		9.06	8.18	7.56
H1 lead leg	strides																	

Behm (2007) - Osaka 2007: Le quatrache

2007 IAAF World Championships (Osaka, JPN)

FINAL

date 28-Aug-07

Yasunori (2008) - race pattern analysis of the world and Japanese top 400m hurdlers

Ae (2008) - IAAF biomechanics team - a booklet of biomechanics data

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Clement, Kerron (USA) (1988)	time	5.92	9.60	13.30	16.98	20.80		24.82	28.98	33.28	37.86	42.52		47.61	4 / 1			
	reaction time	0.169	interval					4.02	4.16	4.30	4.58	4.66	5.09			11.06	12.00	13.54
	velocity	7.60	9.51	9.46	9.51	9.16		8.71	8.41	8.14	7.64	7.51	7.86	8.40		9.49	8.75	7.75
H1 lead leg	R strides		20	13	13	13		13	13	13	15	15	16.5	157.5				
Sánchez, Félix (DOM) (1977)	time	5.95	9.65	13.38	17.18	21.10		25.25	29.52	33.83	38.23	42.72		48.01	5 / 2			
	reaction time	0.164	interval					4.15	4.27	4.31	4.40	4.49	5.29			11.23	12.34	13.20
	velocity	7.56	9.46	9.38	9.21	8.93		8.43	8.20	8.12	7.95	7.80	7.56	8.33		9.35	8.51	7.95
H1 lead leg	L strides		21	13	13	13		14	15	15	15	15	18.5	165.5				
Plawgo, Marek (POL) (1981)	time	5.87	9.52	13.28	17.06	20.97		25.15	29.48	33.76	38.22	42.80		48.12	7 / 3			
	reaction time	0.157	interval					4.18	4.33	4.28	4.46	4.58	5.32	NR		11.19	12.42	13.32
	velocity	7.67	9.59	9.31	9.26	8.95		8.37	8.08	8.18	7.85	7.64	7.52	8.31		9.38	8.45	7.88
H1 lead leg	L strides		21	13	13	13		13	14	14	14	14	17	159				
Carter, James (USA) (1978)	time	5.76	9.45	13.19	17.04	21.04		25.18	29.40	33.65	38.14	42.84		48.40	6 / 4			
	reaction time	0.152	interval					4.14	4.22	4.25	4.49	4.70	5.56			11.28	12.36	13.44
	velocity	7.81	9.49	9.36	9.09	8.75		8.45	8.29	8.24	7.80	7.45	7.19	8.26		9.31	8.50	7.81
H1 lead leg	L strides		21	13	13	13		13	14	14	14	14	17.7	159.7				
McFarlane, Danny (JAM) (1981)	time	6.02	9.76	13.56	17.43	21.43		25.50	29.76	34.06	38.51	43.18		48.59	9 / 5			

WR=World Rec. AR=Area Rec. OR=Olympic Rec. CR=Championship Rec. NR=National Rec. PB=Personal Best DQ=Disqualified DV=Drug Violation

reaction time	0.172	interval	3.74	3.80	3.87	4.00	4.07	4.26	4.30	4.45	4.67	5.41		11.41	12.33	13.42	
		velocity	7.48	9.36	9.21	9.04	8.75	8.60	8.22	8.14	7.87	7.49	7.39	8.23	9.20	8.52	7.82
H1 lead leg	L	strides	21	13	13	13	13	13	14	14	14	14	18	160			
Iakovákis, Periklís (GRE) (1917)	time	5.98	9.67	13.42	17.27	21.26	25.40	29.82	34.27	38.94	43.69		49.25	2 / 6		Yasunori (2008)	
reaction time	0.154	interval	3.69	3.75	3.85	3.99	4.14	4.42	4.45	4.67	4.75	5.56		11.29	12.55	13.87	
		velocity	7.53	9.49	9.33	9.09	8.77	8.45	7.92	7.87	7.49	7.37	7.19	8.12	9.30	8.37	7.57
H1 lead leg	R	strides	21	13	13	13	13	13	14	14	14	14	142				
Williams, Derrick (USA) (198)	time	5.7	9.4	13.2	17.3	21.4	25.8	30.3	34.9	39.6			52.97	8 / 7		Behm (2007)	
reaction time	0.159	interval	3.7	3.8	4.1	4.1	4.4	4.5	4.6	4.7				11.60	13.00		
		velocity	7.89	9.46	9.21	8.54	8.54	7.95	7.78	7.61	7.45		7.55	9.05	8.08		
H1 lead leg	R	strides	20	13	14	14	14	14	15	15	15		134				
Kunkel, Adam (CAN) (1981)	time	5.8	9.5	13.3	17.3	21.9							dnf	3 / --		Behm (2007)	
reaction time	0.181	interval	3.7	3.8	4.0	4.6								11.50			
		velocity	7.76	9.46	9.21	8.75	7.61							9.13			
H1 lead leg	L	strides	21	13	14	14	14						76				

Semi-Final 1

date 26-Aug-07

Yasunori (2008) - race pattern analysis of the world and Japanese top 400m hurdlers

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Narisako, Kenji (JPN) (1984)	time	6.02	9.71	13.45	17.24	21.18	25.27	29.58	33.90	38.42	43.04		48.44	7 / 5			
reaction time	0.179	interval	3.69	3.74	3.79	3.94	4.09	4.31	4.32	4.52	4.62	5.40			11.22	12.34	13.46
		velocity	7.48	9.49	9.36	9.23	8.88	8.56	8.12	8.10	7.74	7.58	7.41	8.26	9.36	8.51	7.80
H1 lead leg	R	strides	21	13	13	13	13	13	14	14	15	15	19.2	163.2			

Heat 5

date 25-Aug-07

Yasunori (2008) - race pattern analysis of the world and Japanese top 400m hurdlers

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Narisako, Kenji (JPN) (1984)	time	6.00	9.70	13.44	17.28	21.22	25.32	29.72	34.12	38.72	43.39		48.92	2 / 3			
reaction time	0.172	interval	3.70	3.74	3.84	3.94	4.10	4.40	4.40	4.60	4.67	5.53			11.28	12.44	13.67
		velocity	7.50	9.46	9.36	9.11	8.88	8.54	7.95	7.95	7.61	7.49	7.23	8.18	9.31	8.44	7.68
H1 lead leg	R	strides	21	13	13	13	13	14	14	15	15	15	19.2	163.2			

Heat 3

date 25-Aug-07

Yasunori (2008) - race pattern analysis of the world and Japanese top 400m hurdlers

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tamesue, Dai (JPN) (1978)	time	5.87	9.59	13.44	17.43	21.48	25.68	29.98	34.53	39.23	44.08		49.67	7 / 6			
reaction time	0.197	interval	3.72	3.85	3.99	4.05	4.20	4.30	4.55	4.70	4.85	5.59			11.56	12.55	14.10
		velocity	7.67	9.41	9.09	8.77	8.64	8.33	8.14	7.69	7.45	7.22	7.16	8.05	9.08	8.37	7.45
H1 lead leg		strides	13	13	13	13	14	14	15	15	15		125				

Heat 2

date 25-Aug-07

Yasunori (2008) - race pattern analysis of the world and Japanese top 400m hurdlers

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Yoshikata, Masahira (JPN) (1)	time	6.02	9.76	13.61	17.55	21.67	25.92	30.41	34.96	39.70	44.67		50.59	6 / 6			
reaction time	0.187	interval	3.74	3.85	3.94	4.12	4.25	4.49	4.55	4.74	4.97	5.92			11.53	12.86	14.26
		velocity	7.48	9.36	9.09	8.88	8.50	8.24	7.80	7.69	7.38	7.04	6.76	7.91	9.11	8.16	7.36
H1 lead leg	L	strides	21	14	14	14	14	15	15	15	15	15	19.7	170.7			

2007 Japanese National Championships (Osaka, JPN)

FINAL

date 30-Jun-07

Yasunori (2008) - race pattern analysis of the world and Japanese top 400m hurdlers

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tamesue, Dai (JPN) (1978)	time	5.86	9.53	13.32	17.22	21.16	25.26	29.51	34.00	38.62	43.36		48.87	1 / 1			
reaction time		interval	3.67	3.79	3.90	3.94	4.10	4.25	4.49	4.62	4.74	5.51			11.36	12.29	13.85
		velocity	7.68	9.54	9.23	8.97	8.88	8.54	8.24	7.80	7.58	7.38	7.26	8.18	9.24	8.54	7.58
H1 lead leg		strides	13	13	13	13	14	14	15	15	15		125				
Narisako, Kenji (JPN) (1984)	time	5.99	9.68	13.42	17.24	21.16	25.23	29.55	34.00	38.59	43.31		49.01	1 / 2			
reaction time		interval	3.69	3.74	3.82	3.92	4.07	4.32	4.45	4.59	4.72	5.70			11.25	12.31	13.76
		velocity	7.51	9.49	9.36	9.16	8.93	8.60	8.10	7.87	7.63	7.42	7.02	8.16	9.33	8.53	7.63
H1 lead leg		strides	13	13	13	13	13	14	14	15	15		123				
Yoshikata, Masahira (JPN) (1)	time	6.02	9.79	13.73	17.75	21.85	26.07	30.44	34.84	39.38	44.05		49.53	1 / 3			
reaction time		interval	3.77	3.94	4.02	4.10	4.22	4.37	4.40	4.54	4.67	5.48			11.73	12.69	13.61
		velocity	7.48	9.28	8.88	8.71	8.54	8.29	8.01	7.95	7.71	7.49	7.30	8.08	8.95	8.27	7.71
H1 lead leg		strides	14	14	14	14	14	15	15	15	15		130				

2007 European Cup (Munich, GER)

FINAL

date 23-Jun-07

Graubner (2007) - <http://www.fgs.uni-halle.de>

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Iakovákis, Periklís (GRE) (1917)	time	6.13	9.95	13.73	17.54	21.42	25.48	29.70	34.02	38.44	43.03		48.35	1 / 1			
reaction time	0.165	interval	3.82	3.78	3.81	3.88	4.06	4.22	4.32	4.42	4.59	5.32			11.41	12.16	13.33
		velocity	7.34	9.16	9.26	9.19	9.02	8.62	8.29	8.10	7.92	7.63	7.52	8.27	9.20	8.63	7.88
H1 lead leg		strides															
Plawgo, Marek (POL) (1981)	time	6.04	9.94	13.82	17.78	21.83	25.84	30.34	34.70	39.20	43.84		48.90	1 / 2			
reaction time	0.151	interval	3.90	3.88	3.96	4.05	4.01	4.50	4.36	4.50	4.64	5.06			11.74	12.56	13.50
		velocity	7.45	8.97	9.02	8.84	8.64	8.73	7.78	8.03	7.78	7.54	7.91	8.18	8.94	8.36	7.78
H1 lead leg		strides															

Keïta, Naman (FRA) (1978)	time	6.25	9.94	13.81	17.68	21.63	25.72	29.98	34.32	38.73	43.50		48.90	/ 3			
	reaction time	0.248	interval	3.69	3.87	3.87	3.95	4.09	4.26	4.34	4.41	4.77	5.40		11.43	12.30	13.52
	velocity	7.20	9.49	9.04	9.04	8.86	8.56	8.22	8.06	7.94	7.34	7.41	8.18		9.19	8.54	7.77
	H1 lead leg		strides														
Derevyagin, Aleksandr (RUS)	time	6.17	10.12	14.14	18.12	22.21	26.30	30.52	34.80	39.20	43.74		49.12	/ 4			
	reaction time	0.162	interval	3.95	4.02	3.98	4.09	4.09	4.22	4.28	4.40	4.54	5.38		11.95	12.40	13.22
	velocity	7.29	8.86	8.71	8.79	8.56	8.56	8.29	8.18	7.95	7.71	7.43	8.14		8.79	8.47	7.94
	H1 lead leg		strides														
Goller, Thomas (GER) (1977)	time	6.00	9.77	13.68	17.64	21.70	25.97	30.46	35.10	39.94	44.80		50.48	/ 5			
	reaction time	0.143	interval	3.77	3.91	3.96	4.06	4.27	4.49	4.64	4.84	4.86	5.68		11.64	12.82	14.34
	velocity	7.50	9.28	8.95	8.84	8.62	8.20	7.80	7.54	7.23	7.20	7.04	7.92		9.02	8.19	7.32
	H1 lead leg		strides														
Carne, Ben (GBR) (1986)	time	6.15	10.13	14.06	18.10	22.30	26.56	30.93	35.50	40.17	45.06		50.74	/ 6			
	reaction time	0.212	interval	3.98	3.93	4.04	4.20	4.26	4.37	4.57	4.67	4.89	5.68		11.95	12.83	14.13
	velocity	7.32	8.79	8.91	8.66	8.33	8.22	8.01	7.66	7.49	7.16	7.04	7.88		8.79	8.18	7.43
	H1 lead leg		strides														
Bultheel, Michaël (BEL) (198)	time	6.16	10.03	13.99	17.99	22.10	26.42	30.92	35.61	40.40	45.30		50.87	/ 7			
	reaction time	0.149	interval	3.87	3.96	4.00	4.11	4.32	4.50	4.69	4.79	4.90	5.57		11.83	12.93	14.38
	velocity	7.31	9.04	8.84	8.75	8.52	8.10	7.78	7.46	7.31	7.14	7.18	7.86		8.88	8.12	7.30
	H1 lead leg		strides														

2007 USATF National Championship (Indianapolis, IN)

Heat 4

date 21-Jun-07

USATF Men's Hurdle Development (2007)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Ferguson, Kenneth (USA) (1	time	6.11	9.79	13.60	17.57	21.72	26.21	30.85	35.45	39.84	44.29		49.31	5 / 1				
	reaction time	interval	3.68	3.81	3.97	4.15	4.49	4.64	4.60	4.39	4.45	5.02			11.46	13.28	13.44	
	velocity	7.36	9.51	9.19	8.82	8.43	7.80	7.54	7.61	7.97	7.87	7.97	8.11		9.16	7.91	7.81	
	H1 lead leg	L	strides	22	13	13	13	15	15	15	15	15	149					
Tinsley, Michael (USA) (1984	time	6.11	9.89	13.78	17.78	22.02	26.46	30.90	35.29	39.72	44.24		49.32	6 / 2				
	reaction time	interval	3.78	3.89	4.00	4.24	4.44	4.44	4.39	4.43	4.52	5.08			11.67	13.12	13.34	
	velocity	7.36	9.26	9.00	8.75	8.25	7.88	7.88	7.97	7.90	7.74	7.87	8.11		9.00	8.00	7.87	
	H1 lead leg	L	strides	21	13	13	13	14	14	14	14	15	145					
Bennett, LaRon (USA) (1982	time	6.25	10.23	14.11	18.20	22.31	26.59	30.89	35.25	39.76	44.23		49.46	7 / 3				
	reaction time	interval	3.98	3.88	4.09	4.11	4.28	4.30	4.36	4.51	4.47	5.23			11.95	12.69	13.34	
	velocity	7.20	8.79	9.02	8.56	8.52	8.18	8.14	8.03	7.76	7.83	7.65	8.09		8.79	8.27	7.87	
	H1 lead leg	R	strides	22	14	14	14	15	16	15	15	15	154					
Hutcherson, Orentheus (US,	time	5.91	9.74	13.69	17.76	21.97	26.35	30.81	35.24	39.82	44.50		49.93	8 / 4				
	reaction time	interval	3.83	3.95	4.07	4.21	4.38	4.46	4.43	4.58	4.68	5.43			11.85	13.05	13.69	
	velocity	7.61	9.14	8.86	8.60	8.31	7.99	7.85	7.90	7.64	7.48	7.37	8.01		8.86	8.05	7.67	
	H1 lead leg	R	strides	22	14	14	14	15	15	15	15	15	153					

Heat 3

date 21-Jun-07

USATF Men's Hurdle Development (2007)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Johnson, Brandon (USA) (1	time	5.87	9.58	13.51	17.48	21.60	25.86	30.46	35.07	39.01	44.69		50.04	5 / 1				
	reaction time	interval	3.71	3.93	3.97	4.12	4.26	4.60	4.61	3.94	5.68	5.35			11.61	12.98	14.23	
	velocity	7.67	9.43	8.91	8.82	8.50	8.22	7.61	7.59	8.88	6.16	7.48	7.99		9.04	8.09	7.38	
	H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	144					
Gaymon, Justin (USA) (1986	time	6.02	10.01	14.06	18.27	22.41	26.75	31.18	35.70	40.27	44.93		50.16	6 / 2				
	reaction time	interval	3.99	4.05	4.21	4.14	4.34	4.43	4.52	4.57	4.66	5.23			12.25	12.91	13.75	
	velocity	7.48	8.77	8.64	8.31	8.45	8.06	7.90	7.74	7.66	7.51	7.65	7.97		8.57	8.13	7.64	
	H1 lead leg	R	strides	22	15	15	14	14	15	15	15	15	155					
McCoy, Reuben (USA) (1986	time	6.21	9.99	13.93	18.03	22.37	26.86	31.33	35.79	40.32	44.89		50.16	8 / 3				
	reaction time	interval	3.78	3.94	4.10	4.34	4.49	4.47	4.46	4.53	4.57	5.27			11.82	13.30	13.56	
	velocity	7.25	9.26	8.88	8.54	8.06	7.80	7.83	7.85	7.73	7.66	7.59	7.97		8.88	7.89	7.74	
	H1 lead leg	R	strides	21	13	13	13	15	15	15	15	15	150					
Peresta, Andrew (USA) (198	time	5.97	9.91	13.93	18.00	22.21	26.53	30.96	35.39	40.12	44.94		50.22	2 / 4				
	reaction time	interval	3.94	4.02	4.07	4.21	4.32	4.43	4.43	4.73	4.82	5.28			12.03	12.96	13.98	
	velocity	7.54	8.88	8.71	8.60	8.31	8.10	7.90	7.90	7.40	7.26	7.58	7.96		8.73	8.10	7.51	
	H1 lead leg	R	strides	22	15	15	15	15	15	16	15	15	158					
Small, Javonie (USA) (1982)	time	5.96	9.83	13.84	17.91	22.07	26.66	31.28	35.85	40.47	45.30		50.96	7 / 5				
	reaction time	interval	3.87	4.01	4.07	4.16	4.59	4.62	4.57	4.62	4.83	5.66			11.95	13.37	14.02	
	velocity	7.55	9.04	8.73	8.60	8.41	7.63	7.58	7.66	7.58	7.25	7.07	7.85		8.79	7.85	7.49	
	H1 lead leg	R	strides	22	15	14	14	14	15	15	15	15	153					
Sharpe, Fred (USA) (1978)	time	6.20	10.09	14.19	18.30	22.54	26.91	31.48	36.08	40.79	45.51		51.00	3 / 6				
	reaction time	interval	3.89	4.10	4.11	4.24	4.37	4.57	4.60	4.71	4.72	5.49			12.10	13.18	14.03	

	velocity	7.26	9.00	8.54	8.52	8.25		8.01	7.66	7.61	7.43	7.42	7.29	7.84		8.68	7.97	7.48
H1 lead leg	R	strides	23	15	15	15		15	16	16	16	16		162				

Heat 2

date 21-Jun-07

USATF Men's Hurdle Development (2007)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Carter, James (USA) (1978)	time	5.97	9.68	13.56	17.58	21.65		25.86	30.24	34.65	39.22	43.91		49.07	8 / 1			
	reaction time		interval					4.21	4.38	4.41	4.57	4.69	5.16			11.61	12.66	13.67
	velocity	7.54	9.43	9.02	8.71	8.60		8.31	7.99	7.94	7.66	7.46	7.75	8.15		9.04	8.29	7.68
H1 lead leg	L	strides	21	13	13	13		13	14	14	14	14		142				
Harris, Rickey (USA) (1981)	time	6.02	9.93	13.85	17.85	21.97		26.28	30.63	35.11	39.71	44.41		49.46	6 / 3			
	reaction time		interval					4.31	4.35	4.48	4.60	4.70	5.05			11.83	12.78	13.78
	velocity	7.48	8.95	8.93	8.75	8.50		8.12	8.05	7.81	7.61	7.45	7.92	8.09		8.88	8.22	7.62
H1 lead leg	R	strides	22	15	15	15		15	15	15	15	15		157				
Dudley, Eric (USA) (1980)	time	6.11	9.91	13.89	17.92	22.05		26.36	30.74	35.22	39.91	44.43		49.58	7 / 4			
	reaction time		interval					4.31	4.38	4.48	4.69	4.52	5.15	PB		11.81	12.82	13.69
	velocity	7.36	9.21	8.79	8.68	8.47		8.12	7.99	7.81	7.46	7.74	7.77	8.07		8.89	8.19	7.67
H1 lead leg	R	strides	21	13	13	13		13	14	14	14	14		142				
Greene, Joe (USA) (1987)	time	6.17	9.88	13.70	17.60	21.71		26.08	30.61	35.25	39.94	44.72		50.44	5 / 6			
	reaction time		interval					4.37	4.53	4.64	4.69	4.78	5.72			11.43	13.01	14.11
	velocity	7.29	9.43	9.16	8.97	8.52		8.01	7.73	7.54	7.46	7.32	6.99	7.93		9.19	8.07	7.44
H1 lead leg	R	strides	21	13	13	13		14	14	15	15	15		146				

Heat 1

date 21-Jun-07

USATF Men's Hurdle Development (2007)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Clement, Kerron (USA) (1988)	time	5.99	9.78	13.65	17.60	21.79		26.04	30.41	34.87	39.57	44.38		49.72	6 / 1			
	reaction time		interval					4.25	4.37	4.46	4.70	4.81	5.34			11.61	12.81	13.97
	velocity	7.51	9.23	9.04	8.86	8.35		8.24	8.01	7.85	7.45	7.28	7.49	8.05		9.04	8.20	7.52
H1 lead leg	R	strides	20	13	13	13		13	13	13	15	15		141				
Woody, Joey (USA) (1973)	time	6.09	9.99	13.68	17.60	21.62		25.86	30.31	34.82	39.54	44.38		49.92	4 / 2			
	reaction time		interval					4.24	4.45	4.51	4.72	4.84	5.54			11.51	12.71	14.07
	velocity	7.39	8.97	9.49	8.93	8.71		8.25	7.87	7.76	7.42	7.23	7.22	8.01		9.12	8.26	7.46
H1 lead leg	R	strides	21	13	13	13		13	14	14	14	15	15	144				
Derby, Brian (USA) (1981)	time	6.09	10.03	13.98	18.03	22.17		26.61	31.09	35.67	40.27	44.91		50.26	5 / 3			
	reaction time		interval					4.44	4.48	4.58	4.60	4.64	5.35			11.94	13.06	13.82
	velocity	7.39	8.88	8.86	8.64	8.45		7.88	7.81	7.64	7.61	7.54	7.48	7.96		8.79	8.04	7.60
H1 lead leg	L	strides	21	14	13	13		14	14	14	14	14		144				
Scott, Bryan (USA) (1985)	time	6.17	10.13	14.05	18.27	22.47		26.79	31.10	35.74	40.31	45.05		50.39	7 / 4			
	reaction time		interval					4.32	4.31	4.64	4.57	4.74	5.34			12.10	12.83	13.95
	velocity	7.29	8.84	8.93	8.29	8.33		8.10	8.12	7.54	7.66	7.38	7.49	7.94		8.68	8.18	7.53
H1 lead leg	L	strides	22	14	14	14		14	14	15	15	15		151				
Prince, Damian (USA) (1986)	time	6.01	9.79	13.66	17.65	21.89		26.38	30.83	35.48	40.55			dnf	8 / --			
	reaction time		interval					4.49	4.45	4.65	5.07					11.64	13.18	
	velocity	7.49	9.26	9.04	8.77	8.25		7.80	7.87	7.53	6.90					9.02	7.97	
H1 lead leg	L	strides	22	14	14	14		15	15	15	16			139				

2007 Osaka Grand Prix (Osaka, JPN)

FINAL

date 05-May-07

Yasunori (2008) - race pattern analysis of the world and Japanese top 400m hurdlers

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Jackson, Bershawn (USA) (1978)	time	5.71	9.40	13.29	17.36	21.48		25.47	29.57	33.81	38.23	42.88		48.13	1 / 1			
	reaction time		interval					3.99	4.10	4.24	4.42	4.65	5.25			11.65	12.21	13.31
	velocity	7.88	9.49	9.00	8.60	8.50		8.77	8.54	8.25	7.92	7.53	7.62	8.31		9.01	8.60	7.89
H1 lead leg		strides	15	15	15	15		15	15	15	15	15		135				
Carter, James (USA) (1978)	time	5.79	9.49	13.24	17.21	21.28		25.40	29.62	33.94	38.36	42.95		48.22	2 / 2			
	reaction time		interval					4.12	4.22	4.32	4.42	4.59	5.27			11.42	12.41	13.33
	velocity	7.77	9.46	9.33	8.82	8.60		8.50	8.29	8.10	7.92	7.63	7.59	8.30		9.19	8.46	7.88
H1 lead leg		strides	13	13	13	13		13	14	14	14	14		121				
Tamesue, Dai (JPN) (1978)	time	5.82	9.52	13.31	17.18	21.17		25.26	29.45	33.85	38.44	43.23		48.73	3 / 3			
	reaction time		interval					4.09	4.19	4.40	4.59	4.79	5.50			11.36	12.27	13.78
	velocity	7.73	9.46	9.23	9.04	8.77		8.56	8.35	7.95	7.63	7.31	7.27	8.21		9.24	8.56	7.62
H1 lead leg		strides	13	13	13	13		14	14	15	15	15		125				
Narisako, Kenji (JPN) (1984)	time	5.97	9.66	13.38	17.20	21.14		25.21	29.46	34.08	38.85	43.55		49.20	4 / 4			
	reaction time		interval					4.07	4.25	4.62	4.77	4.70	5.65			11.23	12.26	14.09
	velocity	7.54	9.49	9.41	9.16	8.88		8.60	8.24	7.58	7.34	7.45	7.08	8.13		9.35	8.56	7.45
H1 lead leg		strides	13	13	13	13		13	14	14	15	15		123				
Yoshikata, Masahira (JPN) (1984)	time	6.07	9.82	13.69	17.61	21.71		25.88	30.27	34.72	39.34	44.13		49.69	5 / 5			
	reaction time		interval					4.17	4.39	4.45	4.62	4.79	5.56			11.54	12.66	13.86
	velocity	7.41	9.33	9.04	8.93	8.54		8.39	7.97	7.87	7.58	7.31	7.19	8.05		9.10	8.29	7.58

H1 lead leg	strides	14	14	14	14	14	15	15	15	15	15	130
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2006 Seiko Super Grand Prix (Yokohama, JPN)**FINAL**

date 24-Sep-06

Yasunori (2007) - race pattern analysis of top Japanese 400m hurdlers

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Clement, Kerron (USA) (1988)	time	6.01	9.83	13.67	17.51	21.55		25.70	29.94	34.26	38.68	43.24		48.36	/ 1			
	reaction time		interval	3.82	3.84	3.84	4.04	4.15	4.24	4.32	4.42	4.56	5.12			11.50	12.43	13.30
		velocity	7.49	9.16	9.11	9.11	8.66	8.43	8.25	8.10	7.92	7.68	7.81	8.27		9.13	8.45	7.89
	H1 lead leg		strides	13	13	13	13	13	13	13	13	13		117				
Kawakita, Naohiro (JPN) (1991)	time	6.06	9.83	13.63	17.57	21.66		26.04	30.41	34.88	39.47	44.09		49.30	/ 2			
	reaction time		interval	3.77	3.80	3.94	4.09	4.38	4.37	4.47	4.59	4.62	5.21			11.51	12.84	13.68
		velocity	7.43	9.28	9.21	8.88	8.56	7.99	8.01	7.83	7.63	7.58	7.68	8.11		9.12	8.18	7.68
	H1 lead leg		strides	13	13	13	13	14	14	15	15	15		125				
Koike, Takayuki (JPN) (1984)	time	6.06	9.85	13.70	17.62	21.72		25.99	30.36	34.81	39.33	43.95		49.45	/ 3			
	reaction time		interval	3.79	3.85	3.92	4.10	4.27	4.37	4.45	4.52	4.62	5.50			11.56	12.74	13.59
		velocity	7.43	9.23	9.09	8.93	8.54	8.20	8.01	7.87	7.74	7.58	7.27	8.09		9.08	8.24	7.73
	H1 lead leg		strides	14	14	14	14	15	15	15	15	15		131				
Chiba, Yoshihiro (JPN) (1975)	time	5.99	9.76	13.61	17.65	21.79		26.06	30.48	34.95	39.45	44.09		49.65	/ 5			
	reaction time		interval	3.77	3.85	4.04	4.14	4.27	4.42	4.47	4.50	4.64	5.56			11.66	12.83	13.61
		velocity	7.51	9.28	9.09	8.66	8.45	8.20	7.92	7.83	7.78	7.54	7.19	8.06		9.01	8.18	7.71
	H1 lead leg		strides	14	14	14	14	14	15	15	15	15		130				
Yoshikata, Masahira (JPN) (1981)	time	5.92	9.57	13.31	17.15	21.14		25.31	29.66	34.10	38.75	43.77		49.76	/ 6			
	reaction time		interval	3.65	3.74	3.84	3.99	4.17	4.35	4.44	4.65	5.02	5.99			11.23	12.51	14.11
		velocity	7.60	9.59	9.36	9.11	8.77	8.39	8.05	7.88	7.53	6.97	6.68	8.04		9.35	8.39	7.44
	H1 lead leg		strides	14	14	14	14	14	15	15	15	15		130				

2006 IAAF World Athletic Final (Stuttgart, GER) (TV Analysis)**FINAL**

date 10-Sep-06

Graubner (2008) - <http://www.fgs.uni-halle.de>

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Iakovákis, Periklís (GRE) (1977)	time	5.97	9.65	13.39	17.23	21.17		25.22	29.44	33.75	38.19	42.77		47.92	3 / 1			
	reaction time	0.158	interval	3.68	3.74	3.84	3.94	4.05	4.22	4.31	4.44	4.58	5.15			11.26	12.21	13.33
		velocity	7.54	9.51	9.36	9.11	8.88	8.64	8.29	8.12	7.88	7.64	7.77	8.35		9.33	8.60	7.88
	H1 lead leg		strides															
van Zyl, L.J. (RSA) (1985)	0.159	no information available												48.08	6 / 2			
Jackson, Bershawn (USA) (1981)	0.134	no information available												48.24	5 / 3			
Carter, James (USA) (1978)	0.211	no information available												48.41	4 / 4			
Thompson, Kemel (JAM) (1981)	0.139	no information available												48.61	8 / 5			
McFarlane, Danny (JAM) (1981)	0.178	no information available												48.73	7 / 6			
Keita, Naman (FRA) (1978)	0.234	no information available												49.40	2 / 7			
Myburgh, Alwyn (RSA) (1981)	0.145	no information available												49.47	1 / 8			

2006 European Championships (Göteborg, SWE)**FINAL**

date 10-Aug-06

Behm (2006) - Göteborg 2006: Le quatrache

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Iakovákis, Periklís (GRE) (1977)	time	5.8	9.4	13.0	16.8	20.7		24.7	29.0	33.4	37.8	42.8		48.46	/ 1			
	reaction time		interval	3.6	3.6	3.8	3.9	4.0	4.3	4.4	4.4	5.0	5.66			11.00	12.20	13.80
		velocity	7.76	9.72	9.72	9.21	8.97	8.75	8.14	7.95	7.95	7.00	7.07	8.25		9.55	8.61	7.61
	H1 lead leg	R	strides	21	13	13	13	14	14	14	14	15	19	163				
Plawgo, Marek (POL) (1981)	time	5.8	9.5	13.4	17.4	21.5		25.7	30.0	34.5	39.0	43.6		48.71	/ 2			
	reaction time		interval	3.7	3.9	4.0	4.1	4.2	4.3	4.5	4.5	4.6	5.11			11.60	12.60	13.60
		velocity	7.76	9.46	8.97	8.75	8.54	8.33	8.14	7.78	7.78	7.61	7.83	8.21		9.05	8.33	7.72
	H1 lead leg	L	strides	20	13	13	13	13	14	14	14	14	18	159				
Williams, Rhys (GBR) (1984)	time	5.9	9.7	13.5	17.7	21.8		26.0	30.2	34.6	39.2	43.8		49.12	/ 3			
	reaction time		interval	3.8	3.8	4.2	4.1	4.2	4.2	4.4	4.6	4.6	5.32			11.80	12.50	13.60
		velocity	7.63	9.21	9.21	8.33	8.54	8.33	8.33	7.95	7.61	7.61	7.52	8.14		8.90	8.40	7.72
	H1 lead leg	L	strides	21	14	14	14	15	15	15	15	15	19	171				
Keita, Naman (FRA) (1978)	time	5.9	9.4	13.1	17.0	20.9		25.0	29.5	34.0	38.7	43.5		49.13	/ 4			
	reaction time		interval	3.5	3.7	3.9	3.9	4.1	4.5	4.5	4.7	4.8	5.63			11.10	12.50	14.00
		velocity	7.63	10.00	9.46	8.97	8.97	8.54	7.78	7.78	7.45	7.29	7.10	8.14		9.46	8.40	7.50
	H1 lead leg	R	strides	20	12	12	12	13	13	14	14	14	136					
Maillard, Sébastien (FRA) (1979)	time	6.0	9.7	13.5	17.6	21.7		25.9	30.2	34.5	39.1	43.9		49.54	/ 5			
	reaction time		interval	3.7	3.8	4.1	4.1	4.2	4.3	4.3	4.6	4.8	5.64			11.60	12.60	13.70
		velocity	7.50	9.46	9.21	8.54	8.54	8.33	8.14	8.14	7.61	7.29	7.09	8.07		9.05	8.33	7.66
	H1 lead leg	L	strides	21	13	14	14	14	15	15	15	15	19.5	169.5				
Carabelli, Gianni (ITA) (1979)	time	5.9	9.7	13.5	17.3	21.3		25.4	29.7	34.3	38.8	43.6		49.60	/ 6			
	reaction time		interval	3.8	3.8	4.0	4.0	4.1	4.3	4.6	4.5	4.8	6.00			11.40	12.40	13.90
		velocity	7.63	9.21	9.21	9.21	8.75	8.54	8.14	7.61	7.78	7.29	6.67	8.06		9.21	8.47	7.55
	H1 lead leg	R	strides	20	13	13	13	13	14	14	14	15	18.5	160.5				

Alozids, Minás (GRE) (1984)	time	5.9	9.5	13.4	17.4	21.4	25.5	29.7	34.3	38.9	43.8	49.61	/ 7				
	reaction time		3.6	3.9	4.0	4.0	4.1	4.2	4.6	4.6	4.9	5.81		11.50	12.30	14.10	
	velocity	7.63	9.72	8.97	8.75	8.75	8.54	8.33	7.61	7.61	7.14	6.88		9.13	8.54	7.45	
	H1 lead leg	L	21	13	13	13	14	14	15	15	15	16		149			
Derevyagn, Aleksandr (RUS)	time	5.9	9.7	13.6	17.6	21.7	26.0	30.4	34.7	39.4	44.2	50.31	/ 8				
	reaction time		3.8	3.9	4.0	4.1	4.3	4.4	4.3	4.7	4.8	6.11		11.70	12.80	13.80	
	velocity	7.63	9.21	8.97	8.75	8.54	8.14	7.95	8.14	7.45	7.29	6.55		7.95	8.97	8.20	7.61
	H1 lead leg	L	21	14	14	14	14	15	15	15	15	18.5		170.5			

2006 Japanese National Championships (Kobe, JPN)

FINAL

date 01-Jul-06

Yasunori (2007) - race pattern analysis of top Japanese 400m hurdlers

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Narisako, Kenji (JPN) (1984)	time	6.07	9.82	13.61	17.51	21.46		25.60	30.02	34.52	39.11	43.75		48.95	/ 1			
	reaction time		3.75	3.79	3.90	3.95		4.14	4.42	4.50	4.59	4.64	5.20			11.44	12.51	13.73
	velocity	7.41	9.33	9.23	8.97	8.86		8.45	7.92	7.78	7.63	7.54	7.69	8.17		9.18	8.39	7.65
	H1 lead leg		13	13	13	13		13	14	14	15	15	123					
Sugimati, Mahau (JPN) (19)	time	6.25	10.12	13.96	17.95	22.00		26.27	30.62	35.12	39.71	44.31		49.63	/ 2			
	reaction time		3.87	3.84	3.99	4.05		4.27	4.35	4.50	4.59	4.60	5.32	PB		11.70	12.67	13.69
	velocity	7.20	9.04	9.11	8.77	8.64		8.20	8.05	7.78	7.63	7.61	7.52	8.06		8.97	8.29	7.67
	H1 lead leg		12	12	12	12		13	13	13	13	13	113					
Kawakita, Naohiro (JPN) (19)	time	6.16	10.01	13.95	17.94	22.01		26.25	30.69	35.33	39.98	44.63		49.70	/ 3			
	reaction time		3.85	3.94	3.99	4.07		4.24	4.44	4.64	4.65	4.65	5.07			11.78	12.75	13.94
	velocity	7.31	9.09	8.88	8.77	8.60		8.25	7.88	7.54	7.53	7.53	7.89	8.05		8.91	8.24	7.53
	H1 lead leg		13	13	13	13		14	14	15	15	15	125					

2006 USATF National Championships (Indianapolis, IN)

FINAL

date 24-Jun-06

USATF Men's Hurdle Development (2006)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Clement, Kerron (USA) (198)	time	5.97	9.65	13.38	17.15	21.05		25.06	29.19	33.40	37.80	42.41		47.39	4 / 1			
	reaction time		3.68	3.73	3.77	3.90		4.01	4.13	4.21	4.40	4.61	4.98			11.18	12.04	13.22
	velocity	7.54	9.51	9.38	9.28	8.97		8.73	8.47	8.31	7.95	7.59	8.03	8.44		9.39	8.72	7.94
	H1 lead leg	R	20	13	13	13		13	13	13	13	15	17	156				
Jackson, Bershawn (USA) (1)	time	5.72	9.49	13.31	17.25	21.29		25.16	29.23	33.32	37.64	42.16		47.48	6 / 2			
	reaction time		3.77	3.82	3.94	4.04		3.87	4.07	4.09	4.32	4.52	5.32			11.53	11.98	12.93
	velocity	7.87	9.28	9.16	8.88	8.66		9.04	8.60	8.56	8.10	7.74	7.52	8.42		9.11	8.76	8.12
	H1 lead leg	L	23	15	15	15		15	15	15	15	15	19.7	177.7				
Carter, James (USA) (1978)	time	5.99	9.76	13.58	17.45	21.46		25.53	29.76	34.07	38.52	43.11		48.44	3 / 3			
	reaction time		3.77	3.82	3.87	4.01		4.07	4.23	4.31	4.45	4.59	5.33			11.46	12.31	13.35
	velocity	7.51	9.28	9.16	9.04	8.73		8.60	8.27	8.12	7.87	7.63	7.50	8.26		9.16	8.53	7.87
	H1 lead leg	L	21	13	13	13		13	14	14	14	14	17	159				
Woody, Joey (USA) (1973)	time	6.09	9.78	13.55	17.38	21.34		25.39	29.70	34.12	38.67	43.47		49.12	5 / 4			
	reaction time		3.69	3.77	3.83	3.96		4.05	4.31	4.42	4.55	4.80	5.65			11.29	12.32	13.77
	velocity	7.39	9.49	9.28	9.14	8.84		8.64	8.12	7.92	7.69	7.29	7.08	8.14		9.30	8.52	7.63
	H1 lead leg	R	21	13	13	13		13	14	14	15	15	19	163				
Garrett, LaBronze (USA) (19)	time	5.94	9.83	13.73	17.67	21.67		25.87	30.10	34.54	39.14	43.74		49.47	2 / 5			
	reaction time		3.89	3.90	3.94	4.00		4.20	4.23	4.44	4.60	4.60	5.73			11.73	12.43	13.64
	velocity	7.58	9.00	8.97	8.88	8.75		8.33	8.27	7.88	7.61	7.61	6.98	8.09		8.95	8.45	7.70
	H1 lead leg	L	21	13	13	13		14	14	15	15	15	146					
Tinsley, Michael (USA) (1984)	time	6.01	9.76	12.48	17.42	21.49		25.79	30.18	34.75	39.34	44.06		49.68	8 / 6			
	reaction time		3.75	2.72	4.94	4.07		4.30	4.39	4.57	4.59	4.72	5.62			11.41	12.76	13.88
	velocity	7.49	9.33	12.87	7.09	8.60		8.14	7.97	7.66	7.63	7.42	7.12	8.05		9.20	8.23	7.56
	H1 lead leg	R	22	14	14	14		14	14	15	15	15	151					
Ferguson, Kenneth (USA) (1)	time	5.86	9.61	13.46	17.35	21.41		25.66	30.03	34.60	39.34	44.56		50.76	1 / 7			
	reaction time		3.75	3.85	3.89	4.06		4.25	4.37	4.57	4.74	5.22	6.20			11.49	12.68	14.53
	velocity	7.68	9.33	9.09	9.00	8.62		8.24	8.01	7.66	7.38	6.70	6.45	7.88		9.14	8.28	7.23
	H1 lead leg	L	22	13	15	13		15	15	15	15	15	151					
Williams, Derrick (USA) (198)	time	5.92	9.61	13.48	17.35	21.34		25.51	29.81	34.23	38.79	43.63		dnf	7 / --			
	reaction time		3.69	3.87	3.87	3.99		4.17	4.30	4.42	4.56	4.84				11.43	12.46	13.82
	velocity	7.60	9.49	9.04	9.04	8.77		8.39	8.14	7.92	7.68	7.23				9.19	8.43	7.60
	H1 lead leg	R	22	14	14	14		15	15	15	15	16	154					

2006 Asian Grand Prix (Bengaluru, IND)

FINAL

date 22-May-06

Meng (2009) - a comparative study on rhythm changes between hurdles of chinese and foreign 400m hurdlers

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Meng Yan (CHN) (1980)	time	5.85	9.60	13.47	17.52	21.62		25.87	30.25	34.70	39.20	43.83		49.03	/ 1			
	reaction time		3.75	3.87	4.05	4.10		4.25	4.38	4.45	4.50	4.63	5.20	NR PB		11.67	12.73	13.58
	velocity	7.69	9.33	9.04	8.64	8.54		8.24	7.99	7.87	7.78	7.56	7.69	8.16		9.00	8.25	7.73

H1 lead leg	strides	21	13	13	13	13	13	14	14	15	15	18	162
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2006 Osaka Grand Prix (Osaka, JPN)**FINAL**

date 06-May-06

Yasunori (2007) - race pattern analysis of top Japanese 400m hurdlers

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Jackson, Bershawn (USA) (1time)	time	6.04	10.06	14.15	18.29	22.36		26.28	30.22	34.22	38.43	42.73		47.60	/ 1			
	reaction time		interval	4.02	4.09	4.14	4.07	3.92	3.94	4.00	4.21	4.30	4.87			12.25	11.93	12.51
	velocity	7.45	8.71	8.56	8.45	8.60		8.93	8.88	8.75	8.31	8.14	8.21	8.40		8.57	8.80	8.39
	H1 lead leg		strides	15	15	15	15	15	15	15	15	15	15	135				
Iakovákis, Periklís (GRE) (197time)	time	6.06	9.70	13.44	17.21	21.04		25.08	29.23	33.49	37.93	42.60		47.82	/ 2			
	reaction time		interval	3.64	3.74	3.77	3.83	4.04	4.15	4.26	4.44	4.67	5.22	NR		11.15	12.02	13.37
	velocity	7.43	9.62	9.36	9.28	9.14		8.66	8.43	8.22	7.88	7.49	7.66	8.36		9.42	8.74	7.85
	H1 lead leg		strides	13	13	13	13	14	14	14	14	15	123					
Narisako, Kenji (JPN) (1984)	time	5.95	9.63	13.41	17.23	21.10		25.12	29.44	33.77	38.17	42.72		47.93	/ 3			
	reaction time		interval	3.68	3.78	3.82	3.87	4.02	4.32	4.33	4.40	4.55	5.21	PB		11.28	12.21	13.28
	velocity	7.56	9.51	9.26	9.16	9.04		8.71	8.10	8.08	7.95	7.69	7.68	8.35		9.31	8.60	7.91
	H1 lead leg		strides	13	13	13	13	13	14	14	15	15	123					
Chiba, Yoshihiro (JPN) (197time)	time	6.04	9.79	13.56	17.45	21.40		25.46	29.61	33.95	38.47	43.22		48.83	/ 5			
	reaction time		interval	3.75	3.77	3.89	3.95	4.06	4.15	4.34	4.52	4.75	5.61			11.41	12.16	13.61
	velocity	7.45	9.33	9.28	9.00	8.86		8.62	8.43	8.06	7.74	7.37	7.13	8.19		9.20	8.63	7.71
	H1 lead leg		strides	14	14	14	14	14	15	15	15	15	130					
Yoshikata, Masahira (JPN) (1time)	time	6.00	9.74	13.58	17.45	21.42		25.56	29.81	34.18	38.70	43.42		48.93	/ 6			
	reaction time		interval	3.74	3.84	3.87	3.97	4.14	4.25	4.37	4.52	4.72	5.51			11.45	12.36	13.61
	velocity	7.50	9.36	9.11	9.04	8.82		8.45	8.24	8.01	7.74	7.42	7.26	8.17		9.17	8.50	7.71
	H1 lead leg		strides	14	14	14	14	14	15	15	15	15	130					
Kawakita, Naohiro (JPN) (19time)	time	6.12	9.89	13.78	17.67	21.67		25.81	30.20	34.70	39.36	44.01		49.25	/ 7			
	reaction time		interval	3.77	3.89	3.89	4.00	4.14	4.39	4.50	4.66	4.65	5.24	PB		11.55	12.53	13.81
	velocity	7.35	9.28	9.00	9.00	8.75		8.45	7.97	7.78	7.51	7.53	7.63	8.12		9.09	8.38	7.60
	H1 lead leg		strides	13	13	13	13	14	14	15	15	15	125					

2005 Seiko Super Grand Prix (Yokohama, JPN)**FINAL**

date 19-Sep-05

Yasunori (2006) - race pattern analysis of top Japanese 400m hurdlers

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Jackson, Bershawn (USA) (1time)	time	5.92	9.89	14.08	18.27	22.36		26.30	30.30	34.49	38.76	43.15		48.24	/ 1			
	reaction time		interval	3.97	4.19	4.19	4.09	3.94	4.00	4.19	4.27	4.39	5.09			12.35	12.03	12.85
	velocity	7.60	8.82	8.35	8.35	8.56		8.88	8.75	8.35	8.20	7.97	7.86	8.29		8.50	8.73	8.17
	H1 lead leg		strides	15	15	15	15	15	15	15	15	15	135					
Narisako, Kenji (JPN) (1984)	time	6.08	9.81	13.68	17.56	21.51		25.56	29.88	34.23	38.67	43.22		48.40	/ 2			
	reaction time		interval	3.73	3.87	3.88	3.95	4.05	4.32	4.35	4.44	4.55	5.18			11.48	12.32	13.34
	velocity	7.40	9.38	9.04	9.02	8.86		8.64	8.10	8.05	7.88	7.69	7.72	8.26		9.15	8.52	7.87
	H1 lead leg		strides	13	13	13	13	13	14	14	15	15	123					
Yoshikata, Masahira (JPN) (1time)	time	5.96	9.71	13.63	17.55	21.60		25.72	29.92	34.16	38.53	43.13		48.66	/ 3			
	reaction time		interval	3.75	3.92	3.92	4.05	4.12	4.20	4.24	4.37	4.60	5.53	PB		11.59	12.37	13.21
	velocity	7.55	9.33	8.93	8.93	8.64		8.50	8.33	8.25	8.01	7.61	7.23	8.22		9.06	8.49	7.95
	H1 lead leg		strides	14	14	14	14	14	15	15	15	15	130					
Shogata, Kazuya (JPN) (198time)	time	5.94	9.81	13.80	17.82	21.89		26.03	30.30	34.69	39.18	43.75		48.95	/ 5			
	reaction time		interval	3.87	3.99	4.02	4.07	4.14	4.27	4.39	4.49	4.57	5.20	PB		11.88	12.48	13.45
	velocity	7.58	9.04	8.77	8.71	8.60		8.45	8.20	7.97	7.80	7.66	7.69	8.17		8.84	8.41	7.81
	H1 lead leg		strides	14	14	14	14	15	15	15	15	15	131					

2005 IAAF World Championships (Helsinki, FIN)**FINAL**

date 09-Aug-05

Yasunori (2006) - race pattern analysis of top Japanese 400m hurdlers

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Jackson, Bershawn (USA) (1time)	time	5.73	9.50	13.30	17.34	21.41		25.38	29.42	33.59	37.86	42.25		47.30	6 / 1				
	reaction time 0.153		interval	3.77	3.80	4.04	4.07	3.97	4.04	4.17	4.27	4.39	5.05	PB		11.61	12.08	12.83	
	velocity	7.85	9.28	9.21	8.66	8.60		8.82	8.66	8.39	8.20	7.97	7.92	8.46		9.04	8.69	8.18	
	H1 lead leg		strides	13	13	15	15	15	15	15	15	15	19	150					
Carter, James (USA) (1978)	0.144	no information available												PB	48.18	3 / 2			
Tamesue, Dai (JPN) (1978)	time	5.79	9.38	13.08	16.92	20.82		24.87	29.01	33.35	37.94	42.68		48.10	7 / 3				
	reaction time 0.189		interval	3.59	3.70	3.84	3.90	4.05	4.14	4.34	4.59	4.74	5.42			11.13	12.09	13.67	
	velocity	7.77	9.75	9.46	9.11	8.97		8.64	8.45	8.06	7.63	7.38	7.38	8.32		9.43	8.68	7.68	
	H1 lead leg		strides	13	13	13	13	14	14	15	15	15	17.5	142.5					
Clement, Kerron (USA) (198time)	0.201	no information available												48.18	1 / 4				
Keïta, Naman (FRA) (1978)	0.172	no information available												48.28	8 / 5				
van Zyl, L.J. (RSA) (1985)	0.177	no information available												48.54	4 / 6				
Kamani Bayano (PAN) (1980)	0.180	no information available												50.18	5 / 7				
Sánchez, Félix (DOM) (1977)		no information available												dnf	2 / --				

Semi-Final 2

date 07-Aug-05

Yasunori (2006) - race pattern analysis of top Japanese 400m hurdlers

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Narisako, Kenji (JPN) (1984) time	6.08	9.88	13.77	17.69	21.66		25.75	30.07	34.47	39.02	43.64		49.00	1 / 3			
reaction time	0.158	interval	3.80	3.89	3.92	3.97	4.09	4.32	4.40	4.55	4.62	5.36			11.61	12.38	13.57
velocity	7.40	9.21	9.00	8.93	8.82		8.56	8.10	7.95	7.69	7.58	7.46	8.16		9.04	8.48	7.74
H1 lead leg	strides	13	13	13	13		13	14	14	15	15		123				

2005 NCAA Championships (Sacramento, CA)

FINAL

date 11-Jun-05

Shaver (2008) - hurdle training
gh (2005) - trackandfieldnews.com forum

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Clement, Kerron (USA) (1981) time	5.9	9.5	13.2	17.1	21.0		25.0	29.2	33.6	38.2	42.8		47.56	6 / 1			gh (2005)
reaction time	interval	3.60	3.70	3.90	3.90		4.00	4.20	4.40	4.60	4.60	4.76			11.20	12.10	13.60
velocity	7.63	9.72	9.46	8.97	8.97		8.75	8.33	7.95	7.61	7.61	8.40	8.41		9.38	8.68	7.72
H1 lead leg	R	strides	22	13	13	13	13	13	15	15	15	15	16.7	161.7			
Brazell, Bennie (USA) (1982) time	6.06	9.76	13.60	17.45	21.34		25.37	29.59	33.85	38.23	42.64		47.67	5 / 2			Shaver (2008)
reaction time	interval	3.70	3.84	3.85	3.89		4.03	4.22	4.26	4.38	4.41	5.03	PB		11.39	12.14	13.05
velocity	7.43	9.46	9.11	9.09	9.00		8.68	8.29	8.22	7.99	7.94	7.95	8.39		9.22	8.65	8.05
H1 lead leg	L	strides	22	13	13	13	13	15	15	15	16	19	167				

2005 Japanese National Championships (Tokyo, JPN)

FINAL

date 04-Jun-05

Yasunori (2006) - race pattern analysis of top Japanese 400m hurdlers

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tamesue, Dai (JPN) (1978) time	5.83	9.53	13.40	17.34	21.43		25.58	29.87	34.39	39.04	43.83		49.27	/ 1			
reaction time	interval	3.70	3.87	3.94	4.09		4.15	4.29	4.52	4.65	4.79	5.44			11.51	12.53	13.96
velocity	7.72	9.46	9.04	8.88	8.56		8.43	8.16	7.74	7.53	7.31	7.35	8.12		9.12	8.38	7.52
H1 lead leg	strides	13	13	13	13		14	14	15	15	15		125				
Narisako, Kenji (JPN) (1984) time	6.06	9.86	13.76	17.73	21.83		26.15	30.49	35.06	39.58	44.18		49.44	/ 2			
reaction time	interval	3.80	3.90	3.97	4.10		4.32	4.34	4.57	4.52	4.60	5.26			11.67	12.76	13.69
velocity	7.43	9.21	8.97	8.82	8.54		8.10	8.06	7.66	7.74	7.61	7.60	8.09		9.00	8.23	7.67
H1 lead leg	strides	13	13	13	13		14	14	15	15	15		125				
Kawakita, Naohiro (JPN) (1991) time	6.14	10.06	14.06	18.10	22.22		26.52	31.07	35.71	40.40	45.24		50.66	/ 3			
reaction time	interval	3.92	4.00	4.04	4.12		4.30	4.55	4.64	4.69	4.84	5.42			11.96	12.97	14.17
velocity	7.33	8.93	8.75	8.66	8.50		8.14	7.69	7.54	7.46	7.23	7.38	7.90		8.78	8.10	7.41
H1 lead leg	strides	13	13	13	13		14	14	15	15	15		125				

2005 Osaka Grand Prix (Osaka, JPN)

FINAL

date 07-May-05

Yasunori (2006) - race pattern analysis of top Japanese 400m hurdlers

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Carter, James (USA) (1978) time	5.77	9.47	13.21	17.13	21.23		25.48	29.82	34.26	38.71	43.25		48.42	/ 1			
reaction time	interval	3.70	3.74	3.92	4.10		4.25	4.34	4.44	4.45	4.54	5.17			11.36	12.69	13.43
velocity	7.80	9.46	9.36	8.93	8.54		8.24	8.06	7.88	7.87	7.71	7.74	8.26		9.24	8.27	7.82
H1 lead leg	strides	13	13	13	13		14	14	14	14	14		122				
Narisako, Kenji (JPN) (1984) time	5.99	9.68	13.45	17.25	21.24		25.39	29.81	34.25	38.77	43.37		48.71	/ 3			
reaction time	interval	3.69	3.77	3.80	3.99		4.15	4.42	4.44	4.52	4.60	5.34			11.26	12.56	13.56
velocity	7.51	9.49	9.28	9.21	8.77		8.43	7.92	7.88	7.74	7.61	7.49	8.21		9.33	8.36	7.74
H1 lead leg	strides	13	13	13	13		13	14	14	15	15		123				
Tamesue, Dai (JPN) (1978) time	5.84	9.51	13.25	17.09	21.01		25.11	29.33	33.78	38.38	43.17		48.72	/ 4			
reaction time	interval	3.67	3.74	3.84	3.92		4.10	4.22	4.45	4.60	4.79	5.55			11.25	12.24	13.84
velocity	7.71	9.54	9.36	9.11	8.93		8.54	8.29	7.87	7.61	7.31	7.21	8.21		9.33	8.58	7.59
H1 lead leg	strides	13	13	13	13		14	14	15	15	15		125				
Yoshikata, Masahira (JPN) (1981) time	5.99	9.69	13.54	17.49	21.58		25.90	30.32	34.82	39.36	44.00		49.52	/ 6			
reaction time	interval	3.70	3.85	3.95	4.09		4.32	4.42	4.50	4.54	4.64	5.52			11.50	12.83	13.68
velocity	7.51	9.46	9.09	8.86	8.56		8.10	7.92	7.78	7.71	7.54	7.25	8.08		9.13	8.18	7.68
H1 lead leg	strides	14	14	14	14		15	15	15	15	15		131				

2004 Seiko Super Grand Prix (Yokohama, JPN)

FINAL

date 23-Sep-04

Yasunori (2005) - race pattern analysis of top Japanese 400m hurdlers

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tamesue, Dai (JPN) (1978) time	5.86	9.48	13.27	17.16	21.16		25.31	29.51	33.93	38.50	43.15		48.59	/ 1			
reaction time	interval	3.62	3.79	3.89	4.00		4.15	4.20	4.42	4.57	4.65	5.44			11.30	12.35	13.64
velocity	7.68	9.67	9.23	9.00	8.75		8.43	8.33	7.92	7.66	7.53	7.35	8.23		9.29	8.50	7.70
H1 lead leg	strides	13	13	13	13		14	14	15	15	15		125				
Narisako, Kenji (JPN) (1984) time	5.99	9.63	13.43	17.37	21.37		25.52	29.91	34.36	38.91	43.58		49.07	/ 4			
reaction time	interval	3.64	3.80	3.94	4.00		4.15	4.39	4.45	4.55	4.67	5.49	PB		11.38	12.54	13.67
velocity	7.51	9.62	9.21	8.88	8.75		8.43	7.97	7.87	7.69	7.49	7.29	8.15		9.23	8.37	7.68
H1 lead leg	strides	13	13	13	13		13	15	15	15	15		125				

2004 Olympic Games (Athina, GRE)

FINAL

date 26-Aug-04

Behm (2005) - Athènes 2004: Les Haies Basses
Ruiz (2004) - las carreras con vallas de juegos olimpicos de atenas '04

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Sánchez, Felix (DOM) (1977)	time	5.81	9.36	13.07	16.90	20.87		24.96	29.15	33.42	37.74	42.21		47.63	6 / 1			Ruiz (2004)
	reaction time	0.219	interval	3.55	3.71	3.83	3.97	4.09	4.19	4.27	4.32	4.47	5.42			11.09	12.25	13.06
	velocity	7.75	9.86	9.43	9.14	8.82		8.56	8.35	8.20	8.10	7.83	7.38	8.40		9.47	8.57	8.04
	H1 lead leg	L	strides	21	13	13	13	14	14	15	15	15	18	164				
McFarlane, Danny (JAM) (19	time	6.02	9.52	13.23	17.17	21.19		25.21	29.50	33.62	38.23	42.88		48.11	5 / 2			Ruiz (2004)
	reaction time	0.256	interval	3.50	3.71	3.94	4.02	4.02	4.29	4.12	4.61	4.65	5.23			11.15	12.33	13.38
	velocity	7.48	10.00	9.43	8.88	8.71		8.71	8.16	8.50	7.59	7.53	7.65	8.31		9.42	8.52	7.85
	H1 lead leg	L	strides	21	13	13	13	13	14	14	14	15	18	161				
Keïta, Naman, (FRA) (1978)	time	6.00	9.62	13.46	17.26	21.41		25.50	29.68	33.99	38.32	42.92		48.26	7 / 3			Ruiz (2004)
	reaction time	0.268	interval	3.62	3.84	3.80	4.15	4.09	4.18	4.31	4.33	4.60	5.34			11.26	12.42	13.24
	velocity	7.50	9.67	9.11	9.21	8.43		8.56	8.37	8.12	8.08	7.61	7.49	8.29		9.33	8.45	7.93
	H1 lead leg	R	strides	20	12	12	13	13	13	13	13	13	17	151				
Carter, James (USA) (1978)	time	5.78	9.29	13.10	16.76	20.70		24.69	28.96	33.29	37.80	42.71		48.58	4 / 4			Ruiz (2004)
	reaction time	0.223	interval	3.51	3.81	3.66	3.94	3.99	4.27	4.33	4.51	4.91	5.87			10.98	12.20	13.75
	velocity	7.79	9.97	9.19	9.56	8.88		8.77	8.20	8.08	7.76	7.13	6.81	8.23		9.56	8.61	7.64
	H1 lead leg	L	strides	21	13	13	13	13	14	14	14	15	18	161				
Kamani, Bayano (PAN) (1981)	time	5.9	9.5	13.2	17.0	21.1		25.1	29.3	33.9	38.3	42.9		48.74	2 / 5			Behm (2005)
	reaction time	0.233	interval	3.6	3.7	3.8	4.1	4.0	4.2	4.6	4.4	4.6	5.84			11.10	12.30	13.60
	velocity	7.63	9.72	9.46	9.21	8.54		8.75	8.33	7.61	7.95	7.61	6.85	8.21		9.46	8.54	7.72
	H1 lead leg	L	strides	20	13	13	14	14	15	15	15	15	19	166				
Plawgo, Marek (POL) (1981)	time	6.0	9.6	13.3	17.2	21.2		25.3	29.8	34.3	38.9	43.7		49.00	3 / 6			Behm (2005)
	reaction time	0.242	interval	3.6	3.7	3.9	4.0	4.1	4.5	4.5	4.6	4.8	5.30			11.20	12.60	13.90
	velocity	7.50	9.72	9.46	8.97	8.75		8.54	7.78	7.78	7.61	7.29	7.55	8.16		9.38	8.33	7.55
	H1 lead leg	L	strides	20	13	13	13	13	14	14	15	15	15	143				
Myburgh, Alwyn (RSA) (1981)	time	5.9	9.5	13.2	17.0	21.2		25.3	29.4	33.9	38.5	43.3		49.07	1 / 7			Behm (2005)
	reaction time	0.150	interval	3.6	3.7	3.8	4.2	4.1	4.1	4.5	4.6	4.8	5.77			11.10	12.40	13.90
	velocity	7.63	9.72	9.46	9.21	8.33		8.54	8.54	7.78	7.61	7.29	6.93	8.15		9.46	8.47	7.55
	H1 lead leg	R	strides	21	14	14	14	14	14	15	15	15	19	169				
Brazell, Bennie (USA) (1982)	time	6.0	9.6	13.3	17.1	21.1		25.2	29.4	33.7	38.3	43.1		49.51	8 / 8			Behm (2005)
	reaction time	0.390	interval	3.6	3.7	3.8	4.0	4.1	4.2	4.3	4.6	4.8	6.41			11.10	12.30	13.70
	velocity	7.50	9.72	9.46	9.21	8.75		8.54	8.33	8.14	7.61	7.29	6.24	8.08		9.46	8.54	7.66
	H1 lead leg	L	strides	22	13	13	14	14	14	15	15	16	149					

2004 Japanese National Championships (Tottori, JPN)

FINAL

date 05-Jun-04

Yasunori (2005) - race pattern analysis of top Japanese 400m hurdlers

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tamesue, Dai (JPN) (1978)	time	5.82	9.49	13.19	17.04	21.04		25.21	29.46	33.88	38.50	43.22		48.74	/ 1			
	reaction time		interval	3.67	3.70	3.85	4.00	4.17	4.25	4.42	4.62	4.72	5.52			11.22	12.42	13.76
	velocity	7.73	9.54	9.46	9.09	8.75		8.39	8.24	7.92	7.58	7.42	7.25	8.21		9.36	8.45	7.63
	H1 lead leg		strides	13	13	13	13	14	14	15	15	15	125					
Yoshizawa, Ken (JPN) (1978)	time	5.96	9.65	13.45	17.39	21.49		25.78	30.17	34.62	39.21	44.01		49.63	/ 2			
	reaction time		interval	3.69	3.80	3.94	4.10	4.29	4.39	4.45	4.59	4.80	5.62			11.43	12.78	13.84
	velocity	7.55	9.49	9.21	8.88	8.54		8.16	7.97	7.87	7.63	7.29	7.12	8.06		9.19	8.22	7.59
	H1 lead leg		strides	13	13	13	13	14	14	15	15	15	125					
Kawamura, Hideaki (JPN) (1978)	time	5.97	9.77	13.64	17.68	21.92		26.27	30.72	35.16	39.70	44.34		49.66	/ 3			
	reaction time		interval	3.80	3.87	4.04	4.24	4.35	4.45	4.44	4.54	4.64	5.32			11.71	13.04	13.62
	velocity	7.54	9.21	9.04	8.66	8.25		8.05	7.87	7.88	7.71	7.54	7.52	8.05		8.97	8.05	7.71
	H1 lead leg		strides	14	14	14	14	15	15	15	15	15	131					
Narisako, Kenji (JPN) (1984)	time	6.02	9.79	13.61	17.61	21.76		26.20	30.57	35.06	39.65	44.34		49.80	/ 4			
	reaction time		interval	3.77	3.82	4.00	4.15	4.44	4.37	4.49	4.59	4.69	5.46			11.59	12.96	13.77
	velocity	7.48	9.28	9.16	8.75	8.43		7.88	8.01	7.80	7.63	7.46	7.33	8.03		9.06	8.10	7.63
	H1 lead leg		strides	13	13	13	13	14	14	15	15	15	125					

2004 Osaka Grand Prix (Osaka, JPN)

FINAL

date 08-May-04

Yasunori (2005) - race pattern analysis of top Japanese 400m hurdlers

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tamesue, Dai (JPN) (1978)	time	5.77	9.41	13.20	17.07	21.06		25.25	29.45	33.87	38.51	43.31		48.87	/ 1			
	reaction time		interval	3.64	3.79	3.87	3.99	4.19	4.20	4.42	4.64	4.80	5.56			11.30	12.38	13.86
	velocity	7.80	9.62	9.23	9.04	8.77		8.35	8.33	7.92	7.54	7.29	7.19	8.18		9.29	8.48	7.58
	H1 lead leg		strides	13	13	13	13	14	14	15	15	15	125					
Yoshikata, Masahira (JPN) (1978)	time	5.86	9.71	13.65	17.69	21.84		26.08	30.32	34.64	39.16	43.86		49.37	/ 5			
	reaction time		interval	3.85	3.94	4.04	4.15	4.24	4.24	4.32	4.52	4.70	5.51	PB		11.83	12.63	13.54
	velocity	7.68	9.09	8.88	8.66	8.43		8.25	8.25	8.10	7.74	7.45	7.26	8.10		8.88	8.31	7.75
	H1 lead leg		strides	14	14	14	14	15	15	15	15	15	131					
Kawamura, Hideaki (JPN) (1978)	time	6.10	9.90	13.87	17.99	22.28		26.63	31.00	35.40	39.95	44.62		50.01	/ 6			

reaction time	interval	3.80	3.97	4.12	4.29	4.35	4.37	4.40	4.55	4.67	5.39		11.89	13.01	13.62	
	velocity	7.38	9.21	8.82	8.50	8.16	8.05	8.01	7.95	7.69	7.49	7.42	8.00	8.83	8.07	7.71
H1 lead leg	strides	14	14	14	14	15	15	15	15	15	15	131				
Chiba, Yoshihiro (JPN) (1979)	time	6.02	9.92	13.96	18.08	22.28	26.60	30.99	35.58	40.28	45.12		50.86	/ 9		
reaction time	interval		3.90	4.04	4.12	4.20	4.32	4.39	4.59	4.70	4.84	5.74		12.06	12.91	14.13
	velocity	7.48	8.97	8.66	8.50	8.33	8.10	7.97	7.63	7.45	7.23	6.97	7.86	8.71	8.13	7.43
H1 lead leg	strides		14	14	14	14	15	15	15	15	15	131				

2003 Chinese National Championships (Shanghai, CHN)**FINAL**

date 14-Sep-03

Zhou (2003) - training of Shao Yi, national champion of men's 400m hurdles

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Shao Yi (CHN) (1979)	time	6.14	9.94	13.84	17.90	22.02	26.30	30.64	35.12	39.68	44.40		49.75		/ 1			
reaction time	interval		3.80	3.90	4.06	4.12	4.28	4.34	4.48	4.56	4.72	5.35	PB			11.76	12.74	13.76
	velocity	7.33	9.21	8.97	8.62	8.50	8.18	8.06	7.81	7.68	7.42	7.48	8.04			8.93	8.24	7.63
H1 lead leg	strides		13	13	14	14	14	14	14	14	14	15	125					

2003 IAAF World Championships (Paris, FRA)**FINAL**

date 29-Aug-03

Behm (2003) - Paris 2003:Le quatrache masculin - féminin

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Sánchez, Felix (DOM) (1977)	time	5.8	9.3	13.0	16.9	20.7	24.8	29.1	33.4	37.7	42.1		47.25		5 / 1			
reaction time	0.176 interval		3.5	3.7	3.9	3.8	4.1	4.3	4.3	4.3	4.4	5.15	AR / PB			11.10	12.20	13.00
	velocity	7.76	10.00	9.46	8.97	9.21	8.54	8.14	8.14	8.14	7.95	7.77	8.47			9.46	8.61	8.08
H1 lead leg	L strides		21	13	13	13	13	13	14	14	15	15	18	162				
Woody, Joey (USA) (1973)	time	5.9	9.5	13.4	17.2	21.0	25.3	29.5	33.7	38.2	42.8		48.18		6 / 2			
reaction time	0.167 interval		3.6	3.9	3.8	3.8	4.3	4.2	4.2	4.5	4.6	5.38				11.30	12.30	13.30
	velocity	7.63	9.72	8.97	9.21	9.21	8.14	8.33	8.33	7.78	7.61	7.43	8.30			9.29	8.54	7.89
H1 lead leg	R strides		21	13	13	13	13	14	14	15	15	18	162					
Iakovákis, Periklis (GRE) (1977)	time	5.9	9.5	13.2	17.1	21.0	25.0	29.4	33.8	38.3	42.9		48.24		4 / 3			
reaction time	0.174 interval		3.6	3.7	3.9	3.9	4.0	4.4	4.4	4.5	4.6	5.34				11.20	12.30	13.50
	velocity	7.63	9.72	9.46	8.97	8.97	8.75	7.95	7.95	7.78	7.61	7.49	8.29			9.38	8.54	7.78
H1 lead leg	R strides		21	13	13	13	13	13	14	14	15	18	160					
McFarlane, Danny (JAM) (1979)	time	5.9	9.6	13.5	17.3	21.2	25.3	29.6	33.9	38.5	43.1		48.30		7 / 4			
reaction time	0.165 interval		3.7	3.9	3.8	3.9	4.1	4.3	4.3	4.6	4.6	5.20	PB			11.40	12.30	13.50
	velocity	7.63	9.46	8.97	9.21	8.97	8.54	8.14	8.14	7.61	7.61	7.69	8.28			9.21	8.54	7.78
H1 lead leg	L strides		21	13	13	13	14	14	14	15	15	18	163					
Thompson, Kemel (JAM) (1979)	time	5.8	9.5	13.4	17.3	21.4	25.4	29.6	33.9	38.4	43.0		48.51		3 / 5			
reaction time	0.168 interval		3.7	3.9	3.9	4.1	4.0	4.2	4.3	4.5	4.6	5.51				11.50	12.30	13.40
	velocity	7.76	9.46	8.97	8.97	8.54	8.75	8.33	8.14	7.78	7.61	7.26	8.25			9.13	8.54	7.84
H1 lead leg	L strides		22	14	14	14	14	14	15	15	15	18	169					
Rawlinson, Christopher (GB) (1979)	time	5.9	9.5	13.4	17.3	21.2	25.3	29.4	33.9	38.4	43.0		48.90		2 / 6			
reaction time	0.165 interval		3.6	3.9	3.9	3.9	4.1	4.1	4.5	4.5	4.6	5.90				11.40	12.10	13.60
	velocity	7.63	9.72	8.97	8.97	8.97	8.54	8.54	7.78	7.78	7.61	6.78	8.18			9.21	8.68	7.72
H1 lead leg	R strides		20	13	13	13	13	13	15	15	15	19	162					
Al-Nubi, Mubarak Sultan (QAT) (1979)	time	6.0	9.7	13.7	17.7	21.7	25.9	30.4	35.2	40.1	44.7		52.64		1 / 7			
reaction time	0.164 interval		3.7	4.0	4.0	4.0	4.2	4.5	4.8	4.9	4.6	7.94				11.70	12.70	14.30
	velocity	7.50	9.46	8.75	8.75	8.75	8.33	7.78	7.29	7.14	7.61	5.04	7.60			8.97	8.27	7.34
H1 lead leg	R strides		21	13	13	13	13	13	15	15	15	144						
Herbert, Llewellyn (RSA) (1979)	time	6.1	9.8	13.7	17.6	21.6	25.5	29.6	33.7	38.0	42.8		72.10		8 / 8			
reaction time	0.149 interval		3.7	3.9	3.9	4.0	3.9	4.1	4.1	4.3	4.8	29.30				11.50	12.00	13.20
	velocity	7.38	9.46	8.97	8.97	8.75	8.97	8.54	8.54	8.14	7.29	1.37	5.55			9.13	8.75	7.95
H1 lead leg	R strides		22	14	14	14	14	14	15	15	16	152						

Semi-Final 3

date 27-Aug-03

Behm (2003) - Paris 2003:Le quatrache masculin - féminin

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Maillard, Sébastien (FRA) (1979)	time	5.9	9.6	13.4	17.3	21.4	25.6	30.0	34.6				50.70		8 / 8			
reaction time	0.186 interval		3.7	3.8	3.9	4.1	4.2	4.4	4.6				16.10			11.40	12.70	
	velocity	7.63	9.46	9.21	8.97	8.54	8.33	7.95	7.61				6.83	7.89		9.21	8.27	
H1 lead leg	strides		21	14	14	14	15	15	16	16	16	19.5	173.5					

Semi-Final 2

date 27-Aug-03

Behm (2003) - Paris 2003:Le quatrache masculin - féminin

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Keïta, Naman (FRA) (1978)	time	6.0	9.8	13.6	17.8	22.0	26.3	30.6	35.1	39.7			49.57		1 / 8			
reaction time	0.169 interval		3.8	3.8	4.2	4.2	4.3	4.3	4.5	4.6			9.87			11.80	12.80	
	velocity	7.50	9.21	9.21	8.33	8.33	8.14	8.14	7.78	7.61			7.60	8.07		8.90	8.20	
H1 lead leg	strides		21	12	12	13	13	13	13	13	14	17.5	153.5					

Semi-Final 1

date 27-Aug-03

Behm (2003) - Paris 2003:Le quatrache masculin - féminin

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Diagana, Stéphane (FRA) (1979)	time	5.8	9.5	13.3	17.2	21.2	25.3	29.5	33.9	38.5	43.1		48.64		2 / 5			
reaction time	0.163 interval		3.7	3.8	3.9	4.0	4.1	4.2	4.4	4.6	4.6	5.54				11.40	12.30	13.60

	velocity	7.76	9.46	9.21	8.97	8.75		8.54	8.33	7.95	7.61	7.61	7.22	8.22		9.21	8.54	7.72
H1 lead leg	strides	21	13	13	13	13		13	14	14	15	15	18	162				

Heat 4

date 26-Aug-03

Behm (2003) - Paris 2003:Le quatrache masculn - féminin

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Maillard, Sébastien (FRA) (1 st time	time	5.9	9.7	13.5	17.4	21.4		25.5	29.6	33.9	38.6	43.5		49.25	7 / 4			
reaction time	interval	0.191		3.8	3.8	3.9	4.0	4.1	4.1	4.3	4.7	4.9	5.75			11.50	12.20	13.90
	velocity	7.63	9.21	9.21	8.97	8.75		8.54	8.54	8.14	7.45	7.14	6.96	8.12		9.13	8.61	7.55
H1 lead leg	strides	21	14	14	14	14		15	15	15	16	16	19.5	173.5				

Heat 2

date 26-Aug-03

Behm (2003) - Paris 2003:Le quatrache masculn - féminin

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Keïta, Naman (FRA) (1978) time	time	5.7	9.7	13.4	17.3	21.3		25.5	29.7	34.2	38.8	43.6		49.08	5 / 5			
reaction time	interval	0.232		4.0	3.7	3.9	4.0	4.2	4.2	4.5	4.6	4.8	5.48			11.60	12.40	13.90
	velocity	7.89	8.75	9.46	8.97	8.75		8.33	8.33	7.78	7.61	7.29	7.30	8.15		9.05	8.47	7.55
H1 lead leg	strides	21	12	12	13	12		13	13	13	13	14	17.5	153.5				

Heat 1

date 26-Aug-03

Behm (2003) - Paris 2003:Le quatrache masculn - féminin

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Diagana, Stéphane (FRA) (1 st time	time	5.8	9.5	13.3	17.1	20.9		25.1	29.4	34.1	38.7	43.5		49.00	7 / 3			
reaction time	interval	0.186		3.7	3.8	3.8	3.8	4.2	4.3	4.7	4.6	4.8	5.50			11.30	12.30	14.10
	velocity	7.76	9.46	9.21	9.21	9.21		8.33	8.14	7.45	7.61	7.29	7.27	8.16		9.29	8.54	7.45
H1 lead leg	strides	21	13	13	13	13		13	14	14	15	15	18	162				

2003 USATF National Junior Championship (Palo Alto, CA)

FINAL

date 22-Jun-03

USATF Women's Sprint Development (2003)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Ferguson, Kenneth (USA) (1 st time	time	6.34	10.39	14.51	18.73	23.14		27.36	31.39	35.60	39.96	44.68		50.70	7 / 1			
reaction time	interval		4.05	4.12	4.22	4.41		4.22	4.03	4.21	4.36	4.72	6.02			12.39	12.66	13.29
	velocity	7.10	8.64	8.50	8.29	7.94		8.29	8.68	8.31	8.03	7.42	6.64	7.89		8.47	8.29	7.90
H1 lead leg	strides																	
Walker, Adrian (USA) (1984) time	time	6.09	9.96	13.91	17.92	22.09		26.39	31.00	35.70	40.44	45.56		51.73	4 / 2			
reaction time	interval		3.87	3.95	4.01	4.17		4.30	4.61	4.70	4.74	5.12	6.17			11.83	13.08	14.56
	velocity	7.39	9.04	8.86	8.73	8.39		8.14	7.59	7.45	7.38	6.84	6.48	7.73		8.88	8.03	7.21
H1 lead leg	strides																	
Willis, Matthew (USA) (1984) time	time	6.09	10.06	14.31	18.52	22.79		27.34	32.10	36.87	41.59	46.46		51.89	2 / 3			
reaction time	interval		3.97	4.25	4.21	4.27		4.55	4.76	4.77	4.72	4.87	5.43			12.43	13.58	14.36
	velocity	7.39	8.82	8.24	8.31	8.20		7.69	7.35	7.34	7.42	7.19	7.37	7.71		8.45	7.73	7.31
H1 lead leg	strides																	
Burton, Jereme (USA) (1984) time	time	6.16	10.04	14.01	18.00	22.21		26.56	31.08	35.80	40.79	45.91		51.92	5 / 4			
reaction time	interval		3.88	3.97	3.99	4.21		4.35	4.52	4.72	4.99	5.12	6.01	PB		11.84	13.08	14.83
	velocity	7.31	9.02	8.82	8.77	8.31		8.05	7.74	7.42	7.01	6.84	6.66	7.70		8.87	8.03	7.08
H1 lead leg	strides																	
Wilburn, Glenn (USA) time	time	6.16	10.14	14.16	18.40	22.86		27.14	31.88	36.57	41.54	46.68		53.20	8 / 5			
reaction time	interval		3.98	4.02	4.24	4.46		4.28	4.74	4.69	4.97	5.14	6.52			12.24	13.48	14.80
	velocity	7.31	8.79	8.71	8.25	7.85		8.18	7.38	7.46	7.04	6.81	6.13	7.52		8.58	7.79	7.09
H1 lead leg	strides																	
Campbell, Basil (USA) (1985) time	time	6.12	10.23	14.41	18.48	22.86		27.51	32.06	36.72	41.65	46.88		53.41	6 / 6			
reaction time	interval		4.11	4.18	4.07	4.38		4.65	4.55	4.66	4.93	5.23	6.53			12.36	13.58	14.82
	velocity	7.35	8.52	8.37	8.60	7.99		7.53	7.69	7.51	7.10	6.69	6.13	7.49		8.50	7.73	7.09
H1 lead leg	strides																	
Siwemuke, Marcus (USA) (1 st time	time	6.17	10.12	14.21	18.42	22.87		27.41	32.20	37.15	42.22	47.48		53.44	9 / 7			
reaction time	interval		3.95	4.09	4.21	4.45		4.54	4.79	4.95	5.07	5.26	5.96			12.25	13.78	15.28
	velocity	7.29	8.86	8.56	8.31	7.87		7.71	7.31	7.07	6.90	6.65	6.71	7.49		8.57	7.62	6.87
H1 lead leg	strides																	
Ikwaukor, Akovunndu (USA) time	time	6.01	9.88	13.93	18.01	22.30		27.03	31.70	36.62	41.81	47.31		54.25	3 / 8			
reaction time	interval		3.87	4.05	4.08	4.29		4.73	4.67	4.92	5.19	5.50	6.94			12.00	13.69	15.61
	velocity	7.49	9.04	8.64	8.58	8.16		7.40	7.49	7.11	6.74	6.36	5.76	7.37		8.75	7.67	6.73
H1 lead leg	strides																	
Rhodes, Calvin (USA) time	time	6.16	10.41	14.68	19.10	23.67		28.43	33.30	38.17	43.18	48.43		54.53	1 / 9			
reaction time	interval		4.25	4.27	4.42	4.57		4.76	4.87	4.87	5.01	5.25	6.10			12.94	14.20	15.13
	velocity	7.31	8.24	8.20	7.92	7.66		7.35	7.19	7.19	6.99	6.67	6.56	7.34		8.11	7.39	6.94
H1 lead leg	strides																	

2003 USATF National Championships (Palo Alto, CA)

FINAL

date 22-Jun-03

USATF Women's Sprint Development (2003)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Thomas, Eric (USA) (1973) time	time	6.01	9.83	13.66	17.53	21.54		25.66	29.93	34.28	38.76	43.33		48.76	5 / 4			
reaction time	interval		3.82	3.83	3.87	4.01		4.12	4.27	4.35	4.48	4.57	5.43	DV		11.52	12.40	13.40
	velocity	7.49	9.16	9.14	9.04	8.73		8.50	8.20	8.05	7.81	7.66	7.37	8.20		9.11	8.47	7.84

		H1 lead leg	strides														
Jackson, Bershawn (USA) (1)	time	5.97	9.84	13.85	17.92	22.04	26.18	30.30	34.47	38.91	43.56	49.01	4 / 2 1	11.95	12.38	13.26	
	reaction time	interval	3.87	4.01	4.07	4.12	4.14	4.12	4.17	4.44	4.65	5.45					
		velocity	7.54	9.04	8.73	8.60	8.50	8.45	8.50	8.39	7.88	7.53	8.16	8.79	8.48	7.92	
	H1 lead leg	strides															
Woody, Joey (USA) (1973)	time	5.87	9.66	13.50	17.47	21.54	25.68	30.06	34.42	38.96	43.61	49.22	3 / 3 2	11.60	12.59	13.55	
	reaction time	interval	3.79	3.84	3.97	4.07	4.14	4.38	4.36	4.54	4.65	5.61					
		velocity	7.67	9.23	9.11	8.82	8.60	8.45	7.99	8.03	7.71	7.53	8.13	9.05	8.34	7.75	
	H1 lead leg	strides															
Carter, James (USA) (1978)	time	5.82	9.64	13.61	17.68	22.01	26.39	30.70	35.10	39.52	44.03	49.23	6 / 4 3	11.86	13.02	13.33	
	reaction time	interval	3.82	3.97	4.07	4.33	4.38	4.31	4.40	4.42	4.51	5.20					
		velocity	7.73	9.16	8.82	8.60	8.08	7.99	8.12	7.95	7.92	7.76	8.13	8.85	8.06	7.88	
	H1 lead leg	strides															
Armstrong, Sherman (USA)	time	5.97	9.81	13.71	17.62	21.71	26.01	30.40	34.87	39.49	44.33	49.89	7 / 5 4	11.65	12.78	13.93	
	reaction time	interval	3.84	3.90	3.91	4.09	4.30	4.39	4.47	4.62	4.84	5.56					
		velocity	7.54	9.11	8.97	8.95	8.56	8.14	7.97	7.83	7.58	7.23	7.19	8.02	9.01	8.22	7.54
	H1 lead leg	strides															
Nichols, Regan (USA) (1973)	time	5.99	9.88	13.88	17.89	21.91	26.24	30.56	35.08	39.66	44.45	50.08	8 / 6 5	11.90	12.67	13.89	
	reaction time	interval	3.89	4.00	4.01	4.02	4.33	4.32	4.52	4.58	4.79	5.63					
		velocity	7.51	9.00	8.75	8.73	8.71	8.08	8.10	7.74	7.64	7.31	7.10	7.99	8.82	8.29	7.56
	H1 lead leg	strides															
Sharpe, Fred (USA) (1978)	time	6.09	10.13	14.26	18.30	22.67	27.03	31.50	36.02	40.61	45.20	50.41	2 / 7 6	12.21	13.20	13.70	
	reaction time	interval	4.04	4.13	4.04	4.37	4.36	4.47	4.52	4.59	4.59	5.21					
		velocity	7.39	8.66	8.47	8.66	8.01	8.03	7.83	7.74	7.63	7.63	7.68	7.93	8.60	7.95	7.66
	H1 lead leg	strides															
Garrett, LaBronze (USA) (19)	time	6.04	9.89	13.90	18.07	22.36	26.69	31.20	35.79	40.41	45.08	50.45	1 / 8 7	12.03	13.13	13.88	
	reaction time	interval	3.85	4.01	4.17	4.29	4.33	4.51	4.59	4.62	4.67	5.37					
		velocity	7.45	9.09	8.73	8.39	8.16	8.08	7.76	7.63	7.58	7.49	7.45	7.93	8.73	8.00	7.56
	H1 lead leg	strides															

2003 ??? (Shanghai, CHN)

Heat 1

date 13-Jun-03

Zhou (2003) - training of Shao Yi, national champion of men's 400m hurdles

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Shao Yi (CHN) (1979)	time	6.12	9.88	13.72	17.76	21.84	26.08	30.51	35.08	39.70	44.64	50.23		/ 1				
	reaction time	interval	3.76	3.84	4.04	4.08	4.24	4.43	4.57	4.62	4.94	5.59	PB			11.64	12.75	14.13
		velocity	7.35	9.31	9.11	8.66	8.25	7.90	7.66	7.58	7.09	7.16	7.96			9.02	8.24	7.43
	H1 lead leg	strides		13	13	14	14	14	14	15	15	15	127					

2002 Chinese National Grand Prix Final (Tiantai, CHN)

FINAL

date 27-Oct-02

Zhou (2003) - training of Shao Yi, national champion of men's 400m hurdles

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Shao Yi (CHN) (1979)	time	6.19	10.15	14.05	18.12	22.31	26.56	30.94	35.60	40.41	45.37	51.21		/ 2				
	reaction time	interval	3.96	3.90	4.07	4.19	4.25	4.38	4.66	4.81	4.96	5.84	PB			11.93	12.82	14.43
		velocity	7.27	8.84	8.97	8.60	8.24	7.99	7.51	7.28	7.06	6.85	7.81			8.80	8.19	7.28
	H1 lead leg	strides		14	14	14	14	14	14	15	15	15	129					

2002 IAAF World Cup (Madrid, ESP)

FINAL

date 20-Sep-02

Sanchez (2002) - copa del mundo de Madrid '02: análisis de la carreras con villas

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Carter, James (USA) (1978)	time	5.65	9.42	13.23	17.04	21.00	25.09	29.36	33.68	38.27	42.89	48.27		6 / 1				
	reaction time	0.131	interval	3.77	3.81	3.81	3.96	4.09	4.27	4.32	4.59	4.62	5.38			11.39	12.32	13.53
		velocity	7.96	9.28	9.19	9.19	8.84	8.56	8.20	8.10	7.63	7.58	7.43	8.29		9.22	8.52	7.76
	H1 lead leg	L	strides		21	13	13	13	13	13	14	14	14	17.5	159.5			
Al-Nubi, Mubarak Sultan (Q)	time	6.07	9.94	13.80	17.77	21.88	25.99	30.15	34.51	38.87	43.63	48.96		7 / 2				
	reaction time	0.158	interval	3.87	3.86	3.97	4.11	4.16	4.36	4.36	4.76	5.33				11.70	12.38	13.48
		velocity	7.41	9.04	9.07	8.82	8.52	8.52	8.41	8.03	8.03	7.35	7.50	8.17		8.97	8.48	7.79
	H1 lead leg	R	strides		21	13	13	13	13	13	13	15	16.5	156.5				
Rawlinson, Chris (GBR) (19)	time	5.83	9.55	13.30	17.13	21.07	25.07	29.44	34.01	38.65	43.46	49.18		3 / 3				
	reaction time	0.172	interval	3.72	3.75	3.83	3.94	4.00	4.37	4.57	4.64	4.81	5.72			11.30	12.31	14.02
		velocity	7.72	9.41	9.33	9.14	8.88	8.75	8.01	7.66	7.54	7.28	6.99	8.13		9.29	8.53	7.49
	H1 lead leg	R	strides		22	14	14	14	14	14	15	15	19	170				
Muzik, Jiri (CZE) (1976)	time	6.08	9.93	13.91	17.81	21.94	26.05	30.23	34.65	39.23	43.86	49.28		4 / 4				
	reaction time	0.185	interval	3.85	3.98	3.90	4.13	4.11	4.18	4.42	4.58	4.63	5.42			11.73	12.42	13.63
		velocity	7.40	9.09	8.79	8.97	8.47	8.52	8.37	7.92	7.64	7.56	7.38	8.12		8.95	8.45	7.70
	H1 lead leg	L	strides		21	14	14	14	14	14	14	15	18.5	167.5				
Weakley, Ian (JAM) (1974)	time	6.02	9.74	13.72	17.73	21.84	26.08	30.49	34.95	39.53	44.17	49.62		1 / 5				
	reaction time	0.187	interval	3.72	3.98	4.01	4.11	4.24	4.41	4.46	4.58	4.64	5.45			11.71	12.76	13.68

	velocity	7.48	9.41	8.79	8.73	8.52	8.25	7.94	7.85	7.64	7.54	7.34	8.06	8.97	8.23	7.68
H1 lead leg	L strides	22	14	14	14	14	14	14	15	15	15	18.5	169.5			
Romera, José María (ESP) (1 time	time	5.85	9.62	13.39	17.23	21.21	25.32	29.69	34.15	38.91	43.85		49.68	8 / 6		
reaction time	0.147 interval		3.77	3.77	3.84	3.98	4.11	4.37	4.46	4.76	4.94	5.83		11.38	12.46	14.16
	velocity	7.69	9.28	9.28	9.11	8.79	8.52	8.01	7.85	7.35	7.09	6.86	8.05	9.23	8.43	7.42
H1 lead leg	R strides	21	13	13	13	13	14	14	14	15	15	18.5	163.5			
Herbert, Llewellyn (RSA) (19 time	time	6.06	9.90	13.94	17.93	21.98	26.20	30.53	35.03	39.76	44.75		50.52	2 / 7		
reaction time	0.136 interval		3.84	4.04	3.99	4.05	4.22	4.33	4.50	4.73	4.99	5.77		11.87	12.60	14.22
	velocity	7.43	9.11	8.66	8.77	8.64	8.29	8.08	7.78	7.40	7.01	6.93	7.92	8.85	8.33	7.38
H1 lead leg	L strides	22	14	14	14	14	14	15	16	16	16	18.5	173.5			
Duma, Christian (GER) (198 time	time	5.91	9.73	13.65	17.65	21.83	26.18	30.69	35.33	40.06	44.99		50.57	5 / 8		
reaction time	0.148 interval		3.82	3.92	4.00	4.18	4.35	4.51	4.64	4.73	4.93	5.58		11.74	13.04	14.30
	velocity	7.61	9.16	8.93	8.75	8.37	8.05	7.76	7.54	7.40	7.10	7.17	7.91	8.94	8.05	7.34
H1 lead leg	L strides	22	14	14	14	14	14	15	15	15	16	19.5	172.5			
Boino, Mowen (PNG) (1979 time	time	6.14	10.18	14.34	18.47	22.65	27.01	31.43	36.00	40.70	45.57		51.66	9 / 9		
reaction time	0.058 interval		4.04	4.16	4.13	4.18	4.36	4.42	4.57	4.70	4.87	6.09		12.33	12.96	14.14
	velocity	7.33	8.66	8.41	8.47	8.37	8.03	7.92	7.66	7.45	7.19	6.57	7.74	8.52	8.10	7.43
H1 lead leg	R strides	21	15	15	15	15	15	15	15	15	15	18	174			

2002 European Championships (Munich, GER)

FINAL

date 09-Aug-02

Graubner (2009) - <http://www.fgs.uni-halle.de>

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Diagana, Stéphane (FRA) (1 time	time	5.95	9.65	13.35	17.13	21.03	25.11	29.41	33.62	38.01	42.50		47.58	/ 1				
reaction time	0.141 interval		3.70	3.70	3.78	3.90	4.08	4.30	4.21	4.39	4.49	5.08			11.18	12.28	13.09	
	velocity	7.56	9.46	9.46	9.26	8.97	8.58	8.14	8.31	7.97	7.80	7.87	8.41	9.39	8.55	8.02		
H1 lead leg	strides		13	13	13	13	13	14	14	15	15							
Mužik, Jiri (CZE) (1976 time	time	6.08	9.90	13.80	17.75	21.76	25.80	29.90	34.18	38.60	43.12		48.43	/ 2				
reaction time	0.160 interval		3.82	3.90	3.95	4.01	4.04	4.10	4.28	4.42	4.52	5.31			11.67	12.15	13.22	
	velocity	7.40	9.16	8.97	8.86	8.73	8.66	8.54	8.18	7.92	7.74	7.53	8.26	9.00	8.64	7.94		
H1 lead leg	strides		14	14	14	14	14	14	14	15	15							
Januszewski, Paweł (POL) (1 time	time	6.10	9.93	13.69	17.49	21.37	25.45	29.61	33.98	38.46	43.12		48.46	/ 3				
reaction time	0.145 interval		3.83	3.76	3.80	3.88	4.08	4.16	4.37	4.48	4.66	5.34			11.39	12.12	13.51	
	velocity	7.38	9.14	9.31	9.21	9.02	8.58	8.41	8.01	7.81	7.51	7.49	8.25	9.22	8.66	7.77		
H1 lead leg	strides		14	14	14	14	14	14	14	15	15							
Mori, Fabrizio (ITA) (1969 time	time	6.24	10.16	14.14	18.20	22.22	26.36	30.64	35.02	39.42	43.88		49.05	/ 4				
reaction time	0.133 interval		3.92	3.98	4.06	4.02	4.14	4.28	4.38	4.40	4.46	5.17			11.96	12.44	13.24	
	velocity	7.21	8.93	8.79	8.62	8.71	8.45	8.18	7.99	7.95	7.85	7.74	8.15	8.78	8.44	7.93		
H1 lead leg	strides																	
Iakovákis, Periklís (GRE) (197 time	time	6.11	9.91	13.75	17.69	21.67	25.75	30.05	34.42	39.02	43.78		49.07	/ 5				
reaction time	0.163 interval		3.80	3.84	3.94	3.98	4.08	4.30	4.37	4.60	4.76	5.29			11.58	12.36	13.73	
	velocity	7.36	9.21	9.11	8.88	8.79	8.58	8.14	8.01	7.61	7.35	7.56	8.15	9.07	8.50	7.65		
H1 lead leg	strides																	
Tesarik, Štěpán (CZE) (1978 time	time	6.20	10.02	13.84	17.74	21.70	25.80	30.08	34.58	39.14	43.87		49.41	/ 6				
reaction time	0.175 interval		3.82	3.82	3.90	3.96	4.10	4.28	4.50	4.56	4.73	5.54			11.54	12.34	13.79	
	velocity	7.26	9.16	9.16	8.97	8.84	8.54	8.18	7.78	7.68	7.40	7.22	8.10	9.10	8.51	7.61		
H1 lead leg	strides																	
Mashchenko, Ruslan (RUS time	time	6.11	9.92	13.73	17.61	21.96	25.75	30.15	34.62	39.34	44.16		50.02	/ 7				
reaction time	0.184 interval		3.81	3.81	3.88	4.35	3.79	4.40	4.47	4.72	4.82	5.86			11.50	12.54	14.01	
	velocity	7.36	9.19	9.19	9.02	8.05	9.23	7.95	7.83	7.42	7.26	6.83	8.00	9.13	8.37	7.49		
H1 lead leg	strides																	
Rawlison, Chris (GBR) (1972 time	time	6.30	10.24	14.28									dnf	/ --				
reaction time	0.160 interval		3.94	4.04														
	velocity	7.14	8.88	8.66														
H1 lead leg	strides																	

Semi-Final 2

date 08-Aug-02

Graubner (2009) - <http://www.fgs.uni-halle.de>

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Diagana, Stéphane (FRA) (1 time	time	5.97	9.66	13.44	17.26	21.20	25.32	29.69	34.14	38.82	43.53		49.01	/ 1				
reaction time	interval		3.69	3.78	3.82	3.94	4.12	4.37	4.45	4.68	4.71	5.48			11.29	12.43	13.84	
	velocity	7.54	9.49	9.26	9.16	8.88	8.50	8.01	7.87	7.48	7.43	7.30	8.16	9.30	8.45	7.59		
H1 lead leg	strides																	

Semi-Final 1

date 08-Aug-02

Graubner (2009) - <http://www.fgs.uni-halle.de>

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Mužik, Jiri (CZE) (1976 time	time	6.15	10.01	13.87	17.81	21.83	25.94	30.08	34.31	38.71	43.25		48.46	/ 1				
reaction time	interval		3.86	3.86	3.94	4.02	4.11	4.14	4.23	4.40	4.54	5.21			11.66	12.27	13.17	
	velocity	7.32	9.07	9.07	8.88	8.71	8.52	8.45	8.27	7.95	7.71	7.68	8.25	9.01	8.56	7.97		

H1 lead leg strides

Januszewski, Pavel (POL) (1971)	time	6.04	9.93	13.73	17.59	21.55	25.67	29.83	34.15	38.65	43.23		48.60	/ 2				
	reaction time		3.89	3.80	3.86	3.96	4.12	4.16	4.32	4.50	4.58	5.37			11.55	12.24	13.40	
	interval																	
	velocity	7.45	9.00	9.21	9.07	8.84	8.50	8.41	8.10	7.78	7.64	7.45	8.23		9.09	8.58	7.84	
	H1 lead leg																	
Mori, Fabrizio (ITA) (1969)	time	6.17	9.99	13.82	17.66	21.65	25.77	30.16	34.37	38.83	43.43		48.70	/ 3				
	reaction time			3.82	3.83	3.84	3.99	4.12	4.39	4.21	4.46	4.60	5.27		11.49	12.50	13.27	
	interval																	
	velocity	7.29	9.16	9.14	9.11	8.77	8.50	7.97	8.31	7.85	7.61	7.59	8.21		9.14	8.40	7.91	
	H1 lead leg																	
Iakovákis, Periklís (GRE) (1977)	time	6.15	9.99	13.87	17.82	21.83	25.95	30.15	34.53	39.05	43.71		48.99	/ 4				
	reaction time			3.84	3.88	3.95	4.01	4.12	4.20	4.38	4.52	4.66	5.28		11.67	12.33	13.56	
	interval																	
	velocity	7.32	9.11	9.02	8.86	8.73	8.50	8.33	7.99	7.74	7.51	7.58	8.16		9.00	8.52	7.74	
	H1 lead leg																	

Heat 4

date 07-Aug-02

Graubner (2009) - <http://www.fgs.uni-halle.de>

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Mashchenko, Ruslan (RUS) (1972)	time	6.08	9.90	13.74	17.64	21.67	25.80	30.18	34.66	39.30	44.03		49.62	/ 1				
	reaction time			3.82	3.84	3.90	4.03	4.13	4.38	4.48	4.64	4.73	5.59			11.56	12.54	13.85
	interval																	
	velocity	7.40	9.16	9.11	8.97	8.68	8.47	7.99	7.81	7.54	7.40	7.16	8.06		9.08	8.37	7.58	
	H1 lead leg																	
Rawlison, Chris (GBR) (1972)	time	6.02	9.72	13.44	17.32	21.34	25.50	29.82	34.56	39.30	44.10		49.73	/ 2				
	reaction time			3.70	3.72	3.88	4.02	4.16	4.32	4.74	4.74	4.80	5.63		11.30	12.50	14.28	
	interval																	
	velocity	7.48	9.46	9.41	9.02	8.71	8.41	8.10	7.38	7.38	7.29	7.10	8.04		9.29	8.40	7.35	
	H1 lead leg																	

Heat 3

date 07-Aug-02

Graubner (2009) - <http://www.fgs.uni-halle.de>

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Diagana, Stéphane (FRA) (1971)	time	6.06	9.86	13.71	17.60	21.50	25.75	30.24	34.88	39.15	44.35		49.52	/ 1				
	reaction time			3.80	3.85	3.89	3.90	4.25	4.49	4.64	4.27	5.20	5.17			11.54	12.64	14.11
	interval																	
	velocity	7.43	9.21	9.09	9.00	8.97	8.24	7.80	7.54	8.20	6.73	7.74	8.08		9.10	8.31	7.44	
	H1 lead leg																	
Monteiro, Eivaldo (POR) (1972)	time	6.20	10.17	14.07	17.96	22.05	26.31	30.64	36.24	39.81	44.44		49.64	/ 2				
	reaction time			3.97	3.90	3.89	4.09	4.26	4.33	5.60	3.57	4.63	5.20		11.76	12.68	13.80	
	interval																	
	velocity	7.26	8.82	8.97	9.00	8.56	8.22	8.08	6.25	9.80	7.56	7.69	8.06		8.93	8.28	7.61	
	H1 lead leg																	
Duma, Christian (GER) (1982)	time	6.03	9.97	13.90	17.86	21.98	26.21	30.64	36.34	40.16	45.02		50.50	/ 6				
	reaction time			3.94	3.93	3.96	4.12	4.23	4.43	5.70	3.82	4.86	5.48		11.83	12.78	14.38	
	interval																	
	velocity	7.46	8.88	8.91	8.84	8.50	8.27	7.90	6.14	9.16	7.20	7.30	7.92		8.88	8.22	7.30	
	H1 lead leg																	

Heat 2

date 07-Aug-02

Graubner (2009) - <http://www.fgs.uni-halle.de>

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Mužik, Jiri (CZE) (1976)	time	6.24	10.23	14.29	18.37	22.52	26.69	30.95	35.31	39.85	44.47		49.76	/ 1				
	reaction time	0.169		3.99	4.06	4.08	4.15	4.17	4.26	4.36	4.54	4.62	5.29			12.13	12.58	13.52
	interval																	
	velocity	7.21	8.77	8.62	8.58	8.43	8.39	8.22	8.03	7.71	7.58	7.56	8.04		8.66	8.35	7.77	
	H1 lead leg																	
Borsumato, Anthony (GBR) (1972)	time	6.09	9.87	13.73	17.69	21.69	25.81	30.13	34.65	39.46	44.32		49.93	/ 2				
	reaction time			3.78	3.86	3.96	4.00	4.12	4.32	4.52	4.81	4.86	5.61		11.60	12.44	14.19	
	interval																	
	velocity	7.39	9.26	9.07	8.84	8.75	8.50	8.10	7.74	7.28	7.20	7.13	8.01		9.05	8.44	7.40	
	H1 lead leg																	
Hackelbusch, Henning (GER) (1972)	time	6.21	10.13	14.09	18.10	22.23	26.67	31.23	35.97	40.80	45.71		51.37	/ 7				
	reaction time			3.92	3.96	4.01	4.13	4.44	4.56	4.74	4.83	4.91	5.66		11.89	13.13	14.48	
	interval																	
	velocity	7.25	8.93	8.84	8.73	8.47	7.88	7.68	7.38	7.25	7.13	7.07	7.79		8.83	8.00	7.25	
	H1 lead leg																	

Heat 1

date 07-Aug-02

Graubner (2009) - <http://www.fgs.uni-halle.de>

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Januszewski, Pavel (POL) (1971)	time	6.09	10.06	13.97	17.85	21.89	26.03	30.31	34.71	39.32	43.87		49.17	/ 1				
	reaction time			3.97	3.91	3.88	4.04	4.14	4.28	4.40	4.61	4.55	5.30			11.76	12.46	13.56
	interval																	
	velocity	7.39	8.82	8.95	9.02	8.66	8.45	8.18	7.95	7.59	7.69	7.55	8.14		8.93	8.43	7.74	
	H1 lead leg																	
Mori, Fabrizio (ITA) (1969)	time	6.37	10.33	14.29	18.25	22.28	26.41	30.85	35.82	39.49	43.99		49.20	/ 2				
	reaction time			3.96	3.96	3.96	4.03	4.13	4.44	4.97	3.67	4.50	5.21		11.88	12.60	13.14	
	interval																	
	velocity	7.06	8.84	8.84	8.84	8.68	8.47	7.88	7.04	9.54	7.78	7.68	8.13		8.84	8.33	7.99	
	H1 lead leg																	
Iakovákis, Periklís (GRE) (1977)	time			13.85	17.89	21.97	26.19	30.77	34.88	39.43	44.07		49.24	/ 3				
	reaction time				4.04	4.08	4.22	4.58	4.11	4.55	4.64	5.17				12.88	13.30	
	interval																	
	velocity			8.30	8.66	8.58	8.29	7.64	8.52	7.69	7.54	7.74	8.12			8.15	7.89	

H1 lead leg strides

2001 Chinese National Games (Guangzhou, CHN)**FINAL**

date 22-Nov-01

Gong (2003) - discussion on technique of gold and silver medallist of men's 400m hurdles of the 9th National Games

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tan Chunhua (CHN) (1977)	time	6.08	10.05	14.10	18.16	22.27		26.52	30.89	35.36	39.86	44.50		49.85	/ 1			
	reaction time		interval	3.97	4.05	4.06	4.11	4.25	4.37	4.47	4.50	4.64	5.35			12.08	12.73	13.61
		velocity	7.40	8.82	8.64	8.62	8.52	8.24	8.01	7.83	7.78	7.54	7.48	8.02		8.69	8.25	7.71
	H1 lead leg		strides	14	14	14	14	14	14	14	15	15	19	147				
Zhang Shibao (CHN) (1984)	time	6.09	9.93	13.77	17.77	21.97		26.25	30.65	35.07	39.69	44.57		50.33	/ 2			
	reaction time		interval	3.84	3.84	4.00	4.20	4.28	4.40	4.42	4.62	4.88	5.76	NYR		11.68	12.88	13.92
		velocity	7.39	9.11	9.11	8.75	8.33	8.18	7.95	7.92	7.58	7.17	6.94	7.95		8.99	8.15	7.54
	H1 lead leg		strides	13	13	15	15	15	15	15	15	15	18.5	149.5				

2001 IAAF World Championships (Edmonton, CAN)**FINAL**

date 10-Aug-01

Kota (2016) - 69th high school championships: JAF scientific committee - biomechanics data collection

Behm (2001) - Edmonton: Le quatrache: les finales

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Sánchez, Felix (DOM) (1977)	time	5.7	9.3	13.1	16.9	20.8		24.8	29.1	33.5	37.9	42.3		47.49	5 / 1			
	reaction time	0.158	interval	3.6	3.8	3.8	3.9	4.0	4.3	4.4	4.4	4.4	5.19			11.20	12.20	13.20
		velocity	7.89	9.72	9.21	9.21	8.97	8.75	8.14	7.95	7.95	7.95	7.71	8.42		9.38	8.61	7.95
	H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	18	162				
Mori, Fabrizio (ITA) (1969)	time	5.9	9.7	13.5	17.3	21.2		25.2	29.3	33.6	36.9	42.3		47.54	4 / 2			
	reaction time	0.158	interval	3.8	3.8	3.8	3.9	4.0	4.1	4.3	3.3	5.4	5.24	NR / PB		11.40	12.00	13.00
		velocity	7.63	9.21	9.21	9.21	8.97	8.75	8.54	8.14	10.61	6.48	7.63	8.41		9.21	8.75	8.08
	H1 lead leg	L	strides	22	14	14	14	14	14	15	15	15	19	170				
Tamesue, Dai (JPN) (1978)	time	5.85	9.50	13.22	17.04	20.94		24.94	29.09	33.42	37.89	42.56		47.89	3 / 3			
	reaction time	0.222	interval	3.65	3.72	3.82	3.90	4.00	4.15	4.33	4.47	4.67	5.33	NR / PB		11.19	12.05	13.47
		velocity	7.69	9.59	9.41	9.16	8.97	8.75	8.43	8.08	7.83	7.49	7.50	8.35		9.38	8.71	7.80
	H1 lead leg	L	strides	20	13	13	13	14	14	15	15	15	18.5	163.5				
Al-Somaily, Hadi Sou'an (KS)	time	5.8	9.4	13.1	16.9	20.9		24.9	28.9	33.1	37.7	42.4		47.99	1 / 4			
	reaction time	0.164	interval	3.6	3.7	3.8	4.0	4.0	4.0	4.2	4.6	4.7	5.59			11.10	12.00	13.50
		velocity	7.76	9.72	9.46	9.21	8.75	8.75	8.75	8.33	7.61	7.45	7.16	8.34		9.46	8.75	7.78
	H1 lead leg	L	strides	21	13	13	13	13	13	13	13	14	17.5	156.5				
Gorban, Boris (RUS) (1978)	time	5.9	9.8	13.7	17.7	21.6		25.5	29.5	33.8	38.3	42.9		48.40	2 / 5			
	reaction time	0.176	interval	3.9	3.9	4.0	3.9	3.9	4.0	4.3	4.5	4.6	5.50	DQ		11.80	11.80	13.40
		velocity	7.63	8.97	8.97	8.75	8.97	8.97	8.75	8.14	7.78	7.61	7.27	8.26		8.90	8.90	7.84
	H1 lead leg	L	strides	20	13	13	13	13	13	13	14	14	17.5	156.5				
Rawlinson, Christopher (GB)	time	5.8	9.6	13.3	17.1	21.0		25.0	29.2	33.6	38.1	42.7		48.54	6 / 5 5			
	reaction time	0.164	interval	3.8	3.7	3.8	3.9	4.0	4.2	4.4	4.5	4.6	5.84			11.30	12.10	13.50
		velocity	7.76	9.21	9.46	9.21	8.97	8.75	8.33	7.95	7.78	7.61	6.85	8.24		9.29	8.68	7.78
	H1 lead leg	R	strides	20	14	14	14	14	14	15	15	15	149					
Januszewski, Paweł (POL) (1978)	time	5.9	9.8	13.5	17.5	21.4		25.5	29.8	34.1	38.7	43.3		48.57	7 / 7 6			
	reaction time	0.175	interval	3.9	3.7	4.0	3.9	4.1	4.3	4.3	4.6	4.6	5.27			11.60	12.30	13.50
		velocity	7.63	8.97	9.46	8.75	8.97	8.54	8.14	8.14	7.61	7.61	7.59	8.24		9.05	8.54	7.78
	H1 lead leg	L	strides	21	14	14	14	15	15	15	15	15	152					
Mužik, Jiri (CZE) (1976)	time	5.9	9.8	13.4	17.3	21.3		25.3	29.5	34.0	38.5	43.2		49.07	8 / 7 7			
	reaction time	0.203	interval	3.9	3.6	3.9	4.0	4.0	4.2	4.5	4.5	4.7	5.87			11.40	12.20	13.70
		velocity	7.63	8.97	9.72	8.97	8.75	8.75	8.33	7.78	7.78	7.45	6.81	8.15		9.21	8.61	7.66
	H1 lead leg	R	strides	21	13	13	13	14	14	15	15	15	146					

2001 European Cup (Bremen, GER)**FINAL**

date 23-Jun-01

Graubner (2007) - <http://www.fgs.uni-halle.de>

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Mori, Fabrizio (ITA) (1969)	time	6.13	9.95	13.76	17.72	21.71		25.70	30.00	34.34	38.80	43.30		49.39	/ 1			
	reaction time		interval	3.82	3.81	3.96	3.99	3.99	4.30	4.34	4.46	4.50	6.09			11.59	12.28	13.30
		velocity	7.34	9.16	9.19	8.84	8.77	8.77	8.14	8.06	7.85	7.78	6.57	8.10		9.06	8.55	7.89
	H1 lead leg		strides															
Plawgo, Marek (POL) (1981)	time	5.94	9.68	13.54	17.50	21.52		25.60	29.46	34.48	39.10	43.86		48.98	/ 2			
	reaction time		interval	3.74	3.86	3.96	4.02	4.08	3.86	5.02	4.62	4.76	5.12			11.56	11.96	14.40
		velocity	7.58	9.36	9.07	8.84	8.71	8.58	9.07	6.97	7.58	7.35	7.81	8.17		9.08	8.78	7.29
	H1 lead leg		strides															
Diagana, Stéphane (FRA) (1978)	time	6.03	9.78	13.62	17.52	21.41		25.46	29.60	34.16	38.90	43.73		49.07	/ 3			
	reaction time		interval	3.75	3.84	3.90	3.89	4.05	4.14	4.56	4.74	4.83	5.34			11.49	12.08	14.13
		velocity	7.46	9.33	9.11	8.97	9.00	8.64	8.45	7.68	7.38	7.25	7.49	8.15		9.14	8.69	7.43
	H1 lead leg		strides															
Mashchenko, Ruslan (RUS)	time	6.08	9.90	13.76	17.62	21.62		25.70	30.04	34.46	39.14	43.92		49.53	/ 4			
	reaction time		interval	3.82	3.86	3.86	4.00	4.08	4.34	4.42	4.68	4.78	5.61			11.54	12.42	13.88

H1 lead leg	velocity	7.40	9.16	9.07	9.07	8.75		8.58	8.06	7.92	7.48	7.32	7.13	8.08		9.10	8.45	7.56
	strides																	
Rawlinson, Christopher (GB)	time	6.09	9.81	13.56	17.48	21.46		25.63	30.02	34.58	39.48	44.55		50.11	/ 5			
reaction time	interval		3.72	3.75	3.92	3.98		4.17	4.39	4.56	4.90	5.07	5.56			11.39	12.54	14.53
	velocity	7.39	9.41	9.33	8.93	8.79		8.39	7.97	7.68	7.14	6.90	7.19	7.98		9.22	8.37	7.23
H1 lead leg	strides																	
Iakovákis, Periklís (GRE) (197	time	6.30	10.18	14.02	18.02	21.96		26.08	30.56	35.26	40.08	44.86		50.28	/ 6			
reaction time	interval		3.88	3.84	4.00	3.94		4.12	4.48	4.70	4.82	4.78	5.42			11.72	12.54	14.30
	velocity	7.14	9.02	9.11	8.75	8.88		8.50	7.81	7.45	7.26	7.32	7.38	7.96		8.96	8.37	7.34
H1 lead leg	strides																	
Rodríguez, Eduardo Iván (E	time	6.26	10.22	14.17	18.16	22.22		26.40	30.78	35.40	40.06	44.89		50.44	/ 7			
reaction time	interval		3.96	3.95	3.99	4.06		4.18	4.38	4.62	4.66	4.83	5.55			11.90	12.62	14.11
	velocity	7.19	8.84	8.86	8.77	8.62		8.37	7.99	7.58	7.51	7.25	7.21	7.93		8.82	8.32	7.44
H1 lead leg	strides																	
Reinberg, Jan (GER) (1980)	time	6.30	10.21	14.19	18.32	22.48		26.84	31.32	35.98	40.96	45.85		51.66	/ 8			
reaction time	interval		3.91	3.98	4.13	4.16		4.36	4.48	4.66	4.98	4.89	5.81			12.02	13.00	14.53
	velocity	7.14	8.95	8.79	8.47	8.41		8.03	7.81	7.51	7.03	7.16	6.88	7.74		8.74	8.08	7.23
H1 lead leg	strides																	

2000 Olympic Games (Sydney, AUS)

FINAL

date 27-Sep-00

Ditroilo (2001) - analysis of the race distribution for male 400m hurdlers competing at the 2000 sydney olympic games

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Taylor, Angelo (USA) (1978)	time	5.90	9.62	13.38	17.22	21.14	22.66	25.10	29.22	33.58	38.02	42.46		47.50	1 / 1			
reaction time	0.179 interval		3.72	3.76	3.84	3.92		3.96	4.12	4.36	4.44	4.44	5.04	PB		11.32	12.00	13.24
	velocity	7.63	9.41	9.31	9.11	8.93	8.83	8.84	8.50	8.03	7.88	7.88	7.94	8.42		9.28	8.75	7.93
H1 lead leg	strides	21	13	13	13	13		13	13	14	14	14	17.1	158.1				
Al-Somaily, Hadi Sou'an (KS)	time	5.94	9.66	13.42	17.26	21.14	22.62	25.14	29.18	33.38	37.82	42.34		47.53	4 / 2			
reaction time	0.437 interval		3.72	3.76	3.84	3.88		4.00	4.04	4.20	4.44	4.52	5.19	AR		11.32	11.92	13.16
	velocity	7.58	9.41	9.31	9.11	9.02	8.84	8.75	8.66	8.33	7.88	7.74	7.71	8.42		9.28	8.81	7.98
H1 lead leg	strides	22	13	13	13	13		13	13	13	13	14	17	157				
Herbert, Llewellyn (RSA) (19	time	5.98	9.78	13.62	17.50	21.46	22.98	25.50	29.54	33.70	38.06	42.54		47.81	6 / 3			
reaction time	0.169 interval		3.80	3.84	3.88	3.96		4.04	4.04	4.16	4.36	4.48	5.27	NR		11.52	12.04	13.00
	velocity	7.53	9.21	9.11	9.02	8.84	8.70	8.66	8.66	8.41	8.03	7.81	7.59	8.37		9.11	8.72	8.08
H1 lead leg	strides	22	14	14	14	14		14	14	15	15	15	18.2	169.2				
Carter, James (USA) (1978)	time	5.78	9.50	13.26	17.10	21.06	22.58	25.14	29.26	33.62	38.02	42.62		48.04	5 / 4			
reaction time	0.421 interval		3.72	3.76	3.84	3.96		4.08	4.12	4.36	4.40	4.60	5.42	PB		11.32	12.16	13.36
	velocity	7.79	9.41	9.31	9.11	8.96	8.86	8.58	8.50	8.03	7.95	7.61	7.38	8.33		9.28	8.63	7.86
H1 lead leg	strides	21	13	13	13	13		13	14	14	14	14	17	159				
de Araújo, Eronildo (BRA) (time	5.98	9.66	13.38	17.14	21.06	22.62	25.10	29.38	33.78	38.26	43.94		48.34	8 / 5			
reaction time	0.190 interval		3.68	3.72	3.76	3.92		4.04	4.28	4.40	4.48	5.68	4.40			11.16	12.24	14.56
	velocity	7.53	9.51	9.41	9.31	8.93	8.84	8.66	8.18	7.95	7.81	6.16	9.09	8.27		9.41	8.58	7.21
H1 lead leg	strides	21	13	13	13	13		13	14	14	14	14	17.3	159.3				
Januszewski, Paweł (POL) (1	time	5.98	9.86	13.66	17.50	21.46	22.94	25.62	29.82	34.10	38.66	43.18		48.44	2 / 6			
reaction time	0.149 interval		3.88	3.80	3.84	3.96		4.16	4.20	4.28	4.56	4.52	5.26			11.52	12.32	13.36
	velocity	7.53	9.02	9.21	9.11	8.84	8.72	8.41	8.33	8.18	7.68	7.74	7.60	8.26		9.11	8.52	7.86
H1 lead leg	strides	22	14	14	14	14		14	14	15	15	15	18.1	169.1				
Mori, Fabrizio (ITA) (1969)	time	6.10	9.94	13.66	17.46	21.46	22.90	25.54	29.70	34.06	38.54	43.22		48.78	3 / 7			
reaction time	0.198 interval		3.84	3.72	3.80	4.00		4.08	4.16	4.36	4.48	4.68	5.56			11.36	12.24	13.52
	velocity	7.38	9.11	9.41	9.21	8.75	8.73	8.58	8.41	8.03	7.81	7.48	7.19	8.20		9.24	8.58	7.77
H1 lead leg	strides	22	14	14	14	14		14	14	15	15	15	18.5	169.5				
Horbenko, Hennadiy (UKR)	time	6.26	10.02	13.90	17.70	21.70	23.18	25.70	29.90	34.34	38.90	43.58		49.01	7 / 8			
reaction time	0.395 interval		3.76	3.88	3.80	4.00		4.00	4.20	4.44	4.56	4.68	5.43			11.44	12.20	13.68
	velocity	7.19	9.31	9.02	9.21	8.75	8.63	8.75	8.33	7.88	7.68	7.48	7.37	8.16		9.18	8.61	7.68
H1 lead leg	strides	20	13	13	13	13		13	13	14	14	14	140					

Semi-Final 3

date 25-Sep-00

Ditroilo (2001) - analysis of the race distribution for male 400m hurdlers competing at the 2000 sydney olympic games

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Carter, James (USA) (1978)	time	5.70	9.46	13.14	16.90	20.86	22.38	24.90	29.14	33.54	38.10	42.96		48.48	3 / 1			
reaction time	0.202 interval		3.76	3.68	3.76	3.96		4.04	4.24	4.40	4.56	4.86	5.52			11.20	12.24	13.82
	velocity	7.89	9.31	9.51	9.31	8.84	8.94	8.66	8.25	7.95	7.68	7.20	7.25	8.25		9.38	8.58	7.60
H1 lead leg	strides	21	13	13	13	13		13	14	14	14	15	18	161				
de Araújo, Eronildo (BRA) (time	5.94	9.62	13.34	17.18	21.18	22.70	25.26	29.46	33.98	38.58	43.34		48.76	4 / 2			
reaction time	0.181 interval		3.68	3.72	3.84	4.00		4.08	4.20	4.52	4.60	4.76	5.42			11.24	12.28	13.88
	velocity	7.58	9.51	9.41	9.11	8.75	8.81	8.58	8.33	7.74	7.61	7.35	7.38	8.20		9.34	8.55	7.56
H1 lead leg	strides	21	13	13	13	13		13	14	14	14	14	17.8	159.8				

Matete, Samuel (ZAM) (1968)	time	6.06	9.82	13.70	17.66	21.66	23.18	25.74	29.98	34.38	38.90	43.50		48.98	6 / 3			
	reaction time	0.228	interval	3.76	3.88	3.96	4.00		4.08	4.24	4.40	4.52	4.60	5.48		11.60	12.32	13.52
	velocity	7.43	9.31	9.02	8.84	8.75	8.63	8.58	8.25	7.95	7.74	7.61	7.30	8.17		9.05	8.52	7.77
	H1 lead leg		strides	21	13	13	13	13	13	13	13	15	15	18	160			
Myburgh, Alwyn (RSA) (1981)	time	5.78	9.50	13.34	17.26	21.22	22.74	25.26	29.50	34.06	38.74	43.58		49.25	1 / 4			
	reaction time	0.202	interval	3.72	3.84	3.92	3.96		4.04	4.24	4.56	4.68	4.84	5.67		11.48	12.24	14.08
	velocity	7.79	9.41	9.11	8.93	8.84	8.80	8.66	8.25	7.68	7.48	7.23	7.05	8.12		9.15	8.58	7.46
	H1 lead leg		strides	22	14	14	14	14	14	14	15	15	15	19	170			
Gorban, Boris (RUS) (1978)	time	5.94	9.74	13.66	17.62	21.66	23.18	25.74	30.02	34.54	39.14	43.86		49.29	5 / 5			
	reaction time	0.454	interval	3.80	3.92	3.96	4.04		4.08	4.28	4.52	4.60	4.72	5.43		11.68	12.40	13.84
	velocity	7.58	9.21	8.93	8.84	8.66	8.63	8.58	8.18	7.74	7.61	7.42	7.37	8.12		8.99	8.47	7.59
	H1 lead leg		strides	20	13	13	13	13	13	14	14	14	14	17.5	158.5			
Douglas, Matt (GBR) (1976)	time	5.86	9.50	13.22	16.98	20.90	22.50	24.98	29.34	33.86	38.62	43.20		49.53	8 / 6			
	reaction time	0.177	interval	3.64	3.72	3.76	3.92		4.08	4.36	4.52	4.76	4.58	6.33		11.12	12.36	13.86
	velocity	7.68	9.62	9.41	9.31	8.93	8.89	8.58	8.03	7.74	7.35	7.64	6.32	8.08		9.44	8.50	7.58
	H1 lead leg		strides	21	13	13	13	14	14	15	15	15	19.5	165.5				
Morgan, Dinsdale (JAM) (1971)	time	5.86	9.54	13.34	17.30	21.42	23.02	25.70	30.02	34.70	39.46	44.42		50.23	2 / 7			
	reaction time	0.166	interval	3.68	3.80	3.96	4.12		4.28	4.32	4.68	4.76	4.96	5.81		11.44	12.72	14.40
	velocity	7.68	9.51	9.21	8.84	8.50	8.69	8.18	8.10	7.48	7.35	7.06	6.88	7.96		9.18	8.25	7.29
	H1 lead leg		strides	22	14	14	14	14	15	15	15	16	19	172				
Keter, Erick (KEN) (1966)	time	6.14	9.90	13.70	17.70	21.98		26.26	30.74	35.34				51.25	7 / 8			
	reaction time	0.202	interval	3.76	3.80	4.00	4.28		4.28	4.48	4.60			7.80		11.56	13.04	
	velocity	7.33	9.31	9.21	8.75	8.18		8.18	7.81	7.61				7.80		9.08	8.05	
	H1 lead leg		strides	21	13	13	15	15	15	15	15			122				

Semi-Final 2

date 25-Sep-00

Ditroilo (2001) - analysis of the race distribution for male 400m hurdlers competing at the 2000 sydney olympic games

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Herbert, Llewellyn (RSA) (1971)	time	5.96	9.80	13.80	17.72	21.72	23.38	25.80	29.96	34.16	38.56	43.12		48.38	4 / 1			
	reaction time	0.153	interval	3.84	4.00	3.92	4.00		4.08	4.16	4.20	4.40	5.26			11.76	12.24	13.16
	velocity	7.55	9.11	8.75	8.93	8.75	8.55	8.58	8.41	8.33	7.95	7.68	7.60	8.27		8.93	8.58	7.98
	H1 lead leg		strides	13	13	13	14	14	14	15	15	15	18.2	144.2				
Taylor, Angelo (USA) (1978)	time	5.84	9.60	13.48	17.36	21.28	22.80	25.32	29.60	34.04	38.52	43.12		48.49	3 / 2			
	reaction time	0.250	interval	3.76	3.88	3.88	3.92		4.04	4.28	4.44	4.48	5.37			11.52	12.24	13.52
	velocity	7.71	9.31	9.02	9.02	8.93	8.77	8.66	8.18	7.88	7.81	7.61	7.45	8.25		9.11	8.58	7.77
	H1 lead leg		strides	13	13	13	13	13	14	14	14	14	17.4	138.4				
Mashchenko, Ruslan (RUS)	time	5.88	9.72	13.44	17.24	21.12	22.64	25.16	29.40	33.80	38.40	43.16		48.94	7 / 3			
	reaction time	0.177	interval	3.84	3.72	3.80	3.88		4.04	4.24	4.40	4.60	5.78			11.36	12.16	13.76
	velocity	7.65	9.11	9.41	9.21	9.02	8.83	8.66	8.25	7.95	7.61	7.35	6.92	8.17		9.24	8.63	7.63
	H1 lead leg		strides	13	13	13	13	13	14	14	15	15	18.6	141.6				
Young, Blair (AUS) (1971)	time	6.12	9.96	13.84	17.68	21.60	23.24	25.84	30.16	34.60	39.24			49.20	8 / 4			
	reaction time	0.255	interval	3.84	3.88	3.84	3.92		4.24	4.32	4.44	4.64				11.56	12.48	
	velocity	7.35	9.11	9.02	9.11	8.93	8.61	8.25	8.10	7.88	7.54			8.13		9.08	8.41	
	H1 lead leg		strides	13	13	13	13	14	14	15	15			110				
Mužik, Jiri (CZE) (1976)	time	5.96	9.88	13.72	17.64	21.76	23.36	25.96	30.24	34.68	39.20	43.92		49.23	5 / 5			
	reaction time	0.227	interval	3.92	3.84	3.92	4.12		4.20	4.28	4.44	4.52	5.31			11.68	12.60	13.68
	velocity	7.55	8.93	9.11	8.93	8.50	8.56	8.33	8.18	7.88	7.74	7.42	7.53	8.13		8.99	8.33	7.68
	H1 lead leg		strides	13	13	13	14	14	14	15	15	15	19.2	145.2				
Rawlinson, Christopher (GB)	time	6.00	9.76	13.56	17.40	21.36	22.88	25.48	29.80	34.24	38.92	43.76		49.25	6 / 6			
	reaction time	0.177	interval	3.76	3.80	3.84	3.96		4.12	4.32	4.44	4.68	4.84	5.49		11.40	12.40	13.96
	velocity	7.50	9.31	9.21	9.11	8.84	8.74	8.50	8.10	7.88	7.48	7.23	7.29	8.12		9.21	8.47	7.52
	H1 lead leg		strides	14	14	14	14	14	15	15	15	16	19	150				
Sánchez, Félix (DOM) (1977)	time	6.00	9.68	13.48	17.44	21.52	23.12	25.80	30.20	34.76	39.44	44.16		49.69	1 / 7			
	reaction time	0.178	interval	3.68	3.80	3.96	4.08		4.28	4.40	4.56	4.68	5.53			11.44	12.76	13.96
	velocity	7.50	9.51	9.21	8.84	8.58	8.65	8.18	7.95	7.68	7.48	7.42	7.23	8.05		9.18	8.23	7.52
	H1 lead leg		strides	13	13	13	13	13	14	14	15	15	123					
Frinolli, Giorgio (ITA) (1970)	time	6.08	9.88	13.84	17.84	21.92		26.08	30.52	35.04	39.72	44.48		50.10	2 / 8			
	reaction time	0.242	interval	3.80	3.96	4.00	4.08		4.16	4.44	4.52	4.68	5.62			11.76	12.68	13.96
	velocity	7.40	9.21	8.84	8.75	8.58		8.41	7.88	7.74	7.48	7.35	7.12	7.98		8.93	8.28	7.52
	H1 lead leg		strides	14	14	14	14	14	15	15	16	15						

Semi-Final 1

date 25-Sep-00

Ditroilo (2001) - analysis of the race distribution for male 400m hurdlers competing at the 2000 sydney olympic games

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Al-Somaily, Hadi Sou'an (KS)	time	5.94	9.74	13.58	17.46	21.42	22.94	25.50	29.62	33.94	39.30	42.82		48.14	6 / 1			
	reaction time	0.316	interval	3.80	3.84	3.88	3.96		4.08	4.12	4.32	5.36	5.32	AR		11.52	12.16	13.20
	velocity	7.58	9.21	9.11	9.02	8.84	8.72	8.58	8.50	8.10	6.53	9.94	7.52	8.31		9.11	8.63	7.95
	H1 lead leg		strides	21	13	13	13	13	13	13	13	14	17	156				

Mori, Fabrizio (ITA) (1969)	time	6.14	10.10	13.90	17.82	21.82	23.42	25.98	30.14	34.50	38.90	43.34	48.40	4 / 2				
reaction time	interval		3.96	3.80	3.92	4.00		4.16	4.16	4.36	4.40	4.44	5.06		11.68	12.32	13.20	
	velocity	7.33	8.84	9.21	8.93	8.75	8.54	8.41	8.41	8.03	7.95	7.88	7.91		8.26	8.99	8.52	7.95
H1 lead leg	strides	22	14	14	14	14		14	14	15	15	15	19		170			
Horbenko, Hennadiy (UKR)	time	5.94	9.86	13.70	17.62	21.82	23.10	25.62	29.66	34.10	38.50	43.18	48.40	5 / 3				
reaction time 0.478	interval		3.92	3.84	3.92	4.20		3.80	4.04	4.44	4.40	4.68	5.22		PB	11.68	12.04	13.52
	velocity	7.58	8.93	9.11	8.93	8.33	8.66	9.21	8.66	7.88	7.95	7.48	7.66		8.26	8.99	8.72	7.77
H1 lead leg	strides	21	13	13	13	13		13	13	14	14	14	17.4		158.4			
Januszewski, Paweł (POL) (1973)	time	6.02	9.86	13.70	17.62	21.58	23.14	25.70	29.94	34.26	38.66	43.22	48.42	7 / 4				
reaction time 0.244	interval		3.84	3.84	3.92	3.96		4.12	4.24	4.32	4.40	4.56	5.20		11.60	12.32	13.28	
	velocity	7.48	9.11	9.11	8.93	8.84	8.64	8.50	8.25	8.10	7.95	7.68	7.69		8.26	9.05	8.52	7.91
H1 lead leg	strides	22	14	14	14	14		14	14	15	15	15	18.2		169.2			
Thomas, Eric (USA) (1973)	time	6.02	9.86	13.74	17.62	21.58	23.14	25.66	30.04	34.42	39.02	43.74	49.25	2 / 5				
reaction time 0.188	interval		3.84	3.88	3.88	3.96		4.08	4.38	4.38	4.60	4.72	5.51		11.60	12.42	13.70	
	velocity	7.48	9.11	9.02	9.02	8.84	8.64	8.58	7.99	7.99	7.61	7.42	7.26		8.12	9.05	8.45	7.66
H1 lead leg	strides	21	13	13	13	13		13	14	14	15	15	17.8		161.8			
Goller, Thomas (GER) (1977)	time	5.90	9.58	13.50	17.42	21.38	22.90	25.50	29.82	34.30	38.94	43.66	49.28	3 / 6				
reaction time 0.152	interval		3.68	3.92	3.92	3.96		4.12	4.32	4.48	4.64	4.72	5.62		11.52	12.40	13.84	
	velocity	7.63	9.51	8.93	8.93	8.84	8.73	8.50	8.10	7.81	7.54	7.42	7.12		8.12	9.11	8.47	7.59
H1 lead leg	strides	21	13	13	13	13		13	14	14	15	15	18		162			
Rodrigues, Pedro (POR) (1973)	time	6.06	9.98	13.98	17.98	21.98	23.50	26.02	30.38	34.86	39.42	44.10	49.48	1 / 7				
reaction time 0.162	interval		3.92	4.00	4.00	4.00		4.04	4.36	4.48	4.56	4.68	5.38		11.92	12.40	13.72	
	velocity	7.43	8.93	8.75	8.75	8.75	8.51	8.66	8.03	7.81	7.68	7.48	7.43		8.08	8.81	8.47	7.65
H1 lead leg	strides	21	13	13	13	13		13	14	14	15	15	144					
Chen Tein-Wen (TAI) (1978)	time	5.98	9.82	13.82	17.82	21.86	23.42	25.98	30.38	34.86	39.46	44.10	50.52	8 / 8				
reaction time 0.182	interval		3.84	4.00	4.00	4.04		4.12	4.40	4.48	4.60				11.84	12.56		
	velocity	7.53	9.11	8.75	8.75	8.66	8.54	8.50	7.95	7.81	7.61		7.92		8.87	8.36		
H1 lead leg	strides	22	14	14	14	14		14	14	15	15		136					

Heat 8

date 24-Sep-00

Ditroilo (2001) - analysis of the race distribution for male 400m hurdlers competing at the 2000 sydney olympic games

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
de Araújo, Eronildo (BRA) (1973)	time	6.06	9.86	13.62	17.58	21.62		25.86	30.18	34.82	39.62	44.42		50.06	8 / 1			
reaction time 0.179	interval		3.80	3.76	3.96	4.04		4.24	4.32	4.64	4.80	4.80	5.64			11.52	12.60	14.24
	velocity	7.43	9.21	9.31	8.84	8.66		8.25	8.10	7.54	7.29	7.29	7.09	7.99		9.11	8.33	7.37
H1 lead leg	strides	21	13	13	13	13		14	14	15	15	15	17.9	163.9				
Frinolii, Giorgio (ITA) (1970)	time	6.06	9.82	13.78	17.70	21.78		25.94	30.26	34.86	39.78	44.66		50.27	6 / 2			
reaction time 0.179	interval		3.76	3.96	3.92	4.08		4.16	4.32	4.60	4.92	4.88	5.61			11.64	12.56	14.40
	velocity	7.43	9.31	8.84	8.93	8.58		8.41	8.10	7.61	7.11	7.17	7.13	7.96		9.02	8.36	7.29
H1 lead leg	strides	21	14	14	14	14		14	14	15	16	16	19.2	171.2				
Shiryayev, Vladislav (RUS) (1973)	time	6.26	10.18	14.10	18.10	22.14		26.26	30.62	35.26	40.06	44.70		50.39	4 / 3			
reaction time 0.179	interval		3.92	3.92	4.00	4.04		4.12	4.36	4.64	4.80	4.64	5.69			11.84	12.52	14.08
	velocity	7.19	8.93	8.93	8.75	8.66		8.50	8.03	7.54	7.29	7.54	7.03	7.94		8.87	8.39	7.46
H1 lead leg	strides	20	13	13	13	13		13	14	14	15	15	18.2	161.2				
Monreal, Íñigo (ESP) (1974)	time	6.18	9.94	13.86	17.90	22.02		26.30	30.74	35.58	40.66	45.90		51.32	5 / 4			
reaction time 0.502	interval		3.76	3.92	4.04	4.12		4.28	4.44	4.84	5.08	5.24	5.42			11.72	12.84	15.16
	velocity	7.28	9.31	8.93	8.66	8.50		8.18	7.88	7.23	6.89	6.68	7.38	7.79		8.96	8.18	6.93
H1 lead leg	strides	20	13	13	13	13		13	14	15	15	15	144					
Pesa, Sinisa (YUG) (1973)	time	6.06	9.82	13.70	17.62	21.74		25.98	30.38	35.18	40.26	44.10		52.14	7 / 5			
reaction time 0.165	interval		3.76	3.88	3.92	4.12		4.24	4.40	4.80	5.08					11.56	12.76	
	velocity	7.43	9.31	9.02	8.93	8.50		8.25	7.95	7.29	6.89		7.67		9.08	8.23		
H1 lead leg	strides	20	13	13	13	14		14	14	14	16	16	147					
Young, Curt (PAN) (1974)	time	6.02	9.74	13.54	17.54	21.74		25.98	30.58	35.50	40.78	46.18		52.46	2 / 6			
reaction time 0.164	interval		3.72	3.80	4.00	4.20		4.24	4.60	4.92	5.28	5.40	6.28			11.52	13.04	15.60
	velocity	7.48	9.41	9.21	8.75	8.33		8.25	7.61	7.11	6.63	6.48	6.37	7.62		9.11	8.05	6.73
H1 lead leg	strides	21	13	13	13	13		14	15	15	16	16	149					
Harden, Iain (ZIM) (1976)	time	6.26	10.10	13.98	17.98	22.18		26.62	31.22	36.26	41.74	46.18		54.01	3 / 7			
reaction time 0.287	interval		3.84	3.88	4.00	4.20		4.44	4.60	5.04	5.48					11.72	13.24	
	velocity	7.19	9.11	9.02	8.75	8.33		7.88	7.61	6.94	6.39		7.41		8.96	7.93		
H1 lead leg	strides	21	13	13	13	13		14	14	15	16		132					
Tamesue, Dai (JPN) (1978)	time	5.78	9.38	13.14	16.98	20.98		25.18	29.66	34.30	fell down			61.81	1 / 8			
reaction time 0.256	interval		3.60	3.76	3.84	4.00		4.20	4.48	4.64						11.20	12.68	
	velocity	7.79	9.72	9.31	9.11	8.75		8.33	7.81	7.54			6.47		9.38	8.28		
H1 lead leg	strides		13	13	13	13		14	14	15	17		112					

Heat 7

date 24-Sep-00

Ditroilo (2001) - analysis of the race distribution for male 400m hurdlers competing at the 2000 sydney olympic games

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Matete, Samuel (ZAM) (1968) time	5.92	9.64	13.52	17.80	21.64		25.80	30.16	34.52	39.04	43.60		48.98	1 / 1			
reaction time 0.184 interval		3.72	3.88	4.28	3.84		4.16	4.36	4.36	4.52	4.56	5.38			11.88	12.36	13.44
velocity	7.60	9.41	9.02	8.18	9.11		8.41	8.03	8.03	7.74	7.68	7.43	8.17		8.84	8.50	7.81
H1 lead leg strides	21	13	13	13	13		13	13	15	15	15	17.8	161.8				
Horbenko, Hennadiy (UKR) time	6.08	9.88	13.80	17.76	21.76		25.84	30.12	34.48	39.00	43.72		49.12	5 / 2			
reaction time 0.406 interval		3.80	3.92	3.96	4.00		4.08	4.28	4.36	4.52	4.72	5.40	PB		11.68	12.36	13.60
velocity	7.40	9.21	8.93	8.84	8.75		8.58	8.18	8.03	7.74	7.42	7.41	8.14		8.99	8.50	7.72
H1 lead leg strides	20	13	13	13	13		13	13	14	14	14	17.4	157.4				
Douglas, Matt (GBR) (1976) time	5.96	9.64	13.56	17.48	21.52		25.80	30.20	34.60	39.28	44.04		49.62	8 / 3			
reaction time 0.163 interval		3.68	3.92	3.92	4.04		4.28	4.40	4.40	4.68	4.76	5.58			11.52	12.72	13.84
velocity	7.55	9.51	8.93	8.93	8.66		8.18	7.95	7.95	7.48	7.35	7.17	8.06		9.11	8.25	7.59
H1 lead leg strides	21	13	13	13	13		14	14	15	15	15	18.8	164.8				
Thompson, Kemel (JAM) (1976) time	6.08	9.88	13.96	18.04	22.28		26.52	30.98	35.32	39.80	44.52		50.40	7 / 4			
reaction time 0.241 interval		3.80	4.08	4.08	4.24		4.24	4.46	4.34	4.48	4.72	5.88			11.96	12.94	13.54
velocity	7.40	9.21	8.58	8.58	8.25		8.25	7.85	8.06	7.81	7.42	6.80	7.94		8.78	8.11	7.75
H1 lead leg strides	22	14	14	14	14		14	14	15	15	16	152					
Hamed, Zaid Abou (SYR) (1976) time	6.08	10.08	14.20	18.36	22.76		27.04	31.60	36.04	40.68			50.74	3 / 5			
reaction time 0.117 interval		4.00	4.12	4.16	4.40		4.28	4.56	4.44	4.64					12.28	13.24	
velocity	7.40	8.75	8.50	8.41	7.95		8.18	7.68	7.88	7.54			7.88		8.55	7.93	
H1 lead leg strides	21	14	14	14	14		14	15	15	15			136				
Tucker, Paul (GUY) (1976) time	6.00	9.80	13.76	17.76	21.88		26.04	30.48	35.04	39.92			50.92	6 / 6			
reaction time 0.354 interval		3.80	3.96	4.00	4.12		4.16	4.44	4.56	4.88					11.76	12.72	
velocity	7.50	9.21	8.84	8.75	8.50		8.41	7.88	7.68	7.17			7.86		8.93	8.25	
H1 lead leg strides	22	14	14	14	14		14	15	15	16			138				
Holúbek, Radoslav (SVK) (1976) time	6.04	10.08	14.16	18.36	22.56		26.88	31.36	35.92	40.68			51.18	2 / 7			
reaction time 0.127 interval		4.04	4.08	4.20	4.20		4.32	4.48	4.56	4.76					12.32	13.00	
velocity	7.45	8.66	8.58	8.33	8.33		8.10	7.81	7.68	7.35			7.82		8.52	8.08	
H1 lead leg strides	22	14	14	14	14		14	14	15	15			136				
Boino, Mowen (PNG) (1979) time	6.16	10.28	14.52	18.76	23.04		27.52	32.08	36.48				51.38	4 / 8			
reaction time 0.406 interval		4.12	4.24	4.24	4.28		4.48	4.56	4.40				NR		12.60	13.32	
velocity	7.31	8.50	8.25	8.25	8.18		7.81	7.68	7.95				7.79		8.33	7.88	
H1 lead leg strides	22	15	15	15	15		15	15	15				127				

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Ditroilo (2001) - analysis of the race distribution for male 400m hurdlers competing at the 2000 sydney olympic games

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Al-Somaily, Hadi Sou'an (KS) (1976) time	5.98	9.66	13.50	17.38	21.34		25.42	29.78	34.34	38.98	43.70		49.28	1 / 1			
reaction time 0.174 interval		3.68	3.84	3.88	3.96		4.08	4.36	4.56	4.64	4.72	5.58			11.40	12.40	13.92
velocity	7.53	9.51	9.11	9.02	8.84		8.58	8.03	7.68	7.54	7.42	7.17	8.12		9.21	8.47	7.54
H1 lead leg strides	21	13	13	13	13		13	13	14	14	14	17.7	158.7				
Carter, James (USA) (1978) time	5.74	9.50	13.46	17.38	21.46		25.70	30.26	34.78	39.30	43.94		49.41	7 / 2			
reaction time 0.174 interval		3.76	3.96	3.92	4.08		4.24	4.56	4.52	4.52	4.64	5.47			11.64	12.88	13.68
velocity	7.84	9.31	8.84	8.93	8.58		8.25	7.68	7.74	7.74	7.54	7.31	8.10		9.02	8.15	7.68
H1 lead leg strides	21	13	13	13	13		13	14	14	14	14	17.9	159.9				
Myburgh, Alwyn (RSA) (1981) time	5.98	9.82	13.82	17.82	21.94		26.22	30.50	34.98	39.54	44.14		49.57	6 / 3			
reaction time 0.184 interval		3.84	4.00	4.00	4.12		4.28	4.28	4.48	4.56	4.60	5.43			11.84	12.68	13.64
velocity	7.53	9.11	8.75	8.75	8.50		8.18	8.18	7.81	7.68	7.61	7.37	8.07		8.87	8.28	7.70
H1 lead leg strides	21	14	14	14	14		14	14	15	15	15	18.7	168.7				
Rodrigues, Pedro (POR) (1976) time	6.06	9.64	14.10	18.02	22.02		26.30	30.58	35.02	39.58	44.46		49.90	5 / 4			
reaction time 0.162 interval		3.58	4.46	3.92	4.00		4.28	4.28	4.44	4.56	4.88	5.44			11.96	12.56	13.88
velocity	7.43	9.78	7.85	8.93	8.75		8.18	8.18	7.88	7.68	7.17	7.35	8.02		8.78	8.36	7.56
H1 lead leg strides	21	13	13	13	13		14	14	15	15	15	18.4	164.4				
Borsumato, Anthony (GBR) (1976) time	6.10	9.86	13.74	17.70	21.70		25.90	30.50	35.02	39.90			50.73	4 / 5			
reaction time 0.155 interval		3.76	3.88	3.96	4.00		4.20	4.60	4.52	4.88					11.60	12.80	
velocity	7.38	9.31	9.02	8.84	8.75		8.33	7.61	7.74	7.17			7.88		9.05	8.20	
H1 lead leg strides	21	13	13	13	13		14	15	15	16			133				
Pochanis, Konstantinos (CY) (1976) time	6.22	10.02	13.94	17.94	21.98		26.34	30.98	35.70	40.54			51.20	3 / 6			
reaction time 0.244 interval		3.80	3.92	4.00	4.04		4.36	4.64	4.72	4.84					11.72	13.04	
velocity	7.23	9.21	8.93	8.75	8.66		8.03	7.54	7.42	7.23			7.81		8.96	8.05	
H1 lead leg strides	22	14	14	14	14		15	16	16	16			141				
Beckenham, Matt (AUS) (1976) time	6.18	10.10	14.26	18.42	22.74		27.30	31.86	36.38				51.27	8 / 7			
reaction time 0.176 interval		3.92	4.16	4.16	4.32		4.56	4.56	4.52						12.24	13.44	
velocity	7.28	8.93	8.41	8.41	8.10		7.68	7.68	7.74				7.80		8.58	7.81	
H1 lead leg strides	21	14	14	14	14		15	15	15				122				

Weakley, Ian (JAM) (1974)	time	6.02	9.86	13.90	17.94	22.06	26.34	30.74	35.34	40.22		52.18	2 / 8			
	reaction time	0.179	interval	3.84	4.04	4.04	4.12	4.28	4.40	4.60	4.88				11.92	12.80
	velocity	7.48	9.11	8.66	8.66	8.50	8.18	7.95	7.61	7.17		7.67			8.81	8.20
H1 lead leg	strides	22	14	15	14	15	15	15	15	16		141				

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Ditroilo (2001) - analysis of the race distribution for male 400m hurdlers competing at the 2000 sydney olympic games

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Rawlinson, Christopher (GB) (1974)	time	5.96	9.60	13.36	17.16	21.08	25.16	29.52	34.36	39.80	45.16		51.30	3 / 1				
	reaction time	0.184	interval	3.64	3.76	3.80	3.92	4.08	4.36	4.84	5.44	5.36	6.14			11.20	12.36	15.64
	velocity	7.55	9.62	9.31	9.21	8.93	8.58	8.03	7.23	6.43	6.53	6.51	7.80			9.38	8.50	6.71
H1 lead leg	strides	22	14	14	14	14	14	14	14	15	17	17	20	175				
Januszewski, Paweł (POL) (1974)	time	6.08	9.88	13.64	17.48	21.44	25.60	30.08	34.80	40.04	45.28		51.40	2 / 2				
	reaction time	0.163	interval	3.80	3.76	3.84	3.96	4.16	4.48	4.72	5.24	5.24	6.12			11.40	12.60	15.20
	velocity	7.40	9.21	9.31	9.11	8.84	8.41	7.81	7.42	6.68	6.68	6.54	7.78			9.21	8.33	6.91
H1 lead leg	strides	22	14	14	14	14	14	14	14	15	15	15	19.7	170.7				
Bédi, Tibor (HUN) (1974)	time	5.92	9.68	13.64	17.64	21.80	26.00	30.36	35.04	40.24	45.48		51.54	7 / 3				
	reaction time	0.169	interval	3.76	3.96	4.00	4.16	4.20	4.36	4.68	5.20	5.24	6.06			11.72	12.72	15.12
	velocity	7.60	9.31	8.84	8.75	8.41	8.33	8.03	7.48	6.73	6.68	6.60	7.76			8.96	8.25	6.94
H1 lead leg	strides	21	13	14	14	14	14	15	15	17	17	20.9	174.9					
Harden, Ken (ZIM) (1973)	time	6.28	10.00	13.92	17.84	21.88	26.00	30.40	35.24	40.48	45.72		51.83	5 / 4				
	reaction time	0.435	interval	3.72	3.92	3.92	4.04	4.12	4.40	4.84	5.24	5.24	6.11			11.56	12.56	15.32
	velocity	7.17	9.41	8.93	8.93	8.66	8.50	7.95	7.23	6.68	6.68	6.55	7.72			9.08	8.36	6.85
H1 lead leg	strides	22	13	13	13	13	13	13	13	15	17	17	19.7	168.7				
Viarshynin, Leonid (BLR) (1974)	time	6.08	9.92	13.84	17.80	21.80	25.96	30.28	34.92	40.28	45.64		51.84	4 / 5				
	reaction time	0.151	interval	3.84	3.92	3.96	4.00	4.16	4.32	4.64	5.36	5.36	6.20			11.72	12.48	15.36
	velocity	7.40	9.11	8.93	8.84	8.75	8.41	8.10	7.54	6.53	6.53	6.45	7.72			8.96	8.41	6.84
H1 lead leg	strides	21	13	13	13	13	14	14	15	17	17	20	170					
Juricic, Darko (CRO) (1969)	time	6.04	9.92	13.76	17.72	21.80	25.96	30.64	35.60	40.88	46.16		52.39	1 / 6				
	reaction time	0.167	interval	3.88	3.84	3.96	4.08	4.16	4.68	4.96	5.28	5.28	6.23			11.68	12.92	15.52
	velocity	7.45	9.02	9.11	8.84	8.58	8.41	7.48	7.06	6.63	6.63	6.42	7.64			8.99	8.13	6.77
H1 lead leg	strides	22	14	14	14	14	14	16	17	18	18	21.9	182.9					
Al-Najem, Zahirudin (SYR) (1974)	time	6.00	9.84	13.72	17.68	21.76	26.00	30.68	35.60	41.16			52.70	6 / 7				
	reaction time	0.160	interval	3.84	3.88	3.96	4.08	4.24	4.68	4.92	5.56					11.68	17.92	
	velocity	7.50	9.11	9.02	8.84	8.58	8.25	7.48	7.11	6.29			7.59			8.99	5.86	
H1 lead leg	strides	21	13	13	13	13	13	14	16	16			132					
Dzhivondov, Ilya (BUL) (1971)	time	6.08	9.88	13.80	17.80	22.00	26.36	30.92	35.88				54.36	8 / 8				
	reaction time	0.279	interval	3.80	3.92	4.00	4.20	4.36	4.56	4.96						11.72	13.12	
	velocity	7.40	9.21	8.93	8.75	8.33	8.03	7.68	7.06				7.36			8.96	8.00	
H1 lead leg	strides	22	13	13	13	14	14	15	15				119					

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Ditroilo (2001) - analysis of the race distribution for male 400m hurdlers competing at the 2000 sydney olympic games

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Mužik, Jiri (CZE) (1976)	time	6.00	9.78	13.64	17.60	21.64	25.80	30.20	34.80	39.76	44.68		50.11	8 / 1				
	reaction time	0.216	interval	3.78	3.86	3.96	4.04	4.16	4.40	4.60	4.96	4.92	5.43			11.60	12.60	14.48
	velocity	7.50	9.26	9.07	8.84	8.66	8.41	7.95	7.61	7.06	7.11	7.37	7.98			9.05	8.33	7.25
H1 lead leg	strides	21	13	13	13	13	14	14	14	16	16	18.9	165.9					
Thomas, Eric (USA) (1973)	time	6.08	9.88	13.72	17.64	21.60	25.72	30.20	34.76	39.64	44.60		50.16	6 / 2				
	reaction time	0.170	interval	3.80	3.84	3.92	3.96	4.12	4.48	4.56	4.88	4.96	5.56			11.56	12.56	14.40
	velocity	7.40	9.21	9.11	8.93	8.84	8.50	7.81	7.68	7.17	7.06	7.19	7.97			9.08	8.36	7.29
H1 lead leg	strides	21	13	13	13	13	13	14	14	15	15	17.4	161.4					
Iakovákis, Periklís (GRE) (1971)	time	6.00	9.84	13.76	17.72	21.72	25.72	30.12	34.72	39.68	44.72		50.20	1 / 3				
	reaction time	0.165	interval	3.84	3.92	3.96	4.00	4.00	4.40	4.60	4.96	5.04	5.48			11.72	12.40	14.60
	velocity	7.50	9.11	8.93	8.84	8.75	8.75	7.95	7.61	7.06	6.94	7.30	7.97			8.96	8.47	7.19
H1 lead leg	strides	22	14	14	14	14	14	14	14	15	16	16	18.6	171.6				
Kawamura, Hideaki (JPN) (1971)	time	5.96	9.68	13.60	17.52	21.52	25.64	30.04	34.60	39.68	44.72		50.68	4 / 4				
	reaction time	0.172	interval	3.72	3.92	3.92	4.00	4.12	4.40	4.56	5.08	5.04	5.96			11.56	12.52	14.68
	velocity	7.55	9.41	8.93	8.93	8.75	8.50	7.95	7.68	6.89	6.94	6.71	7.89			9.08	8.39	7.15
H1 lead leg	strides	21	14	14	14	14	15	15	15	17	16	20	175					
Zadoinov, Vadim (MAD) (1971)	time	6.04	9.84	13.84	17.84	21.84	26.00	30.44	35.16	40.28			51.08	7 / 5				
	reaction time	0.173	interval	3.80	4.00	4.00	4.00	4.16	4.44	4.72	5.12					11.80	12.60	
	velocity	7.45	9.21	8.75	8.75	8.75	8.41	7.88	7.42	6.84			7.83			8.90	8.33	
H1 lead leg	strides	20	13	13	13	13	13	13	14	15			127					
Sdad, Mustapha (MAR) (1971)	time	6.04	10.16	14.20	18.36	22.56	26.88	31.36	36.04	40.96	45.92		51.39	2 / 6				
	reaction time	0.216	interval	4.12	4.04	4.16	4.20	4.32	4.48	4.68	4.92	4.96	5.47			12.32	13.00	14.56
	velocity	7.45	8.50	8.66	8.41	8.33	8.10	7.81	7.48	7.11	7.06	7.31	7.78			8.52	8.08	7.21

H1 lead leg	strides	21	15	15	15	15	15	15	15	17	17	160							
McGuick, Tom (IRL) (1971)	time	5.96	9.80	13.72	17.72	21.84	25.92	30.48	35.40	40.48	45.72	51.73	3 / 7						
reaction time	0.183 interval		3.84	3.92	4.00	4.12	4.08	4.56	4.92	5.08	5.24	6.01		11.76	12.76	15.24			
	velocity	7.55	9.11	8.93	8.75	8.50	8.58	7.68	7.11	6.89	6.68	6.66	7.73		8.93	8.23	6.89		
H1 lead leg	strides	22	14	14	14	14	15	17	16	17	18	161							
Lee Doo-Yeon (KOR) (1975)	time	6.12	10.04	14.04	18.16	22.32	26.60	31.40	36.20			52.61	5 / 8						
reaction time	0.192 interval		3.92	4.00	4.12	4.16	4.28	4.80	4.80					12.04	13.24				
	velocity	7.35	8.93	8.75	8.50	8.41	8.18	7.29	7.29			7.60		8.72	7.93				
H1 lead leg	strides	21	13	13	13	13	13	15	15			116							

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Ditroilo (2001) - analysis of the race distribution for male 400m hurdlers competing at the 2000 sydney olympic games

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Taylor, Angelo (USA) (1978)	time	6.06	9.90	13.74	17.58	21.58		25.66	29.94	34.50	39.18	43.82	49.48	8 / 1				
reaction time	0.185 interval		3.84	3.84	3.84	4.00		4.08	4.28	4.56	4.68	4.64	5.66			11.52	12.36	13.88
	velocity	7.43	9.11	9.11	9.11	8.75		8.58	8.18	7.68	7.48	7.54	7.07	8.08		9.11	8.50	7.56
H1 lead leg	strides	21	13	13	13	13		13	13	14	14	14	17.5	158.5				
Morgan, Dinsdale (JAM) (1971)	time	5.90	9.66	13.54	17.54	21.66		25.94	30.34	34.86	39.42	44.14	49.64	6 / 2				
reaction time	0.171 interval		3.76	3.88	4.00	4.12		4.28	4.40	4.52	4.56	4.72	5.50			11.64	12.80	13.80
	velocity	7.63	9.31	9.02	8.75	8.50		8.18	7.95	7.74	7.68	7.42	7.27	8.06		9.02	8.20	7.61
H1 lead leg	strides	22	14	14	14	14		15	15	15	15	15	18.5	171.5				
Faye, Ibou (SEN) (1969)	time	6.02	9.74	13.62	17.58	21.66		25.90	30.38	34.90	39.62	44.46	50.09	4 / 3				
reaction time	0.188 interval		3.72	3.88	3.96	4.08		4.24	4.48	4.52	4.72	4.84	5.63			11.56	12.80	14.08
	velocity	7.48	9.41	9.02	8.84	8.58		8.25	7.81	7.74	7.42	7.23	7.10	7.99		9.08	8.20	7.46
H1 lead leg	strides	22	13	13	13	13		13	14	14	15	15	18	163				
Ratnayake, Harijan (SRI) (1971)	time	6.54	10.58	14.58	18.62	22.74		27.18	31.66	36.26			50.43	7 / 4				
reaction time	0.346 interval		4.04	4.00	4.04	4.12		4.44	4.48	4.60						12.08	13.04	
	velocity	6.88	8.66	8.75	8.66	8.50		7.88	7.81	7.61			7.93			8.69	8.05	
H1 lead leg	strides	22	14	14	13	13		14	14	14			118					
Isakov, Erkinjon (UZB) (1974)	time	6.10	10.14	14.14	18.30	22.62		26.70	31.18	35.74	40.34	45.02	50.71	5 / 5				
reaction time	0.182 interval		4.04	4.00	4.16	4.32		4.08	4.48	4.56	4.60	4.68	5.69			12.20	12.88	13.84
	velocity	7.38	8.66	8.75	8.41	8.10		8.58	7.81	7.68	7.61	7.48	7.03	7.89		8.61	8.15	7.59
H1 lead leg	strides	22	14	14	14	14		14	14	15	15	15	151					
Maritim, Hillary (KEN) (1973)	time	6.10	9.98	13.94	17.98	22.14		26.46	30.90	35.54	40.26	45.34	51.04	3 / 6				
reaction time	0.180 interval		3.88	3.96	4.04	4.16		4.32	4.44	4.64	4.72	5.08	5.70			11.88	12.92	14.44
	velocity	7.38	9.02	8.84	8.66	8.41		8.10	7.88	7.54	7.42	6.89	7.02	7.84		8.84	8.13	7.27
H1 lead leg	strides	22	15	15	15	15		15	15	15	15	17	159					
Omodiale, Sylvester (NGR) (1971)	time	5.98	9.78	13.70	17.78	22.06		26.30	30.62	35.30	40.10	45.14	51.06	2 / 7				
reaction time	0.189 interval		3.80	3.92	4.08	4.28		4.24	4.32	4.68	4.80	5.04	5.92			11.80	12.84	14.52
	velocity	7.53	9.21	8.93	8.58	8.18		8.25	8.10	7.48	7.29	6.94	6.76	7.83		8.90	8.18	7.23
H1 lead leg	strides	22	15	15	15	15		15	15	16	16	17	161					

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Ditroilo (2001) - analysis of the race distribution for male 400m hurdlers competing at the 2000 sydney olympic games

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Mori, Fabrizio (ITA) (1969)	time	6.22	10.06	13.94	17.86	21.94		26.06		34.86	39.38	43.98	49.35	5 / 1				
reaction time	0.162 interval		3.84	3.88	3.92	4.08		4.12		8.80	4.52	4.60	5.37			11.64		
	velocity	7.23	9.11	9.02	8.93	8.58		8.50		7.95	7.74	7.61	7.45	8.11		9.02		
H1 lead leg	strides	22	14	14	14	14		14	14	15	15	15	18.3	169.3				
Gorban, Boris (RUS) (1978)	time	5.98	9.82	13.62	17.54	21.54		25.70		34.66	39.30	43.98	49.44	8 / 2				
reaction time	0.195 interval		3.84	3.80	3.92	4.00		4.16		8.96	4.64	4.68	5.46			11.56		
	velocity	7.53	9.11	9.21	8.93	8.75		8.41		7.81	7.54	7.48	7.33	8.09		9.08		
H1 lead leg	strides	20	13	13	13	13		13			14	14	17.8	130.8				
Sánchez, Félix (DOM) (1977)	time	5.86	9.58	13.38	17.18	21.14		25.34		35.54	39.34	44.22	49.70	4 / 3				
reaction time	0.142 interval		3.72	3.80	3.80	3.96		4.20		10.20	3.80	4.88	5.48			11.32		
	velocity	7.68	9.41	9.21	9.21	8.84		8.33		6.86	9.21	7.17	7.30	8.05		9.28		
H1 lead leg	strides	21	13	13	13	13		13	14	15	15	15	18.2	163.2				
Young, Blair (AUS) (1971)	time	6.06	9.82	13.74	17.74	21.86		26.18		35.42	39.90	44.50	49.75	6 / 4				
reaction time	0.193 interval		3.76	3.92	4.00	4.12		4.32		9.24	4.48	4.60	5.25			11.68		
	velocity	7.43	9.31	8.93	8.75	8.50		8.10		7.58	7.81	7.61	7.62	8.04		8.99		
H1 lead leg	strides	21	13	13	14	14		14	15	15	15	15	18.4	167.4				
Chen Tein-Wen (TAI) (1978)	time	6.10	9.90	13.82	17.86	21.94		26.26		34.98	39.54	44.34	49.93	2 / 5				
reaction time	0.180 interval		3.80	3.92	4.04	4.08		4.32		8.72	4.56	4.80	5.59			11.76		
	velocity	7.38	9.21	8.93	8.66	8.58		8.10		8.03	7.68	7.29	7.16	8.01		8.93		
H1 lead leg	strides	21	14	14	14	14		14	14	15	15	15	19.1	169.1				
Keter, Erick (KEN) (1966)	time	6.18	10.02	13.90	17.98	22.10		26.34		35.22	39.86	44.58	50.06	3 / 6				
reaction time	0.269 interval		3.84	3.88	4.08	4.12		4.24		8.88	4.64	4.72	5.48			11.80		

	velocity	7.28	9.11	9.02	8.58	8.50		8.25	7.88	7.54	7.42	7.30	7.99		8.90				
H1 lead leg	strides	21	13	15	15	15		15	15	15	15	15	18.1	172.1					
Yamazaki, Kazuhiko (JPN) (1 time	time	5.90	9.66	13.58	17.58	21.70		25.98	35.10	39.78	44.54		50.15		1 / 7				
reaction time	0.177 interval		3.76	3.92	4.00	4.12		4.28	9.12	4.68	4.76	5.61				11.68			
	velocity	7.63	9.31	8.93	8.75	8.50		8.18	7.68	7.48	7.35	7.13	7.98			8.99			
H1 lead leg	strides																		
Rakotoarimandry, Yvon (M	time	5.98	9.82	13.70	17.66	21.70		26.06	35.14	39.86	44.62		50.15		7 / 8				
reaction time	0.185 interval		3.84	3.88	3.96	4.04		4.36	9.08	4.72	4.76	5.53				11.68			
	velocity	7.53	9.11	9.02	8.84	8.66		8.03	7.71	7.42	7.35	7.23	7.98			8.99			
H1 lead leg	strides	21	14	14	14	14		14		15	15		121						
Heat 1	date	24-Sep-00	<i>Ditroilo (2001) - analysis of the race distribution for male 400m hurdlers competing at the 2000 sydney olympic games</i>																
			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Herbert, Llewellyn (RSA) (19	time	5.98	9.82	13.62	17.50	21.42		25.58	29.82	34.18	38.74	43.62		49.25		8 / 1			
reaction time	0.171 interval		3.84	3.80	3.88	3.92		4.16	4.24	4.36	4.56	4.88	5.63				11.52	12.32	13.80
	velocity	7.53	9.11	9.21	9.02	8.93		8.41	8.25	8.03	7.68	7.17	7.10	8.12			9.11	8.52	7.61
H1 lead leg	strides	22	14	14	14	14		15	15	15	15	16	19.2	173.2					
Goller, Thomas (GER) (1977)	time	5.94	9.58	13.30	17.10	21.02		25.10	29.50	33.94	38.74	43.62		49.32		7 / 2			
reaction time	0.154 interval		3.64	3.72	3.80	3.92		4.08	4.40	4.44	4.80	4.88	5.70				11.16	12.40	14.12
	velocity	7.58	9.62	9.41	9.21	8.93		8.58	7.95	7.88	7.29	7.17	7.02	8.11			9.41	8.47	7.44
H1 lead leg	strides	21	13	13	13	13		13	14	14	15	15	19.2	163.2					
Mashchenko, Ruslan (RUS)	time	5.94	9.62	13.38	17.22	21.18		25.34	29.62	34.14	39.06	44.06		50.01		3 / 3			
reaction time	0.225 interval		3.68	3.76	3.84	3.96		4.16	4.28	4.52	4.92	5.00	5.95				11.28	12.40	14.44
	velocity	7.58	9.51	9.31	9.11	8.84		8.41	8.18	7.74	7.11	7.00	6.72	8.00			9.31	8.47	7.27
H1 lead leg	strides	20	13	13	13	13		13	14	14	15	15	18.3	161.3					
Robinson, Rohan (AUS) (19	time	6.02	9.82	13.62	17.54	21.54		25.70	30.10	34.70	39.74	44.82		50.80		4 / 4			
reaction time	0.173 interval		3.80	3.80	3.92	4.00		4.16	4.40	4.60	5.04	5.08	5.98				11.52	12.56	14.72
	velocity	7.48	9.21	9.21	8.93	8.75		8.41	7.95	7.61	6.94	6.89	6.69	7.87			9.11	8.36	7.13
H1 lead leg	strides	21	14	14	14	14		14	14	15	16	16	152						
Smith, Willie (NAM) (1977)	time	6.06	9.78	13.66	17.62	21.66		25.82	30.34	35.02	39.90		50.89		5 / 5				
reaction time	0.156 interval		3.72	3.88	3.96	4.04		4.16	4.52	4.68	4.88						11.56	12.72	
	velocity	7.43	9.41	9.02	8.84	8.66		8.41	7.74	7.48	7.17		7.86				9.08	8.25	
H1 lead leg	strides	22	15	15	15	15		17	17	17	17		150						
Zbinden, Carlos (CHI)	time	6.10	9.90	13.82	17.70	21.70		25.94	30.38	34.98	40.02		51.36		6 / 6				
reaction time	0.180 interval		3.80	3.92	3.88	4.00		4.24	4.44	4.60	5.04						11.60	12.68	
	velocity	7.38	9.21	8.93	9.02	8.75		8.25	7.88	7.61	6.94		7.79				9.05	8.28	
H1 lead leg	strides	21	13	13	13	13		14	14	15	16		132						
Houston, Victor (BAR) (197	time	5.90	9.58	13.34	17.22	21.22		25.54	30.10	34.86	39.98	45.34		51.51		2 / 7			
reaction time	0.179 interval		3.68	3.76	3.88	4.00		4.32	4.56	4.76	5.12	5.36	6.17				11.32	12.88	15.24
	velocity	7.63	9.51	9.31	9.02	8.75		8.10	7.68	7.35	6.84	6.53	6.48	7.77			9.28	8.15	6.89
H1 lead leg	strides		13	13	13	13		14	14	15	15	16		126					
2000 ISTAF (Berlin, GER)																			
FINAL	date	01-Sep-00	<i>Graubner (2009) - http://www.fgs.uni-halle.de</i>																
			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Taylor, Angelo (USA) (1978)	time	6.03	9.84	13.67	17.53	21.55		25.72	30.06	34.34	38.72	43.27		48.26		1 / 1			
reaction time	interval		3.81	3.83	3.86	4.02		4.17	4.34	4.28	4.38	4.55	4.99				11.50	12.53	13.21
	velocity	7.46	9.19	9.14	9.07	8.71		8.39	8.06	8.18	7.99	7.69	8.02	8.29			9.13	8.38	7.95
H1 lead leg	strides																		
Matete, Samuel (ZAM) (1968)	time	6.21	10.08	13.98	17.92	21.90		25.98	30.18	34.41	38.78	43.26		48.38		1 / 2			
reaction time	interval		3.87	3.90	3.94	3.98		4.08	4.20	4.23	4.37	4.48	5.12				11.71	12.26	13.08
	velocity	7.25	9.04	8.97	8.88	8.79		8.58	8.33	8.27	8.01	7.81	7.81	8.27			8.97	8.56	8.03
H1 lead leg	strides																		
Januszewski, Paweł (POL) (1	time	6.07	9.93	13.76	17.69	21.67		25.81	29.98	34.28	38.76	43.34		48.49		1 / 3			
reaction time	interval		3.86	3.83	3.93	3.98		4.14	4.17	4.30	4.48	4.58	5.15				11.62	12.29	13.36
	velocity	7.41	9.07	9.14	8.91	8.79		8.45	8.39	8.14	7.81	7.64	7.77	8.25			9.04	8.54	7.86
H1 lead leg	strides																		
Thomas, Eric (USA) (1973)	time	6.09	9.86	13.66	17.48	21.44		25.47	29.76	34.04	38.60	43.23		48.55		1 / 4			
reaction time	interval		3.77	3.80	3.82	3.96		4.03	4.29	4.28	4.56	4.63	5.32				11.39	12.28	13.47
	velocity	7.39	9.28	9.21	9.16	8.84		8.68	8.16	8.18	7.68	7.56	7.52	8.24			9.22	8.55	7.80
H1 lead leg	strides																		
Goller, Thomas (GER) (1977)	time	5.98	9.68	13.46	17.35	21.40		25.52	29.83	34.16	38.74	43.44		48.82		1 / 5			
reaction time	interval		3.70	3.78	3.89	4.05		4.12	4.31	4.33	4.58	4.70	5.38				11.37	12.48	13.61
	velocity	7.53	9.46	9.26	9.00	8.64		8.50	8.12	8.08	7.64	7.45	7.43	8.19			9.23	8.41	7.71
H1 lead leg	strides																		

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		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Mori, Fabrizio (ITA) (1969)	time	5.62	9.36	13.12	16.96	20.89		24.92	29.06	33.34	37.68	42.16		47.72	3 / 1			
	reaction time	0.157	interval	3.74	3.76	3.84	3.93	4.03	4.14	4.28	4.34	4.48	5.56	NR PB		11.34	12.10	13.10
	velocity	8.01	9.36	9.31	9.11	8.91		8.68	8.45	8.18	8.06	7.81	7.19	8.38		9.26	8.68	8.02
	H1 lead leg	L	strides	22	14	14	14	14	14	15	15	15	18	169				
Diagana, Stéphane (FRA) (1976)	time	5.44	9.09	12.77	16.54	20.39		24.41	28.77	33.08	37.59	42.19		48.12	5 / 2			
	reaction time	0.139	interval	3.65	3.68	3.77	3.85	4.02	4.36	4.31	4.51	4.60	5.93			11.10	12.23	13.42
	velocity	8.27	9.59	9.51	9.28	9.09		8.71	8.03	8.12	7.76	7.61	6.75	8.31		9.46	8.59	7.82
	H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	19	163				
Schelbert, Marcel (SUI) (1976)	time	5.66	9.42	13.18	17.02	21.17		25.14	29.32	33.70	38.19	42.70		48.13	7 / 3			
	reaction time	0.125	interval	3.76	3.76	3.84	4.15	3.97	4.18	4.38	4.49	4.51	5.43	NR PB		11.36	12.30	13.38
	velocity	7.95	9.31	9.31	9.11	8.43		8.82	8.37	7.99	7.80	7.76	7.37	8.31		9.24	8.54	7.85
	H1 lead leg	L	strides	22	13	13	13	14	14	14	15	15	18.5	165.5				
de Araújo, Eronilde (BRA) (1976)	time	5.72	9.39	13.13	16.93	20.85		24.84	29.06	33.37	37.85	42.46		48.13	8 / 4			
	reaction time	0.205	interval	3.67	3.74	3.80	3.92	3.99	4.22	4.31	4.48	4.61	5.67			11.21	12.13	13.40
	velocity	7.87	9.54	9.36	9.21	8.93		8.77	8.29	8.12	7.81	7.59	7.05	8.31		9.37	8.66	7.84
	H1 lead leg	L	strides	21	13	13	13	13	14	14	14	15	17.5	160.5				
Januszewski, Paweł (POL) (1976)	time	5.54	9.24	13.00	16.77	20.74		24.77	29.00	33.21	37.64	42.27		48.19	4 / 5			
	reaction time	0.138	interval	3.70	3.76	3.77	3.97	4.03	4.23	4.21	4.43	4.63	5.92			11.23	12.23	13.27
	velocity	8.12	9.46	9.31	9.28	8.82		8.68	8.27	8.31	7.90	7.56	6.76	8.30		9.35	8.59	7.91
	H1 lead leg	L	strides	21	14	14	14	14	14	15	15	15	18.5	168.5				
Woody, Joey (USA) (1973)	time	5.62	9.25	12.89	16.65	20.59		24.59	28.91	33.29	37.84	42.90		48.77	6 / 6			
	reaction time	0.175	interval	3.63	3.64	3.76	3.94	4.00	4.32	4.38	4.55	5.06	5.87			11.03	12.26	13.99
	velocity	8.01	9.64	9.62	9.31	8.88		8.75	8.10	7.99	7.69	6.92	6.81	8.20		9.52	8.56	7.51
	H1 lead leg	R	strides	21	13	13	13	13	14	14	14	15	17.5	160.5				
Morgan, Dinsdale (JAM) (1976)	time	5.46	9.27	12.98	16.90	20.94		25.07	29.42	33.81	38.33	43.09		48.92	2 / 7			
	reaction time	0.164	interval	3.81	3.71	3.92	4.04	4.13	4.35	4.39	4.52	4.76	5.83			11.44	12.52	13.67
	velocity	8.24	9.19	9.43	8.93	8.66		8.47	8.05	7.97	7.74	7.35	6.86	8.18		9.18	8.39	7.68
	H1 lead leg	L	strides	22	14	14	14	14	15	15	15	16	18.5	171.5				
Zellner, Torrance (USA) (1976)	time	5.66	9.38	13.10	16.88	20.68		24.72	28.92	33.49	38.05	42.86		49.06	1 / 8			
	reaction time	0.133	interval	3.72	3.72	3.78	3.80	4.04	4.20	4.57	4.56	4.81	6.20			11.22	12.04	13.94
	velocity	7.95	9.41	9.41	9.26	9.21		8.66	8.33	7.66	7.68	7.28	6.45	8.15		9.36	8.72	7.53
	H1 lead leg	L	strides	20	13	13	13	13	13	14	14	15	18	159				

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		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Diagana, Stéphane (FRA) (1976)	time	5.57	9.24	13.03	16.81	20.72		24.73	28.98	33.39	37.91	42.46		48.18	4 / 1			
	reaction time	0.161	interval	3.67	3.79	3.78	3.91	4.01	4.25	4.41	4.52	4.55	5.72			11.24	12.17	13.48
	velocity	8.08	9.54	9.23	9.26	8.95		8.73	8.24	7.94	7.74	7.69	6.99	8.30		9.34	8.63	7.79
	H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	18	162				
Mori, Fabrizio (ITA) (1969)	time	5.78	9.51	13.31	17.21	21.10		25.14	29.39	33.74	38.12	42.64		48.29	5 / 2			
	reaction time	0.164	interval	3.73	3.80	3.90	3.89	4.04	4.25	4.35	4.38	4.52	5.65			11.43	12.18	13.25
	velocity	7.79	9.38	9.21	8.97	9.00		8.66	8.24	8.05	7.99	7.74	7.08	8.28		9.19	8.62	7.92
	H1 lead leg	L	strides	22	14	14	14	14	14	15	15	15	18	169				
de Araújo, Eronilde (BRA) (1976)	time	5.70	9.47	13.28	17.09	21.07		25.09	29.28	33.57	38.04	42.68		48.41	6 / 3			
	reaction time	0.174	interval	3.77	3.81	3.81	3.98	4.02	4.19	4.29	4.47	4.64	5.73			11.39	12.19	13.40
	velocity	7.89	9.28	9.19	9.19	8.79		8.71	8.35	8.16	7.83	7.54	6.98	8.26		9.22	8.61	7.84
	H1 lead leg	L	strides	21	13	13	13	13	14	14	14	14	17.5	159.5				
Zellner, Torrance (USA) (1976)	time	5.68	9.45	13.25	17.05	21.08		25.09	29.21	33.62	38.22	42.85		48.53	7 / 4			
	reaction time	0.129	interval	3.77	3.80	3.80	4.03	4.01	4.12	4.41	4.60	4.63	5.68			11.37	12.16	13.64
	velocity	7.92	9.28	9.21	9.21	8.68		8.73	8.50	7.94	7.61	7.56	7.04	8.24		9.23	8.63	7.70
	H1 lead leg	L	strides	20	13	13	13	13	13	13	14	14	17	156				
Morgan, Dinsdale (JAM) (1976)	time	5.58	9.34	13.14	17.06	21.17		25.30	29.62	34.05	38.45	43.12		48.71	3 / 5			
	reaction time	0.179	interval	3.76	3.80	3.92	4.11	4.13	4.32	4.43	4.40	4.67	5.59			11.48	12.56	13.50
	velocity	8.06	9.31	9.21	8.93	8.52		8.47	8.10	7.90	7.95	7.49	7.16	8.21		9.15	8.36	7.78
	H1 lead leg	L	strides	22	14	14	14	14	14	15	15	15	18.5	169.5				
Bédi, Tibor (HUN) (1974)	time	5.65	9.53	13.57	17.62	21.72		25.93	30.16	34.50	38.85	43.28		49.00	8 / 6			
	reaction time	0.215	interval	3.88	4.04	4.05	4.10	4.21	4.23	4.34	4.35	4.43	5.72	PB		11.97	12.54	13.12
	velocity	7.96	9.02	8.66	8.64	8.54		8.31	8.27	8.06	8.05	7.90	6.99	8.16		8.77	8.37	8.00
	H1 lead leg	L	strides	21	14	14	14	15	15	15	15	15	19.5	171.5				
Silva, Carlos (POR) (1974)	time	5.66	9.35	13.11	17.25	21.28		25.44	29.67	34.02	38.54	43.31		49.45	2 / 7			
	reaction time	0.165	interval	3.69	3.76	4.14	4.03	4.16	4.23	4.35	4.52	4.77	6.14			11.59	12.42	13.64
	velocity	7.95	9.49	9.31	8.45	8.68		8.41	8.27	8.05	7.74	7.34	6.51	8.09		9.06	8.45	7.70

H1 lead leg	L	strides	20	13	13	15	14		14	15	15	15	20	169					
Goller, Thomas (GER) (1977)	time		5.58	9.26	13.02	16.87	20.78		24.94	29.50	34.12	38.82	43.74	49.89	1 / 8				
reaction time	0.178	interval		3.68	3.76	3.85	3.91		4.16	4.56	4.62	4.70	4.92	6.15		11.29	12.63	14.24	
		velocity	8.06	9.51	9.31	9.09	8.95		8.41	7.68	7.58	7.45	7.11	6.50	8.02		9.30	8.31	7.37
H1 lead leg	L	strides	20	13	13	13	13		13	15	15	15	15	19	164				

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date 25-Aug-99

Sanchez (1999) - Sevilla '99: análisis de la carreras con villas

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Woody, Joey (USA) (1973)	time		5.64	9.36	13.14	17.01	20.99		25.06	29.31	33.70	38.24	42.90	48.55	8 / 1				
reaction time	0.214	interval		3.72	3.78	3.87	3.98		4.07	4.25	4.39	4.54	4.66	5.65			11.37	12.30	13.59
		velocity	7.98	9.41	9.26	9.04	8.79		8.60	8.24	7.97	7.71	7.51	7.08	8.24		9.23	8.54	7.73
H1 lead leg	R	strides	21	13	13	13	13		13	13	14	14	15	17.5	159.5				
Januszewski, Paweł (POL) (1976)	time		5.81	9.59	13.39	17.21	21.25		25.30	29.51	33.85	38.20	42.79	48.63	7 / 2				
reaction time	0.255	interval		3.78	3.80	3.82	4.04		4.05	4.21	4.34	4.35	4.59	5.84			11.40	12.30	13.28
		velocity	7.75	9.26	9.21	9.16	8.66		8.64	8.31	8.06	8.05	7.63	6.85	8.23		9.21	8.54	7.91
H1 lead leg	L	strides	21	14	14	14	14		14	14	15	15	15	18	168				
Schelbert, Marcel (SUI) (1976)	time		5.78	9.59	13.39	17.33	21.29		25.60	29.86	34.32	38.83	43.33	48.80	6 / 3				
reaction time	0.139	interval		3.81	3.80	3.94	3.96		4.31	4.26	4.46	4.51	4.50	5.47			11.55	12.53	13.47
		velocity	7.79	9.19	9.21	8.88	8.84		8.12	8.22	7.85	7.76	7.78	7.31	8.20		9.09	8.38	7.80
H1 lead leg	L	strides	22	13	13	13	13		14	14	15	15	15	19	166				
Thompson, Kemel (JAM) (1976)	time		5.62	9.40	13.27	17.19	21.30		25.44	29.68	33.99	38.36	42.99	48.95	5 / 4				
reaction time	0.153	interval		3.78	3.87	3.92	4.11		4.14	4.24	4.31	4.37	4.63	5.96			11.57	12.49	13.31
		velocity	8.01	9.26	9.04	8.93	8.52		8.45	8.25	8.12	8.01	7.56	6.71	8.17		9.08	8.41	7.89
H1 lead leg	L	strides	22	14	14	14	14		14	15	15	15	15	19.5	171.5				
Muzik, Juri (CZE) (1976)	time		5.60	9.38	13.18	17.19	21.35		25.51	29.85	34.30	38.82	43.50	49.17	2 / 5				
reaction time	0.179	interval		3.78	3.80	4.01	4.16		4.16	4.34	4.45	4.52	4.68	5.67			11.59	12.66	13.65
		velocity	8.04	9.26	9.21	8.73	8.41		8.41	8.06	7.87	7.74	7.48	7.05	8.14		9.06	8.29	7.69
H1 lead leg	R	strides	21	13	13	13	14		14	14	14	15	15	18.5	164.5				
Matete, Samuel (ZAM) (1968)	time		5.68	9.44	13.23	17.25	21.31		25.38	29.66	34.10	38.59	43.28	49.28	3 / 6				
reaction time	0.169	interval		3.76	3.79	4.02	4.06		4.07	4.28	4.44	4.49	4.69	6.00			11.57	12.41	13.62
		velocity	7.92	9.31	9.23	8.71	8.62		8.60	8.18	7.88	7.80	7.46	6.67	8.12		9.08	8.46	7.71
H1 lead leg	L	strides	21	13	13	13	13		13	13	13	15	15	18.5	160.5				
Yamazaki, Kazuhiko (JPN) (1976)	time		5.69	9.44	13.24	17.16	21.22		25.38	29.70	34.21	38.75	43.47	49.46	4 / 7				
reaction time	0.172	interval		3.75	3.80	3.92	4.06		4.16	4.32	4.51	4.54	4.72	5.99			11.47	12.54	13.77
		velocity	7.91	9.33	9.21	8.93	8.62		8.41	8.10	7.76	7.71	7.42	6.68	8.09		9.15	8.37	7.63
H1 lead leg	L	strides	20	13	13	13	13		14	14	15	15	15	18	163				
Huisse, Jean-Laurent (FRA) (1976)	time		5.75	9.54	13.44	17.45	21.57		25.82	30.25	34.73	39.34	44.21	50.47	1 / 8				
reaction time	0.141	interval		3.79	3.90	4.01	4.12		4.25	4.43	4.48	4.61	4.87	6.26			11.70	12.80	13.96
		velocity	7.83	9.23	8.97	8.73	8.50		8.24	7.90	7.81	7.59	7.19	6.39	7.93		8.97	8.20	7.52
H1 lead leg	R	strides	21	13	13	13	14		14	15	15	15	15	19	167				

Heat 6

date 24-Aug-99

Sanchez (1999) - Sevilla '99: análisis de la carreras con villas

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Schelbert, Marcel (SUI) (1976)	time		5.78	9.52	13.30	17.16	21.05		25.28	29.56	34.00	38.50	43.14	48.66	6 / 1				
reaction time	0.143	interval		3.74	3.78	3.86	3.89		4.23	4.28	4.44	4.50	4.64	5.52			11.38	12.40	13.58
		velocity	7.79	9.36	9.26	9.07	9.00		8.27	8.18	7.88	7.78	7.54	7.25	8.22		9.23	8.47	7.73
H1 lead leg	L	strides	22	13	13	13	13		14	14	15	15	15	19	166				

Heat 5

date 24-Aug-99

Sanchez (1999) - Sevilla '99: análisis de la carreras con villas

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Diagana, Stéphane (FRA) (1976)	time		5.59	9.30	13.12	16.99	20.93		24.99	29.38	33.82	38.45	43.02	48.55	5 / 1				
reaction time	0.155	interval		3.71	3.82	3.87	3.94		4.06	4.39	4.44	4.63	4.57	5.53			11.40	12.39	13.64
		velocity	8.05	9.43	9.16	9.04	8.88		8.62	7.97	7.88	7.56	7.66	7.23	8.24		9.21	8.47	7.70
H1 lead leg	L	strides	21	13	13	13	13		13	14	14	15	15	18	162				

Heat 3

date 24-Aug-99

Sanchez (1999) - Sevilla '99: análisis de la carreras con villas

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Mori, Fabrizio (ITA) (1969)	time		5.96	9.84	13.78	17.68	21.72		25.92	30.22	34.70	39.11	43.59	49.07	6 / 1				
reaction time	0.152	interval		3.88	3.94	3.90	4.04		4.20	4.30	4.48	4.41	4.48	5.48			11.72	12.54	13.37
		velocity	7.55	9.02	8.88	8.97	8.66		8.33	8.14	7.81	7.94	7.81	7.30	8.15		8.96	8.37	7.85
H1 lead leg	L	strides	22	14	14	14	14		14	14	15	15	15	18	169				

1998 European Championships (Budapest, HUN)

FINAL

date 20-Aug-98

Sanchez (1998) - Budapest '98: análisis de la carreras con villas

Behm (1998) - analyse et commentaries: le 400m haies: Pavel la surprise!

			H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Januszewski, Paweł (POL) (1976)	time		5.9	9.8	13.6	17.4	21.2		25.2	29.3	33.6	38.1	42.7	48.17	3 / 1				
reaction time		interval		3.9	3.8	3.8	3.8		4.0	4.1	4.3	4.5	4.6	5.47	NR / PB		11.50	11.90	13.40
		velocity	7.63	8.97	9.21	9.21	9.21		8.75	8.54	8.14	7.78	7.61	7.31	8.30		9.13	8.82	7.84
H1 lead leg	L	strides	21	14	14	14	14		13	14	14	15	15	18.5	166.5				

Mashchenko, Ruslan (RUS)	time	5.95	9.75	13.59	17.51	21.38	25.39	29.47	33.70	38.12	42.70		48.25	5 / 2		<i>Sanchez (1998)</i>	
reaction time	interval		3.80	3.84	3.92	3.87	4.01	4.08	4.23	4.42	4.58	5.55			11.56	11.96	13.23
	velocity	7.56	9.21	9.11	8.93	9.04	8.73	8.58	8.27	7.92	7.64	7.21	8.29		9.08	8.78	7.94
H1 lead leg	L	strides	19	13	13	13	13	14	14	14	14	17	157				
Mori, Fabrizio (ITA) (1969)	time	6.2	10.3	14.2	18.1	22.2	26.3	30.4	34.6	38.9	43.4		48.71	7 / 3		<i>Behm (1998)</i>	
reaction time	interval		4.1	3.9	3.9	4.1	4.1	4.1	4.2	4.3	4.5	5.31			11.90	12.30	13.00
	velocity	7.26	8.54	8.97	8.97	8.54	8.54	8.54	8.33	8.14	7.78	7.53	8.21		8.82	8.54	8.08
H1 lead leg	L	strides	22	14	14	14	14	14	15	15	15	18.5	169.5				
Silva, Carlos (POR) (1974)	time	6.1	9.8	13.6	17.5	21.5	25.6	29.7	34.0	38.5	43.3		49.02	6 / 4		<i>Behm (1998)</i>	
reaction time	interval		3.7	3.8	3.9	4.0	4.1	4.1	4.3	4.5	4.8	5.72			11.40	12.20	13.60
	velocity	7.38	9.46	9.21	8.97	8.75	8.54	8.54	8.14	7.78	7.29	6.99	8.16		9.21	8.61	7.72
H1 lead leg	L	strides	20	13	13	13	14	14	15	15	15	19.5	166.5				
Zadoinov, Vadim (MOL) (1966)	time	6.05				21.57						43.70	49.10	4 / 5		<i>Sanchez (1998)</i>	
reaction time	interval					15.52						22.13	5.40				
	velocity	7.44				9.02						7.91	7.41	8.15			
H1 lead leg	L	strides	19	13	13	13	13	13	13	14	14	17	155				
Ottoz, Laurent (ITA) (1970)	time	6.11				21.69						43.62	49.15	2 / 6		<i>Sanchez (1998)</i>	
reaction time	interval					15.58						21.93	5.53				
	velocity	7.36				8.99						7.98	7.23	8.14			
H1 lead leg	R	strides	22	14	14	14	14	14	14	15	15	18	169				
Muzik, Juri (CZE) (1976)	time	6.01				21.40						44.30	50.51	8 / 7		<i>Sanchez (1998)</i>	
reaction time	interval					15.39						22.90	6.21				
	velocity	7.49				9.10						7.64	6.44	7.92			
H1 lead leg	R	strides	21	14	14	14	14	14	15	15	15	19.5	169.5				
Shiryayev, Vladislav (RUS) (1971)	time	5.95				21.50						44.89	50.94	1 / 8		<i>Sanchez (1998)</i>	
reaction time	interval					15.55						23.39	6.05				
	velocity	7.56				9.00						7.48	6.61	7.85			
H1 lead leg	L	strides	20	13	13	13	13	14	14	15	15	19	162				

1998 Spanish National Championships (San Sebastián, ESP)

FINAL

date 02-Aug-98

Ruiz (1998) - campeonato des españa absoluto: análisis de la carreras con villas

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Monreal, Iñigo (ESP) (1974)	time	6.00	9.99	14.04	18.19	22.47		26.95	31.27	35.78	40.41	44.99		50.49	6 / 1			
reaction time	interval		3.99	4.05	4.15	4.28		4.48	4.32	4.51	4.63	4.58	5.50			12.19	13.08	13.72
	velocity	7.50	8.77	8.64	8.43	8.18		7.81	8.10	7.76	7.56	7.64	7.27	7.92		8.61	8.03	7.65
H1 lead leg	R	strides	20	13	13	13		13	13	13	14	14	17	156				
Herrero, Juan (ESP) (1976)	time	6.03	10.02	14.18	18.37	22.62		26.87	31.25	35.77	40.38	45.15		50.96	3 / 2			
reaction time	interval		3.99	4.16	4.19	4.25		4.25	4.38	4.52	4.61	4.77	5.81			12.34	12.88	13.90
	velocity	7.46	8.77	8.41	8.35	8.24		8.24	7.99	7.74	7.59	7.34	6.88	7.85		8.51	8.15	7.55
H1 lead leg	L	strides	22	14	14	14		14	15	15	15	15	19	171				
Rodríguez, Iván (ESP) (1978)	time	6.10	10.22	14.34	18.52	22.90		27.32	31.89	36.58	41.41	46.24		51.65	7 / 3			
reaction time	interval		4.12	4.12	4.18	4.38		4.42	4.57	4.69	4.83	4.83	5.41			12.42	13.37	14.35
	velocity	7.38	8.50	8.50	8.37	7.99		7.92	7.66	7.46	7.25	7.25	7.39	7.74		8.45	7.85	7.32
H1 lead leg	L	strides	22	14	14	14		14	15	15	16	15	18.5	171.5				
Pitillas, Oscar (ESP) (1971)	time	5.97	9.96	13.89	17.95	22.15		26.58	31.26	35.91	40.79	45.78		51.79	5 / 4			
reaction time	interval		3.99	3.93	4.06	4.20		4.43	4.68	4.65	4.88	4.99	6.01			11.98	13.31	14.52
	velocity	7.54	8.77	8.91	8.62	8.33		7.90	7.48	7.53	7.17	7.01	6.66	7.72		8.76	7.89	7.23
H1 lead leg	L	strides	20	13	13	13		13	14	14	15	15	18	161				
Melero, Julio (ESP) (1972)	time	6.07	10.16	14.27	18.50	22.86		27.34	31.86	36.55	41.29	46.08		52.08	4 / 5			
reaction time	interval		4.09	4.11	4.23	4.36		4.48	4.52	4.69	4.74	4.79	6.00			12.43	13.36	14.22
	velocity	7.41	8.56	8.52	8.27	8.03		7.81	7.74	7.46	7.38	7.31	6.67	7.68		8.45	7.86	7.38
H1 lead leg	R	strides	21	14	14	14		15	15	15	15	15	18	170				
Juan, Jaime (ESP) (1977)	time	6.22	10.26	14.35	18.57	22.96		27.51	32.00	36.51	41.27	46.19		52.40	8 / 6			
reaction time	interval		4.04	4.09	4.22	4.39		4.55	4.49	4.51	4.76	4.92	6.21			12.35	13.43	14.19
	velocity	7.23	8.66	8.56	8.29	7.97		7.69	7.80	7.76	7.35	7.11	6.44	7.63		8.50	7.82	7.40
H1 lead leg	L	strides	21	14	14	14		15	15	15	15	15	18.5	170.5				
López, Guillermo (ESP) (1971)	time	6.19	10.32	14.39	18.54	22.87		27.28	31.88	36.59	41.52	46.57		52.50	1 / 7			
reaction time	interval		4.13	4.07	4.15	4.33		4.41	4.60	4.71	4.93	5.05	5.93			12.35	13.34	14.69
	velocity	7.27	8.47	8.60	8.43	8.08		7.94	7.61	7.43	7.10	6.93	6.75	7.62		8.50	7.87	7.15
H1 lead leg	L	strides	22	15	15	15		15	16	16	16	16	20	181				
Salmerón, Fernando (ESP) (1971)	time	6.18	10.27	14.57	18.74	23.20		27.72	32.28	36.79	41.74	46.72		52.75	2 / 8			
reaction time	interval		4.09	4.30	4.17	4.46		4.52	4.56	4.51	4.95	4.98	6.03			12.56	13.54	14.44
	velocity	7.28	8.56	8.14	8.39	7.85		7.74	7.68	7.76	7.07	7.03	6.63	7.58		8.36	7.75	7.27
H1 lead leg	L	strides	22	14	15	14		15	15	15	17	16	20	178				

Semi-Final 2

date 01-Aug-98

Ruiz (1998) - campeonato des españa absoluto: análisis de la carreras con villas

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Salmerón, Fernando (ESP) (time	6.20	10.25	14.38	18.62	22.92		27.37	31.92	36.94	42.01	47.14		53.24	3 / ??			
reaction time	interval	4.05	4.13	4.24	4.30		4.45	4.55	5.02	5.07	5.13	6.10			12.42	13.30	15.22
	velocity	7.26	8.64	8.47	8.25	8.14	7.87	7.69	6.97	6.90	6.82	6.56	7.51		8.45	7.89	6.90
H1 lead leg	L	strides	22	14	14	14	15	15	16	16	16	20	176				

1997 IAAF World Championships (Athens, GRE)

FINAL

date 04-Aug-97

Hommel (1999) - biomechanical research project, athens 1997: final report

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Diagana, Stéphane (FRA) (1' time	5.87	9.50	13.14	16.85	20.60		24.68	28.68	32.98	37.56	42.27		47.70	6 / 1			
reaction time	0.157	interval	3.63	3.64	3.71	3.75	4.08	4.00	4.30	4.58	4.71	5.43			10.98	11.83	13.59
	velocity	7.67	9.64	9.62	9.43	9.33	8.58	8.75	8.14	7.64	7.43	7.37	8.39		9.56	8.88	7.73
H1 lead leg	L	strides	21	13	13	13	13	14	14	15	15	19	163				
Herbert, Llewellyn (RSA) (19' time	5.96	9.62	13.46	17.32	21.48		25.64	29.86	34.14	38.48	42.87		47.86	1 / 2			
reaction time	0.147	interval	3.66	3.84	3.86	4.16	4.16	4.22	4.28	4.34	4.39	4.99	NR		11.36	12.54	13.01
	velocity	7.55	9.56	9.11	9.07	8.41	8.41	8.29	8.18	8.06	7.97	8.02	8.36		9.24	8.37	8.07
H1 lead leg		strides															
Bronson, Bryan (USA) (1972' time	6.03	9.66	13.32	17.08	20.95		25.08	29.28	33.62	38.08	42.62		47.88	3 / 3			
reaction time	0.247	interval	3.63	3.66	3.76	3.87	4.13	4.20	4.34	4.46	4.54	5.26			11.05	12.20	13.34
	velocity	7.46	9.64	9.56	9.31	9.04	8.47	8.33	8.06	7.85	7.71	7.60	8.35		9.50	8.61	7.87
H1 lead leg		strides															
Mori, Fabrizio (ITA) (1969' time	6.14	10.02	13.78	17.72	21.72		25.85	30.04	34.40	38.78	43.18		48.05	4 / 4			
reaction time	0.156	interval	3.88	3.76	3.94	4.00	4.13	4.19	4.36	4.38	4.40	4.87	NR		11.58	12.32	13.14
	velocity	7.33	9.02	9.31	8.88	8.75	8.47	8.35	8.03	7.99	7.95	8.21	8.32		9.07	8.52	7.99
H1 lead leg		strides															
Matete, Samuel (ZAM) (1968' time	5.98	9.66	13.41	17.24	21.16		25.18	29.20	33.62	38.10	42.70		48.11	8 / 5			
reaction time	0.237	interval	3.68	3.75	3.83	3.92	4.02	4.02	4.42	4.48	4.60	5.41			11.26	11.96	13.50
	velocity	7.53	9.51	9.33	9.14	8.93	8.71	8.71	7.92	7.81	7.61	7.39	8.31		9.33	8.78	7.78
H1 lead leg		strides															
Mashchenko, Ruslan (RUS) time	5.88	9.60	13.36	17.16	21.02		25.02	29.30	33.61	38.26	43.06		48.62	5 / 6			
reaction time	0.166	interval	3.72	3.76	3.80	3.86	4.00	4.28	4.31	4.65	4.80	5.56			11.28	12.14	13.76
	velocity	7.65	9.41	9.31	9.21	9.07	8.75	8.18	8.12	7.53	7.29	7.19	8.23		9.31	8.65	7.63
H1 lead leg		strides															
Morgan, Dinsdale (JAM) (19' time	5.96	9.68	13.52	17.45	21.48		25.56	29.86	34.32	38.96	43.70		49.06	7 / 7			
reaction time	0.152	interval	3.72	3.84	3.93	4.03	4.08	4.30	4.46	4.64	4.74	5.36			11.49	12.41	13.84
	velocity	7.55	9.41	9.11	8.91	8.68	8.58	8.14	7.85	7.54	7.38	7.46	8.15		9.14	8.46	7.59
H1 lead leg		strides															
Mužik, Jiri (CZE) (1976' time	6.02	9.78	13.62	17.58	21.80		26.12	30.42	34.92	39.52	44.14		49.51	2 / 8			
reaction time	0.179	interval	3.76	3.84	3.96	4.22	4.32	4.30	4.50	4.60	4.62	5.37	NR		11.56	12.84	13.72
	velocity	7.48	9.31	9.11	8.84	8.29	8.10	8.14	7.78	7.61	7.58	7.45	8.08		9.08	8.18	7.65
H1 lead leg		strides															

1997 European Cup (Munich, GER)

FINAL

date 21-Jun-97

Jung (2003) - <http://www.fgs.uni-halle.de>

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Mori, Fabrizio (ITA) (1969' time	6.22	10.15	14.12	18.24	22.36		26.67	31.00	35.34	39.71	44.11		48.93	/ 1			
reaction time	interval	3.93	3.97	4.12	4.12		4.31	4.33	4.34	4.37	4.40	4.82			12.02	12.76	13.11
	velocity	7.23	8.91	8.82	8.50	8.50	8.12	8.08	8.06	8.01	7.95	8.30	8.17		8.74	8.23	8.01
H1 lead leg		strides															
Diagana, Stéphane (FRA) (1' time	6.03	9.80	13.72	17.60	21.60		25.70	30.19	34.74	39.28	43.92		49.19	/ 2			
reaction time	interval	3.77	3.92	3.88	4.00		4.10	4.49	4.55	4.54	4.64	5.27			11.57	12.59	13.73
	velocity	7.46	9.28	8.93	9.02	8.75	8.54	7.80	7.69	7.71	7.54	7.59	8.13		9.08	8.34	7.65
H1 lead leg		strides															
Mashchenko, Ruslan (RUS) time	6.05	9.79	13.70	17.72	21.84		26.06	30.47	34.94	39.60	44.33		49.74	/ 3			
reaction time	interval	3.74	3.91	4.02	4.12		4.22	4.41	4.47	4.66	4.73	5.41			11.67	12.75	13.86
	velocity	7.44	9.36	8.95	8.71	8.50	8.29	7.94	7.83	7.51	7.40	7.39	8.04		9.00	8.24	7.58
H1 lead leg		strides															
Pitillas, Oscar (ESP) (1971' time	6.28	10.21	14.18	18.24	22.35		26.66	31.20	35.98	40.54	45.46		51.05	/ 4			
reaction time	interval	3.93	3.97	4.06	4.11		4.31	4.54	4.78	4.56	4.92	5.59			11.96	12.96	14.26
	velocity	7.17	8.91	8.82	8.62	8.52	8.12	7.71	7.32	7.68	7.11	7.16	7.84		8.78	8.10	7.36
H1 lead leg		strides															
Rawlinson, Christopher (GB) time	6.12	9.92	13.86	17.90	22.12		26.50	31.07	35.80	40.62	45.62		51.06	/ 5			
reaction time	interval	3.80	3.94	4.04	4.22		4.38	4.57	4.73	4.82	5.00	5.44			11.78	13.17	14.55
	velocity	7.35	9.21	8.88	8.66	8.29	7.99	7.66	7.40	7.26	7.00	7.35	7.83		8.91	7.97	7.22
H1 lead leg		strides															

Moumoulidis, Konstadinos (time)	6.22	10.13	14.10	18.19	22.42	26.81	31.29	36.04	41.03	46.20	52.01	/ 6				
reaction time	interval	3.91	3.97	4.09	4.23	4.39	4.48	4.75	4.99	5.17	5.81		11.97	13.10	14.91	
H1 lead leg	velocity	7.23	8.95	8.82	8.56	8.27	7.97	7.81	7.37	7.01	6.77	6.88	7.69	8.77	8.02	7.04
	strides															
Lunn, Atle (NOR) (1969) (time)	6.30	10.24	14.29	18.56	22.98	27.62	32.47	36.40	42.56	47.94	54.09	/ 7				
reaction time	interval	3.94	4.05	4.27	4.42	4.64	4.85	3.93	6.16	5.38	6.15		12.26	13.91	15.47	
H1 lead leg	velocity	7.14	8.88	8.64	8.20	7.92	7.54	7.22	8.91	5.68	6.51	6.50	7.40	8.56	7.55	6.79
	strides															
Ehrnsprenger, Klaus (GER) (time)	6.56	10.77	15.15	19.62	24.23	28.92	33.77	38.71	43.99	49.46	55.13	/ 8				
reaction time	interval	4.21	4.38	4.47	4.61	4.69	4.85	4.94	5.28	5.47	5.67		13.06	14.15	15.69	
H1 lead leg	velocity	6.86	8.31	7.99	7.83	7.59	7.46	7.22	7.09	6.63	6.40	7.05	7.26	8.04	7.42	6.69
	strides															

1996 ???? (Hiroshima, JPN)

FINAL

date 14-Aug-96

Kishima (2022) - national high school championships biomechanics data collection

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tamesue, Dai (JPN) (1978) (time)	6.18	9.92	13.76	17.63	21.63	25.87	30.14	34.71	39.31	43.95	49.09	/ 1					
reaction time	interval	3.74	3.84	3.87	4.00	4.24	4.27	4.57	4.60	4.64	5.14	PB		11.45	12.51	13.81	
H1 lead leg	velocity	7.28	9.36	9.11	9.04	8.75	8.25	8.20	7.66	7.61	7.54	7.78	8.15	9.17	8.39	7.60	
	strides	13	13	13	13	14	14	15	15	15	125						

1996 Olympic Games (Atlanta, GA)

FINAL

date 01-Aug-96

Behm (1996) - 400m haies
McFarlane (2000) - the science of hurdling and speed

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Adkins, Derrick (USA) (1970) (time)	5.83	9.59	13.40	17.16	21.12	25.12	29.21	33.44	37.74	42.25	47.54	6 / 1					
reaction time 0.294	interval	3.76	3.81	3.76	3.96	4.00	4.09	4.23	4.30	4.51	5.29	=PB		11.33	12.05	13.04	
H1 lead leg	velocity	7.72	9.31	9.19	9.31	8.84	8.75	8.56	8.27	8.14	7.76	7.56	8.41	9.27	8.71	8.05	
	strides	20	13	13	13	13	13	14	14	14	14	141					
Matete, Samuel (ZAM) (1968) (time)	5.84	9.61	13.43	17.29	21.24	25.22	29.30	33.44	37.74	42.25	47.78	1 / 2					
reaction time 0.184	interval	3.77	3.82	3.86	3.95	3.98	4.08	4.14	4.30	4.51	5.53			11.45	12.01	12.95	
H1 lead leg	velocity	7.71	9.28	9.16	9.07	8.86	8.79	8.58	8.45	8.14	7.76	7.23	8.37	9.17	8.74	8.11	
	strides	20	13	13	13	13	13	13	13	15	15	141					
Davis, Calvin (USA) (1972) (time)	6.02	9.85	13.62	17.38	21.34	25.48	29.70	33.90	38.35	42.82	47.96	5 / 3					
reaction time 0.267	interval	3.83	3.77	3.76	3.96	4.14	4.22	4.20	4.45	4.47	5.14			11.36	12.32	13.12	
H1 lead leg	velocity	7.48	9.14	9.28	9.31	8.84	8.45	8.29	8.33	7.87	7.83	7.78	8.34	9.24	8.52	8.00	
	strides	23	15	15	15	15	15	15	15	15	15	158					
Nylander, Sven (SWE) (1962) (time)	6.0	9.7	13.5	17.3	21.3	25.3	29.4	33.8	38.3	42.9	47.98	4 / 4					
reaction time 0.225	interval	3.7	3.8	3.8	4.0	4.0	4.1	4.4	4.5	4.6	5.08	NR		11.30	12.10	13.50	
H1 lead leg	velocity	7.50	9.46	9.21	9.21	8.75	8.75	8.54	7.95	7.78	7.61	7.87	8.34	9.29	8.68	7.78	
	strides	20	13	13	13	13	13	13	13	14	14	139					
Robinson, Rohan (AUS) (19) (time)	6.0	9.7	13.5	17.3	21.3	25.3	29.5	33.8	38.3	43.0	48.30	8 / 5					
reaction time 0.283	interval	3.7	3.8	3.8	4.0	4.0	4.2	4.3	4.5	4.7	5.30			11.30	12.20	13.50	
H1 lead leg	velocity	7.50	9.46	9.21	9.21	8.75	8.75	8.33	8.14	7.78	7.45	7.55	8.28	9.29	8.61	7.78	
	strides	21	14	14	14	14	14	14	15	15	15	150					
Mori, Fabrizio (ITA) (1969) (time)	6.0	10.0	14.0	17.9	21.9	26.0	30.1	34.4	38.8	43.4	48.41	7 / 6					
reaction time 0.192	interval	4.0	4.0	3.9	4.0	4.1	4.1	4.3	4.4	4.6	5.01			11.90	12.20	13.30	
H1 lead leg	velocity	7.50	8.75	8.75	8.97	8.75	8.54	8.54	8.14	7.95	7.61	7.98	8.26	8.82	8.61	7.89	
	strides	21	14	14	14	14	14	14	15	15	15	150					
Teixeira, Everson (BRA) (197) (time)	6.0	10.0	13.8	17.6	21.6	25.8	30.2	34.4	38.8	43.5	48.57	3 / 7					
reaction time 0.201	interval	4.0	3.8	3.8	4.0	4.2	4.4	4.2	4.4	4.7	5.07			11.60	12.60	13.30	
H1 lead leg	velocity	7.50	8.75	9.21	9.21	8.75	8.33	7.95	8.33	7.95	7.45	7.89	8.24	9.05	8.33	7.89	
	strides	20	13	13	13	13	13	13	13	13	13	137					
de Araújo, Eronildo (BRA) ((time)	6.0	9.9	13.7	17.5	21.4	25.5	29.7	34.0	38.4	43.0	48.78	2 / 8					
reaction time 0.199	interval	3.9	3.8	3.8	3.9	4.1	4.2	4.3	4.4	4.6	5.78			11.50	12.20	13.30	
H1 lead leg	velocity	7.50	8.97	9.21	9.21	8.97	8.54	8.33	8.14	7.95	7.61	6.92	8.20	9.13	8.61	7.89	
	strides	21	13	13	13	13	13	14	14	14	14	142					

1996 French National Championships (Evry, FRA)

FINAL

date ??

Veney - split times from PJ

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Mbaye, Amadou (SEN) (1964) (time)	6.1	9.9	13.9	18.0	22.0	26.2	30.5	35.0	39.6	44.5	50.30	/ 2					
reaction time	interval	3.8	4.0	4.1	4.0	4.2	4.3	4.5	4.6	4.9	5.80			11.90	12.50	14.00	
H1 lead leg	velocity	7.38	9.21	8.75	8.54	8.75	8.33	8.14	7.78	7.61	7.14	6.90	7.95	8.82	8.40	7.50	
	strides	20	13	13	13	13	13	14	14	14	14	141					

1996 USA Olympic Trials (Atlanta, GA)

FINAL

date 16-Jun-96

McNichols (2000) - Hurdle technique study through video analysis

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
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Bronson, Bryan (USA) (1972)	time	6.01	9.69	13.37	17.03	20.97	22.78	25.23	29.39	33.67	38.11	42.67		47.98	8 / 1			
reaction time	interval		3.68	3.68	3.66	3.94		4.26	4.16	4.28	4.44	4.56	5.31	PB		11.02	12.36	13.28
	velocity	7.49	9.51	9.51	9.56	8.88	8.78	8.22	8.41	8.18	7.88	7.68	7.53	8.34		9.53	8.50	7.91
H1 lead leg	R	strides	21	13	13	13	13	15	15	15	15	15	15	148				
Adkins, Derrick (USA) (1970)	time	5.77	9.45	13.17	16.88	20.76	21.43	24.82	29.07	33.47	37.98	42.65		48.18	5 / 2			
reaction time	interval		3.68	3.72	3.71	3.88		4.06	4.25	4.40	4.51	4.67	5.53			11.11	12.19	13.58
	velocity	7.80	9.51	9.41	9.43	9.02	9.33	8.62	8.24	7.95	7.76	7.49	7.23	8.30		9.45	8.61	7.73
H1 lead leg	L	strides	20	13	13	13	13	13	14	14	14	14	14	141				
Davis, Calvin (USA) (1972)	time	6.03	9.88	13.71	17.65	21.60	22.28	25.67	29.98	34.23	38.68	43.21		48.32	3 / 3			
reaction time	interval		3.85	3.83	3.94	3.95		4.07	4.31	4.25	4.45	4.53	5.11	PB		11.62	12.33	13.23
	velocity	7.46	9.09	9.14	8.88	8.86	8.98	8.60	8.12	8.24	7.87	7.73	7.83	8.28		9.04	8.52	7.94
H1 lead leg	R	strides	23	13	14	14	14	14	14	15	15	15	15	151				
Thomas, Eric (USA) (1973)	time	5.98	9.83	13.67	17.53	21.47	22.18	25.41	29.59	33.90	38.39	43.09		48.54	4 / 4			
reaction time	interval		3.85	3.84	3.86	3.94		3.94	4.18	4.31	4.49	4.70	5.45	=PB		11.55	12.06	13.50
	velocity	7.53	9.09	9.11	9.07	8.88	9.02	8.88	8.37	8.12	7.80	7.45	7.34	8.24		9.09	8.71	7.78
H1 lead leg	R	strides	20	13	13	14	13	13	14	14	15	15	15	144				
Zellner, Torrance (USA) (197)	time	5.81	9.63	13.49	17.35	21.37	22.99	25.60	29.95	34.27	38.67	43.25		48.65	7 / 5			
reaction time	interval		3.82	3.86	3.86	4.02		4.23	4.35	4.32	4.40	4.58	5.40			11.54	12.60	13.30
	velocity	7.75	9.16	9.07	9.07	8.71	8.70	8.27	8.05	8.10	7.95	7.64	7.41	8.22		9.10	8.33	7.89
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	13	14	13	138				
Flenoy, Stefan (USA) (1968)	time	5.86	9.61	13.38	17.21	21.08	21.75	25.17	29.43	33.96	38.51	43.18		48.74	6 / 6			
reaction time	interval		3.75	3.77	3.83	3.87		4.09	4.26	4.53	4.55	4.67	5.56			11.35	12.22	13.75
	velocity	7.68	9.33	9.28	9.14	9.04	9.20	8.56	8.22	7.73	7.69	7.49	7.19	8.21		9.25	8.59	7.64
H1 lead leg	L	strides	21	13	13	13	13	13	13	14	14	14	14	141				
Woody, Joey (USA) (1973)	time	6.08	9.82	13.68	17.60	21.58	22.29	25.72	29.99	34.36	38.76	43.52		48.96	2 / 7			
reaction time	interval		3.74	3.86	3.92	3.98		4.14	4.27	4.37	4.40	4.76	5.44			11.52	12.39	13.53
	velocity	7.40	9.36	9.07	8.93	8.79	8.97	8.45	8.20	8.01	7.95	7.35	7.35	8.17		9.11	8.47	7.76
H1 lead leg	R	strides	21	13	13	13	13	13	14	14	14	15	143					
Porter, Will (USA) (1973)	time	6.01	9.93	13.91	17.91	22.01	23.80	26.23	30.59	34.93	39.39	43.94		49.49	1 / 8			
reaction time	interval		3.92	3.98	4.00	4.10		4.22	4.36	4.34	4.46	4.55	5.55			11.90	12.68	13.35
	velocity	7.49	8.93	8.79	8.75	8.54	8.40	8.29	8.03	8.06	7.85	7.69	7.21	8.08		8.82	8.28	7.87
H1 lead leg	L	strides	20	13	13	13	13	13	13	13	13	14	138					

Semi-Final 1 date 15-Jun-96

Lyle - miscellaneous coaching notes

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Adkins, Derrick (USA) (1970)	5.51	9.32	13.24	17.09	21.11		25.18	29.42	33.96	38.44	42.81		48.33	/ 1			
reaction time	interval	3.81	3.92	3.85	4.02		4.07	4.24	4.54	4.48	4.37	5.52			11.58	12.33	13.39
	velocity	8.17	9.19	8.93	9.09	8.71	8.60	8.25	7.71	7.81	8.01	7.25	8.28		9.07	8.52	7.84
H1 lead leg	strides																

Heat 2 date 14-Jun-96

Lyle - miscellaneous coaching notes

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Young, Kevin (USA) (1966)	5.72	9.92	13.46	17.34	21.27		25.47	29.73	34.09	38.57	43.27		49.15	/ 3			
reaction time	interval	4.20	3.54	3.88	3.93		4.20	4.26	4.36	4.48	4.70	5.88			11.62	12.39	13.54
	velocity	7.87	8.33	9.89	9.02	8.91	8.33	8.22	8.03	7.81	7.45	6.80	8.14		9.04	8.47	7.75
H1 lead leg	strides																

1995 IAAF World Championships (Göteborg, SWE)**FINAL**

date 10-Aug-95

Behm (1999) - Les chiffres: Les podiums de tous le championnats

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Adkins, Derrick (USA) (1970)					20.8								47.98	4 / 1			
reaction time	interval																
	velocity				8.89								8.34				
H1 lead leg	L	strides	20	13	13	13	13	14	14	14	14	18.7	159.7				
Matete, Samuel (ZAM) (1968)					21.0								48.03	3 / 2			
reaction time	interval																
	velocity				8.81								8.33				
H1 lead leg	L	strides	20	13	13	13	13	13	13	15	15	18.5	159.5				
Diagana, Stéphane (FRA) (1971)					21.1								48.14	6 / 3			
reaction time	interval																
	velocity				8.77								8.31				
H1 lead leg	L	strides	20	13	13	13	13	14	14	15	15	19.2	162.2				
Mashchenko, Ruslan (RUS) (1971)													48.83	7 / 4			
Nylander, Sven (SWE) (1962)													48.84	5 / 5			
Harnden, Ken (ZIM) (1973)													48.89	2 / 6			
Yamazaki, Kazuhiko (JPN) (1971)													49.22	8 / 7			
de Araújo, Eronilde (BRA) (1970)													49.86	1 / 8			

1995 Athletissima (Luusanne, SUI)

FINAL

date 05-Jul-95

Behm (1999) - Les deux recordmen de France: Stéphane Diagana (Vazel)

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Diagana, Stéphane (FRA) (1st time)	5.86	9.54	13.30	17.10	20.97	24.94	29.09	33.25	37.67	42.16			47.37	/ 1			
reaction time		3.68	3.76	3.80	3.87		3.97	4.15	4.16	4.42	4.49	5.21	AR / PB		11.24	11.99	13.07
velocity	7.68	9.51	9.31	9.21	9.04		8.82	8.43	8.41	7.92	7.80	7.68	8.44		9.34	8.76	8.03
H1 lead leg		13	13	13	13		13	14	14	15	15		123				

1994 European Championships (Helsinki, FIN)

FINAL

date 10-Aug-94

Behm (1995) - la tactique du 400 haies

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tverdokhlebo, Oleg (UKR) (1st time)	5.9	9.6	13.4	17.3	21.2	25.3	29.3	33.6	38.0	42.6			48.06	/ 1			
reaction time		3.7	3.8	3.9	3.9		4.1	4.0	4.3	4.4	4.6	5.46	NR		11.40	12.00	13.30
velocity	7.63	9.46	9.21	8.97	8.97		8.54	8.75	8.14	7.95	7.61	7.33	8.32		9.21	8.75	7.89
H1 lead leg		20	13	13	13		13	13	15	15	15		143				
Nylander, Sven (SWE) (1962)	5.9	9.5	13.3	17.2	21.1	25.3	29.3	33.6	38.2	42.8			48.22	/ 2			
reaction time		3.6	3.8	3.9	3.9		4.2	4.0	4.3	4.6	4.6	5.42	PB		11.30	12.10	13.50
velocity	7.63	9.72	9.21	8.97	8.97		8.33	8.75	8.14	7.61	7.61	7.38	8.30		9.29	8.68	7.78
H1 lead leg		20	13	13	13		14	14	14	14	14		142				
Diagana, Stéphane (FRA) (1st time)	5.9	9.5	13.2	16.9	20.8	24.7	29.0	33.3	37.9	42.6			48.23	/ 3			
reaction time		3.6	3.7	3.7	3.9		3.9	4.3	4.3	4.6	4.7	5.63			11.00	12.10	13.60
velocity	7.63	9.72	9.46	9.46	8.97		8.97	8.14	8.14	7.61	7.45	7.10	8.29		9.55	8.68	7.72
H1 lead leg		20	13	13	13		13	14	14	15	15		143				
Rodrigues, Pedro (POR) (1971)													NR	48.77	/ 4		
Itt, Edgar (GER) (1967)														49.11	/ 5		
Crampton, Peter (GBR) (1969)														49.45	/ 6		
Zadoynov, Vadim (MDA) (1969)														49.50	/ 7		
Cadogan, Gary (GBR) (1966)														49.53	/ 8		

1993 Pesaro, ITA

FINAL

date 10-Oct-93

Partipilo (1994) - la distribuzione dello sforzo nei 400m ad ostacoli

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Franca, Matteo (ITA)	6.80	11.19	15.49	20.08	24.85	26.9	29.77	34.58	39.63	44.83	50.17		56.10	???			
reaction time		4.39	4.30	4.59	4.77		4.92	4.81	5.05	5.20	5.34	5.93	PB		13.28	14.50	15.59
velocity	6.62	7.97	8.14	7.63	7.34	7.43	7.11	7.28	6.93	6.73	6.55	6.75	7.13		7.91	7.24	6.74
H1 lead leg		23	15	15	15	17	17	17	17	17	17		170				

1993 Bergamo, ITA

FINAL

date 03-Oct-93

Partipilo (1994) - la distribuzione dello sforzo nei 400m ad ostacoli

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Gianessi, Paolo (ITA)	6.49	10.73	14.96	19.38	23.81	25.8	28.51	33.37	38.35	43.81	49.17		55.47	???			
reaction time		4.24	4.23	4.42	4.43		4.70	4.86	4.98	5.46	5.36	6.30			12.89	13.99	15.80
velocity	6.93	8.25	8.27	7.92	7.90	7.75	7.45	7.20	7.03	6.41	6.53	6.35	7.21		8.15	7.51	6.65
H1 lead leg		22	15	15	15	15	15	15	15	16	16		159				

1993 Bologna, ITA

FINAL

date 09-Sep-93

Partipilo (1994) - la distribuzione dello sforzo nei 400m ad ostacoli

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Franca, Matteo (ITA)	6.87	11.55	16.16	20.91	25.96	28.1	31.07	36.30	41.43	46.53	51.83		57.40	???			
reaction time		4.68	4.61	4.75	5.05		5.11	5.23	5.13	5.10	5.30	5.57			14.04	15.39	15.53
velocity	6.55	7.48	7.59	7.37	6.93	7.12	6.85	6.69	6.82	6.86	6.60	7.18	6.97		7.48	6.82	6.76
H1 lead leg		23	15	15	15	15	16	16	17	17	17		166				

1993 Urbino, ITA

FINAL

date 08-Sep-93

Partipilo (1994) - la distribuzione dello sforzo nei 400m ad ostacoli

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Gianessi, Paolo (ITA)	6.7	11.1	15.6	21.2	24.8	26.9	29.4	34.3	39.2	44.2	49.4		55.2	???			
reaction time		4.4	4.5	5.6	3.6		4.6	4.9	4.9	5.0	5.2	5.8			14.50	13.10	15.10
velocity	6.72	7.95	7.78	6.25	9.72	7.43	7.61	7.14	7.14	7.00	6.73	6.90	7.25		7.24	8.02	6.95
H1 lead leg		22	15	15	15	15	15	15	15	15	15		157				

1993 IAAF World Championships (Stuttgart, GER)

FINAL

date 19-Aug-93

Graubner (2008) - <http://www.fgs.uni-halle.de>

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Young, Kevin (USA) (1966)	6.05	9.68	13.43	17.12	20.92	24.86	28.89	33.00	37.34	41.46			47.18	6 / 1			
reaction time	0.267	3.63	3.75	3.69	3.80		3.94	4.03	4.11	4.34	4.12	5.72			11.07	11.77	12.57
velocity	7.44	9.64	9.33	9.49	9.21		8.88	8.68	8.52	8.06	8.50	6.99	8.48		9.49	8.92	8.35
H1 lead leg	L	20	13	13	12	12	13	13	13	13	13	17	152				
Matete, Samuel (ZAM) (1968)	5.96	9.67	13.42	17.26	21.20	25.16	29.30	33.64	38.13	42.63			47.60	3 / 2			
reaction time	0.265	3.71	3.75	3.84	3.94		3.96	4.14	4.34	4.49	4.50	4.97			11.30	12.04	13.33
velocity	7.55	9.43	9.33	9.11	8.88		8.84	8.45	8.06	7.80	7.78	8.05	8.40		9.29	8.72	7.88
H1 lead leg	L	21	13	13	13	13	13	13			15	18	119				

Graham, Winthrop (JAM) (1st time	5.92	9.63	13.43	17.26	21.18		25.07	29.10	33.44	37.77	42.33		47.62	5 / 3			
reaction time	0.213	interval	3.71	3.80	3.83	3.92	3.89	4.03	4.34	4.33	4.56	5.29			11.34	11.84	13.23
velocity	7.60	9.43	9.21	9.14	8.93		9.00	8.68	8.06	8.08	7.68	7.56	8.40		9.26	8.87	7.94
H1 lead leg	L	strides	20	13	13	13	13	13	14	14	15	18	146				
Diagana, Stéphane (FRA) (1st time	5.87	9.42	13.10	16.89	20.74		24.74	28.91	33.18	37.66	42.26		47.64	7 / 4			
reaction time	0.206	interval	3.55	3.68	3.79	3.85	4.00	4.17	4.27	4.48	4.60	5.38	PB		11.02	12.02	13.35
velocity	7.67	9.86	9.51	9.23	9.09		8.75	8.39	8.20	7.81	7.61	7.43	8.40		9.53	8.74	7.87
H1 lead leg	L	strides	20	13	13	13	13	14	14	15	15	19	149				
Keter, Erick (KEN) (1966)													48.40	4 / 5			
Tverdokhle, Oleg (UKR) (1969)													48.71	2 / 6			
Adkins, Derrick (USA) (1970)													49.07	8 / 7			
Kinyor, Barnabas (KEN) (1961)													49.23	1 / 8			

Semi-Final 3

date 17-Aug-93

Letzelter (1995) - schrittgestaltung im 400m-hürdenlauf der jugend

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Young, Kevin (USA) (1966) time	5.92	9.64	13.42	17.18	20.98		25.04	29.16	33.48	37.86	42.40		47.99	3 / 1			
reaction time	interval	3.72	3.78	3.76	3.80		4.06	4.12	4.32	4.38	4.54	5.59			11.26	11.98	13.24
velocity	7.60	9.41	9.26	9.31	9.21		8.62	8.50	8.10	7.99	7.71	7.16	8.34		9.33	8.76	7.93
H1 lead leg	L	strides	20	13	13	12	12	13	13	13	13	16	151				

Semi-Final 2

date 17-Aug-93

Letzelter (1995) - schrittgestaltung im 400m-hürdenlauf der jugend

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Matete, Samuel (ZAM) (1968) time	5.74	9.44	13.18	16.96	20.82		24.78	28.96	33.46	38.12	42.74		48.18	3 / 1			
reaction time	interval	3.70	3.74	3.78	3.86		3.96	4.18	4.50	4.66	4.62	5.44			11.22	12.00	13.78
velocity	7.84	9.46	9.36	9.26	9.07		8.84	8.37	7.78	7.51	7.58	7.35	8.30		9.36	8.75	7.62
H1 lead leg	L	strides	21	13	13	13	13	13	15	15	15	17.5	161.5				

1993 Bologna, ITA**FINAL**

date 01-Jul-93

Partipilo (1994) - la distribuzione dello sforzo nei 400m ad ostacoli

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Franca, Matteo (ITA) time	6.79	11.17	15.71	20.31	25.36	27.5	30.34	35.41	40.57	46.09	51.40		57.40	???			
reaction time	interval	4.38	4.54	4.60	5.05		4.98	5.07	5.16	5.52	5.31	6.00			13.52	15.10	15.99
velocity	6.63	7.99	7.71	7.61	6.93	7.27	7.03	6.90	6.78	6.34	6.59	6.67	6.97		7.77	6.95	6.57
H1 lead leg		strides	23	15	15	15	15	17	17	17	17	17	168				

Belloc (1992) - Diagana: 45.18 / 48.13 : 3" d'ecart; incompressibles?

Knight (1992) - 1992 Olympic report: the hurdling events

1992 Olympic Games (Barcelona, ESP)**FINAL**

date 06-Aug-92

Letzelter (1995) - schrittgestaltung im 400m-hürdenlauf der jugend

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Young, Kevin (USA) (1966) time	5.92	9.58	13.24	16.94	20.72		24.68	28.74	32.88	37.18	41.58		46.78	4 / 1			
reaction time	interval	3.66	3.66	3.70	3.78		3.96	4.06	4.14	4.30	4.40	5.20	WR		11.02	11.80	12.84
velocity	7.60	9.56	9.56	9.46	9.26		8.84	8.62	8.45	8.14	7.95	7.69	8.55		9.53	8.90	8.18
H1 lead leg	L	strides	20	13	13	12	12	13	13	13	13	16.7	151.7				
Graham, Winthrop (JAM) (1st time	5.9	9.5	13.3	17.1	20.9		24.9	29.1	33.3	37.8	42.4		47.66	3 / 2			
reaction time	interval	3.60	3.80	3.80	3.80		4.00	4.20	4.20	4.50	4.60	5.26			11.20	12.00	13.30
velocity	7.63	9.72	9.21	9.21	9.21		8.75	8.33	8.33	7.78	7.61	7.60	8.39		9.38	8.75	7.89
H1 lead leg	L	strides	20	13	13	13	13	13	14	14	15	17.7	158.7				
Akubusi, Kriss (GBR) (1958) time	6.0	9.7	13.6	17.4	21.3	23.1	25.4	29.5	33.8	38.2	42.7		47.82	5 / 3			
reaction time	interval	3.70	3.90	3.80	3.90		4.10	4.10	4.30	4.40	4.50	5.12	NR		11.40	12.10	13.20
velocity	7.50	9.46	8.97	9.21	8.97	8.66	8.54	8.54	8.14	7.95	7.78	7.81	8.36		9.21	8.68	7.95
H1 lead leg	R	strides	20	13	13	13	13	13	14	14	15	18	159				
Diagana, Stéphane (FRA) (1st time	5.90	9.60	13.35	17.15	21.00		25.20	29.40	33.65	38.05	42.70		48.13	6 / 4			
reaction time	interval	3.70	3.75	3.80	3.85		4.20	4.20	4.25	4.40	4.65	5.43	PB		11.25	12.25	13.30
velocity	7.63	9.46	9.33	9.21	9.09		8.33	8.33	8.24	7.95	7.53	7.37	8.31		9.33	8.57	7.89
H1 lead leg	L	strides	21	13	13	13	14	14	15	15	15	18.3	164.3				
Wallenlind, Niklas (SWE) (1968)													48.63	8 / 5			
Tverdokhlib, Oleh (EUN) (1969)													48.63	2 / 6			
Caristan, Stéphane (FRA) (1st time	5.90	9.75	13.60	17.50	21.45		25.75	30.00	34.40	38.95	43.50		48.86	1 / 7			
reaction time	interval	3.85	3.85	3.90	3.95		4.30	4.25	4.40	4.55	4.55	5.36	PB		11.60	12.50	13.50
velocity	7.63	9.09	9.09	8.97	8.86		8.14	8.24	7.95	7.69	7.69	7.46	8.19		9.05	8.40	7.78
H1 lead leg	L	strides	21	13	13	13	14	14	15	15	15	18.1	164.1				
Patrick, David (USA) (1960)													49.26	7 / 8			

1992 French National Championships (Narbonne, FRA)**FINAL**

date 28-Jun-92

Veney - split times from PJ

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Traversini, Stéphane (FRA) (time	6.48	10.48	14.64	18.84	23.06		27.44	31.82	36.26	40.80	45.50		50.96	1 / 2			
reaction time	interval	4.00	4.16	4.20	4.22		4.38	4.38	4.44	4.54	4.70	5.46			12.36	12.98	13.68
velocity	6.94	8.75	8.41	8.33	8.29		7.99	7.99	7.88	7.71	7.45	7.33	7.85		8.50	8.09	7.68

H1 lead leg	strides	21	14	14	14	14	15	15	15	15	15	17.8	169.8				
Aberkan, Saïd (MOR) (1963)	time	6.44	10.38	14.32	18.36	22.42	26.64	31.04	35.56	40.22	45.36		51.27	/ 3			
reaction time	interval		3.94	3.94	4.04	4.06	4.22	4.40	4.52	4.66	5.14	5.91			11.92	12.68	14.32
	velocity	6.99	8.88	8.88	8.66	8.62	8.29	7.95	7.74	7.51	6.81	6.77	7.80		8.81	8.28	7.33
H1 lead leg	strides	21	14	14	14	14	14	15	15	15	16	19.3	171.3				

1992 Corridonia, ITA

FINAL

date 31-May-92

Partipilo (1994) - la distribuzione dello sforzo nei 400m ad ostacoli

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Gianessi, Paolo (ITA)	time	6.84	11.47	16.18	20.93	25.67	27.7	30.50	35.51	40.51	45.63	50.80		56.70	???			
reaction time	interval		4.63	4.71	4.75	4.74		4.83	5.01	5.00	5.12	5.17	5.90			14.09	14.58	15.29
	velocity	6.58	7.56	7.43	7.37	7.38	7.22	7.25	6.99	7.00	6.84	6.77	6.78	7.05		7.45	7.20	6.87
H1 lead leg	strides	22	15	15	15	15		15	15	15	15	15		157				

1991 IAAF World Championships (Tokyo, JPN)

FINAL

date 27-Aug-91

Behm (1995) - la tactique du 400 haies

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Matete, Samuel (ZAM) (1968)	time	5.8	9.4	13.1	16.7	20.4		24.3	28.5	32.8	37.4	42.1		47.64	6 / 1			
reaction time	interval		3.6	3.7	3.6	3.7		3.9	4.2	4.3	4.6	4.7	5.54			10.90	11.80	13.60
	velocity	7.76	9.72	9.46	9.72	9.46		8.97	8.33	8.14	7.61	7.45	7.22	8.40		9.63	8.90	7.72
H1 lead leg	L strides	20	13	13	13	13		13	13	15	15	15		18.5		161.5		
Graham, Winthrop (JAM) (1968)	time	5.9	9.5	13.2	16.8	20.4		24.3	28.6	33.0	37.5	42.1		47.74	5 / 2			
reaction time	interval		3.6	3.7	3.6	3.6		3.9	4.3	4.4	4.5	4.6	5.64	NR		10.90	11.80	13.50
	velocity	7.63	9.72	9.46	9.72	9.72		8.97	8.14	7.95	7.78	7.61	7.09	8.38		9.63	8.90	7.78
H1 lead leg	L strides	20	13	13	13	13		13	13	14	14	15		18.5		159.5		
Akubusi, Kriss (GBR) (1958)	time	6.0	9.7	13.4	17.2	21.1		25.1	29.1	33.4	37.8	42.3		47.86	4 / 3			
reaction time	interval		3.7	3.7	3.8	3.9		4.0	4.0	4.3	4.4	4.5	5.56	NR		11.20	11.90	13.20
	velocity	7.50	9.46	9.46	9.21	8.97		8.75	8.75	8.14	7.95	7.78	7.19	8.36		9.38	8.82	7.95
H1 lead leg	R strides	21	13	13	13	13		13	13	14	14	14	19	160				
Young, Kevin (USA) (1966)														48.01	7 / 4			
Harris, Danny (USA) (1965)														48.46	3 / 5			
Adkins, Derrick (USA) (1970)														49.28	1 / 6			
Keter, Erick (KEN) (1966)														49.99	2 / 7			
Wallenlind, Niklas (SWE) (1968)														50.28	8 / 8			

1991 European Cup (Frankfurt, GER)

FINAL

date 29-Jun-91

Federle (2003) - <http://www.fgs.uni-halle.de>

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Akubusi, Kriss (GBR) (1958)	time	6.13	9.90	13.73	17.52	21.41		25.43	29.53	33.85	38.41	43.04		48.39	/ 1			
reaction time	interval		3.77	3.83	3.79	3.89		4.02	4.10	4.32	4.56	4.63	5.35			11.39	12.01	13.51
	velocity	7.34	9.28	9.14	9.23	9.00		8.71	8.54	8.10	7.68	7.56	7.48	8.27		9.22	8.74	7.77
H1 lead leg	strides																	
Caristan, Stéphane (FRA) (1965)	time	6.06	9.84	13.70	17.58	21.52		25.62	30.07	34.54	39.17	43.95		49.43	/ 2			
reaction time	interval		3.78	3.86	3.88	3.94		4.10	4.45	4.47	4.63	4.78	5.48			11.52	12.49	13.88
	velocity	7.43	9.26	9.07	9.02	8.88		8.54	7.87	7.83	7.56	7.32	7.30	8.09		9.11	8.41	7.56
H1 lead leg	strides																	
Mori, Fabrizio (ITA) (1969)	time	6.43	10.33	14.28	18.27	22.35		26.60	31.01	35.38	40.01	44.65		49.76	/ 3			
reaction time	interval		3.90	3.95	3.99	4.08		4.25	4.41	4.37	4.63	4.64	5.11			11.84	12.74	13.64
	velocity	7.00	8.97	8.86	8.77	8.58		8.24	7.94	8.01	7.56	7.54	7.83	8.04		8.87	8.24	7.70
H1 lead leg	strides																	
Budko, Vladimir (RUS) (1965)	time	6.31	10.15	14.07	18.03	22.05		26.17	30.49	34.89	39.51	44.35		49.96	/ 4			
reaction time	interval		3.84	3.92	3.96	4.02		4.12	4.32	4.40	4.62	4.84	5.61			11.72	12.46	13.86
	velocity	7.13	9.11	8.93	8.84	8.71		8.50	8.10	7.95	7.58	7.23	7.13	8.01		8.96	8.43	7.58
H1 lead leg	strides																	
Kucej, Jožef (TCH) (1965)	time	6.09	9.93	13.82	17.82	21.96		26.24	30.55	35.04	39.75	44.63		50.27	/ 5			
reaction time	interval		3.84	3.89	4.00	4.14		4.28	4.31	4.49	4.71	4.88	5.64			11.73	12.73	14.08
	velocity	7.39	9.11	9.00	8.75	8.45		8.18	8.12	7.80	7.43	7.17	7.09	7.96		8.95	8.25	7.46
H1 lead leg	strides																	
Schiller, Udo (GER) (1967)	time	6.27	10.19	14.15	18.11	22.23		26.53	31.04	35.62	40.26	45.02		50.67	/ 6			
reaction time	interval		3.92	3.96	3.96	4.12		4.30	4.51	4.58	4.64	4.76	5.65			11.84	12.93	13.98
	velocity	7.18	8.93	8.84	8.84	8.50		8.14	7.76	7.64	7.54	7.35	7.08	7.89		8.87	8.12	7.51
H1 lead leg	strides																	

1990 European Championships (Split, YUG)

FINAL

date 29-Aug-90

Behm (1995) - la tactique du 400 haies

Arnold (1992) - Hurdling

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Akubusi, Kriss (GBR) (1958)	time	6.0	9.7	13.6	17.4	21.3	23.1	25.4	29.5	33.8	38.2	42.7		47.92	5 / 1			Arnold (1992)
reaction time	interval		3.70	3.90	3.80	3.90		4.10	4.10	4.30	4.40	4.50	5.22	NR		11.40	12.10	13.20

	velocity	7.50	9.46	8.97	9.21	8.97	8.66	8.54	8.54	8.14	7.95	7.78	7.66	8.35	9.21	8.68	7.95
H1 lead leg	R	strides	20	13	13	13	13	13	13	14	14	15	16	157			
Nylander, Sven (SWE) (1962)	time	6.1	9.8	13.6	17.5	21.5		25.6	29.9	34.4	38.8	43.3		48.43	6 / 2		<i>Behm (1995)</i>
reaction time	interval		3.7	3.8	3.9	4.0		4.1	4.3	4.5	4.4	4.5	5.13		11.40	12.40	13.40
	velocity	7.38	9.46	9.21	8.97	8.75		8.54	8.14	7.78	7.95	7.78	7.80	8.26	9.21	8.47	7.84
H1 lead leg	L	strides	20	13	13	13		13	13	13	13	14	17.2	155.2			
Wallenlind, Niklas (SWE) (1919)	time	6.1	9.9	13.8	17.7	21.7		25.8	30.2	34.6	39.0	43.4		48.52	4 / 3		<i>Behm (1995)</i>
reaction time	interval		3.8	3.9	3.9	4.0		4.1	4.4	4.4	4.4	4.4	5.12		11.60	12.50	13.20
	velocity	7.38	9.21	8.97	8.97	8.75		8.54	7.95	7.95	7.95	7.95	7.81	8.24	9.05	8.40	7.95
H1 lead leg	L	strides	21	13	13	13		13	14	14	14	15	18	161			
Zadoinov, Vadim (URS) (1969)			no information available											48.61	1 / 4		
Diagana, Stéphane (FRA) (1969)			no information available											48.92	2 / 5		
Kohrbruck, Carsten (FRG) (1967)			no information available											48.95	3 / 6		

1988 Olympic Games (Seoul, KOR)

Gill (1990) - atletismo (I) carreras y marcha

FINAL

date 25-Sep-88

Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Phillips, Andre (USA) (1959)	time	5.80	9.36	13.13	16.97	20.93		24.98	29.14	33.18	37.45	41.99		47.19	6 / 1			<i>Brüggemann (1990)</i>
reaction time	0.150 interval		3.56	3.77	3.84	3.96		4.05	4.16	4.04	4.27	4.54	5.20			11.17	12.17	12.85
	velocity	7.76	9.83	9.28	9.11	8.84		8.64	8.41	8.66	8.20	7.71	7.69	8.48		9.40	8.63	8.17
H1 lead leg	L	strides	19	13	13	13		13	13	13	13	13	17.9	153.9				
Dia Ba, Amadou (SEN) (1958)	time	5.96	9.60	13.33	17.13	21.01		25.06	29.26	33.44	37.83	42.27		47.23	5 / 2			<i>Brüggemann (1990)</i>
reaction time	0.220 interval		3.64	3.73	3.80	3.88		4.05	4.20	4.18	4.39	4.44	4.96			11.17	12.13	13.01
	velocity	7.55	9.62	9.38	9.21	9.02		8.64	8.33	8.37	7.97	7.88	8.06	8.47		9.40	8.66	8.07
H1 lead leg	L	strides	20	13	13	13		13	14	14	14	14	18	159				
Moses, Edwin (USA) (1955)	time	5.89	9.56	13.32	17.16	21.00		25.01	29.08	33.26	37.60	42.19		47.56	3 / 3			<i>Gill (1990)</i>
reaction time	0.209 interval		3.67	3.76	3.84	3.84		4.01	4.07	4.18	4.34	4.59	5.37			11.27	11.92	13.11
	velocity	7.64	9.54	9.31	9.11	9.11		8.73	8.60	8.37	8.06	7.63	7.45	8.41		9.32	8.81	8.01
H1 lead leg	L	strides	19	13	13	13		13	13	13	13	13	16.5	152.5				
Young, Kevin (USA) (1966)	time	6.07	9.72	13.40	17.20	21.09		25.13	29.25	33.46	37.94	42.61		47.94	2 / 4			<i>Brüggemann (1990)</i>
reaction time	0.214 interval		3.65	3.68	3.80	3.89		4.04	4.12	4.21	4.48	4.67	5.33			11.13	12.05	13.36
	velocity	7.41	9.59	9.51	9.21	9.00		8.66	8.50	8.31	7.81	7.49	7.50	8.34		9.43	8.71	7.86
H1 lead leg	L	strides	20	12	12	12		13	13	13	13	14	17	151				
Graham, Winthrop (JAM) (1911)	time	6.15	9.96	13.79	17.68	21.57		25.61	29.69	34.02	38.40	42.95		48.04	4 / 5			<i>Brüggemann (1990)</i>
reaction time	0.191 interval		3.81	3.83	3.89	3.89		4.04	4.08	4.33	4.38	4.55	5.09			11.53	12.01	13.26
	velocity	7.32	9.19	9.14	9.00	9.00		8.66	8.58	8.08	7.99	7.69	7.86	8.33		9.11	8.74	7.92
H1 lead leg	L	strides	21	14	13	14		14	14	14	14	14	17.3	162.3				
Akabusi, Kriss (GBR) (1958)	time	6.08	9.80	13.57	17.41	21.41		25.62	29.82	34.22	38.75	43.47		48.69	7 / 6			<i>Brüggemann (1990)</i>
reaction time	0.223 interval		3.72	3.77	3.84	4.00		4.21	4.20	4.40	4.53	4.72	5.22			11.33	12.41	13.65
	velocity	7.40	9.41	9.28	9.11	8.75		8.31	8.33	7.95	7.73	7.42	7.66	8.22		9.27	8.46	7.69
H1 lead leg	R	strides	20	13	13	13		14	14	14	14	15	18	161				
Schmid, Harald (FRG) (1957)	time	6.03	9.68	13.58	17.58	21.69		25.93	30.25	34.74	39.26	43.83		48.76	1 / 7			<i>Brüggemann (1990)</i>
reaction time	0.205 interval		3.65	3.90	4.00	4.11		4.24	4.32	4.49	4.52	4.57	4.93			11.55	12.67	13.58
	velocity	7.46	9.59	8.97	8.75	8.52		8.25	8.10	7.80	7.74	7.66	8.11	8.20		9.09	8.29	7.73
H1 lead leg	L	strides	21	13	13	13		13	13	14	14	14	17	158				
Itt, Edgar (FRG) (1967)	time	6.04	9.90	13.77	17.69	21.77		25.98	30.26	34.63	39.07	43.59		48.78	8 / 8			<i>Brüggemann (1990)</i>
reaction time	0.187 interval		3.86	3.87	3.92	4.08		4.21	4.28	4.37	4.44	4.52	5.19			11.65	12.57	13.33
	velocity	7.45	9.07	9.04	8.93	8.58		8.31	8.18	8.01	7.88	7.74	7.71	8.20		9.01	8.35	7.88
H1 lead leg	L	strides	21	13	13	13		14	14	14	14	14	16.8	159.8				

Semi-Final 2

date 24-Sep-88

Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Phillips, Andre (USA) (1959)	time	5.92	9.61	13.44	17.37	21.34		25.42	29.63	33.86	38.22	42.91		48.19	5 / 1			
reaction time	interval		3.69	3.83	3.93	3.97		4.08	4.21	4.23	4.36	4.69	5.28			11.45	12.26	13.28
	velocity	7.60	9.49	9.14	8.91	8.82		8.58	8.31	8.27	8.03	7.46	7.58	8.30		9.17	8.56	7.91
H1 lead leg		strides	19	13	13	13		13	13	13	13	14	18	155				
Graham, Winthrop (JAM) (1911)	time	6.00	9.85	13.77	17.72	21.70		25.78	29.95	34.27	38.74	43.32		48.37	6 / 2			
reaction time	interval		3.85	3.92	3.95	3.98		4.08	4.17	4.32	4.47	4.58	5.05			11.72	12.23	13.37
	velocity	7.50	9.09	8.93	8.86	8.79		8.58	8.39	8.10	7.83	7.64	7.92	8.27		8.96	8.59	7.85
H1 lead leg		strides	21	14	14	13		14	14	14	14	15	17.5	163.5				
Dia Ba, Amadou (SEN) (1958)	time	6.16	10.00	13.91	17.73	21.78		25.89	30.18	34.49	38.99	43.48		48.48	4 / 3			
reaction time	interval		3.84	3.91	3.82	4.05		4.11	4.29	4.31	4.50	4.49	5.00			11.57	12.45	13.30
	velocity	7.31	9.11	8.95	9.16	8.64		8.52	8.16	8.12	7.78	7.80	8.00	8.25		9.08	8.43	7.89
H1 lead leg		strides	20	13	13	13		13	14	14	14	14	17	158				
Itt, Edgar (FRG) (1967)	time	6.08	9.79	13.65	17.56	21.58		25.78	30.14	34.60	39.15	43.69		48.86	2 / 4			

reaction time	interval		3.71	3.86	3.91	4.02		4.20	4.36	4.46	4.55	4.54	5.17		11.48	12.58	13.55
	velocity	7.40	9.43	9.07	8.95	8.71		8.33	8.03	7.85	7.69	7.71	7.74	8.19	9.15	8.35	7.75
H1 lead leg	strides	21	13	13	13	13		14	14	14	14	14	17.3	160.3			
Tomov, Toma (BUL) (1958)	time	5.96	9.77	13.65	17.64	21.70		25.90	30.14	34.61	39.23	43.84		48.90	3 / 5		
reaction time	interval		3.81	3.88	3.99	4.06		4.20	4.24	4.47	4.62	4.61	5.06		11.68	12.50	13.70
	velocity	7.55	9.19	9.02	8.77	8.62		8.33	8.25	7.83	7.58	7.59	7.91	8.18	8.99	8.40	7.66
H1 lead leg	strides	21	14	14	14	14		14	14	15	15	15	17.8	167.8			
Kitur, Simon (KEN) (1959)	time	6.12	9.92	13.81	17.81	21.90		26.10	30.45	34.91	39.63	44.45		49.74	1 / 6		
reaction time	interval		3.80	3.89	4.00	4.09		4.20	4.35	4.46	4.72	4.82	5.29		11.69	12.64	14.00
	velocity	7.35	9.21	9.00	8.75	8.56		8.33	8.05	7.85	7.42	7.26	7.56	8.04	8.98	8.31	7.50
H1 lead leg	strides	22	15	15	15	15		15	15	15	16	16	18.1	177.1			
Cuypers, Alain (BEL) (1967)	time	6.20	10.13	14.07	18.06	22.14		26.45	30.79	35.22	39.76	44.40		49.75	7 / 7		
reaction time	interval		3.93	3.94	3.99	4.08		4.31	4.34	4.43	4.54	4.64	5.35	PB	11.86	12.73	13.61
	velocity	7.26	8.91	8.88	8.77	8.58		8.12	8.06	7.90	7.71	7.54	7.48	8.04	8.85	8.25	7.71
H1 lead leg	strides	21	14	14	14	14		14	14	15	15	15	18.5	168.5			
Yego, Gideon (KEN) (1960)	time	6.20	10.14	14.07	18.06	22.17		26.30	30.55	34.93	39.60				8 /		
reaction time	interval		3.94	3.93	3.99	4.11		4.13	4.25	4.38	4.67		DQ		11.86	12.49	
	velocity	7.26	8.88	8.91	8.77	8.52		8.47	8.24	7.99	7.49				8.85	8.41	
H1 lead leg	strides	22	15	15	15	15		15	15	15	15			142			

Semi-Final 1

date 24-Sep-88

Brüggemann (1990) - scientific research project at the games of the XXXIV Olympiad, Seoul 1988

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Moses, Edwin (USA) (1955)	time	5.95	9.72	13.68	17.64	21.60		25.65	29.78	33.94	38.35	42.79		47.89	3 / 1			
reaction time	interval		3.77	3.96	3.96	3.96		4.05	4.13	4.16	4.41	4.44	5.10		11.69	12.14	13.01	
	velocity	7.56	9.28	8.84	8.84	8.84		8.64	8.47	8.41	7.94	7.88	7.84	8.35	8.98	8.65	8.07	
H1 lead leg	strides	19	13	13	13	13		13	13	13	13	13	16.5	152.5				
Young, Kevin (USA) (1966)	time	6.29	10.21	14.14	18.02	21.86		25.79	29.82	33.95	38.36	43.00		48.56	5 / 2			
reaction time	interval		3.92	3.93	3.88	3.84		3.93	4.03	4.13	4.41	4.64	5.56		11.73	11.80	13.18	
	velocity	7.15	8.93	8.91	9.02	9.11		8.91	8.68	8.47	7.94	7.54	7.19	8.24	8.95	8.90	7.97	
H1 lead leg	strides	20	13	13	13	13		13	13	13	13	14	17	155				
Schmid, Harald (FRG) (1957)	time	6.05	9.64	13.56	17.57	21.73		25.93	30.20	34.62	39.18	43.79		48.93	1 / 3			
reaction time	interval		3.59	3.92	4.01	4.16		4.20	4.27	4.42	4.56	4.61	5.14		11.52	12.63	13.59	
	velocity	7.44	9.75	8.93	8.73	8.41		8.33	8.20	7.92	7.68	7.59	7.78	8.17	9.11	8.31	7.73	
H1 lead leg	strides	21	13	13	13	13		13	13	13	14	14	17	157				
Akubusi, Kriss (GBR) (1958)	time	6.14	9.93	13.81	17.74	21.78		25.87	30.11	34.49	39.20	43.92		49.22	6 / 4			
reaction time	interval		3.79	3.88	3.93	4.04		4.09	4.24	4.38	4.71	4.72	5.30		11.60	12.37	13.81	
	velocity	7.33	9.23	9.02	8.91	8.66		8.56	8.25	7.99	7.43	7.42	7.55	8.13	9.05	8.49	7.60	
H1 lead leg	strides	20	13	13	13	13		14	14	14	15	15	18	162				
Maritim, Joseph (KEN) (1968)	time	6.48	10.40	14.44	18.37	22.44		26.62	30.86	35.26	39.79	44.35		49.50	4 / 5			
reaction time	interval		3.92	4.04	3.93	4.07		4.18	4.24	4.40	4.53	4.56	5.15		11.89	12.49	13.49	
	velocity	6.94	8.93	8.66	8.91	8.60		8.37	8.25	7.95	7.73	7.68	7.77	8.08	8.83	8.41	7.78	
H1 lead leg	strides	22	15	15	13	13		15	13	15	15	15	18	169				
Alonso, José (ESP) (1957)	time	6.05	9.89	13.77	17.70	21.74		25.95	30.26	34.71	39.40	44.20		49.57	8 / 6			
reaction time	interval		3.84	3.88	3.93	4.04		4.21	4.31	4.45	4.69	4.80	5.37		11.65	12.56	13.94	
	velocity	7.44	9.11	9.02	8.91	8.66		8.31	8.12	7.87	7.46	7.29	7.45	8.07	9.01	8.36	7.53	
H1 lead leg	strides	21	14	14	14	14		14	14	15	15	15	18	168				
Ehrle, Klaus (AUT) (1966)	time	6.16	10.00	13.92	17.93	22.01		26.25	30.74	35.46	40.44	45.52		51.04	2 / 7			
reaction time	interval		3.84	3.92	4.01	4.08		4.24	4.49	4.72	4.98	5.08	5.52		11.77	12.81	14.78	
	velocity	7.31	9.11	8.93	8.73	8.58		8.25	7.80	7.42	7.03	6.89	7.25	7.84	8.92	8.20	7.10	
H1 lead leg	strides	21	13	13	13	13		14	14	15	15	15	18	164				
Graham, John (CAN) (1965)	time	6.05	10.05	14.09	18.14	22.38		26.75	31.16	35.79	40.68	45.68		51.33	7 / 8			
reaction time	interval		4.00	4.04	4.05	4.24		4.37	4.41	4.63	4.89	5.00	5.65		12.09	13.02	14.52	
	velocity	7.44	8.75	8.66	8.64	8.25		8.01	7.94	7.56	7.16	7.00	7.08	7.79	8.68	8.06	7.23	
H1 lead leg	strides	21	14	14	14	14		14	15	15	15	16	18.5	170.5				

1987 IAAF World Championships (Rome, ITA)

FINAL

date 01-Sep-87

Sušanka (1990) - time analysis of the 400m hurdles - Rome 1987 Scientific Report (2nd ed)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Moses, Edwin (USA) (1955)	time	5.82	9.49	13.21	16.97	20.73		24.58	28.58	32.89	37.42	42.15		47.46	3 / 1			
reaction time	interval		3.67	3.72	3.76	3.76		3.85	4.00	4.31	4.53	4.73	5.31	CR		11.15	11.61	13.57
	velocity	7.73	9.54	9.41	9.31	9.31		9.09	8.75	8.12	7.73	7.40	7.53	8.43	9.42	9.04	7.74	
H1 lead leg	L strides	19	13	13	13	13		13	13	13	13	13	16.7	152.7				
Harris, Danny (USA) (1965)	time	6.07	9.20	13.44	17.22	21.09		24.98	29.17	33.35	37.76	42.42		47.48	4 / 2			
reaction time	interval		3.13	4.24	3.78	3.87		3.89	4.19	4.18	4.41	4.66	5.06	PB		11.15	11.95	13.25
	velocity	7.41	11.18	8.25	9.26	9.04		9.00	8.35	8.37	7.94	7.51	7.91	8.42	9.42	8.79	7.92	
H1 lead leg	L strides	21	13	13	13	13		13	14	14	14	15	17.8	160.8				

Schmid, Harald (FRG) (1957)	time	6.00	9.69	13.45	17.29	21.17	25.06	29.02	33.22	37.73	42.32	47.48	5 / 3				
	reaction time	interval	3.69	3.76	3.84	3.88	3.89	3.96	4.20	4.51	4.59	5.16	AR	11.29	11.73	13.30	
		velocity	7.50	9.49	9.31	9.11	9.02	9.00	8.84	8.33	7.76	7.63	7.75	8.42	9.30	8.95	7.89
	H1 lead leg	L	strides	21	13	13	13	13	13	13	14	14	17.7	157.7			
Nylander, Sven (SWE) (1962)			no information available										48.37	6 / 4			
Dia Ba, Amadou (SEN) (1958)			no information available										48.37	1 / 5			
Amike, Henry (NGR) (1961)			no information available										48.63	2 / 6			
Akabusi, Kriss (GBR) (1958)			no information available										48.74	7 / 7			
Alonso, Jose (ESP) (1957)			no information available										49.46	8 / 8			

Semi-Final 2

date 31-Aug-87

Sušanka (1990) - time analysis of the 400m hurdles - Rome 1987 Scientific Report (2nd ed)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Moses, Edwin (USA) (1955)	time	5.92	9.61	13.37	17.17	21.14	25.26	29.47	33.82	38.37	43.07	48.38	6 / 1					
	reaction time	interval	3.69	3.76	3.80	3.97	4.12	4.21	4.35	4.55	4.70	5.31			11.25	12.30	13.60	
		velocity	7.60	9.49	9.31	9.21	8.82	8.50	8.31	8.05	7.69	7.45	7.53	8.27	9.33	8.54	7.72	
	H1 lead leg	L	strides	19	13	13	13	13	13	13	13	13	16	152				

Semi-Final 1

date 31-Aug-87

Sušanka (1990) - time analysis of the 400m hurdles - Rome 1987 Scientific Report (2nd ed)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Schmid, Harald (FRG) (1957)	time	6.09	9.73	13.53	17.44	21.48	25.50	29.66	33.99	38.51	43.07	48.23	6 / 1					
	reaction time	interval	3.64	3.80	3.91	4.04	4.02	4.16	4.33	4.52	4.56	5.16			11.35	12.22	13.41	
		velocity	7.39	9.62	9.21	8.95	8.66	8.71	8.41	8.08	7.74	7.68	7.75	8.29	9.25	8.59	7.83	
	H1 lead leg	L	strides	21	13	13	13	13	13	13	14	14	17	157				
Harris, Danny (USA) (1965)	time	6.01	9.69	13.41	17.17	21.02	24.96	29.21	33.58	38.15	43.01	48.24	3 / 2					
	reaction time	interval	3.68	3.72	3.76	3.85	3.94	4.25	4.37	4.57	4.86	5.23			11.16	12.04	13.80	
		velocity	7.49	9.51	9.41	9.31	9.09	8.88	8.24	8.01	7.66	7.20	7.65	8.29	9.41	8.72	7.61	
	H1 lead leg	L	strides	21	13	13	13	13	14	14	14	15	18.1	161.1				

Heat 3

date 30-Aug-87

Sušanka (1990) - time analysis of the 400m hurdles - Rome 1987 Scientific Report (2nd ed)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Schmid, Harald (FRG) (1957)	time	6.10	9.89	13.82	17.79	21.95	26.23	30.65	35.08	39.68	44.28	49.28	5 / 1					
	reaction time	interval	3.79	3.93	3.97	4.16	4.28	4.42	4.43	4.60	4.60	5.00			11.69	12.86	13.63	
		velocity	7.38	9.23	8.91	8.82	8.41	8.18	7.92	7.90	7.61	7.61	8.00	8.12	8.98	8.16	7.70	
	H1 lead leg	L	strides	21	13	13	13	13	13	13	14	14	16.9	156.9				

Heat 2

date 30-Aug-87

Sušanka (1990) - time analysis of the 400m hurdles - Rome 1987 Scientific Report (2nd ed)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Harris, Danny (USA) (1965)	time	6.11	9.80	13.59	17.45	21.42	25.62	30.04	34.48	38.98	43.54	48.74	8 / 1					
	reaction time	interval	3.69	3.79	3.86	3.97	4.20	4.42	4.44	4.50	4.56	5.20			11.34	12.59	13.50	
		velocity	7.36	9.49	9.23	9.07	8.82	8.33	7.92	7.88	7.78	7.68	7.69	8.21	9.26	8.34	7.78	
	H1 lead leg	L	strides	21	13	13	13	14	14	14	14	14	17	160				

Heat 1

date 30-Aug-87

Sušanka (1990) - time analysis of the 400m hurdles - Rome 1987 Scientific Report (2nd ed)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Moses, Edwin (USA) (1955)	time	5.90	9.75	13.69	17.62	21.68	25.77	30.07	34.44	38.96	43.60	49.03	2 / 1					
	reaction time	interval	3.85	3.94	3.93	4.06	4.09	4.30	4.37	4.52	4.64	5.43			11.72	12.45	13.53	
		velocity	7.63	9.09	8.88	8.91	8.62	8.56	8.14	8.01	7.74	7.54	7.37	8.16	8.96	8.43	7.76	
	H1 lead leg	L	strides	19	13	13	13	13	13	13	13	13	15.8	151.8				

1987 Résisprint International (LaChaux-de-Fonds, SUI)**FINAL**

date 16-Aug-87

Behm (1988) - 45-39

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Vimbert, Gilles (FRA) (1966)	time	6.0	9.8	13.8	17.5	22.2	26.6	30.7	35.3	39.9	44.6	49.96	/ 1					
	reaction time	interval	3.8	4.0	3.7	4.7	4.4	4.1	4.6	4.6	4.7	5.4	PB		11.5	13.2	13.9	
		velocity	7.50	9.21	8.75	9.46	7.95	8.54	7.68	7.54	7.45	7.46	8.01	9.13	7.95	7.55		
	H1 lead leg		strides															

1987 European Junior Championships (Birmingham, GBR)**FINAL**

date 09-Aug-87

Veney - split times from PJ

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Leger, Stéphane (FRA) (1966)	time	6.26	10.18	14.30	18.33	22.49	26.72	31.34	35.88	40.72	46.02	51.37	/ 3					
	reaction time	interval	3.92	4.12	4.03	4.16	4.23	4.62	4.54	4.84	5.30	5.35			12.07	13.01	14.68	
		velocity	7.19	8.93	8.50	8.68	8.41	8.27	7.58	7.71	7.23	6.60	7.48	7.79	8.70	8.07	7.15	
	H1 lead leg		strides	15	15	15	15	15	15	15	15	16	136					

1987 French National Championships (Annecy, FRA)**FINAL**

date 09-Aug-87

Veney - split times from PJ

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Vimbert, Gilles (FRA) (1966)	time	5.98	9.83	13.76	17.88	22.18	26.46	30.70	35.26	39.87	44.61	49.98	/ 1					
	reaction time	interval	3.85	3.93	4.12	4.30	4.28	4.24	4.56	4.61	4.74	5.37			11.90	12.82	13.91	
		velocity	7.53	9.09	8.91	8.50	8.14	8.18	8.25	7.68	7.59	7.38	7.45	8.00	8.82	8.19	7.55	
	H1 lead leg		strides	20	13	13	13	14	14	14	15	15	145					
Gonigam, Philippe (FRA) (1966)	time	6.15	10.12	14.23	18.46	22.68	26.94	31.30	35.69	40.33	45.01	50.60	/ 2					

reaction time	interval	3.97	4.11	4.23	4.22	4.26	4.36	4.39	4.64	4.68	5.59		12.31	12.84	13.71	
	velocity	7.32	8.82	8.52	8.27	8.22	8.03	7.97	7.54	7.48	7.16	7.91	8.53	8.18	7.66	
H1 lead leg	strides	22	15	15	15	15	15	15	15	16		158				
Duvigneau, Dominique (FRA)	time	6.09	10.11	14.19	18.38	22.55	26.92	31.37	36.03	40.70	45.42	50.92	/ 3			
reaction time	interval	4.02	4.08	4.19	4.17	4.37	4.45	4.66	4.67	4.72	5.50		12.29	12.99	14.05	
	velocity	7.39	8.71	8.58	8.35	8.39	8.01	7.87	7.51	7.49	7.42	7.27	7.86	8.54	8.08	7.47
H1 lead leg	strides	21	14	14	14	14	14	15	15	15	15	151				
Blondel, Alain (FRA) (1962)	time	6.00	10.20	14.50	18.70	22.90	27.20	31.50	36.05	40.70	45.40	51.16	/ 4			
reaction time	interval	4.20	4.30	4.20	4.20	4.30	4.30	4.55	4.65	4.70	5.76		12.70	12.80	13.90	
	velocity	7.50	8.33	8.14	8.33	8.33	8.14	8.14	7.69	7.53	7.45	6.94	7.82	8.27	8.20	7.55
H1 lead leg	strides	15	15	15	15	15	15	15	15	15	15	135				
Valentian, Jean-Pascal (FRA)	time	6.25	10.22	14.27	18.54	22.81	26.99	31.59	36.14	40.91	45.79	51.49	/ 5			
reaction time	interval	3.97	4.05	4.27	4.27	4.18	4.60	4.55	4.77	4.88	5.70		12.29	13.05	14.20	
	velocity	7.20	8.82	8.64	8.20	8.20	8.37	7.61	7.69	7.34	7.17	7.02	7.77	8.54	8.05	7.39
H1 lead leg	strides	14														
Garnier, Philippe (FRA) (1966)	time	6.07	10.18	14.43	18.59	22.64	26.96	31.33	35.85	40.59	45.67	51.80	/ 6			
reaction time	interval	4.11	4.25	4.16	4.05	4.32	4.37	4.52	4.74	5.08	6.13		12.52	12.74	14.34	
	velocity	7.41	8.52	8.24	8.41	8.64	8.10	8.01	7.74	7.38	6.89	6.53	7.72	8.39	8.24	7.32
H1 lead leg	strides															

1987 Meeting BNP D'Athletisme (Paris, FRA)**FINAL**

date 16-Jul-87

Behm (1988) - 45-39

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Dia Bâ, Amadou (SEN) (1958)	time	5.7	9.5	13.3	17.2	21.2	25.3	29.5	34.1		43.3		48.89	/ 1			
reaction time	interval		3.8	3.8	3.8	4.1	4.0	4.3	4.6		9.20	5.59		11.45	12.36	13.79	
	velocity	7.89	9.11	9.26	9.14	8.58	8.71	8.22	7.63		7.61	7.16	8.18		9.17	8.50	7.61
H1 lead leg	strides																
Moses, Edwin (USA) (1955)	time	5.8	9.4	13.0	16.7	20.4	24.3	28.4	32.8	37.7			dnf	/ --			
reaction time	interval		3.6	3.6	3.7	3.7	3.9	4.2	4.4	5.0			fell		10.90	11.76	
	velocity	7.83	9.67	9.70	9.54	9.41	9.00	8.43	8.03	7.04					9.63	8.93	
H1 lead leg	strides																

1986 European Championships (Stuttgart, FRG)**FINAL**

date 28-Aug-86

Behm (1995) - la tactique du 400 haies

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Schmid, Harald (FRG) (1957)	time	5.8	9.4	13.3	17.2	21.3	25.5	29.8	34.3	38.7	43.3		48.65	/ 1			
reaction time	interval		3.6	3.9	3.9	4.1	4.2	4.3	4.5	4.4	4.6	5.35		11.40	12.60	13.50	
	velocity	7.76	9.72	8.97	8.97	8.54	8.33	8.14	7.78	7.95	7.61	7.48	8.22		9.21	8.33	7.78
H1 lead leg	strides	21	13	13	13	13	13	13	13	14	14		140				
Vasilyev, Aleksandr (URS) (1957)	time	5.9	9.8	13.7	17.7	21.9	26.1	30.3	34.7	39.0	43.5		48.76	/ 2			
reaction time	interval		3.9	3.9	4.0	4.2	4.2	4.2	4.4	4.3	4.5	5.26		11.80	12.60	13.20	
	velocity	7.63	8.97	8.97	8.75	8.33	8.33	8.33	7.95	8.14	7.78	7.60	8.20		8.90	8.33	7.95
H1 lead leg	strides		13	13	13	14	14	14	14	15	15		125				
Nylander, Sven (SWE) (1962)	time	5.9	9.7	13.6	17.6	21.7	26.0	30.4	34.9	39.5	44.1		49.38	/ 3			
reaction time	interval		3.8	3.9	4.0	4.1	4.3	4.4	4.5	4.6	4.6	5.28		11.70	12.80	13.70	
	velocity	7.63	9.21	8.97	8.75	8.54	8.14	7.95	7.78	7.61	7.61	7.58	8.10		8.97	8.20	7.66
H1 lead leg	strides	20	13	13	13	13	13	13	13	14	14		139				
Tomov, Toma (BUL) (1958)													49.62	/ 4			
Zemskov, Tagir (URS) (1962)													50.02	/ 5			
Alonso, José (ESP) (1957)													50.30	/ 6			

1986 French National Championships (Aix les Bains, FRA)**FINAL**

date 10-Aug-86

Veney - split times from PJ

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Gonigam, Philippe (FRA) (1957)	time	6.11	10.03	14.09	18.17	22.36	26.58	30.81	35.16	39.62	44.16		49.82	/ 1			
reaction time	interval		3.92	4.06	4.08	4.19	4.22	4.23	4.35	4.46	4.54	5.66		12.06	12.64	13.35	
	velocity	7.36	8.93	8.62	8.58	8.35	8.29	8.27	8.05	7.85	7.71	7.07	8.03		8.71	8.31	7.87
H1 lead leg	strides																
Jonot, Franck (FRA) (1961)	time	6.05	10.02	13.86	17.80	21.94	26.03	30.53	34.95	39.57	44.39		50.21	/ 2			
reaction time	interval		3.97	3.84	3.94	4.14	4.09	4.50	4.42	4.62	4.82	5.82		11.75	12.73	13.86	
	velocity	7.44	8.82	9.11	8.88	8.45	8.56	7.78	7.92	7.58	7.26	6.87	7.97		8.94	8.25	7.58
H1 lead leg	strides																
Serres, Jean-Michel (FRA) (1957)	time	6.00	10.10	14.26	18.33	22.50	26.72	30.98	35.60	40.25	44.97		51.03	/ 6			
reaction time	interval		4.10	4.16	4.07	4.17	4.22	4.26	4.62	4.65	4.72	6.06	PB		12.33	12.65	13.99
	velocity	7.50	8.54	8.41	8.60	8.39	8.29	8.22	7.58	7.53	7.42	6.60	7.84		8.52	8.30	7.51
H1 lead leg	strides																

1986 IAAF World Junor Championships (Athens, GRE)

FINAL

date 18-Jul-86

Miskos (1986) - IAAF biomechanical research - Athens 1986 - hurdle races

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Valle, Emilio (CUB) (1967)	time	6.06	9.96	13.87	17.92	21.86		26.50	31.12	35.64	40.22	44.92		50.02	/ 1				
	reaction time		interval	3.90	3.91	4.05	3.94		4.64	4.62	4.52	4.58	4.70	CR		11.86	13.20	13.80	
		velocity	7.43	8.97	8.95	8.64	8.88		7.54	7.58	7.74	7.64	7.45	7.84	8.00		8.85	7.95	7.61
	H1 lead leg		strides	21	14	14	14	14	15	15	15	15	15	18	169				
Kakimori, Hiroshi (JPN) (196)	time	6.21	9.92	13.94	18.30	21.95		26.08	30.48	34.98	39.68	44.50		50.09	/ 2				
	reaction time		interval	3.71	4.02	4.36	3.65		4.13	4.40	4.50	4.70	4.82	5.59		12.09	12.18	14.02	
		velocity	7.25	9.43	8.71	8.03	9.59		8.47	7.95	7.78	7.45	7.26	7.16	7.99		8.68	8.62	7.49
	H1 lead leg		strides	22	13	13	13	15	15	15	15	15	19	168					
Maran, Pascal (FRA) (1967)	time	6.09	10.04	14.08	18.17	22.36		26.66	31.10	35.74	40.36	45.08		50.39	/ 3				
	reaction time		interval	3.95	4.04	4.09	4.19		4.30	4.44	4.64	4.62	5.31			12.08	12.93	13.98	
		velocity	7.39	8.86	8.66	8.56	8.35		8.14	7.88	7.54	7.58	7.42	7.53	7.94		8.69	8.12	7.51
	H1 lead leg		strides	20	13	13	13	14	14	15	15	15	18	164					
Köhrbrück, Carsten (FRG) (1967)			no information available											50.58	/ 4				
Cuyppers, Alain (BEL) (1967)			no information available											50.67	/ 5				
Boiko, Nikolay (URS) (1968)			no information available											50.87	/ 6				
Francis, Dolph (AUS) (1967)			no information available											51.69	/ 7				

1985 European Junior Championships (Cottbus, GDR)

FINAL

date 25-Aug-85

Warburton (1985) - 1985 european junior championships - hurdles

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Köhrbrück, Carsten (FRG) (time	6.46	10.09	14.09	18.37	22.66		27.21	31.50	36.24	40.78	45.63		51.23	/ 3				
	reaction time		interval	3.63	4.00	4.28	4.29		4.55	4.29	4.74	4.54	4.85	5.60		11.91	13.13	14.13	
		velocity	6.97	9.64	8.75	8.18	8.16		7.69	8.16	7.38	7.71	7.22	7.14	7.81		8.82	8.00	7.43
	H1 lead leg		strides																
Dobrovolskiy, Sergey (URS)	time		9.90	13.82	18.20	22.39		26.83	31.28	35.94	40.57	45.20		51.31	/ 4				
	reaction time			interval	3.92	4.38	4.19		4.44	4.45	4.66	4.63	4.63	6.11			13.08	13.92	
		velocity		8.08	8.93	7.99	8.35		7.88	7.87	7.51	7.56	7.56	6.55	7.80		8.03	7.54	
	H1 lead leg			strides															

1985 Great Britain vs. USA (Birmingham, GBR)

FINAL

date 21-Jun-85

Warden (1989) - sprinting and hurdling

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Robertson, Max (GBR) (196	time	5.9	9.7	13.5	17.3	21.2		25.2	29.4	33.8	38.7	44.3		50.09	/ 2				
	reaction time		interval	3.8	3.8	3.8	3.9		4.0	4.2	4.4	4.9	5.6	5.79		11.40	12.10	14.90	
		velocity	7.63	9.21	9.21	9.21	8.97		8.75	8.33	7.95	7.14	6.25	6.91	7.99		9.21	8.68	7.05
	H1 lead leg		strides	21	13	13	13	13	13	14	14	14	15	19	162				

1984 Olympic Games (Los Angeles, CA)

FINAL

date 05-Aug-84

Behm (1995) - la tactique du 400 haies

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Moses, Edwin (USA) (1955)	time	5.8	9.5	13.3	17.2	21.1	22.9	25.1	29.2	33.4	37.7	42.4		47.75	6 / 1				
	reaction time	0.193	interval	3.7	3.8	3.9	3.9		4.0	4.1	4.2	4.3	4.7	5.35		11.40	12.00	13.20	
		velocity	7.76	9.46	9.21	8.97	8.97	8.73	8.75	8.54	8.33	8.14	7.45	7.48	8.38		9.21	8.75	7.95
	H1 lead leg	L	strides	19	13	13	13	13	13	13	13	13	13	16.2	152.2				
Harris, Danny (USA) (1965)	time	6.0	9.8	13.7	17.6	21.6	23.4	25.7	29.9	34.1	38.5	43.0		48.13	4 / 2				
	reaction time	0.210	interval	3.8	3.9	3.9	4.0		4.1	4.2	4.2	4.4	4.5	5.13		11.60	12.30	13.10	
		velocity	7.50	9.21	8.97	8.97	8.75	8.55	8.54	8.33	8.33	7.95	7.78	7.80	8.31		9.05	8.54	8.02
	H1 lead leg	R	strides	21	13	13	13	13	13	13	13	14	15	17	158				
Schmid, Harald (FRG) (1957)	time	6.0	9.8	13.7	17.6	21.6	23.4	25.7	29.8	34.0	38.5	43.0		48.19	5 / 3				
	reaction time	0.180	interval	3.8	3.9	3.9	4.0		4.1	4.1	4.2	4.5	4.5	5.19		11.60	12.20	13.20	
		velocity	7.50	9.21	8.97	8.97	8.75	8.55	8.54	8.54	8.33	7.78	7.78	7.71	8.30		9.05	8.61	7.95
	H1 lead leg	L	strides	21	13	13	13	13	13	13	13	14	14	17.2	157.2				
Nylander, Sven (SWE) (1962)	0.192		no information available											48.97	3 / 4				
Dia Bâ, Amadou (SEN) (1958)	0.221		no information available											49.28	7 / 5				
Hawkins, Tranel (USA) (1962)	0.188		no information available											49.42	1 / 6				
Zimmermann, Michel (BEL) (0.320		no information available											50.69	8 / 7				
Amike, Henry (NGR) (1961)	0.178		no information available											53.18	2 / 8				

1983 Internationales Leichtathletiksportfest (Koblenz, FRG)

FINAL

date 31-Aug-83

Arnold (1992) - Hurdling

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10	
Moses, Edwin (USA) (1955)	time	5.9	9.6	13.4	17.1	21.0	22.7	24.9	29.0	33.1	37.4	41.9		47.02	/ 1				
	reaction time		interval	3.7	3.8	3.7	3.9		3.9	4.1	4.1	4.3	4.5	5.12	WR		11.20	11.90	12.90
		velocity	7.63	9.46	9.21	9.46	8.97	8.81	8.97	8.54	8.54	8.14	7.78	7.81	8.51		9.38	8.82	8.14
	H1 lead leg	L	strides	19	13	13	13	13	13	13	13	13	13	16	152				

1983 IAAF World Championships (Helsinki, FIN)

FINAL

date 09-Aug-83

McFarlane (1988) - The Science of Hurdling

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Moses, Edwin (USA) (1955)	time	5.58	9.29	13.21	16.79	20.71		24.63	28.80	32.97	37.43	41.97		47.50	2 / 1			
	reaction time		interval	3.71	3.92	3.58	3.92	3.92	4.17	4.17	4.46	4.54	5.53	CR		11.21	12.01	13.17
		velocity	8.06	9.43	8.93	9.78	8.93	8.93	8.39	8.39	7.85	7.71	7.23	8.42		9.37	8.74	7.97
	H1 lead leg	L	strides	19	13	13	13	13	13	13	13	13	13	15.7	151.7			
Schmid, Harald (FRG) (1957)	time	5.75	9.24	13.24		20.93		24.93	28.81	33.48	38.31	43.02		48.61	7 / 2			14.21
	reaction time		interval	3.49	4.00	7.69		4.00	3.88	4.67	4.83	4.71	5.59					7.39
		velocity	7.83	10.03	8.75	9.10	9.10	8.75	9.02	7.49	7.25	7.43	7.16	8.23				
	H1 lead leg	L	strides	21	13	13	13	13	13	13	14	15	14	17	159			
Kharlov, Aleksandr (URS) (1957)	time	5.79	9.58	13.75		21.80		25.80	29.97	34.47	39.05	43.76		49.03	1 / 3			13.79
	reaction time		interval	3.79	4.17	8.05		4.00	4.17	4.50	4.58	4.71	5.27					7.61
		velocity	7.77	9.23	8.39	8.70	8.70	8.75	8.39	7.78	7.64	7.43	7.59	8.16				
	H1 lead leg	L	strides	21	13	13	13	13	13	13	13	13	17	155				
Nylander, Sven (SWE) (1962)														49.06	8 / 4			
Phillips, Andre (USA) (1959)														49.24	6 / 5			
Lee, David (USA) (1959)														49.32	4 / 6			
Dia Bâ, Amadou (SEN) (1958)														49.61	3 / 7			
Szparak, Ryszard (POL) (1951)														49.78	5 / 8			

Semi-Final 2

date 08-Aug-83

Lyle - miscellaneous coaching notes

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Schmid, Harald (FRG) (1957)	time	5.46	9.14	12.76	16.70	20.54		24.41	28.69	32.98	37.69	42.45		48.57	2 / 1			
	reaction time		interval	3.68	3.62	3.94	3.84	3.87	4.28	4.29	4.71	4.76	6.12			11.24	11.99	13.76
		velocity	8.24	9.51	9.67	8.88	9.11	9.04	8.18	8.16	7.43	7.35	6.54	8.24		9.34	8.76	7.63
	H1 lead leg	L	strides	21	13	13	13	13	13	13	13	14	17	143				

Semi-Final 1

date 08-Aug-83

Lyle - miscellaneous coaching notes

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Moses, Edwin (USA) (1955)	time	5.59	9.38	13.30	17.18	21.03		25.01	29.16	33.50	37.91	42.32		48.11	1 / 1			
	reaction time		interval	3.79	3.92	3.88	3.85	3.98	4.15	4.34	4.41	4.41	5.79			11.59	11.98	13.16
		velocity	8.05	9.23	8.93	9.02	9.09	8.79	8.43	8.06	7.94	7.94	6.91	8.31		9.06	8.76	7.98
	H1 lead leg	L	strides	19	13	13	13	13	13	13	13	13	15.5	151.5				

1982 European Championships (Athens, GRE)**FINAL**

date 08-Sep-82

Behm (1995) - la tactique du 400 haies

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Schmid, Harald (FRG) (1957)	time	5.8	9.5	13.3	17.1	21.1		25.1	29.3	33.5	37.9	42.4		47.48	4 / 1			
	reaction time		interval	3.7	3.8	3.8	4.0	4.0	4.2	4.2	4.4	4.5	5.1	AR / CR		11.30	12.20	13.10
		velocity	7.76	9.46	9.21	9.21	8.75	8.75	8.33	8.33	7.95	7.78	7.87	8.42		9.29	8.61	8.02
	H1 lead leg	L	strides	21	13	13	13	13	13	13	13	14	14	17	157			
Yatsevich, Aleksandr (URS) (1957)	time	6.0	9.9	13.8	17.7	21.7		25.9	30.2	34.3	38.7	43.3		48.60	3 / 2			
	reaction time		interval	3.9	3.9	3.9	4.0	4.2	4.3	4.1	4.4	4.6	5.3	PB		11.70	12.50	13.10
		velocity	7.50	8.97	8.97	8.97	8.75	8.33	8.14	8.54	7.95	7.61	7.55	8.23		8.97	8.40	8.02
	H1 lead leg	R	strides	21	15	15	15	15	15	15	15	15	18	174				
Ackermann, Uwe (GDR) (1961)	time	5.9	9.7	13.5	17.3	21.3		25.6	30.0	34.2	38.7	43.3		48.64	6 / 3			
	reaction time		interval	3.8	3.8	3.8	4.0	4.3	4.4	4.2	4.5	4.6	5.3			11.40	12.70	13.30
		velocity	7.63	9.21	9.21	9.21	8.75	8.14	7.95	8.33	7.78	7.61	7.49	8.22		9.21	8.27	7.89
	H1 lead leg	L	strides	20	13	13	13	15	15	15	15	15	18.2	165.2				
Arkhipenko, Vasily (URS) (1957)														48.68	7 / 4			
Szparak, Ryszard (POL) (1951)														49.41	8 / 5			
Charlov, Alexandr (URS)														49.56	1 / 6			
Nylander, Sven (SWE) (1962)														49.64	5 / 7			
Tomov, Toma (BUL) (1958)														50.10	2 / 8			

Semi-Final 2

date 07-Sep-82

(1982) - XIII championnats d'Europe d'Atletisme, Athens 1982

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Ackermann, Uwe (GDR) (1961)	time					21.5								49.32	1 / 1			
	reaction time																	
	H1 lead leg						8.62							8.11				

Heat 1

date 08-Sep-82

(1982) - XIII championnats d'Europe d'Atletisme, Athens 1982

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Guillen, Serge (FRA) (1960)	time	5.9		13.9		22.0			30.6		39.6			50.07	1 / 2			
	reaction time			interval	8.0	8.1			8.6		9.0							
		velocity	7.63		8.75		8.64			8.14		7.78		7.99				
	H1 lead leg			strides														

1982 GDR vs. USA (Karl-Marx-Stadt, GDR)**FINAL**

date 09-Jul-82

Heß (1985) - entwicklungsaspekte die leichtathletischen sprint- / hürden disziplinen im olympiazklus 1981/84

H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
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Ackermann, Uwe (GDR) (1961)	time	5.97			21.67						43.34		48.50	/ 1			
reaction time	interval				15.70						21.67	5.16	PB				
	velocity	7.54			8.92						8.08	7.75	8.25				
H1 lead leg	strides																

1982 TAC National Championships (Knoxville, TN)**FINAL**

date 20-Jun-82

Mann (1987) - the elite athlete program biomechanical analysis of the long hurdles: tac championship meet

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Patrick, David (USA) (1960)	time	6.22	10.16	14.08	17.98	21.94		25.88	30.12	34.52	38.96	43.66		48.57	/ 1			
reaction time	interval		3.94	3.92	3.90	3.96		3.94	4.24	4.40	4.44	4.70	4.91			11.76	12.14	13.54
	velocity	7.23	8.88	8.93	8.97	8.84		8.88	8.25	7.95	7.88	7.45	8.15	8.24		8.93	8.65	7.75
H1 lead leg	strides																	
Phillips, Andre (USA) (1959)	time	6.02	9.88	13.82	17.74	21.70		25.64	29.66	34.04	38.66	43.52		48.62	/ 2			
reaction time	interval		3.86	3.94	3.92	3.96		3.94	4.02	4.38	4.62	4.86	5.10			11.72	11.92	13.86
	velocity	7.48	9.07	8.88	8.93	8.84		8.88	8.71	7.99	7.58	7.20	7.84	8.23		8.96	8.81	7.58
H1 lead leg	strides																	
Lee, David (USA) (1959)	time	6.36	10.18	14.08	17.94	21.80		25.82	30.00	34.44	38.98	43.80		48.96	/ 3			
reaction time	interval		3.82	3.90	3.86	3.86		4.02	4.18	4.44	4.54	4.82	5.16			11.58	12.06	13.80
	velocity	7.08	9.16	8.97	9.07	9.07		8.71	8.37	7.88	7.71	7.26	7.75	8.17		9.07	8.71	7.61
H1 lead leg	strides																	
Brown, Ed (USA) (1961)	time	no information available												49.52	/ 4			
Holloway, Bernie (USA) (1961)	time	no information available												49.76	/ 5			
Rambo, Tony (USA) (1960)	time	no information available												50.00	/ 6			

1981 ISTAF (West Berlin, FRG)**FINAL**

date 21-Aug-81

Behm (1988) - 45-39

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Moses, Edwin (USA) (1955)	time	5.7	9.4	13.3	17.1	20.9		24.9	29.0	33.3	37.7	42.1		47.27	/ 1			
reaction time	interval		3.7	3.9	3.8	3.8		4.0	4.1	4.3	4.4	4.4	5.17			11.40	11.90	13.10
	velocity	7.89	9.46	8.97	9.21	9.21		8.75	8.54	8.14	7.95	7.95	7.74	8.46		9.21	8.82	8.02
H1 lead leg	strides		13	12	12	13		13	13	13	13	13	115					

1981 Weltklasse (Zurich, SUI)**FINAL**

date 19-Aug-81

Behm (1988) - 45-39

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Moses, Edwin (USA) (1955)	time	5.7	9.4	13.1	16.8	20.7		24.7	28.9	33.1	37.7	42.3		47.64	/ 1			
reaction time	interval		3.7	3.7	3.7	3.9		4.0	4.2	4.2	4.6	4.6	5.34			11.10	12.10	13.40
	velocity	7.89	9.46	9.46	9.46	8.97		8.75	8.33	8.33	7.61	7.61	7.49	8.40		9.46	8.68	7.84
H1 lead leg	strides		12	12	12	12		13	13	13	13	13	113					

1981 USSR vs. GDR (Tbilisi, URS)**FINAL**

date 26-Jun-81

Breizer (1982) - in the distance: volker beck

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Beck, Volker (GDR) (1956)	time	6.27	9.95	13.83	17.68	21.92		25.91	30.27	34.70	39.13	44.01		49.14	/ 1			
reaction time	interval		3.68	3.88	3.85	4.24		3.99	4.36	4.43	4.43	4.88	5.13			11.41	12.59	13.74
	velocity	7.18	9.51	9.02	9.09	8.25		8.77	8.03	7.90	7.90	7.17	7.80	8.14		9.20	8.34	7.64
H1 lead leg	strides		20	13	13	13		13	13	14	14	14	18	158				

1980 Olympic Games (Moscow, URS)**FINAL**

date 26-Jul-80

Behm (1999) - Les chiffres: Les podiums de tous les championnats

Lamare (1980) - resultats complets et commentaires- Moscow 1980

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Beck, Volker (GDR) (1956)	time	6.2	10.1	13.8	17.7	21.7		25.8	30.1	34.5	39.0	43.6		48.70	8 / 1			Lamare (1980)
reaction time	0.161 interval		3.9	3.7	3.9	4.0		4.1	4.3	4.4	4.5	4.6	5.10			11.50	12.40	13.50
	velocity	7.26	8.97	9.46	8.97	8.75		8.54	8.14	7.95	7.78	7.61	7.84	8.21		9.13	8.47	7.78
H1 lead leg	strides		13	13	13	13		13	13	15	15	15	123					
Arkhipenko, Vasilii (URS) (1951)	time					21.5								48.86	2 / 2			Behm (1999)
reaction time	0.137 interval																	
	velocity					8.60								8.19				
H1 lead leg	strides		15	15	15	15		15	15	15	15	15	135					
Oakes, Gary (GBR) (1958)	0.166	no information available												49.11	1 / 3			
Vasilyev, Nikolay (URS) (1951)	0.186	no information available												49.34	4 / 4			
Kopitar, Rok (YUG) (1959)	0.232	no information available												49.67	5 / 5			
Toboc, Horia (ROU) (1955)	0.300	no information available												49.84	7 / 6			
Meier, Franz (SUI) (1956)	0.143	no information available												59.00	6 / 7			
Bratanov, Yanko (BUL) (1951)	0.215	no information available												56.35	3 / 8			

1980 Mario Lanzi Memorial (Milan, ITA)**FINAL**

date 03-Jul-80

Behm (1995) - la tactique du 400 haies

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Moses, Edwin (USA) (1955)	time	5.7	9.4	13.2	17.0	20.9		24.7	28.6	32.8	37.2	41.7		47.13	/ 1			
reaction time	interval		3.70	3.80	3.80	3.90		3.80	3.90	4.20	4.40	4.50	5.43	WR		11.30	11.60	13.10
	velocity	7.89	9.46	9.21	9.21	8.97		9.21	8.97	8.33	7.95	7.78	7.37	8.49		9.29	9.05	8.02

H1 lead leg strides

1978 European Championships (Prague, TCH)**FINAL**

date 31-Aug-78

Lamare (1978) - championnats d'Europa 1978

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Schmid, Harald (FRG) (1957) time	6.04	9.77	13.63	17.54	21.47		25.69	29.88	34.25	38.78	43.29		48.51	/ 1			
reaction time interval		3.73	3.86	3.91	3.93		4.22	4.19	4.37	4.53	4.51	5.22	CR		11.50	12.34	13.41
velocity	7.45	9.38	9.07	8.95	8.91		8.29	8.35	8.01	7.73	7.76	7.66	8.25		9.13	8.51	7.83
H1 lead leg strides																	
Stukalov, Dmitriy (URS) (1951)	no information available												49.72	/ 2			
Arkhipenko, Vasilii (URS) (1957)	no information available												49.77	/ 3			
Meier, Franz (SUI) (1956)	no information available												49.84	/ 4			
Schulding, Harry (NED) (1956)	no information available												50.07	/ 5			
Nallet, Jean-Claude (FRA) (1947)	no information available												50.10	/ 6			
Alonso, Jose (ESP) (1957)	no information available												50.19	/ 7			
Toboc, Horia (ROU) (1955)	no information available												50.46	/ 8			

Semi-Final 2

date 30-Aug-78

Lamare (1978) - championnats d'Europa 1978

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Nallet, Jean-Claude (FRA) (1947) time	6.23	10.36	14.14	18.16	22.22								49.98	/ 2			
reaction time interval		4.13	3.78	4.02	4.06												11.93
velocity	7.22	8.47	9.26	8.71	8.62								8.00				8.80
H1 lead leg strides																	

Behm (1995) - la tactique du 400 haies

1976 Olympic Games (Montreal, CAN)**FINAL**

date 25-Jul-76

Le Masurier (1977) - die olympischen 400-m-hürdenlauf vom Mexico City, München und Montreal

McFarlane (1981) - understanding the 400m hurdles (in Jarver (ed) - the hurdles, 1981)

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Moses, Edwin (USA) (1955) time	6.0	9.8	13.6	17.5	21.4	23.1	25.5	29.6	33.9	38.2	42.7		47.64	4 / 1			McFarlane (1981)
reaction time interval		3.80	3.80	3.90	3.90		4.10	4.10	4.30	4.30	4.50	4.94	WR		11.50	12.10	13.10
velocity	7.50	9.21	9.21	8.97	8.97	8.66	8.54	8.54	8.14	8.14	7.78	8.10	8.40		9.13	8.68	8.02
H1 lead leg L strides	20	13	13	13	13		13	13	13	13	13	16	153				
Shine, Mike (USA) (1953) time	6.1	9.9	13.8	17.7	21.7	23.4	25.9	30.2	34.5	38.9	43.4		48.69	1 / 2			Le Masurier (1977)
reaction time interval		3.80	3.90	3.90	4.00		4.20	4.30	4.30	4.40	4.50	5.29			11.60	12.50	13.20
velocity	7.38	9.21	8.97	8.97	8.75	8.55	8.33	8.14	8.14	7.95	7.78	7.56	8.22		9.05	8.40	7.95
H1 lead leg R strides	22	15	15	15	15		15	15	15	15	15	18.7	175.7				
Gavrilenko, Yevgeniy (URS) (1951) time	6.0	9.7	13.4	17.4	21.5		25.7	29.9	34.5	39.0	43.8		49.45	8 / 3			Behm (1995)
reaction time interval		3.70	3.70	4.00	4.10		4.20	4.20	4.60	4.50	4.80	5.65			11.40	12.50	13.90
velocity	7.50	9.46	9.46	8.75	8.54		8.33	8.33	7.61	7.78	7.29	7.08	8.09		9.21	8.40	7.55
H1 lead leg L strides	13	13	13	13	13		13	15	15	15	15	15	125				
Wheeler, Quentin (USA) (1955)	no information available												49.86	7 / 4			
Carvalho, Jose (POR) (1953)	no information available												49.94	3 / 5			
Bratanov, Yanko (BUL) (1952)	no information available												50.03	2 / 6			
Alfonso, Damaso (CUB) (1951)	no information available												50.19	6 / 7			
Pascoe, Alan (GBR) (1947)	no information available												51.29	5 / 8			

Semi-Final 2

date 24-Jul-76

Lamare (1976) - les jeux de la XXI olympia, Montreal 1976

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Nallet, Jean-Claude (FRA) (1947) time	5.8	9.8	13.8	17.8	22.0		26.0	30.5	35.0	39.7	44.3		50.08	4 / 5			
reaction time interval		4.00	4.00	4.00	4.15		4.05	4.50	4.50	4.70	4.60	5.78			12.00	12.70	13.80
velocity	7.76	8.75	8.75	8.75	8.43		8.64	7.78	7.78	7.45	7.61	6.92	7.99		8.75	8.27	7.61
H1 lead leg strides																	

Semi-Final 1

date 24-Jul-76

Lamare (1976) - les jeux de la XXI olympia, Montreal 1976

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Wheeler, Quentin (USA) (1955) time	6.1	10.0	14.1	18.1	22.4		26.6	31.1	35.5	40.1	44.6		50.22	8 / 4			
reaction time interval		3.87	4.15	4.01	4.29		4.24	4.41	4.41	4.60	4.54	5.62			12.03	12.94	13.55
velocity	7.40	9.04	8.43	8.73	8.16		8.25	7.94	7.94	7.61	7.71	7.12	7.96		8.73	8.11	7.75
H1 lead leg strides																	

1975 West German National Championships (Gelsenkirchen, FRG)**FINAL**

date 28-Jun-75

Helbig (1975) - 400-m-hürdenlauf

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Reibert, Werner (FRG) (1948) time	6.27	10.24	14.48	18.47	22.56	24.56	27.00	31.81	36.31	40.86	45.44		51.25	6 / 1			
reaction time interval		3.97	4.24	3.99	4.09		4.44	4.81	4.50	4.55	4.58	5.81			12.20	13.34	13.63
velocity	7.18	8.82	8.25	8.77	8.56	8.14	7.88	7.28	7.78	7.69	7.64	6.88	7.80		8.61	7.87	7.70
H1 lead leg strides																	
Friedrich, Dieter (FRG) (1947) time	6.03	10.03	14.07	18.27	22.59	24.59	26.98	31.40	36.17	40.62	45.33		51.29	5 / 2			
reaction time interval		4.00	4.04	4.20	4.32		4.39	4.42	4.77	4.45	4.71	5.96			12.24	13.13	13.93
velocity	7.46	8.75	8.66	8.33	8.10	8.13	7.97	7.92	7.34	7.87	7.43	6.71	7.80		8.58	8.00	7.54
H1 lead leg strides																	
Köhler, Hermann (FRG) (1951) time	6.06	10.17	14.19	18.32	22.58	24.58	26.96	31.96	36.12	40.77	45.55		51.37	3 / 3			

reaction time	interval	4.11	4.02	4.13	4.26		4.38	5.00	4.16	4.65	4.78	5.82		12.26	13.64	13.59	
H1 lead leg	velocity	7.43	8.52	8.71	8.47	8.22	8.14	7.99	7.00	8.41	7.53	7.32	6.87	7.79	8.56	7.70	7.73
	strides																
Ziegler, Rolf (FRG) (1950)	time	6.16	10.22	14.23	18.37	22.56	24.56	26.97	31.46	36.10	40.81	45.40		51.47	7 / 4		
reaction time	interval		4.06	4.01	4.14	4.19		4.41	4.49	4.64	4.71	4.59	6.07		12.21	13.09	13.94
H1 lead leg	velocity	7.31	8.62	8.73	8.45	8.35	8.14	7.94	7.80	7.54	7.43	7.63	6.59	7.77	8.60	8.02	7.53
	strides																
Tille, Fritz (FRG) (1951)	time	6.20	10.23	14.36	18.48	22.67	24.67	27.03	31.68	36.46	41.12	46.12		51.96	1 / 5		
reaction time	interval		4.03	4.13	4.12	4.19		4.36	4.65	4.78	4.66	5.00	5.84		12.28	13.20	14.44
H1 lead leg	velocity	7.26	8.68	8.47	8.50	8.35	8.11	8.03	7.53	7.32	7.51	7.00	6.85	7.70	8.55	7.95	7.27
	strides																
Dlouhy, Manfred (FRG) (1951)	time	6.28	10.32	14.41	18.66	22.99	24.99	27.06	31.63	36.70	41.39	46.39		52.14	2 / 6		
reaction time	interval		4.04	4.09	4.25	4.33		4.07	4.57	5.07	4.69	5.00	5.75		12.38	12.97	14.76
H1 lead leg	velocity	7.17	8.66	8.56	8.24	8.08	8.00	8.60	7.66	6.90	7.46	7.00	6.96	7.67	8.48	8.10	7.11
	strides																
Geiger, Karl (FRG) (1953)	time	6.27	10.29	14.40	18.58	23.44	25.44	27.84	32.44	37.07	41.75	46.72		52.42	4 / 7		
reaction time	interval		4.02	4.11	4.18	4.86		4.40	4.60	4.63	4.68	4.97	5.70		12.31	13.86	14.28
H1 lead leg	velocity	7.18	8.71	8.52	8.37	7.20	7.86	7.95	7.61	7.56	7.48	7.04	7.02	7.63	8.53	7.58	7.35
	strides																
Reinke, Ulrich (FRG)	time	6.22	10.24	14.46	18.66	23.09	25.09	27.56	32.26	37.24	42.05	47.62		54.54	8 / 8		
reaction time	interval		4.02	4.22	4.20	4.43		4.47	4.70	4.98	4.81	5.57	6.92		12.44	13.60	15.36
H1 lead leg	velocity	7.23	8.71	8.29	8.33	7.90	7.97	7.83	7.45	7.03	7.28	6.28	5.78	7.33	8.44	7.72	6.84
	strides																

Letzelter (1973) - schrittgestaltung und geschwindigkeitsverlauf beim 400-m-hürdenlauf der olympischen spiele 1972

1972 Olympic Games (Munich, FRG)

Le Masurier (1977) - die olympischen 400-m-hürdenlauf vom Mexico City, München und Montreal

FINAL

date 03-Sep-72

McFarlane (1981) - understanding the 400m hurdles (in Jarver (ed) - the hurdles, 1981)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Akii-Bua, John (UGA) (1949)	time	6.1	9.8	13.6	17.4	21.3	23.0	25.4	29.5	33.7	38.1	42.6		47.82	1 / 1			McFarlane (1981)
reaction time	interval		3.7	3.8	3.8	3.9		4.1	4.1	4.2	4.4	4.5	5.22	WR		11.30	12.10	13.10
H1 lead leg	velocity	7.38	9.46	9.21	9.21	8.97	8.70	8.54	8.54	8.33	7.95	7.78	7.66	8.36		9.29	8.68	8.02
	strides	21	13	13	13	13		14	14	14	15	15	18	163				
Mann, Ralph (USA) (1949)	time	6.0	9.7	13.6	17.6	21.3	23.0	25.4	29.7	33.9	38.4	43.1		48.51	6 / 2			Le Masurier (1977)
reaction time	interval		3.7	3.9	4.0	3.7		4.1	4.3	4.2	4.5	4.7	5.41		11.60	12.10	13.40	
H1 lead leg	velocity	7.50	9.46	8.97	8.75	9.46	8.70	8.54	8.14	8.33	7.78	7.45	7.39	8.25		9.05	8.68	7.84
	strides	21	13	13	13	13		13	13	15	15	15	19	163				
Hemery, David (GBR) (1944)	time	6.1	9.8	13.4	17.2	21.1	22.8	25.1	29.3	33.6	38.2	43.0		48.52	5 / 3			McFarlane (1981)
reaction time	interval		3.7	3.6	3.8	3.9		4.0	4.2	4.3	4.6	4.8	5.52		11.10	12.10	13.70	
H1 lead leg	velocity	7.38	9.46	9.72	9.21	8.97	8.77	8.75	8.33	8.14	7.61	7.29	7.25	8.24		9.46	8.68	7.66
	strides	21	13	13	13	13		13	15	15	15	15	18.2	164.2				
Seymour, Jim (USA) (1949)	time	6.1	9.9	13.8	17.7	21.7	23.4	25.9	30.2	34.5	39.1	43.5		48.64	4 / 4			McFarlane (1981)
reaction time	interval		3.8	3.9	3.9	4.0		4.2	4.3	4.3	4.6	4.4	5.14		11.60	12.50	13.30	
H1 lead leg	velocity	7.38	9.21	8.97	8.97	8.75	8.55	8.33	8.14	8.14	7.61	7.95	7.78	8.22		9.05	8.40	7.89
	strides	21	13	13	13	13		14	14	15	15	15	17.2	163.2				
Schubert, Rainer (FRG) (194)	time	6.1	9.9	13.7	17.6	21.6	23.3	25.8	30.2	34.6	39.3	44.2		49.65	7 / 5			McFarlane (1981)
reaction time	interval		3.8	3.8	3.9	4.0		4.2	4.4	4.4	4.7	4.9	5.45		11.50	12.60	14.00	
H1 lead leg	velocity	7.38	9.21	9.21	8.97	8.75	8.58	8.33	7.95	7.95	7.45	7.14	7.34	8.06		9.13	8.33	7.50
	strides	21	13	13	13	13		13	15	15	15	15	146					
Gavrilenko, Yevgeniy (URS)	time	6.0	9.8	13.7	17.6	21.6	23.3	25.9	30.3	34.8	39.3	44.1		49.66	2 / =6			Letzelter (1973)
reaction time	interval		3.80	3.85	3.95	4.00		4.25	4.40	4.50	4.55	4.75	5.61		11.60	12.65	13.80	
H1 lead leg	velocity	7.50	9.21	9.09	8.86	8.75	8.58	8.24	7.95	7.78	7.69	7.37	7.13	8.05		9.05	8.30	7.61
	strides	21	13	13	13	13		13	15	15	15	15	131					
Tziortzis, Stavros (GRE) (194)	time	6.2	9.9	13.8	17.7	21.8	23.5	26.1	30.3	34.8	39.4	44.2		49.66	8 / =6			McFarlane (1981)
reaction time	interval		3.7	3.9	3.9	4.1		4.3	4.2	4.5	4.6	4.8	5.46	NR		11.50	12.60	13.90
H1 lead leg	velocity	7.26	9.46	8.97	8.97	8.54	8.51	8.14	8.33	7.78	7.61	7.29	7.33	8.05		9.13	8.33	7.55
	strides	22	15	15	15	15		16	16	16	16	17	163					
Zorin, Yury (URS) (1947)	time	6.0	9.8	13.5	17.4	21.4		25.6	30.0	34.6	39.4	44.4		50.25	3 / 8			Letzelter (1973)
reaction time	interval		3.75	3.75	3.90	4.00		4.20	4.40	4.60	4.80	4.95	5.90		11.40	12.60	14.35	
H1 lead leg	velocity	7.50	9.33	9.33	8.97	8.75		8.33	7.95	7.61	7.29	7.07	6.78	7.96		9.21	8.33	7.32
	strides	20	13	13	13	13		13	13	15	15	15	143					

Semi-Final 2

date 02-Sep-72

Schmidt (1973) - vorolympisches training von john akii-bua über 400 hürden

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Büttner, Dieter (FRG) (1949)	time					21.4			30.2						2 / --			
reaction time	interval								8.80				14.50					14.50
H1 lead leg	velocity					8.64			7.95				7.24					7.24
	strides																	

Semi-Final 1

date 02-Sep-72

Schmidt (1973) - vorolympisches training von john akii-bua über 400 hürden

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Akii-Bua, John (UGA) (1949) time					21.0			29.9				43.6	49.25	2 / 1			
reaction time								8.90				13.70	5.65				13.70
velocity					8.81			7.87				7.66	7.08	8.12			7.66
H1 lead leg																	

Heat 5

date 01-Sep-72

Schmidt (1973) - vorolympisches training von john akii-bua über 400 hürden

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Ziegler, Rolf (FRG) (1951) time					21.6			30.4				44.5	50.17	7 / 3			
reaction time								8.80				14.10	5.67				14.10
velocity					8.56			7.95				7.45	7.05	7.97			7.45
H1 lead leg																	

Heat 4

date 01-Sep-72

Schmidt (1973) - vorolympisches training von john akii-bua über 400 hürden

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Akii-Bua, John (UGA) (1949) time					21.5			29.9				43.3	50.35	2 / 1			
reaction time								8.40				13.40	7.05				13.40
velocity					8.60			8.33				7.84	5.67	7.94			7.84
H1 lead leg																	

Heat 3

date 01-Sep-72

Schmidt (1973) - vorolympisches training von john akii-bua über 400 hürden

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Mann, Ralph (USA) (1949) time					21.8							44.6	50.18	5 / 2			
reaction time												22.80	5.58				
velocity					8.49							7.68	7.17	7.97			
H1 lead leg																	

Heat 2

date 01-Sep-72

Schmidt (1973) - vorolympisches training von john akii-bua über 400 hürden

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Hemery, David (GBR) (1944) time					21.8			30.3				44.3	49.72	5 / 1			
reaction time								8.50				14.00	5.42				14.00
velocity					8.49			8.24				7.50	7.38	8.05			7.50
H1 lead leg																	

Heat 1

date 01-Sep-72

Schmidt (1973) - vorolympisches training von john akii-bua über 400 hürden

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Büttner, Dieter (FRG) (1949) time					21.5			30.4					49.78	1 / 1			
reaction time								8.90									
velocity					8.60			7.87					8.04				
H1 lead leg																	

1972 USA Olympic Trials (Eugene, OR)

FINAL

date 02-Jul-72

(1972) - die große olympia-vorschau: von wettbewerb zu wettbewerb

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Mann, Ralph (USA) (1949) time	5.9	9.5	13.5	17.3	21.2		25.3	29.7	34.0	38.5	42.1		48.4	8 / 1			
reaction time		3.6	4.0	3.8	3.9		4.1	4.4	4.3	4.5	3.6	6.3	(48.34)		11.40	12.40	12.40
velocity	7.63	9.72	8.75	9.21	8.97		8.54	7.95	8.14	7.78	9.72	6.35	8.26		9.21	8.47	8.47
H1 lead leg																	

Bruggeman, Dick (USA) (1947)	no information available												48.6	6 / 2			
Seymour, Jim (USA) (1949)	no information available												48.6	7 / 3			
Collins, Bruce (USA) (1951)	no information available												49.5	3 / 4			
Cassleman, Rob (USA) (1952)	no information available												49.5	5 / 5			
Bolding, Jim (USA) (1949)	no information available												49.7	1 / 6			
Steele, Bob (USA) (1949)	no information available												50.2	4 / 7			
Wood, Carl (USA) (1949)	no information available												50.2	2 / 8			

1971 European Championships (Helsinki, FIN)

FINAL

date 12-Aug-71

Behm (1995) - la tactique du 400 haies

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Nallet, Jean-Claude (FRA) (1951) time	6.0	10.0	13.8	17.6	21.6		25.7	29.9	34.4	38.9	43.5		49.2	/ 1			
reaction time		4.0	3.8	3.8	4.0		4.1	4.2	4.5	4.5	4.6	5.7	CR		11.60	12.30	13.60
velocity	7.50	8.75	9.21	9.21	8.75		8.54	8.33	7.78	7.78	7.61	7.02	8.13		9.05	8.54	7.72
H1 lead leg	19	13	13	13	13		13	13	15	15	15		142				
Rudolph, Christian (GDR) (1951) time	6.0	10.0	13.9	17.7	21.7		25.7	29.9	34.4	38.9	43.5		49.3	/ 2			
reaction time		4.0	3.9	3.8	4.0		4.0	4.2	4.5	4.5	4.6	5.8	NR		11.70	12.20	13.60
velocity	7.50	8.75	8.97	9.21	8.75		8.75	8.33	7.78	7.78	7.61	6.90	8.11		8.97	8.61	7.72
H1 lead leg	15	15	15	15	15		15	15	15	15	15		135				
Stukalov, Dmitriy (URS) (1951) time	6.0	10.2	14.3	18.3	22.4		26.6	31.0	35.5	40.2	44.8		50.0	/ 3			
reaction time		4.2	4.1	4.0	4.1		4.2	4.4	4.5	4.7	4.6	5.2	PB		12.30	12.70	13.80
velocity	7.50	8.33	8.54	8.75	8.54		8.33	7.95	7.78	7.45	7.61	7.69	8.00		8.54	8.27	7.61
H1 lead leg		13	13	13	13		15	15	15	15	15		127				

Büttner, Dieter (FRG) (1949) no information available 50.1 /4
 Gavrilenko, Yevgeny (URS) (1951) no information available 50.5 /5
 Salin, Ari (FIN) (1947) no information available 50.6 /6

1970 France vs. USA (Colombes, FRA)

FINAL

date 08-Jul-70

Behm (1988) - 45-39

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Nallet, Jean-Claude (FRA) (1 time)	5.9	9.9	13.7	17.4	21.7		25.6	29.8	34.3	38.9	43.4		48.6	/ 1			
reaction time	interval	4.0	3.8	3.7	4.3		3.9	4.2	4.5	4.6	4.5	5.2	PB		11.50	12.40	13.60
	velocity	7.63	8.75	9.21	9.46	8.14	8.97	8.33	7.78	7.61	7.78	7.69	8.23		9.13	8.47	7.72
H1 lead leg	strides	19	13	13	13	13	13	13	15	15	15		142				

McFarlane (1981) - understanding the 400m hurdles (in Jarver (ed) - the hurdles, 1981)

1968 Olympic Games (Mexico City, MEX) (Altitude)

FINAL

date 15-Oct-68

Le Masurier (1972) - track speed- hurdles, sprints, and relays

Dessons (1982) - traite d'athletisme - volume 1: les courses

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Hemery, David (GBR) (1944) time	6.0	9.8	13.6	17.5	21.5	23.3	25.4	29.6	33.9	38.3	42.8		48.1	6 / 1			
reaction time	interval	3.8	3.8	3.9	4.0		3.9	4.2	4.3	4.4	4.5	5.3	WR		11.50	12.10	13.20
	velocity	7.50	9.21	9.21	8.97	8.58	8.97	8.33	8.14	7.95	7.78	7.55	8.32	(48.12)	9.13	8.68	7.95
H1 lead leg	L strides	21	13	13	13	13	13	15	15	15	15	18	164				
Hennige, Gerhard (FRG) (19 time)	6.0	9.9	13.8	17.8	21.9	23.8	26.1	30.5	34.9	39.4	44.0		49.0	2 / 2			
reaction time	interval	3.9	3.9	4.0	4.1		4.2	4.4	4.4	4.5	4.6	5.0	(49.02)		11.80	12.70	13.50
	velocity	7.50	8.97	8.97	8.75	8.54	8.40	8.33	7.95	7.95	7.78	7.61	8.00	8.16	8.90	8.27	7.78
H1 lead leg	L strides	21	13	13	13	13	13	15	15	15	15	18.2	164.2				
Sherwood, John (GBR) (194 time)	6.0	9.8	13.7	17.7	21.8	23.7	26.0	30.2	34.7	39.4	43.9		49.0	8 / 3			
reaction time	interval	3.8	3.9	4.0	4.1		4.2	4.2	4.5	4.7	4.5	5.1	(49.03)		11.70	12.50	13.70
	velocity	7.50	9.21	8.97	8.75	8.54	8.44	8.33	8.33	7.78	7.45	7.78	8.16	8.16	8.97	8.40	7.66
H1 lead leg	L strides	21	13	13	13	13	13	15	15	15	15		146				
Vanderstock, Geoff (USA) (1 time)	5.9	9.7	13.8	17.8	21.8	23.7	25.9	30.2	34.5	38.9	43.5		49.0	3 / 4			
reaction time	interval	3.8	4.1	4.0	4.0		4.1	4.3	4.3	4.4	4.6	5.5	(49.07)		11.90	12.40	13.30
	velocity	7.63	9.21	8.54	8.75	8.75	8.44	8.54	8.14	8.14	7.95	7.61	7.27	8.16	8.82	8.47	7.89
H1 lead leg	R strides	21	15	15	15	15	15	15	15	15	15	18.7	174.7				
Skomorokhov, Vyacheslav (L time)	6.1	9.9	13.7	17.5	21.5	23.4	25.6	30.0	34.6	39.2	43.8		49.1	5 / 5			
reaction time	interval	3.8	3.8	3.8	4.0		4.1	4.4	4.6	4.6	4.6	5.3	(49.12)		11.40	12.50	13.80
	velocity	7.38	9.21	9.21	9.21	8.75	8.55	8.54	7.95	7.61	7.61	7.61	7.55	8.15	9.21	8.40	7.61
H1 lead leg	L strides	21	13	13	13	13	13	15	15	15	15	18	164				
Whitney, Ron (USA) (1942) time	6.1	10.3	14.2	18.2	22.4	24.3	26.6	30.8	35.1	39.5	44.0		49.2	7 / 6			
reaction time	interval	4.2	3.9	4.0	4.2		4.2	4.2	4.3	4.4	4.5	5.2	(49.27)		12.10	12.60	13.20
	velocity	7.38	8.33	8.97	8.75	8.33	8.23	8.33	8.33	8.14	7.95	7.78	7.69	8.13	8.68	8.33	7.95
H1 lead leg	R strides	21	13	13	13	13	13	13	15	15	15		144				
Schubert, Rainer (FRG) (194 time)	6.0	9.8	13.7	17.7	21.8	23.7	25.9	30.3	34.8	39.3	44.0		49.2	1 / 7			
reaction time	interval	3.8	3.9	4.0	4.1		4.1	4.4	4.5	4.5	4.7	5.2	(49.30)		11.70	12.60	13.70
	velocity	7.50	9.21	8.97	8.75	8.54	8.44	8.54	7.95	7.78	7.78	7.45	7.69	8.13	8.97	8.33	7.66
H1 lead leg	L strides	21	13	13	13	13	13	15	15	15	15	17.2	163.2				
Frinolli, Roberto (ITA) (1940) time	5.8	9.7	13.6	17.5	21.5	23.4	25.6	29.9	34.3	38.9	43.9		50.1	4 / 8			
reaction time	interval	3.9	3.9	3.9	4.0		4.1	4.3	4.4	4.6	5.0	6.2	(50.13)		11.70	12.40	14.00
	velocity	7.76	8.97	8.97	8.97	8.75	8.55	8.54	8.14	7.95	7.61	7.00	6.45	7.98	8.97	8.47	7.50
H1 lead leg	L strides	22	15	15	15	15	15	15	15	15	15		157				

Semi-Final 2

date 14-Oct-68

Jonath (1969) - wie gerhard hennige trainiert

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Hennige, Gerhard (FRG) (19 time)	6.1	9.9	13.7	17.7	21.9	23.6	26.0	30.3	34.6	39.0	43.6		49.1	/ 1			
reaction time	interval	3.8	3.8	4.0	4.2		4.1	4.3	4.3	4.4	4.6	5.5	(49.16)		11.60	12.60	13.30
	velocity	7.38	9.21	9.21	8.75	8.33	8.47	8.54	8.14	8.14	7.95	7.61	7.27	8.15	9.05	8.33	7.89
H1 lead leg	strides																

Semi-Final 1

date 14-Oct-68

Jonath (1969) - wie gerhard hennige trainiert

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Schubert, Rainer (FRG) (194 time)	6.0	9.9	13.8	17.7	21.8	23.5	26.0	30.3	34.8	39.2	43.7		49.3	/ 4			
reaction time	interval	3.9	3.9	3.9	4.1		4.2	4.3	4.5	4.4	4.5	5.6	(49.38)		11.70	12.60	13.40
	velocity	7.50	8.97	8.97	8.97	8.54	8.51	8.33	8.14	7.78	7.95	7.14	8.11	8.11	8.97	8.33	7.84
H1 lead leg	strides																

Heat 4

date 13-Oct-68

Jonath (1969) - wie gerhard hennige trainiert

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Frinolli, Roberto (ITA) (1940) time	6.0	10.0	14.2	18.2	22.2	23.8	26.6	30.7	35.1	39.4	44.0		49.9	/ 1			
reaction time	interval	4.0	4.2	4.0	4.0		4.4	4.1	4.4	4.3	4.6	5.9	(49.95)		12.20	12.50	13.30
	velocity	7.50	8.75	8.33	8.75	8.40	7.95	8.54	7.95	8.14	7.61	6.78	8.02	8.02	8.61	8.40	7.89
H1 lead leg	strides																
Hemery, David (GBR) (1944) time	6.0	10.0	14.0	18.1	22.2	23.7	26.7	30.8	35.0	39.5	44.1		50.3	/ 2			
reaction time	interval	4.0	4.0	4.1	4.1		4.5	4.1	4.2	4.5	4.6	6.2	(50.33)		12.10	12.70	13.30

	velocity	7.50	8.75	8.75	8.54	8.54	8.44	7.78	8.54	8.33	7.78	7.61	6.45	7.95		8.68	8.27	7.89
H1 lead leg	strides																	

Heat 3

date 13-Oct-68

Jonath (1969) - wie gerhard hennige trainiert

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Whitney, Ron (USA) (1942)	time	6.1	10.0	13.9	18.1	22.2	23.8	26.3	30.9	35.2	39.5	44.0		49.0	/ 1			
	reaction time		interval	3.9	3.9	4.2	4.1	4.1	4.6	4.3	4.3	4.5	5.0	OR		12.00	12.80	13.10
	velocity	7.38	8.97	8.97	8.33	8.54	8.40	8.54	7.61	8.14	8.14	7.78	8.00	8.16	(49.06)	8.75	8.20	8.02
H1 lead leg	strides																	
Schubert, Rainer (FRG) (194	time	6.1	9.9	13.7	17.7	21.7	23.4	26.0	30.4	34.8	39.1	43.6		49.1	/ 2			
	reaction time		interval	3.8	3.8	4.0	4.0	4.3	4.4	4.4	4.3	4.5	5.5	PB		11.60	12.70	13.20
	velocity	7.38	9.21	9.21	8.75	8.75	8.55	8.14	7.95	7.95	8.14	7.78	7.27	8.15	(49.15)	9.05	8.27	7.95
H1 lead leg	strides																	

Heat 2

date 13-Oct-68

Jonath (1969) - wie gerhard hennige trainiert

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Dyrzka, Juan Carlos (ARG) (time	6.1	10.0	14.0	17.9	21.9	23.6	26.1	30.5	35.0	39.5	44.2		49.8	/ 1			
	reaction time		interval	3.9	4.0	3.9	4.0	4.2	4.4	4.5	4.5	4.7	5.6	NR		11.80	12.60	13.70
	velocity	7.38	8.97	8.75	8.97	8.75	8.47	8.33	7.95	7.78	7.78	7.45	7.14	8.03	(49.82)	8.90	8.33	7.66
H1 lead leg	strides																	

Heat 1

date 13-Oct-68

Jonath (1969) - wie gerhard hennige trainiert

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Hennige, Gerhard (FRG) (19	time	5.9	9.8	13.6	17.6	21.8	23.5	25.8	30.0	34.5	39.1	43.5		49.5	/ 1			
	reaction time		interval	3.9	3.8	4.0	4.2	4.0	4.2	4.5	4.6	4.4	6.0	(49.57)		11.70	12.40	13.50
	velocity	7.63	8.97	9.21	8.75	8.33	8.51	8.75	8.33	7.78	7.61	7.95	6.67	8.08		8.97	8.47	7.78
H1 lead leg	strides																	

1967 (Leninakan, URS) (Altitude)**Heat ??**

date 02-Oct-67

Jonath (1969) - wie gerhard hennige trainiert

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Skomorokhov, Vyacheslav (L	time	5.8	10.0	13.9	18.1	22.2		26.6	31.1	35.6	40.1	44.7		50.1	/ 1			
	reaction time		interval	4.2	3.9	4.2	4.1	4.4	4.5	4.5	4.5	4.6	5.4			12.3	13.0	13.6
	velocity	7.76	8.33	8.97	8.33	8.54		7.95	7.78	7.78	7.78	7.61	7.41	7.98		8.54	8.08	7.72
H1 lead leg	strides																	

1964 Olympic Games (Tokyo, JPN)**FINAL**

date 16-Oct-64

Breitschaft (1965) - die leichtathletik wettkämpfe der 1964 olympischen sommerspielen - 400m hürdenlauf

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Cawley, Rex (USA) (1940)	time	5.9		13.8		21.8			30.3		38.9			49.6	6 / 1			
	reaction time			interval		7.9			8.5		8.6		10.7					
	velocity	7.63		8.86		8.75			8.24		8.14		7.01	8.06				
H1 lead leg	strides																	
Cooper, John (GBR) (1940)	time	5.8		13.8		22.0			30.8		40.0			50.1	4 / 2			
	reaction time			interval		8.0			8.8		9.2		10.1					
	velocity	7.76		8.75		8.54			7.95		7.61		7.43	7.98				
H1 lead leg	strides																	
Morale, Salvatore (ITA) (1938	time	5.8		13.8		22.0			30.8		40.0			50.1	8 / 3			
	reaction time			interval		8.0			8.8		9.2		10.1					
	velocity	7.76		8.75		8.54			7.95		7.61		7.43	7.98				
H1 lead leg	strides																	
Knoke, Gary (AUS) (1942)	time	5.8		13.7		21.8			30.6		40.1			50.4	2 / 4			
	reaction time			interval		7.9			8.8		9.5		10.3					
	velocity	7.76		8.86		8.64			7.95		7.37		7.28	7.94				
H1 lead leg	strides																	
Luck, Jay (USA) (1940)	time	5.7		13.8		22.0			30.5		39.6			50.5	3 / 5			
	reaction time			interval		8.1			8.5		9.1		10.9					
	velocity	7.89		8.64		8.54			8.24		7.69		6.88	7.92				
H1 lead leg	strides																	
Frinolli, Roberto (ITA) (1940)	time	5.8		13.4		21.0			29.8		39.0			50.7	7 / 6			
	reaction time			interval		7.6			8.8		9.2		11.7					
	velocity	7.76		9.21		9.21			7.95		7.61		6.41	7.89				
H1 lead leg	strides																	
Anisimov, Vasilij (URS) (1938)														51.1	1 / 7			
Geeroms, Wilfried (BEL) (1941)														51.4	5 / 8			

1962 European Championships (Belgrad, YUG)**FINAL**

date 14-Sep-62

Nett (1964) - Training des leichtathleten: Hürdenlauf, sprung, wurf, mehrkampf

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Morale, Salvatore (ITA) (1938	time	6.0	9.9	14.0	18.0	22.1	23.9	26.4	30.8	35.2	39.5	44.1		49.2	/ 1			

reaction time	interval	3.9	4.1	4.0	4.1		4.3	4.4	4.4	4.3	4.6	5.1	=WR	12.0	12.8	13.3	
	velocity	7.50	8.97	8.54	8.75	8.54	8.37	8.14	7.95	7.95	8.14	7.61	7.84	8.13	8.75	8.20	7.89
H1 lead leg	strides	15	15	15	15		15	15	15	15	15						

Neumann, Jörg (FRG) (1941)	no information available	50.3	/2
Janz, Helmut (FRG) (1934)	no information available	50.5	/3
Rintamaki, Jussi (FIN) (1935)	no information available	50.8	/4
Kryunov, Boris (URS) (1935)	no information available	51.3	/5
Anisimov, Vasilij (URS) (1938)	no information available	54.2	/6

1961 International Fall Meeting (Rome, ITA)**FINAL**

date 15-Oct-09

Nett (1964) - Training des leichtathleten: Hürdenlauf, sprung, wurf, mehrkampf

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Morale, Salvatore (ITA) (1938)	time	5.8	9.8	13.8	17.8	21.8	23.4	26.0	30.2	34.6	39.6	44.4		49.7	6 / 1			
	reaction time	interval	4.0	4.0	4.0	4.0		4.2	4.2	4.4	5.0	4.8	5.3	AR		12.0	12.4	14.2
	velocity	7.76	8.75	8.75	8.75	8.75	8.55	8.33	8.33	7.95	7.00	7.29	7.55	8.05	(50.1y)	8.75	8.47	7.39
H1 lead leg	strides																	

1961 Universiade (Sofia, BUL)**FINAL**

date 01-Sep-61

Bartusek (1969) - 400-meter training and technique

Nett (1964) - Training des leichtathleten: Hürdenlauf, sprung, wurf, mehrkampf

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Morale, Salvatore (ITA) (1938)	time	5.8	9.8	13.9	18.2	22.5		26.8	31.1	35.5	40.0	44.7		50.0	/ 1			Nett (1964)
	reaction time	interval	4.0	4.1	4.3	4.3		4.3	4.3	4.4	4.5	4.7	5.3	NR		12.4	12.9	13.6
	velocity	7.76	8.75	8.54	8.14	8.14		8.14	8.14	7.95	7.78	7.45	7.55	8.00		8.47	8.14	7.72
H1 lead leg	strides																	
Chevychalov, Georgiy (URS)	time	5.8	10.1	14.1	18.1	22.4		26.9	31.5	36.0	40.6	45.8		51.7	/ 2			Bartusek (1969)
	reaction time	interval	4.3	4.0	4.0	4.3		4.5	4.6	4.5	4.6	5.2	5.9			12.3	13.4	14.3
	velocity	7.76	8.14	8.75	8.75	8.14		7.78	7.61	7.78	7.61	6.73	6.78	7.74		8.54	7.84	7.34
H1 lead leg	strides																	

1960 Olympic Games (Rome, ITA)**FINAL**

date 02-Sep-60

Nett (1964) - Training des leichtathleten: Hürdenlauf, sprung, wurf, mehrkampf

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Davis, Glenn (USA) (1934)	time	5.9	9.9	14.0	18.2	22.4	24.0	26.7	31.1	35.6	40.0	44.5		49.3	6 / 1			
	reaction time	interval	4.0	4.1	4.2	4.2		4.3	4.4	4.5	4.4	4.5	4.8	OR		12.3	12.9	13.4
	velocity	7.63	8.75	8.54	8.33	8.33	8.33	8.14	7.95	7.78	7.95	7.78	8.33	8.11	(49.51)	8.54	8.14	7.84
H1 lead leg	strides																	
Cushman, Cliff (USA) (1938)							24.5							49.6	5 / 2	(49.77)		
Howard, Dick (USA) (1935)							24.1							49.7	1 / 3	(49.90)		
Janz, Helmut (EUA/FRG) (1934)							23.9							49.9	2 / 4	(50.05)		
Rintamaki, Jussi (FIN) (1935)							24.5							50.8	4 / 5	(50.98)		
Galliker, Bruno (SUI) (1931)							24.3							51.0	3 / 6	(51.11)		

Ulrich (1960) - der 400m-hürdenlauf in Rom (200m times)

Semi-Final 2

date 01-Sep-60

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Cushman, Cliff (USA) (1938)							25.2							50.8	/ 1	(50.89)		
Howard, Dick (USA) (1935)							24.3							50.8	/ 2	(50.91)		
Galliker, Bruno (SUI) (1931)							24.7							51.3	/ 3	(51.47)		
Morale, Salvatore (ITA) (1938)														51.3	/ 4	(51.48)		
Rotich, Bartonjo (KEN) (1938)							23.9							51.8	/ 5	(51.97)		
Matthias, Willi (EUA/FRG) (1936)							24.4							51.8	/ 6	(51.95)		
Metcalfe, John (GBR) (1934)														52.5	/ 7	(52.72)		

Semi-Final 1

date 01-Sep-60

Ulrich (1960) - der 400m-hürdenlauf in Rom (200m times)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Davis, Glenn (USA) (1934)							24.1							51.1	/ 1	(51.20)		
Rintamaki, Jussi (FIN) (1935)							24.6							51.1	/ 2	(51.20)		
Janz, Helmut (EUA/FRG) (1934)							23.9							51.4	/ 3	(51.55)		
Chevychalov, Georgiy (URS) (1938)														52.0	/ 4	(52.14)		
Catola, Elio (ITA) (1935)														52.3	/ 5	(52.44)		
Gulbrandsen, Jan (NOR) (1938)							24.2							52.4	/ 6	(52.56)		
Martini, Moreno (ITA) (1935)														52.4	/ 7	(52.57)		

1956 Olympic Games (Melbourne, AUS)**FINAL**

date 24-Nov-56

Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)

		H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Davis, Glenn (USA) (1934)	time					22.7								50.1	4 / 1			
	reaction time	interval												=OR				
	velocity				8.15										(50.29)			
H1 lead leg	L	22	15	15	15	15		15	15	15	15	15	19	176				
Southern, Eddie (USA) (1934)	time					22.5								50.8	2 / 2			
	reaction time	interval												(50.94)				
	velocity				8.22									7.87				
H1 lead leg	R	22	15	15	13	15		15	15	15	15	15	18	173				

Culbreath, Josh (USA) (1932)	no information available	51.6	1 / 3	(51.74)
Lituyev, Yury (URS) (1925)	no information available	51.7	5 / 4	(51.91)
Lean, David (AUS) (1935)	no information available	51.8	6 / 3	(51.93)
Potgieter, Gert (RSA) (1937)	no information available	56.0	3 / 6	

1953 Hungary vs. USSR (Budapest, HUN)

FINAL

date 20-Sep-53

Quercentani (2000). Athletics: A history of modern track and field athletics (1860-2000)

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Lituyev, Yury (URS) (1925)	time					23.5							50.4	/ 1			
	reaction time	interval										26.9	WR				
		velocity				8.51						7.43	7.94				
H1 lead leg	strides	13	13	13	13		13	13	13	15	15		121				

1952 Olympic Games (Helsinki, FIN)

FINAL

date 21-Jul-52

Mitchell (1967) - future of the one-lap hurdles

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Moore, Charlie (USA) (1929)	time	6.2	10.3	14.4	18.6	22.7	27.3	31.9	36.5	41.1	45.4		50.8	6 / 1			
	reaction time	interval	4.1	4.1	4.2	4.1	4.6	4.6	4.6	4.6	4.3	5.4	=OR		12.4	13.3	13.5
		velocity	7.26	8.54	8.54	8.33	8.54	7.61	7.61	7.61	7.61	7.41	7.87	(51.06)	8.47	7.89	7.78
H1 lead leg	strides																
Lituyev, Yury (URS) (1925)													51.3	1 / 2			(51.51)
Holland, John (NZL) (1926)													52.2	3 / 3			(52.26)
Yulin, Anatoly (URS) (1929)													52.8	2 / 4			(52.81)
Whittle, Harry (GBR) (1922)													53.1	5 / 5			(53.36)
Filiput, Armando (ITA) (1923)													54.4	4 / 6			(54.49)

1948 Olympic Games (London, GBR)

FINAL

date 31-Jul-48

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Cochran, Roy (USA) (1919)													OR	51.1	3 / 1		
White, Duncan (SRI) (1918)													51.8	5 / 2			
Larsson, Rune (SWE) (1924)													51.2	6 / 3			
Ault, Dick (USA) (1925)													52.4	4 / 4			
Cros, Yves (FRA) (1923)													53.3	1 / 5			
Missoni, Ottavio (ITA) (1921)													54.0	2 / 6			

1936 Olympic Games (Berlin, GER)

FINAL

date 04-Aug-36

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Hardin, Glenn (USA) (1910)													52.4	6 / 1			
Loaring, John (CAN) (1915)													52.7	3 / 2			
White, Miguel (PHI) (1909)													52.8	5 / 3			
Patterson, Joseph (USA) (1912)													53.0	1 / 4			
Padilha, Sylvio (BRA) (1909)													54.0	4 / 5			
Mantikas, Hristos (GRE) (1902)													54.2	2 / 6			

1932 Olympic Games (Los Angeles, CA)

FINAL

date 01-Aug-32

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tisdall, Bob (IRL) (1907)													WR	51.7	3 / 1		
Hardin, Glenn (USA) (1910)													WR	51.9	6 / 2		
Taylor, Morgan (USA) (1903)													52.0	4 / 3			
Burghley, Lord David (GBR) (1905)													52.2	5 / 4			
Facelli, Luigi (ITA) (1898)													53.0	2 / 5			
Areskoug, Kjell (SWE) (1906)													54.6	1 / 6			

1928 Olympic Games (Amsterdam, NED)

FINAL

date 30-Jul-28

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Burghley, Lord David (GBR) (1905)													=OR	53.4	5 / 1		
Cuhel, Frank (USA) (1904)													53.6e	1 / 2			
Taylor, Morgan (USA) (1903)													53.6e	3 / 3			
Pettersson, Sten (SWE) (1902)													53.8e	2 / 4			
Livingstone-Learmonth, Tom (GBR) (1901)													54.2e	6 / 5			
Facelli, Luigi (ITA) (1898)													55.8e	4 / 6			

1924 Olympic Games (Paris, FRA)

FINAL

date 07-Jul-24

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Taylor, Morgan (USA) (1903)													WR-OR	52.6	1 / 1		
Brookins, Charles (USA) (1899)													DQ	53.5e	5 / 2		
Wilén, Erik (FIN) (1898)													OR	53.8	5 / 3 2		
Riley, Ivan (USA) (1900)													54.2	4 / 4 3			
Blackett, Frederick (GBR) (1900)													DQ	56.0e	6 / 5		

André, Géo (FRA) (1889)

no information available

56.2

3/ ~~6~~ 4**1920 Olympic Games (Antwerp, BEL)****FINAL**

date 16-Aug-20

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Loomis, Frank (USA) (1896)	no information available											WR	54.0	3 / 1			
Norton, John (USA) (1893)	no information available												54.6e	5 / 2			
Desch, August (USA) (1898)	no information available												54.7e	2 / 3			
André, Géo (FRA) (1889)	no information available												54.8e	4 / 4			
Christiernsson, Carl-Axel (SWE) (1898)	no information available												55.4e	1 / 5			
Daggs, Charles (USA) (1901)	no information available												57.5e	6 / 6			

1908 Olympic Games (London, GBR) (587yd Track)**FINAL**

date 22-Jul-08

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Bacon, Charles (USA) (1885)	no information available											WR	55.0	4 / 1			
Hillman, Harry (USA) (1881)	no information available												55.3e	3 / 2			
Tremeer, Jimmy (GBR) (1874)	no information available												57.0e	2 / 3			
Burton, Leslie (GBR) (1882)	no information available												58.0e	1 / 4			

1904 Olympic Games (St. Louis, MO) (76.2cm)**FINAL**

date 31-Aug-04

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Hillman, Harry (USA) (1881)	no information available												53.0	4 / 1			
Waller, Frank (USA) (1884)	no information available												53.2e	2 / 2			
Poage, George (USA) (1880)	no information available												58.4e	1 / 3			
Varnell, George (USA) (1882)	no information available													3 / 4			

1900 Olympic Games (Paris, FRA) (500m Grass Track)**FINAL**

date 15-Jul-00

	H1	H2	H3	H4	H5	200m	H6	H7	H8	H9	H10	Run-In	Official Time	Lane / Place	H1-H4	H4-H7	H7-H10
Tewksbury, Walter (USA) (1876)	no information available											OR	57.6	/ 1			
Tauzin, Henri (FRA) (1879)	no information available												58.3e	/ 2			
Orton, George (CAN) (1873)	no information available												58.9e	/ 3			