

FORAGE CULTIVAR TRIALS

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IN CO-OPERATION WITH



FORAGE CULTIVAR TRIALS
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FOREWORD

This report is the second for a special series of field trials conducted by the Canada Agriculture Research Station in cooperation with Alberta Agriculture.

The objective is to provide relative information on seed production capability and general adaptability of named foreign cultivars of perennial grasses and legumes to assist the Canadian forage seed industry in the development of production contracts and seed export markets. Emphasis is on crops economically suitable for the region and which currently form part of Canada's forage seed export industry.

The following test sites were selected to represent the major agronomic soils of the region:

1. Beaverlodge A. Research Station (SE1-72-10-W6)
Soil type Esher-Hythe. Texture is medium fine, medium organic matter. Subsoil has poor permeability.
2. Beaverlodge B. Foster Farm (SE25-71-10-W6)
Near Beaverlodge, Alta. Soil type Goose-Codner. High organic matter and very fertile. Orthic humic Gleysol. Clay loam to sandy loam.

3. Falher. Beaupre Farm. (NW1-78-21-W5)
Near Falher, Alta. Soil type Falher-Nampa. Fine textured with medium to low organic matter. Poor moisture penetration and percolation. Subject to crusting. Luvisol eacustrine clay loam to clay.
4. Fort Vermilion. Experimental Farm (NW13-108-13-W5)
Soil type Leith-Culp. Coarse textured with medium to low organic matter. Subsoil very permeable and calcareous.

Plots comprise two rows, 30.5 cm (1 foot) apart, 6.1 metres (20 feet) long, and replicated 6 times. Weeds are controlled by both mechanical and chemical means. Plots are fertilized annually in the autumn.

Seed and herbage (dry matter) yields are expressed both as actual production per hectare and as a percent of a designated (*) standard. Statistical differences are indicated by the multiple range test where yields followed by the same letter are not considered significantly different (5%). Winter survival is shown as a Hardiness Scale of 1 (poor) to 9 (best).

This publication will supplement "Forage Introductions - Publication No. 79-16A 1979" which reports on all forages introduced since 1969.

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BROMEGRASS

Test Site: Beaverlodge A. Research Station
Seeding Year: 1977

Cultivar	Origin	Hardiness	1978 Harvest (Aug. 8)				1979 Harvest (Aug. 7)				
			Seed Yield kg/ha	% of Carlton	Herbage (DM) Yield t/ha	% of Carlton	Seed Yield kg/ha	% of Carlton	Herbage (DM) Yield t/ha	% of Carlton	
Barton	U.S.A.	9	161 cd	34	1.46 e	48	8.8	305 f	46	3.85 bc	74
Beacon	U.S.A.	9	187 cd	39	2.76 ab	91	9	573 bc	86	4.48 ab	86
Carlton *	Canada	9	477 b	100	3.02 a	100	9	668 b	100	5.20 a	100
Kesto	Finland	9	286 c	60	2.69 a-c	89	9	516 c-e	77	4.79 ab	92
Lyon	U.S.A.	9	95 d	20	2.28 a-d	75	8.5	380 f	57	3.86 bc	74
Mandan 404	U.S.A.	9	125 d	26	1.75 de	58	9	418 d-f	63	5.06 a	97
Orfeu	Rumania	9	195 cd	41	2.62 a-c	87	9	571 bc	85	4.28 abc	82
S-1733	Canada	9	293 c	61	2.06 b-e	68	9	525 cd	79	3.38 c	65
S-8800	Canada	9	731 a	153	3.09 a	102	9	864 a	127	4.52 ab	87
Tempo	Canada	9	171 cd	36	1.90 ce	63	9	391 ef	59	3.36 c	65
Mean			272		2.34			520		4.28	

BROMEGRASS

Seeding Year: 1978

Data Year: 1979

Cultivar	Origin	Beaverlodge B. (Foster Farm)			Falher (Beaupre Farm)			Fort Vermilion		
		Hardiness	Seed Yield kg/ha	% of Carlton	Hardiness	Seed Yield kg/ha	% of Carlton	Hardiness	Seed Yield kg/ha	% of Carlton
Barton	U.S.A.	9	87 f	38	9	437 de	64	9	243 de	75
Carlton	Canada	9	227 bc	100	9	676 b-d	100	9	323 de	100
Lyon	U.S.A.	9	75 f	33	9	568 b-e	83	9	187 e	57
Magna	Canada	9	165 c-e	72	9	726 bc	107	9	361 cd	111
Mandan 404	U.S.A.	9	146 d-f	64	9	479 c-e	70	9	165 e	51
Regar	U.S.A.	9	226 bc	99	9	354 e	52	9	306 de	94
Tempo	Canada	9	112 ef	49	9	503 b-e	74	9	286 de	88
S 7695	Canada	9	305 a	133	9	759 b	112	9	544 ab	168
S 7855	Canada	9	104 ef	45	9	556 b-e	82	9	214 de	66
S 8778	Canada	9	276 ab	121	9	1062 a	156	9	484 bc	150
S 8792	Canada	9	188 cd	82	9	672 b-d	99	9	645 a	200
Mean			174	76		617	91		342	105

FESCUE - CHEWINGS

Test Site: Beaverlodge A. Research Station
Seeding Year: 1977

Cultivar	Origin	Hardiness	1978 Harvest (July 24)				1979 Harvest (July 27)				
			Seed Yield kg/ha	% of Oasis	Herbage (DM) Yield t/ha	% of Oasis	Hardiness	Seed Yield kg/ha	% of Oasis	Herbage(DM) Yield t/ha	% of Oasis
Agram	Netherlands	9	12 a-c	75	0.96 a	63	9	508 a	202	4.46 a	127
Atlanta	Netherlands	9	20 a-c	125	1.05 a	69	9	436 a	174	3.72 a	106
Banner	U.S.A.	9	30 a	188	1.39 a	91	9	519 a	207	3.85 a	110
Belmonte	Netherlands	9	25 ab	156	1.41 a	93	9	387 a	194	3.90 a	111
Diamond	Netherlands	9	10 bc	63	1.05 a	69	9	365 ab	145	5.22 a	148
Faramir	Denmark	9	4 c	25	1.34 a	88	9	156 c	62	4.59 a	131
Halifax	Netherlands	9	3 c	19	0.78 a	51	9	230 bc	92	3.43 a	97
Oasis *	Netherlands	9	16 a-c	100	1.52 a	100	9	251 bc	100	3.52 a	100
Scarlet	Netherlands	9	27 ab	169	1.19 a	78	9	486 a	194	4.32 a	123
Mean			17		1.19			382		4.11	

FESCUE: CHEWINGS

Seeding Year: 1978

Data Year: 1979

Cultivar	Origin	Beaverlodge B: (Foster Farm)			Falher: (Beaupre Farm)			Fort Vermilion				
		Hardiness	Seed Yield kg/ha	% of Oasis	Hardiness	Seed Yield kg/ha	% of Oasis	Hardiness	Seed Yield kg/ha	% of Oasis		
Adonis	Netherlands	9	225	b-e	100	(1)	(1)	9	292	a	195	
Agram	Netherlands	9	196	c-e	87	9	93	d	9	208	a	139
Belmonte	Netherlands	9	349	a-b	155	9	188	a-d	9	263	a	175
Cascade	U.S.A.	9	187	d-e	83	9	149	b-d	9	208	a	139
Dawson	Netherlands	9	251	b-e	112	(1)	(1)	9	253	a	169	
Diamond	Netherlands	9	141	e	63	9	118	cd	9	200	a	133
Encota	Netherlands	9	155	de	69	9	181	a-d	9	223	a	149
Famosa	Belgium	9	149	de	66	9	211	a-d	9	325	a	217
Flevo	Netherlands	9	262	b-e	116	9	129	cd	9	240	a	160
Frida	Netherlands	9	228	b-e	101	(1)	(1)	9	289	a	193	
Highlight	Netherlands	9	256	b-e	114	9	158	b-d	9	269	a	179
Ivalo	Denmark	9	194	c-e	86	9	141	b-d	9	228	a	152
Koket	Netherlands	9	353	ab	157	9	136	b-d	9	309	a	206
Lifalla	Germany	9	245	b-e	109	9	180	a-d	9	195	a	130
Lirouge	Germany	9	132	e	59	9	169	b-d	9	264	a	176
Menuet	Netherlands	9	249	b-e	111	9	223	a-d	9	250	a	167
Oasis *	Netherlands	9	225	b-e	100	(1)	(1)	9	150	a	100	
Odra	Germany	9	345	ab	153	9	317	a	9	454	a	303
Rosengold	Germany	9	391	a	174	9	245	a-c	9	318	a	212
Rolax	Belgium	9	276	a-d	123	9	270	ab	9	343	a	229
Scarlet	Netherlands	9	226	b-e	100	9	171	b-d	9	377	a	251
Tamara	Denmark	9	279	a-d	124	9	270	ab	9	405	a	270
Tatjana	Denmark	9	324	a-c	144	(1)	(1)	9	314	a	209	
Waldorf	Netherlands	9	220	b-e	98	9	102	d	9	278	a	185
Mean			244		109		163			277		185

(1) Not established.

CREEPING RED FESCUE

Test Site: Beaverlodge A. Research Station
Seeding Year: 1977

Cultivar	Origin	Hardiness	1978 Harvest (July 24)				1979 Harvest (July 31)				
			Seed Yield kg/ha	% of Boreal	Herbage (DM) Yield t/ha	% of Boreal	Seed Yield kg/ha	% of Boreal	Herbage (DM) Yield t/ha	% of Boreal	
#60	Netherlands	9	40 k-o	9	0.78 k1	30	9	195 e-h	69	1.90 c-g	80
Barbara	Netherlands	9	3.36 o	1	0.82 j-1	32	8.8	206 e-h	73	1.64 e-g	69
Bastide	France	9	6.72 o	1	0.74 l	29	8.3	68 i-1	24	1.61 e-g	68
Barante	Netherlands	9	4.48 o	1	1.16 g-m	45	7.7	121 h-1	43	1.50 fg	63
Bergond	Denmark	9	112 h-o	24	1.75 c-j	68	9	174 e-j	61	1.99 b-g	84
Boreal*	Canada	9	461 a	100	2.58 a-c	100	8.8	283 a-e	100	2.37 a-f	100
Brasov	Rumania	9	76 j-o	16	1.86 b-i	72	9	212 d-h	75	2.78 a-d	117
Carlawn	Canada	9	338 bc	73	2.28 a-e	88	9	198 e-h	70	1.93 c-g	81
Checker	U.S.A.	9	45 k-o	10	0.94 j-1	36	9	326 a-d	115	2.80 a-d	118
Engina	Netherlands	9	195 e-i	42	1.50 d-1	58	9	347 a-c	123	2.78 a-d	117
Ensylva	Netherlands	9	148 f-m	32	1.01 h-1	39	9	156 f-k	55	2.20 a-g	92
Envira	Netherlands	9	311 b-e	67	2.42 a-d	94	9	269 b-f	95	2.73 a-d	115
Enzet	Netherlands	9	368 ab	80	2.84 a	110	9	394 a	139	3.18 a	134
Fortress	U.S.A.	9	125 g-n	27	1.86 b-i	72	9	248 c-g	88	2.44 a-f	103
Frida	Netherlands	9	45 k-o	10	0.74 l	29	8.3	77 i-1	27	1.23 g	52
Grampian	United Kingdom	9	49 k-o	11	1.41 e-1	55	9	39 l	14	1.30 g	55
Grelo	Denmark	9	63 k-o	14	1.41 e-1	55	9	73 i-1	26	1.75 d-g	74
Jade	Netherlands	9	38 l-o	8	0.96 j-1	37	9	217 d-h	77	2.22 a-g	93
Laverdure	France	9	58 k-o	13	1.68 c-1	65	9	160 f-k	57	2.11 b-g	89
Manior	France	9	17 n-o	4	0.94 i-1	36	8.3	44 l	16	1.50 fg	63
Mariet	Netherlands	9	34 l-o	7	0.72 l	28	8.6	241 c-g	85	2.64 a-e	111
Marga	Netherlands	9	20 no	4	1.12 g-1	43	8.6	207 d-h	73	1.97 c-g	83
Merlin	United Kingdom	9	25 no	5	1.52 d-1	59	8.6	75 i-1	27	2.31 a-f	97
Moncorde	Netherlands	9	248 c-f	54	1.97 a-h	76	8.3	129 g-1	46	1.99 b-g	84
Monica	Netherlands	9	83 i-o	18	2.24 a-f	87	9	65 j-1	23	1.95 c-g	82
Noro	Germany	9	40 k-o	9	1.28 f-1	50	9	326 a-d	115	2.44 a-f	103
Patio	Netherlands	9	184 f-j	40	2.20 a-f	85	8.8	273 b-f	96	2.42 a-f	102
Puma	Denmark	9	28 no	6	1.05 g-1	41	9	282 a-e	100	2.46 a-f	104
Pp 15E	U.S.A.	9	52 k-o	11	1.30 f-1	50	9	388 ab	137	2.46 a-f	104

CREEPING RED FESCUE - cont'd.

Test Site: Beaverlodge A. Research Station
Seeding Year: 1977

Cultivar	Origin	Hardiness	1978 Harvest (July 24)				1979 Harvest (July 31)				
			Seed Yield kg/ha	% of Boreal	Herbage (DM) Yield t/ha	% of Boreal	Seed Yield kg/ha	% of Boreal	Herbage (DM) Yield t/ha	% of Boreal	
Reptans	Sweden	9	320 b-d	69	2.58 a-c	100	9	252 c-f	89	2.87 a-c	121
Roland 21	Germany	9	188 f-j	41	2.73 ab	106	9	217 d-h	77	3.05 ab	128
Rubina Roskilde	Denmark	9	220 d-h	48	1.90 a-i	74	9	208 d-h	73	2.53 a-f	107
RS 512	Sweden	9	150 f-l	33	2.02 c-g	78	8.8	216 d-h	76	2.37 a-f	100
Skot	Denmark	9	34 l-o	7	1.97 a-h	76	8.6	62 kl	22	2.60 a-e	109
Sonnet	Netherlands	9	30 m-o	7	1.64 c-l	64	8.8	65 j-l	23	1.79 d-g	75
Svalbard	Norway	9	87 i-o	19	1.52 d-l	59	9	178 e-i	63	2.55 a-f	108
Taca	Denmark	9	234 c-g	51	2.58 a-c	100	9	209 d-h	74	2.31 a-f	97
Turf	Sweden	9	157 f-k	34	2.02 a-g	78	9	241 c-g	85	2.46 a-f	104
Veni	Denmark	9	54 k-o	12	1.72 c-k	67	8.6	232 c-h	82	2.33 a-f	98
Mean			120		1.64			197		2.24	

CREEPING RED FESCUE:

Seeding Year: 1978

Data Year: 1979

Cultivar	Origin	Beaverlodge B: Foster Farm			Falher (Beaupre Farm			Fort Vermilion					
		Hardiness	Seed Yield kg/ha	% of Boreal	Hardiness	Seed Yield kg/ha	% of Boreal	Hardiness	Seed Yield kg/ha	% of Boreal			
Banner	U.S.A.	9	282	f-h	37	9	281	e-i	27	9	249	h-m	20
Barante	Netherlands	9	102	hi	13	9	2	l	0.19	9	26	m	2.1
Barbara	Netherlands	9	67	i	9	9	13	kl	1.2	9	39	m	3
Bastide	France	9	91	hi	12	9	16	kl	1.5	9	27	m	2.2
Boreal *	Canada	9	760	a	100	9	1043	a	100	9	1224	a	100
Brasov	Rumania	9	376	e-g	49	9	411	c-f	39	9	423	f-k	35
Carlawn	Canada	9	616	a-d	81	9	510	cd	49	9	1052	ab	86
Checker	U.S.A.	9	131	hi	17	9	174	g-l	17	9	413	a-l	34
Chomade	France	9	128	hi	17	9	71	i-l	7	9	170	i-m	14
Corona	Netherlands	9	170	g-i	22	9	44	j-l	4	9	160	i-m	13
Engina	Netherlands	9	636	a-d	84	9	340	d-h	33	9	874	bc	71
Ensylva	Netherlands	9	600	a-d	79	9	261	e-j	25	9	474	d-h	38
Envina	Netherlands	9	749	ab	99	9	758	b	73	9	720	c-e	59
Enzet	Netherlands	9	627	a-d	83	9	335	d-h	32	9	710	c-f	58
Fortress	U.S.A.	9	755	ab	99	9	445	c-e	43	9	671	c-g	55
Grelo	Denmark	9	206	g-i	27	9	17	kl	1.6	9	140	k-m	11
Keszthelyi	Hungary	9	520	c-e	68	9	510	cd	49	9	445	e-i	36
Manior	France	9	109	hi	14	9	21	kl	2	9	136	lm	11
Marga	Netherlands	9	106	hi	14	9	54	j-l	5	9	94	m	8
Mariet	Netherlands	9	189	g-i	25	9	220	f-k	21	9	146	j-m	12
Merlin	Great Britain	9	123	hi	16	9	17	kl	1.6	9	92	m	8
Moncorde	Netherlands	9	533	b-e	70	9	617	bc	59	9	756	c-d	62
Monica	Netherlands	9	438	d-f	58	9	455	c-e	44	9	428	e-j	35
Patio	Netherlands	9	560	a-e	74	9	521	cd	50	9	404	g-l	33
Pernille	Denmark	9	437	d-f	58	9	334	d-h	32	9	401	g-l	33
Pollux	Denmark	9	679	a-c	89	9	629	bc	60	9	615	c-g	50
Puma	Denmark	9	132	hi	17	9	156	h-l	15	9	230	h-m	19
Rapid	Netherlands	9	659	a-d	87	9	619	bc	59	9	623	c-g	51
Skot	Denmark	9	128	hi	17	9	78	i-l	7	9	44	m	4
Sonnet	Netherlands	9	175	ghi	23	9	50	j-l	5	9	138	l-n	11
Veni	Denmark	9	231	f-i	30	9	385	d-g	37	9	300	h-m	25
Mean			370		49		302		28		394		33

Note: All creeping red fescue harvested on July 27 at Fosters.

TIMOTHY - TURF

Test Site: Beaverlodge A. Research Station
Seeding Year: 1977

Cultivar	Origin	1978 Harvest						1979 Harvest					
		Date Ripe August	Hardiness	Seed Yield kg/ha	% of S.50	Herbage (DM) Yield t/ha	% of S.50	Date Ripe August	Hardiness	Seed Yield kg/ha	% of S.50	Herbage(DM) Yield t/ha	% of S.50
Barbino	Netherlands	15	9	190 d	108	0.94 ef	79	22	8.8	312 b	149	4.14 b-e	109
Baret	Netherlands	16	9	325 a-c	185	1.19 c-e	100	21	8.8	276 bc	132	4.44 a-e	117
Barosa	Netherlands	17	9	233 cd	132	1.0 d-f	84	21	8.6	308 b	147	4.01 b-e	106
Evergreen	Sweden	15	9	365 ab	207	2.1 ab	176	21	9	283 bc	135	4.95 abc	131
Holea	Germany	17	9	150 de	85	1.3 c-e	109	25	8.6	216 b-d	103	3.76 de	99
Maris Paviour	United Kingdom	22	9	87 e	49	0.45 f	38	29	9	130 d	62	2.44 f	64
Mortel	Netherlands	10	9	414 a	235	1.95 a-c	164	21	9	404 a	193	5.42 a	143
Nobis	Denmark	17	9	192 d	109	1.64 a-e	138	22	8.6	189 cd	90	3.85 c-e	102
Nodora	Germany	17	9	304 bc	173	2.2 a	185	22	9	274 bc	131	4.77 a-d	126
Piccolo	Netherlands	14	9	231 cd	131	1.39 b-e	117	21	8.8	223 b-d	107	3.85 c-e	102
Rali	Germany	14	9	325 a-c	185	1.72 a-d	145	22	9	231 b-d	111	5.00 ab	132
S-50*	United Kingdom	17	9	176 de	100	1.19 c-e	100	24	8.8	209 b-d	100	3.79 de	100
Teno	Denmark	17	9	244 cd	139	1.64 a-e	138	24	8.6	248 bc	119	3.36 ef	89
Mean				249		1.43				254		4.14	

TIMOTHY - TURF

Seeding Year: 1978

Data Year: 1979

Cultivar	Origin	Beaverlodge B. (Foster Farm)			Falher (Beaupre Farm)			Fort Vermilion		
		Hardiness	Seed Yield kg/ha	% of S.50	Hardiness	Seed Yield kg/ha	% of S.50	Hardiness	Seed Yield kg/ha	% of S.50
Barbino	Netherlands	9	420 a	109	9	(1)		9	(1)	
Baret	Netherlands	9	385 ab	100	9			9		
Barosa	Netherlands	9	324 a-c	84	9			9		
Evergreen	Sweden	9	330 a-c	86	9			9		
Holea	Germany	9	360 a-c	94	9			9		
Mavis Paviouf	Great Britain	9	205 d	53	9			9		
Nobis	Denmark	9	259 cd	67	9			9		
Piccolo	Netherlands	9	361 a-c	94	9			9		
Rali	Germany	9	267 cd	69	9			9		
S 50*	United Kingdom	9	385 a-c	100	9			9		
Sport	France	9	250 cd	65	9			9		
Teno	Denmark	9	293 bd	76	9			9		
Mean			320	83						

Note: (1) Harvested seed destroyed by fire.

TIMOTHY - HAY

Test Site: Beaverlodge A. Research Station
Seeding Year: 1977

Cultivar	Origin	1978 Harvest				1979 Harvest							
		Date Ripe August	Hardiness	Seed Yield kg/ha	% of Climax	Herbage (DM) Yield t/ha	% of Climax	Date Ripe August	Hardiness	Seed Yield kg/ha	% of Climax	Herbage(DM) Yield t/ha	% of Climax
Barmidi	Netherlands	9	9	290 e-o	87	2.28 f-m	88	14	9	264 k-r	67	4.88 d-k	92
Barvanti	Netherlands	20	9	280 e-o	84	2.58 c-k	100	29	9	339 f-n	104	5.02 b-k	95
Basho	Canada	6	9	140 no	42	0.90 i-m	35	9	8.6	389 c-i	119	4.21 i-k	79
Bilbo	Denmark	7	9	539 b	162	3.14 a-f	122	10	9	398 ch	122	5.29 a-k	100
Bottnia II	Sweden	8	9	520 bc	157	2.69 b-i	104	10	9	473 a-e	145	5.35 a-j	101
Castella	Netherlands	15	9	368 b-k	111	1.57 l-n	61	18	9	254 m-r	78	4.17 j-k	78
Champlain	Netherlands	12	9	291 e-n	88	2.42 e-l	94	20	9	230 n-r	71	4.97 d-k	94
Clair	U.S.A.	6	9	227 h-o	68	1.68 k-m	65	11	9	370 d-l	113	5.24 a-k	99
Climax *	Canada	9	9	332 d-l	100	2.58 c-k	100	12	8.8	326 g-o	100	5.31 a-k	100
Deploy	United Kingdom	16	9	149 m-o	45	0.83 no	32	21	8	180 qr	55	2.73 l	51
Dolema	Germany	21	9	175 l-o	53	3.20 a-e	124	29	9	268 j-q	82	5.47 a-j	103
Engmo	Norway	6	9	736 a	222	3.70 a	143	10	9	538 ab	168	5.44 a-j	103
Fleamar	Netherlands	6	9	384 b-i	116	2.24 f-m	87	10	9	380 c-i	117	4.75 d-k	89
Goliath	Netherlands	8	9	449 b-e	135	3.36 a-d	130	11	8.8	361 f-m	111	6.32 ab	119
Gusto	Netherlands	24	9	178 l-o	54	3.14 a-f	122	29	9	260 l-r	80	4.73 d-k	89
Herma	Netherlands	10	9	353 c-k	106	1.97 h-m	76	18	8.5	375 c-j	115	4.84 d-k	91
Hokwa	Japan	4	9	289 e-o	87	2.51 d-k	97	10	9	379 c-i	116	5.22 a-k	98
Marcia	Netherlands	15	9	291 e-n	88	1.50 mn	58	18	8.6	284 f-q	87	4.39 h-k	83
Polka	United Kingdom	8	9	376 b-j	113	2.76 b-h	107	12	9	374 c-k	115	5.40 a-j	102
Purlieu	United Kingdom	11	9	383 b-i	115	2.91 a-g	113	16	9	131 g-p	96	5.33 a-j	100
Megas	Netherlands	9	9	263 f-o	79	2.91 a-g	113	17	9	293 h-p	90	5.73 a-g	108
Meson	Netherlands	18	9	205 j-o	62	1.72 j-m	67	21	9	227 o-r	70	4.01 k	76
Mino	Denmark	10	9	330 d-l	99	2.91 a-g	113	18	9	321 g-o	98	5.42 a-j	102
Motim	Netherlands	10	9	308 e-n	93	2.06 g-m	80	18	9	363 e-m	111	5.20 a-k	98
Motterwitzer	East Germany	6	9	402 b-g	121	2.17 g-m	84	9	9	477 a-d	146	4.79 d-k	90
Pajbjerg 75	Denmark	8	9	306 e-n	95	2.96 a-g	115	13	9	319 g-o	98	5.02 b-k	95
Palermo	Netherlands	18	9	115 o	35	0.67 o	26	24	8.6	205 pqr	63	2.93 l	55
Pedion	Netherlands	19	9	309 e-n	93	2.31 e-m	90	25	9	231 n-r	71	4.82 d-k	91
Pet	Germany	5	9	354 c-k	107	2.31 e-m	90	9	9	441 b-f	135	5.29 a-k	100
Pota	Denmark	7	9	316 e-m	95	2.51 d-k	97	12	9	405 c-g	124	5.98 a-e	113
Pronto	U.S.A.	8	9	329 d-l	99	2.96 a-g	115	11	9	311 g-p	95	5.38 a-j	101
Rasant	Germany	3	9	491 b-d	148	2.84 a-h	110	10	9	553 a	170	6.00 a-d	113

TIMOTHY - HAY - cont'd.

 Test Site: Beaverlodge A. Research Station
 Seeding Year: 1977

Cultivar	Origin	1978 Harvest				1979 Harvest							
		Date Ripe August	Hardiness	Seed Yield kg/ha	% of Climax	Herbage (DM) Yield t/ha	% of Climax	Date Ripe August	Hardiness	Seed Yield kg/ha	% of Climax	Herbage (DM) Yield t/ha	% of Climax
Ref. Bd. 3062		20	9	395 b-h	119	2.73 b-h	106	29	9	370 d-1	113	4.52 g-k	85
RVPF 735.1	Belgium	9	9	216 i-o	65	2.42 e-l	94	12	8.8	244 n-s	75	5.35 a-j	101
RVPF 735.2	Belgium	10	9	365 b-k	110	2.69 b-i	104	18	8.8	445 a-p	137	5.00 c-k	94
RVPF 735.3	Belgium	8	9	261 f-o	79	3.47 a-c	134	14	9	283 i-q	87	5.62 a-h	106
RVPF 735.4	Belgium	9	9	265 f-o	80	2.62 c-j	102	14	9	300 g-p	92	5.98 a-e	113
RVPF 735.5	Belgium	9	9	258 f-o	78	2.35 e-m	91	14	9	241 n-s	74	5.47 a-j	103
Sabre	United Kingdom	15	9	360 c-k	108	2.24 f-m	87	23	9	297 g-p	91	4.68 e-k	88
Suceava	Rumania	3	9	365 b-k	110	2.96 a-g	115	10	9	531 ab	163	5.49 a-i	103
Surprise	Netherlands	8	9	304 e-n	92	3.20 a-e	124	13	9	291 h-p	89	5.69 a-h	107
Syn IA	United Kingdom	6	9	196 k-o	59	1.97 h-m	76	9	9	405 c-g	124	5.06 a-k	95
Syn IB	United Kingdom	6	9	228 g-o	69	2.46 d-l	95	10	9	439 b-f	135	5.53 a-h	104
Syn IC	United Kingdom	7	9	224 h-o	67	2.17 g-m	84	9	9	398 c-h	122	5.53 a-h	104
Syn II	United Kingdom	8	9	282 e-o	85	2.73 b-h	106	13	8.8	336 f-o	103	5.89 a-f	111
Syn IIIA	United Kingdom	8	9	314 e-n	95	2.76 b-h	107	13	9	227 o-r	70	4.59 f-k	86
Timfor	U.S.A.	7	9	269 f-o	81	2.08 g-m	81	10	9	381 c-i	117	4.64 f-k	87
Topas Otofte	Denmark	6	9	422 b-j	127	2.69 b-i	104	11	9	484 abc	148	6.29 a-c	119
Tt 3 - 70	Netherlands	17	9	231 f-o	70	1.97 h-m	76	24	9	237 n-r	73	4.77 d-k	90
Tw 4 - 70	Netherlands	16	9	404 b-f	122	2.24 f-m	87	23	9	307 g-p	94	5.08 a-k	96
Verdant	U.S.A.	11	9	328 d-l	99	3.58 ab	139	15	8.8	316 g-o	97	6.63 a	125
Winda	Netherlands	22	9	149 m-o	45	2.84 a-h	110	28	9	162 r	50	4.46 g-k	84
Mean				312		2.49				339		5.11	

TIMOTHY - HAY

Seeding Year: 1978

Data Year: 1979

Cultivar	Origin	Beaverlodge B. (Foster Farm)				Falher (Beaupre Farm)			Fort Vermilion		
		Hardiness	Harvest Date	Seed Yield kg/ha	% of Climax	Hardiness	Seed Yield Kg/ha	% of	Hardiness	Seed Yield kg/ha	% of
Asterix	Netherlands	9	Sept. 4	318 l-q	77	9	(1)		9	(1)	
Barmidi	Netherlands	9	Aug. 15	335 i-p	81	9			9		
Barmoti	Netherlands	9	Aug. 9	456 b-i	110	9			9		
Bartimi	Netherlands	9	Aug. 15	431 c-l	104	9			9		
Barvanti	Netherlands	9	Aug. 22	326 k-q	79	9			9		
Basho	Canada	9	Aug. 9	284 p-r	69	9			9		
Bodin	Norway	9	Aug. 9	590 a	143	9			9		
Bottnia II	Sweden	9	Aug. 9	461 b-g	112	9			9		
Champlain	Netherlands	9	Aug. 19	336 i-p	81	9			9		
Climax *	Canada	9	Aug. 12	413 e-m	100	9			9		
Deploy	United Kingdom	9	Aug. 22	168 s	41	9			9		
Engmo	Norway	9	Aug. 9	552 ab	134	9			9		
Erecta	Belgium	9	Aug. 11	349 g-p	85	9			9		
Farol	Netherlands	9	Aug. 22	343 g-p	83	9			9		
Fleamar	Netherlands	9	Aug. 11	446 b-k	108	9			9		
Forus	Norway	9	Aug. 9	441 b-k	107	9			9		
Georgikon	Hungary	9	Aug. 9	450 b-i	109	9			9		
Goliath	Netherlands	9	Aug. 17	504 a-e	122	9			9		
Grindstad	Norway	9	Aug. 12	549 a-c	133	9			9		
Gusto	Netherlands	9	Sept. 4	401 e-p	97	9			9		
Hokva	Japan	9	Aug. 9	353 g-p	85	9			9		
Korpa	Iceland	9	Aug. 9	598 a	145	9			9		
Mahndorfer	Germany	9	Aug. 11	501 a-f	121	9			9		
Megas	Netherlands	9	Aug. 14	287 o-r	69	9			9		
Meson	Netherlands	9	Aug. 22	302 m-q	73	9			9		
Mino	Denmark	9	Aug. 20	409 e-n	99	9			9		
Motim	Netherlands	9	Aug. 20	367 g-p	89	9			9		
N.F.G.	Germany	9	Aug. 9	493 a-f	119	9			9		
Otto	Finland	9	Aug. 11	551 a-c	133	9			9		
Palermo	Netherlands	9	Aug. 22	221 q-s	54	9			9		
Para	Poland	9	Aug. 9	339 h-p	82	9			9		

(1)Harvested seed destroyed by fire.

TIMOTHY - HAY (cont'd.)

Seeding Year: 1978

Data Year: 1979

Cultivar	Origin	Beaverlodge B (Foster Farm)				Falher (Beaupre Farm)			Fort Vermilion		
		Hardiness	Harvest Date	Seed Yield kg/ha	% of Climax	Hardiness	Seed Yield kg/ha	% of	Hardiness	Seed Yield kg/ha	% of
Pedion	Netherlands	9	Aug. 22	292 n-q	71	9	(1)		9	(1)	
Pet	Germany	9	Aug. 9	448 b-j	108	9			9		
Phlewiola	Germany	9	Aug. 9	335 i-p	81	9			9		
Pota	Denmark	9	Aug. 12	458 b-h	111	9			9		
Pronto	U.S.A.	9	Aug. 15	371 g-p	90	9			9		
Ramona	Netherlands	9	Aug. 22	185 rs	45	9			9		
Rasant	Germany	9	Aug. 9	414 d-m	100	9			9		
Richmond	Canada	9	Aug. 9	398 e-p	96	9			9		
Rotenberg	Sweden	9	Aug. 9	442 b-k	107	9			9		
RVP 251.F.	Belgium	9	Aug. 17	309 m-q	75	9			9		
Sabre	United Kingdom	9	Aug. 22	356 g-p	86	9			9		
Sigma	Netherlands	9	Aug. 22	304 m-q	74	9			9		
Suceava	Rumania	9	Aug. 9	407 e-o	99	9			9		
Surprise	Netherlands	9	Aug. 17	449 b-i	109	9			9		
Tammisto	Finland	9	Aug. 9	457 b-h	111	9			9		
Tapio 800	Hungary	9	Aug. 9	390 e-p	94	9			9		
Tarmo	Finland	9	Aug. 9	561 ab	136	9			9		
Tilda	Denmark	9	Aug. 11	365 g-p	88	9			9		
Timfor	U.S.A.	9	Aug. 9	328 j-q	79	9			9		
Topas Otofte	Denmark	9	Aug. 12	357 g-p	86	9			9		
Vallo	Sweden	9	Aug. 11	534 a-d	129	9			9		
Verdant	U.S.A.	9	Aug. 15	382 f-p	92	9			9		
Mean				399	96						

(†) Harvested seed destroyed by fire.

ALSIKE CLOVER

Test Site: Beaverlodge A. Research Station
Seeding Year: 1977

Cultivar	Origin	Hardiness	1978 Harvest (August 22)				Hardiness	1979 Harvest (September 19)			
			Seed Yield kg/ha	% of Aurora	Herbage (DM) Yield t/ha	% of Aurora		Seed Yield kg/ha	% of Aurora	Herbage (DM) Yield t/ha	% of Aurora
Aldan Tri- folium	Denmark	9	659 a	88	2.24 bc	100	9	133 a	67	1.99 a	94
Aurora *	Canada	9	753 a	100	2.24 bc	100	9	197 a	100	2.13 a	100
Dawn	Canada	9	635 a	84	2.24 bc	100	9	118 a	60	2.13 a	100
Hogsta	Sweden	9	377 b	50	2.02 c	90	9	150 a	76	2.06 a	97
Alpo	Norway	9	659 a	88	2.69 a-c	120	9	156 a	79	1.93 a	91
Iso Tetra	Finland	9	796 a	106	2.91 ab	130	9	158 a	80	1.70 a	80
Meta Otofte	Denmark	9	761 a	101	2.91 ab	130	9	132 a	67	1.72 a	81
Stena 4N	Sweden	9	603 a	80	2.91 ab	130	9	105 a	53	1.99 a	94
Tetra	Sweden	9	753 a	100	3.36 a	150	9	181 a	92	1.64 a	77
Mean			664		2.69			148		1.92	

ALSIKE CLOVER

Seeding Year: 1978

Data Year: 1979

Cultivar	Origin	Beaverlodge B. (Foster Farm)			Falher (Beaupre Farm)			Fort Vermilion		
		Hardiness	Seed Yield kg/ha	% of Aurora	Hardiness	Seed Yield kg/ha	% of Aurora	Hardiness	Seed Yield kg/ha	% of Aurora
Aldan Trifolium	Denmark	6.5	460 abc	83	9	603 a	119	wk (1)		
Alpo	Norway	7.3	556 ab	100	9	-	-	8		
Aurora *	Canada	8	556 ab	100	9	506 ab	100			
Dawn	Canada	8	624 a	112	9	571 ab	113			
Ermo Otofte	Denmark	5.5	450 abc	81	9	566 ab	112			
Hogsta	Sweden	8.8	484 abc	87	9	496 ab	98	8.8	674 a	
Iso Tetra	Finland	9	524 abc	94	9			8.3	679 a	
Jeno Dachnfeldt	Denmark	6.3	353 c	63	9	515 ab	102			
Odenwalder	Germany	7.8	487 abc	88	9	618 a	122			
Otofte	Denmark	3.5	506 abc	91	9	370 b	73			
Otofte 4N	Denmark	8	516 abc	93	9	603 a	119	8.3		
Stena 4N	Sweden	8.8	413 bc	74	9	494 ab	98	8.8	634 a	
Strain II	Canada	6.5	492 abc	88	9	612 a	121			
Tetra	Sweden	9	569 ab	102	9	432 ab	85	8.8	632 a	
Mean			499	90		532	105		660	

(1) Winter killed.

RED CLOVER

Seeding Year: 1978

Data Year: 1979

Cultivar	Origin	Beaverlodge B. Foster Farm			Falher (Beaupre Farm)			Fort Vermilion		
		Hardiness	Seed Yield kg/ha	% of Altaswede	Hardiness	Seed Yield kg/ha	% of Altaswede	Hardiness	Seed Yield kg/ha	% of Altaswede
Altaswede*	Canada	9	713 a-d	100	9	377 a-d	100	8.5	878 ab	100
Arlington	U.S.A.	2.3	371 i-m	52	9	371 a-d	98	5.5	310 cd	35
Astra	United Kingdom	1.5	260 h-l	36	9	202 c-e	54	7.5	615 bc	70
Bjorn	Sweden	9	540 c-g	76	9	398 a-c	106	9	553 bc	63
Duro	Denmark	2.5	616 b-e	86	9	-	-	4	-	-
Elbo	Denmark	7	618 b-e	87	9	474 a-b	126	7.8	812 ab	92
Granta	United Kingdom	0.8	233 i-m	33	9	-	-	1.3	0 n	0
Gumpensteiner	Austria	0.3	92 l-m	13	wk (1)	-	-	0.3	0 n	0
Hamidori 4N	Japan	1.8	66 l-n	9	9	-	-	2.3	0 n	0
Heges										
Hohenheimer	Germany	0.3	0 d	0	9	-	-	1.3	0 n	0
Krano	Denmark	6.8	784 ab	110	9	362 a-d	96	7.8	-	-
Kuhn	Netherlands	2.8	287 h-l	40	9	487 ab	129	2.5	186 cd	21
Marcom	France	0.3	39 mn	5	9	-	-	0.3	0 n	0
Maris Gemini	United Kingdom	0.5	211 j-n	30	9	-	-	2	0 n	0
Merkur	Sweden	8.5	612 b-e	86	9	329 a-e	87	8.3	1071 ab	122
Mont-Calme	Switzerland	0.5	148 k-n	21		-	-	4	-	-
Nava Trifolium	Denmark	6.8	877 a	123	9	526 a	140	7.8	1133 a	129
Norlac	Canada	9	566 b-f	79	9	318 be	84	8.5	1043 ab	119
Norseman	United Kingdom	0	0 d	0		-	-	0.3	0 n	0
Olvi Otofte	Denmark	2.5	475 d-h	67	9	337 a-e	89	5.8	837 ab	95
Pacific	Canada	0.3	0 n	0		-	-	0.8	0 n	0
Perena	Rumania	3	150 k-n	21	9	-	-	6.3	-	-
Rea	Sweden	3.3	396 e-j	56	9	324 a-e	86	3.3	-	0
Redhead	Germany	0.3	0 d	0	9	-	-	4.5	-	-
Sally	Sweden	6.3	342 g-k	48	9	202 c-e	54	6	-	-
S 123	United Kingdom	1.8	333 g-k	47	9	374 a-d	99	4	-	-
Taplanszent- keresztii	Hungary	0.3	83 mn	12	9	-	-	1.5	0 n	0
Temara 4N	Switzerland	0.5	0 n	0	9	-	-	3	-	-
Tripo	Norway	7	450 e-i	63	9	183 de	49	7.3	-	-
Ulva	Sweden	5.3	374 f-j	52	9	147 e	39	7	-	-
Venla	Finland	6.5	675 a-d	95	9	365 a-d	97	8	-	-
Redland	U.S.A.	1.3	273 h-l	38	9	-	-	3.5	-	-
Mean			331	46		340	90		391	45

(1) Winter killed