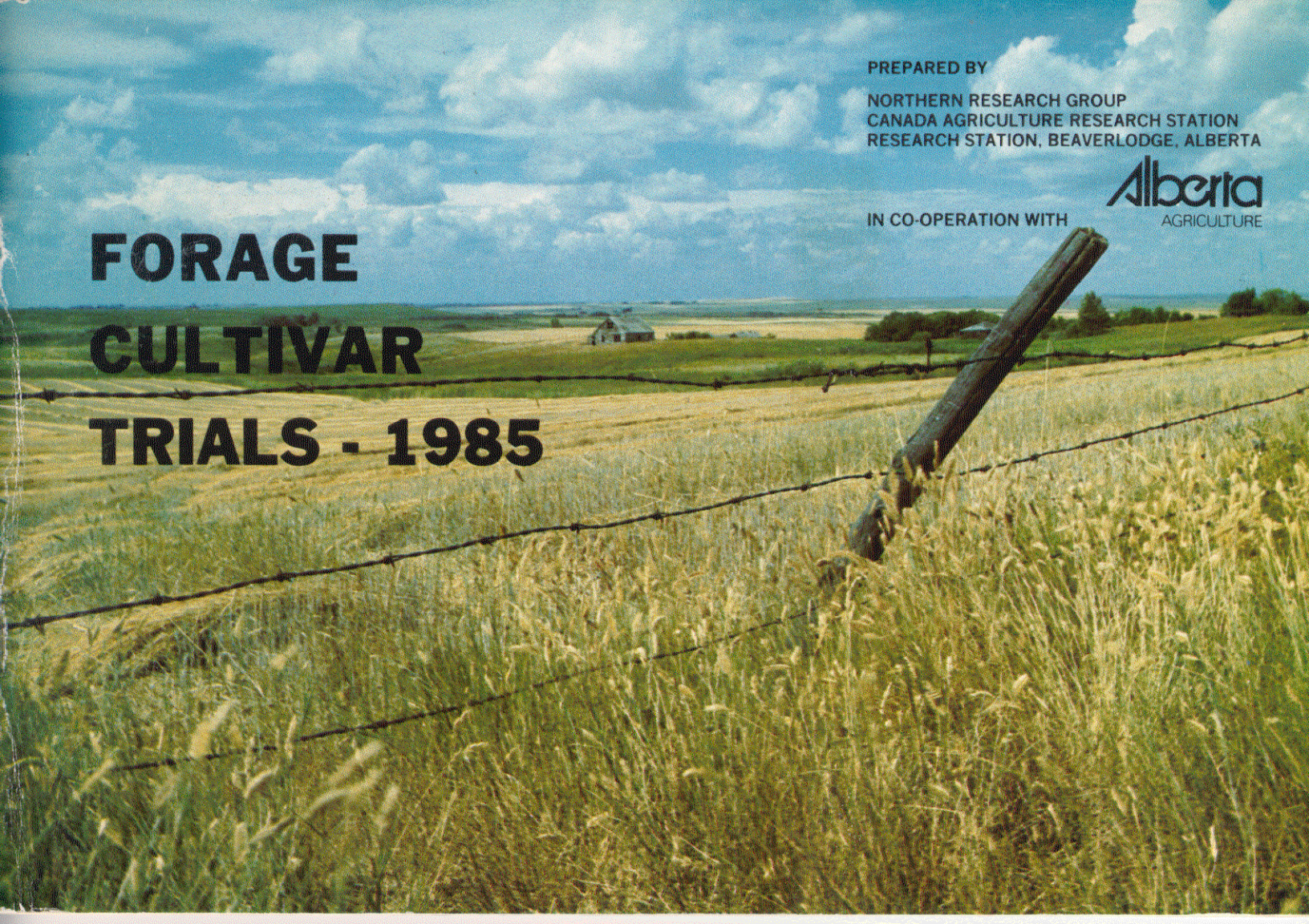




PREPARED BY

NORTHERN RESEARCH GROUP
CANADA AGRICULTURE RESEARCH STATION
RESEARCH STATION, BEAVER LODGE, ALBERTA

Alberta
AGRICULTURE

IN CO-OPERATION WITH

FORAGE CULTIVAR TRIALS - 1985

FORAGE CULTIVAR TRIALS

H.G. Najda

1985

FOREWORD

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

The objective of this program is to provide relative information on seed production capability and general adaptability of named foreign cultivars of perennial grasses and legumes in northern Alberta. The information assists 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 (SE-1-72-10-W6th)
Dark Gray Solod (Esher clay) to Dark Gray Luvisol (Hythe fine loam).
2. Beaverlodge B. Foster Farm (SE-25-71-10-W6th)
Near Beaverlodge, Alberta. Orthic Humic Gleysol (Goose fine loam to Codner clay).
3. Falher. Beaupre Farm (NW-1-78-21-W5th)
Near Falher, Alberta. Dark Gray Solod (Falher clay) to Solonetzic Gray Luvisol (Nampa clay).

4. Fort Vermilion. Experimental Farm (NW-13-108-13-W5th)
Dark Gray Luvisol (Leith coarse loam) to Orthic Gray Luvisol (Culp coarse loam).
5. Gimle. Driedger Farm (SW-30-72-10-W6th)
Near Beaverlodge, Alberta. Solonetzic Dark Gray Chernozemic (Albright clay) to Solonetzic Gray Luvisol (Hazelmere clay).
6. High Level. Fedeyko Farm (NW-35-109-17-W5th)
Near High Level, Alberta. Orthic Gray Luvisol (Davis fine loam) to Dark Gray Luvisol (Tangent fine loam).

Section A

Data presented in this section has been collected from stands established at the various test sites described above.

Plots comprise of four rows, 30.5 cm (1 foot) apart, 6.1 metres (20 feet) long, and are replicated 4 times. Weeds are controlled by mechanical and chemical means. Plots are fertilized annually in the autumn.

Seed and herbage (dry matter) yields are expressed as actual production per hectare and as a percent of a designated (*) standard. The Least Significant Difference at the 5% level is also presented for each test. Winter

survival is shown by a hardiness scale of 0 to 9, with 9 being the best.

Section B

Data presented in this section has been collected from screening trials established at the Beaverlodge Research Station. The purpose of these trials is to determine which cultivars should be tested at the various test sites of Part A.

Plots comprise of two rows, 30.5 cm (1 foot) apart, 6.1 metres (20 feet) long, and are replicated 3 times. Plot maintenance is the same as for Part A.

Seed and herbage yields are expressed by a 0 to 5 performance scale, with 5 being best. Winter hardiness is shown by a hardiness scale of 0 to 5, with 5 being best. Cultivars rated above 3 in the above three categories will be considered for further testing in Part A.

Section C

Data presented in this section contains a summary of forage seed yields collected from the various test sites established in northern Alberta. Only those cultivars licensed in Canada and cultivars eligible for certification under the OECD scheme are listed.

Environmental data prepared by Mr. Peter Mills,
Beaverlodge Research Station.

The author acknowledges the contributions of the following people to the program: L. Burgess, T. Cramer, B. Elhorn, A. Heggelund, R. Martin, M. Matheson, C. McDougall and F. Swanson.

Evaluation of this publication and suggestions for improvements will be greatly appreciated and should be directed to:

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Cover Photo: Farm scene courtesy of the Alberta
Photograph Library

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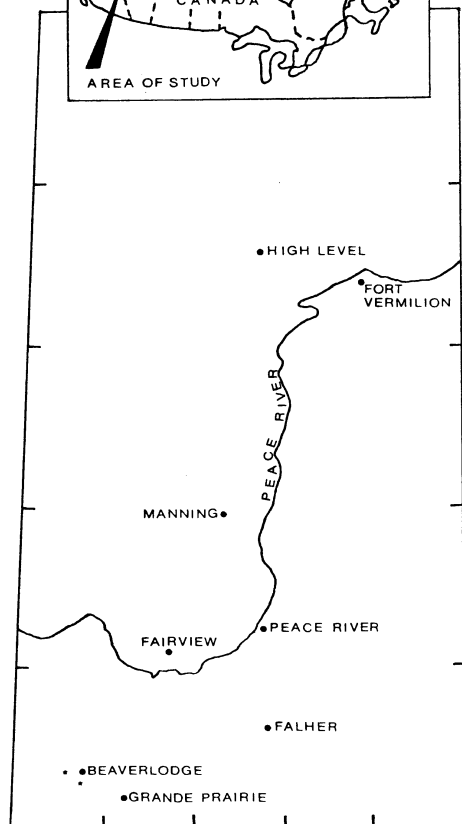
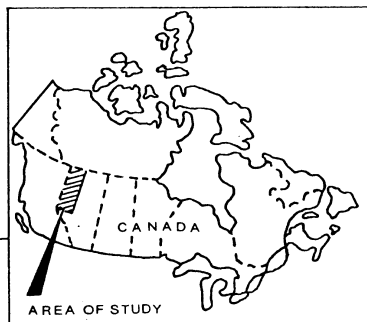
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ENVIRONMENTAL DATA FOR SELECTED SITES IN THE STUDY AREA

		<u>Beaverlodge</u>		<u>Fairview</u>		<u>Fort Vermilion</u>	
		1951-80	1985	1951-80	1985	1951-80	1985
Growing Degree Days							
Above 5°C	- May - Aug	988.8	1062.3	1078.0	1030.3	1110.3	1063.0
Total Hours	- Annual	2125.5		2059.9		2106.9	
Bright Sun	- May - Aug	1111.8	1154.5	1060.3	N/A	1134.9	1130.8
Total Precip.-	Annual	467.0		446.6		382.5	
(mm)	- May - Aug	235.2	88.8	236.8	153.7	201.7	138.8
Temperature (°C)							
Mean	- Annual	1.6		1.3		-1.2	
	- May - Aug	13.0	13.8	13.7	13.4	13.9	13.7
Mean Maximum	- Annual	7.0		6.3		4.5	
	- May - Aug	19.2	20.8	19.6	19.2	20.5	20.2
Mean Minimum	- Annual	-3.7		-3.6		-6.9	
	- May - Aug	6.7	6.3	7.8	7.6	7.4	6.7
Photoperiod	- June 22	17:25		17:38		18:18	
Last Spring Frost (0°C)		May 24	Jun 10	May 19	May 12	May 28	Apr 30
First Fall Frost (0°C)		Sep 7	Aug 26	Sep 16	Aug 20	Sep 3	Aug 21
Frost Free Period (days)		105	76	119	101	97	114

A

Red Fescue

Test Site: Beaverlodge Research Station
Seeding Year: 1984

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe	Seed Yield	
					kg/ha	% of Boreal
Beauty	(1) Netherlands	9.0	33	Jul 19	87	31
Boreal*	(3) Canada	9.0	51	Jul 19	278	100
B 7733	(3) Canada	9.0	51	Jul 19	482	173
Carlawn	(3) Canada	9.0	46	Jul 19	421	151
Commodore	(3) Netherlands	9.0	48	Jul 19	162	58
G	(2) Hungary	9.0	50	Jul 19	160	58
Islandic	(3) Netherlands	9.0	45	Jul 19	116	42
Leik	(3) Norway	9.0	59	Jul 19	325	117
Perelle	(2) France	7.8	33	Jul 19	6	2
Robot	(3) United Kingdom	9.0	53	Jul 19	328	118
Satin	(2) Sweden	9.0	46	Jul 19	40	14
Zernickower	(3) East Germany	9.0	54	Jul 19	352	127
Mean					230	
L.S.D. (P = .05)					129	

- (1) Rhizomes absent or rudimentary
 (2) Slender rhizomes
 (3) Strong rhizomes
 (4) Unclassified

Red Fescue

Test Site: Beaverlodge B (Foster Farm)
Seeding Year: 1984

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe	Seed Yield	
					kg/ha	% of Boreal
Beauty	(1) Netherlands	9.0	33	Jul 19	193	40
Boreal*	(3) Canada	9.0	43	Jul 19	477	100
B 7733	(3) Canada	9.0	45	Jul 19	588	123
Carlawn	(3) Canada	9.0	50	Jul 19	724	152
Commodore	(3) Netherlands	9.0	48	Jul 19	406	85
G	(2) Hungary	9.0	49	Jul 19	328	69
Islandic	(3) Netherlands	9.0	48	Jul 19	281	59
Leik	(3) Norway	9.0	55	Jul 19	453	95
Perelle	(2) France	7.3	30	Jul 19	15	3
Robot	(3) United Kingdom	9.0	48	Jul 19	408	86
Satin	(2) Sweden	9.0	46	Jul 19	100	21
Zernickower	(3) East Germany	9.0	53	Jul 19	523	110
Mean					375	
L.S.D. (P = .05)					160	

- (1) Rhizomes absent or rudimentary
 (2) Slender rhizomes
 (3) Strong rhizomes
 (4) Unclassified

Red Fescue

Test Site: Fort Vermilion Experimental Farm
Seeding Year: 1984

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe	Seed Yield	
					kg/ha	% of Boreal
Beauty	(1) Netherlands	9.0	43	Jul 16	629	44
Boreal*	(3) Canada	9.0	68	Jul 16	1436	100
B 7733	(3) Canada	9.0	68	Jul 16	1213	84
Carlawn	(3) Canada	9.0	71	Jul 16	1178	82
Commodore	(3) Netherlands	9.0	70	Jul 16	806	56
G	(2) Hungary	9.0	78	Jul 16	1069	74
Islandic	(3) Netherlands	9.0	70	Jul 16	731	51
Leik	(3) Norway	9.0	71	Jul 16	1023	71
Perelle	(2) France	9.0	46	Jul 16	165	11
Robot	(3) United Kingdom	9.0	68	Jul 16	760	53
Satin	(2) Sweden	9.0	65	Jul 16	351	24
Zernickower	(3) East Germany	9.0	75	Jul 16	1014	71
Mean					865	
L.S.D. (P = .05)					243	

- (1) Rhizomes absent or rudimentary
 (2) Slender rhizomes
 (3) Strong rhizomes
 (4) Unclassified

Summary of Red Fescue Seed Yields
1984 Seeding Year
(Yields are shown as % of Boreal)

Cultivar		Origin	B'lodge A	B'lodge B	Falher	Fort Vermilion	Gimle	High Level	All Locations (Average)
Beauty	(1)	Netherlands	31	40	(a)	44	(b)	(a)	38
Boreal*	(3)	Canada	100	100		100			100
B 7733	(3)	Canada	173	123		84			127
Carlawn	(3)	Canada	151	152		82			128
Commodore	(3)	Netherlands	58	85		56			66
G	(2)	Hungary	58	69		74			67
Islandic	(3)	Netherlands	42	59		51			51
Leik	(3)	Norway	117	95		71			94
Perelle	(2)	France	2	3		11			5
Robot	(3)	United Kingdom	118	86		53			86
Satin	(2)	Sweden	14	21		24			20
Zernickower	(3)	East Germany	127	110		71			103
Boreal Yield in kg/ha			278	477		1436			730

(1) Rhizomes absent or rudimentary

(2) Slender rhizomes

(3) Strong rhizomes

(4) Unclassified

(a) Not seeded

(b) Seed not harvested

Red Fescue

Test Site: Beaverlodge B (Foster Farm)
Seeding Year: 1984

Cultivar		Origin	1st Herbage Yield			2nd Herbage Yield		
			Day Cut	(DM)	t/ha % of Boreal	Day Cut	(DM)	t/ha % of Boreal
Beauty	(1)	Netherlands	Jun 17	0.37	49	Aug 19	0.45	53
Boreal*	(3)	Canada	Jun 17	0.75	100	Aug 19	0.85	100
B 7733	(3)	Canada	Jun 17	0.87	116	Aug 19	1.02	120
Carlawn	(3)	Canada	Jun 17	1.22	163	Aug 19	1.18	139
Commodore	(3)	Netherlands	Jun 17	0.74	99	Aug 19	0.92	108
G	(2)	Hungary	Jun 17	0.94	125	Aug 19	1.02	120
Islandic	(3)	Netherlands	Jun 17	0.97	129	Aug 19	1.40	165
Leik	(3)	Norway	Jun 17	1.12	149	Aug 19	1.60	188
Perelle	(2)	France	Jun 17	0.13	17	Aug 19	0.42	49
Robot	(3)	United Kingdom	Jun 17	1.01	135	Aug 19	1.30	153
Satin	(2)	Sweden	Jun 17	0.63	84	Aug 19	1.27	149
Zernickower	(3)	East Germany	Jun 17	1.38	184	Aug 19	1.28	151
Mean				0.84			1.06	
L.S.D. (P = .05)				0.32			0.27	

- (1) Rhizomes absent or rudimentary
 (2) Slender rhizomes
 (3) Strong rhizomes
 (4) Unclassified

Red Fescue

Test Site: Fort Vermilion Experimental Farm
Seeding Year: 1984

Cultivar		Origin	1st Herbage Yield			2nd Herbage Yield		
			Day Cut	(DM) t/ha	% of Boreal	Day Cut	(DM) t/ha	% of Boreal
Beauty	(1)	Netherlands	Jun 10	1.70	53	Aug 13	1.34	86
Boreal*	(3)	Canada	Jun 10	3.21	100	Aug 13	1.56	100
B 7733	(3)	Canada	Jun 10	3.07	96	Aug 13	1.59	102
Carlawn	(3)	Canada	Jun 10	2.98	93	Aug 13	1.46	94
Commodore	(3)	Netherlands	Jun 10	2.37	74	Aug 13	1.44	92
G	(2)	Hungary	Jun 10	3.60	112	Aug 13	2.09	134
Islandic	(3)	Netherlands	Jun 10	2.65	83	Aug 13	1.99	128
Leik	(3)	Norway	Jun 10	3.14	98	Aug 13	1.56	100
Perelle	(2)	France	Jun 10	0.93	29	Aug 13	1.46	94
Robot	(3)	United Kingdom	Jun 10	2.62	82	Aug 13	1.53	98
Satin	(2)	Sweden	Jun 10	2.19	68	Aug 13	2.25	144
Zernickower	(3)	East Germany	Jun 10	2.66	83	Aug 13	1.96	126
Mean				2.59		1.69		
L.S.D. (P = .05)				0.62		0.42		

- (1) Rhizomes absent or rudimentary
 (2) Slender rhizomes
 (3) Strong rhizomes
 (4) Unclassified

Red Fescue

Test Site: Gimle (Driedger Farm)
Seeding Year: 1984

Cultivar		Origin	1st Herbage Yield			2nd Herbage Yield		
			Day Cut	(DM)	t/ha % of Boreal	Day Cut	(DM)	t/ha % of Boreal
Beauty	(1)	Netherlands	Jul 2	0.02	20	Aug 20	0.08	27
Boreal*	(3)	Canada	Jul 2	0.10	100	Aug 20	0.30	100
B 7733	(3)	Canada	Jul 2	0.09	90	Aug 20	0.44	147
Carlaw	(3)	Canada	Jul 2	0.11	110	Aug 20	0.37	123
Commodore	(3)	Netherlands	Jul 2	0.06	60	Aug 20	0.33	110
G	(2)	Hungary	Jul 2	0.09	90	Aug 20	0.48	160
Islandic	(3)	Netherlands	Jul 2	0.09	90	Aug 20	0.66	220
Leik	(3)	Norway	Jul 2	0.29	290	Aug 20	0.72	240
Perelle	(2)	France	-	0	0	-	0	0
Robot	(3)	United Kingdom	Jul 2	0.18	180	Aug 20	0.65	217
Satin	(2)	Sweden	Jul 2	0.10	100	Aug 20	0.49	163
Zernickower	(3)	East Germany	Jul 2	0.07	70	Aug 20	0.46	153
Mean				0.10			0.45	
L.S.D. (P = .05)				0.06			0.19	

- (1) Rhizomes absent or rudimentary
 (2) Slender rhizomes
 (3) Strong rhizomes
 (4) Unclassified

Summary of Red Fescue Herbage Yields
1984 Seeding Year - 1985 Harvest
(Yields are shown as % of Boreal)

Cultivar		Origin	B'lodge A		B'lodge B		Falher		Fort Vermilion		Gimle		High Level		All Locations (Average)	
			1st Cut	2nd Cut	1st Cut	2nd Cut	1st Cut	2nd Cut	1st Cut	2nd Cut	1st Cut	2nd Cut	1st Cut	2nd Cut	1st Cut	2nd Cut
Beauty	(1)	Netherlands	22	26	49	53	(a)		53	86	20	27	(a)		36	48
Boreal*	(3)	Canada	100	100	100	100			100	100	100	100			100	100
B 7733	(3)	Canada	156	141	116	120			96	102	90	147			115	128
Carlawn	(3)	Canada	160	89	163	139			93	94	110	123			132	111
Commodore	(3)	Netherlands	110	95	99	108			74	92	60	110			86	101
G	(2)	Hungary	80	99	125	120			112	134	90	160			102	128
Islandic	(3)	Netherlands	114	155	129	165			83	128	90	220			104	167
Leik	(3)	Norway	198	156	149	188			98	100	290	240			184	171
Perelle	(2)	France	18	38	17	49			29	94	0	0			16	60
Robot	(3)	United Kingdom	154	142	135	153			82	98	180	217			138	153
Satin	(2)	Sweden	60	116	84	149			68	144	100	163			78	143
Zernickower	(3)	East Germany	212	157	184	151			83	126	70	153			137	147
Boreal Yield in (DM) t/ha			0.50	0.91	0.75	0.85			3.21	1.56	0.10	0.30			1.14	0.91

(1) Rhizomes absent or rudimentary

(a) Not seeded

(2) Slender rhizomes

(3) Strong rhizomes

(4) Unclassified

Timothy

Test Site: Beaverlodge Research Station
Seeding Year: 1984

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe	Seed Yield	
					kg/ha	% of Climax
Adda	Iceland	9.0	59	Aug 8	537	187
Climax*	Canada	9.0	61	Aug 8	287	100
G	Hungary	9.0	56	Aug 6	354	123
Hokusyu	Japan	9.0	55	Aug 8	239	83
Jogeva 54	Russia	9.0	59	Aug 6	375	131
Korpa	Iceland	9.0	60	Aug 8	537	187
Mentor	Netherlands	9.0	64	Aug 8	528	184
Nosappu	Japan	9.0	63	Aug 6	267	93
Vik 9	Russia	9.0	63	Aug 8	336	117
Mean					385	
L.S.D. (P = .05)					81	

Test Site: Beaverlodge B (Foster Farm)
Seeding Year: 1984

Adda	Iceland	9.0	63	Aug 8	680	192
Climax*	Canada	9.0	64	Aug 8	355	100
G	Hungary	9.0	63	Aug 6	455	128
Hokusyu	Japan	9.0	60	Aug 8	229	65
Jogeva 54	Russia	9.0	54	Aug 6	278	78
Korpa	Iceland	9.0	61	Aug 6	721	203
Mentor	Netherlands	9.0	58	Aug 8	577	163
Nosappu	Japan	9.0	56	Aug 6	285	80
Vik 9	Russia	9.0	55	Aug 6	300	85
Mean					431	
L.S.D. (P = .05)					154	

Timothy

Test Site: Fort Vermilion Experimental Farm
Seeding Year: 1984

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe	Seed Yield	
					kg/ha	% of Climax
Adda	Iceland	9.0	80	Aug 6	964	357
Climax*	Canada	9.0	70	Aug 6	270	100
G	Hungary	9.0	79	Aug 6	482	179
Hokusyu	Japan	9.0	74	Aug 6	302	112
Jogeva 54	Russia	9.0	86	Aug 6	562	208
Korpa	Iceland	9.0	89	Aug 6	1126	417
Mentor	Netherlands	9.0	83	Aug 6	719	266
Nosappu	Japan	9.0	86	Aug 6	447	166
Vik 9	Russia	9.0	85	Aug 6	640	237
Mean					612	
L.S.D. (P = .05)					223	

Test Site: Gimle (Driedger Farm)
Seeding Year: 1984

Adda	Iceland	9.0	51	Aug 6	336	273
Climax*	Canada	9.0	51	Aug 8	123	100
G	Hungary	8.8	56	Aug 6	192	156
Hokusyu	Japan	7.8	53	Aug 8	112	91
Jogeva 54	Russia	8.8	51	Aug 6	171	139
Korpa	Iceland	8.8	50	Aug 8	306	249
Mentor	Netherlands	9.0	56	Aug 8	313	254
Nosappu	Japan	8.0	55	Aug 6	158	128
Vik 9	Russia	9.0	53	Aug 6	157	128
Mean					208	
L.S.D. (P = .05)					97	

Summary of Timothy Seed Yields
1984 Seeding Year
(Yields are shown as % of Climax)

Cultivar	Origin	B'lodge A	B'lodge B	Falher	Fort Vermilion	Gimle	High Level	All Locations (Average)
Adda	Iceland	187	192	(a)	357	273	(a)	252
Climax*	Canada	100	100		100	100		100
G	Hungary	123	128		179	156		147
Hokusyu	Japan	83	65		112	91		88
Jogeva 54	Russia	131	78		208	139		139
Korpa	Iceland	187	203		417	249		264
Mentor	Netherlands	184	163		266	254		217
Nosappu	Japan	93	80		166	128		117
Vik 9	Russia	117	85		237	128		142
Climax Yield in kg/ha		287	355		270	123		259

(a) Not seeded

Timothy

Test Site: Beaverlodge Research Station
Seeding Year: 1984

Cultivar	Origin	1st Herbage Yield			2nd Herbage Yield		
		Day Cut	(DM) t/ha	% of Climax	Day Cut	(DM) t/ha	% of Climax
Adda	Iceland	Jun 18	1.44	155	Aug 21	0.95	74
Climax*	Canada	Jun 18	0.93	100	Aug 21	1.29	100
G	Hungary	Jun 18	1.10	118	Aug 21	1.38	107
Hokusyu	Japan	Jun 18	0.66	71	Aug 21	1.13	88
Jogeva 54	Russia	Jun 18	0.92	99	Aug 21	1.31	102
Korpa	Iceland	Jun 18	0.96	103	Aug 21	1.10	85
Mentor	Netherlands	Jun 18	1.41	152	Aug 21	1.26	98
Nosappu	Japan	Jun 18	0.96	103	Aug 21	1.20	93
Vik 9	Russia	Jun 18	1.28	138	Aug 21	1.04	81
Mean			1.07			1.18	
L.S.D. (P = .05)			0.36			0.30	

Test Site: Beaverlodge B (Foster Farm)
Seeding Year: 1984

Adda	Iceland	Jun 17	1.46	92	Aug 19	1.01	70
Climax*	Canada	Jun 17	1.59	100	Aug 19	1.45	100
G	Hungary	Jun 17	1.52	96	Aug 19	1.17	81
Hokusyu	Japan	Jun 17	0.64	40	Aug 19	1.08	74
Jogeva 54	Russia	Jun 17	1.06	67	Aug 19	0.99	68
Korpa	Iceland	Jun 17	1.61	101	Aug 19	1.14	79
Mentor	Netherlands	Jun 17	1.75	110	Aug 19	1.24	86
Nosappu	Japan	Jun 17	1.14	72	Aug 19	1.18	81
Vik 9	Russia	Jun 17	1.22	77	Aug 19	0.80	55
Mean			1.33			1.12	
L.S.D. (P = .05)			0.46			0.27	

Timothy

Test Site: Fort Vermilion Experimental Farm
Seeding Year: 1984

Cultivar	Origin	1st Herbage Yield			2nd Herbage Yield		
		Day Cut	(DM) t/ha	% of Climax	Day Cut	(DM) t/ha	% of Climax
Adda	Iceland	Jun 10	2.74	147	Aug 13	2.18	123
Climax*	Canada	Jun 10	1.87	100	Aug 13	1.77	100
G	Hungary	Jun 10	2.42	129	Aug 13	2.05	116
Hokussyu	Japan	Jun 10	1.32	71	Aug 13	1.40	79
Jogeva 54	Russia	Jun 10	2.04	109	Aug 13	1.65	93
Korpa	Iceland	Jun 10	2.66	142	Aug 13	1.98	112
Mentor	Netherlands	Jun 10	2.31	124	Aug 13	1.88	106
Nosappu	Japan	Jun 10	1.82	97	Aug 13	1.89	107
Vik 9	Russia	Jun 10	2.41	129	Aug 13	1.95	110
Mean			2.18			1.86	
L.S.D. (P = .05)			0.26			0.40	

Test Site: Gimle (Driedger Farm)
Seeding Year: 1984

Adda	Iceland	Jul 2	0.81	202	Aug 20	0.63	74
Climax*	Canada	Jul 2	0.40	100	Aug 20	0.85	100
G	Hungary	Jul 2	0.51	128	Aug 20	0.98	115
Hokussyu	Japan	Jul 2	0.26	65	Aug 20	0.63	74
Jogeva 54	Russia	Jul 2	0.46	115	Aug 20	0.67	79
Korpa	Iceland	Jul 2	0.62	155	Aug 20	0.60	71
Mentor	Netherlands	Jul 2	0.82	205	Aug 20	0.94	111
Nosappu	Japan	Jul 2	0.30	75	Aug 20	0.76	89
Vik 9	Russia	Jul 2	0.62	155	Aug 20	0.84	99
Mean			0.54			0.77	
L.S.D. (P = .05)			0.24			0.25	

Summary of Timothy Herbage Yields
1984 Seeding Year - 1985 Harvest
(Yields are shown as % of Climax)

Cultivar	Origin	B'lodge A		B'lodge B		Falher		Fort Vermilion		Gimle		High Level		All Locations (Average)	
		1st Cut	2nd Cut	1st Cut	2nd Cut	1st Cut	2nd Cut	1st Cut	2nd Cut	1st Cut	2nd Cut	1st Cut	2nd Cut	1st Cut	2nd Cut
Adda	Iceland	155	74	92	70	(a)		147	123	202	74	(a)		149	85
Climax*	Canada	100	100	100	100			100	100	100	100			100	100
G	Hungary	118	107	96	81			129	116	128	115			118	105
Hokusyu	Japan	71	88	40	74			71	79	65	74			62	79
Jogeva 54	Russia	99	102	67	68			109	93	115	79			98	86
Korpa	Iceland	103	85	101	79			142	112	155	71			125	87
Mentor	Netherlands	152	98	110	86			124	106	205	111			148	100
Nosappu	Japan	103	93	72	81			97	107	75	89			87	93
Vik 9	Russia	138	81	77	55			129	110	155	99			125	86
Climax Yield in (DM) t/ha		0.93	1.29	1.59	1.45			1.87	1.77	0.40	0.85			1.20	1.34

(a) Not seeded

Alfalfa

 Test Site: Beaverlodge Research Station
 Seeding Year: 1983

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe		Seed Yield			
				1984	1985	kg/ha		% of Beaver	
						1984	1985	1984	1985
Anik	Canada	9.0	45	Sep 19		280	No	151	
Backa	Yugoslavia	7.7	51	Sep 19		56		30	
Baker	United States	8.0	51	Sep 19		197	Seed	106	
Banat	Yugoslavia	7.7	48	Sep 19		71		38	
Beaver*	Canada	8.4	52	Sep 19		186	Yield	100	
Belfeuil	France	7.9	48	Sep 19		176		95	
Cayuga	United States	8.7	44	Sep 19		30		16	
Cherokee	United States	7.7	47	Sep 19		118		63	
Delta	Italy	8.2	49	Sep 19		19		10	
Derby	France	8.0	55	Sep 19		245		132	
Du Puits	France	8.0	48	Sep 19		211		113	
Euver	France	8.2	47	Sep 19		124		67	
Everest	France	8.0	45	Sep 19		153		82	
Jade	France	8.2	44	Sep 19		199		107	
Kara	France	8.4	49	Sep 19		324		174	
KM-Hybridalfa	Hungary	7.9	44	Sep 19		39		21	
Lutece	France	8.2	50	Sep 19		146		78	
O.A.C. Minto	Canada	8.4	54	Sep 19		222		119	
Orchesienne	France	7.7	49	Sep 19		173		93	
Peace	Canada	8.9	44	Sep 19		131		70	
Perry	United States	8.5	48	Sep 19		161		87	
Prescot	Denmark	8.5	45	Sep 19		95		51	
Ranger	United States	8.2	49	Sep 19		76		41	
Saranac	United States	8.2	49	Sep 19		286		154	
Sitel	France	8.0	45	Sep 19		206		111	
Spredor 2	United States	8.7	47	Sep 19		139		75	
Szarvasi 1	Hungary	8.0	50	Sep 19		186		100	
Szarvasi 6	Hungary	7.4	43	Sep 19		56		30	
Teton	United States	9.0	41	Sep 19		147		79	
Trumpetor	Canada	7.9	53	Sep 19		205		110	
Veko	Denmark	8.9	48	Sep 19		131		70	
Vela	Denmark	8.7	48	Sep 19		335		180	
Verko	Hungary	8.5	45	Sep 19		78		42	
Verneuil	France	8.2	51	Sep 19		114		61	
Vrsac	Yugoslavia	8.2	50	Sep 19		54		29	
Zia	United States	5.7	54	Sep 19		52		28	
123	United States	8.0	48	Sep 19		143		77	

Mean

150

L.S.D. (P = .05)

97

Test Site: Beaverlodge Research Station
Seeding Year: 1983

Alfalfa

Cultivar	Origin	1st Herbage Yield						2nd Herbage Yield					
		Day Cut		(DM)	t/ha	% of	Beaver	Day Cut		(DM)	t/ha	% of	Beaver
		1984	1985	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985
Anik	Canada	Jun 25	Jun 18	2.75	1.15	75	108	Sep 17	Aug 28	0.53	0.18	37	31
Backa	Yugoslavia	Jun 25	Jun 18	2.78	0.65	76	61	Sep 17	Aug 28	1.45	0.50	101	85
Baker	United States	Jun 25	Jun 18	3.07	0.73	84	69	Sep 17	Aug 28	1.33	0.51	93	86
Banat	Yugoslavia	Jun 25	Jun 18	2.75	0.68	75	64	Sep 17	Aug 28	1.26	0.55	88	93
Beaver*	Canada	Jun 25	Jun 18	3.65	1.06	100	100	Sep 17	Aug 28	1.43	0.59	100	100
Belfeuil	France	Jun 25	Jun 18	3.88	1.03	106	97	Sep 17	Aug 28	1.79	0.59	125	100
Cayuga	United States	Jun 25	Jun 18	2.57	0.81	70	76	Sep 17	Aug 28	0.91	0.55	64	93
Cherokee	United States	Jun 25	Jun 18	2.81	0.66	77	62	Sep 17	Aug 28	1.41	0.44	99	75
Delta	Italy	Jun 25	Jun 18	2.68	0.51	73	48	Sep 17	Aug 28	1.16	0.43	81	73
Derby	France	Jun 25	Jun 18	3.34	0.80	92	75	Sep 17	Aug 28	1.30	0.63	91	107
Du Puits	France	Jun 25	Jun 18	3.14	0.68	86	64	Sep 17	Aug 28	1.58	0.54	110	92
Euver	France	Jun 25	Jun 18	2.91	0.86	80	81	Sep 17	Aug 28	1.53	0.61	107	103
Everest	France	Jun 25	Jun 18	3.06	0.70	84	66	Sep 17	Aug 28	1.31	0.52	92	88
Jade	France	Jun 25	Jun 18	2.80	0.64	77	60	Sep 17	Aug 28	1.45	0.48	101	81
Kara	France	Jun 25	Jun 18	2.81	0.73	77	69	Sep 17	Aug 28	1.49	0.50	104	85
KM-Hybridalfa	Hungary	Jun 25	Jun 18	3.09	0.71	85	67	Sep 17	Aug 28	1.14	0.51	80	86
Lutece	France	Jun 25	Jun 18	3.82	0.73	105	69	Sep 17	Aug 28	1.58	0.59	110	100
O.A.C. Minto	Canada	Jun 25	Jun 18	2.94	0.93	81	88	Sep 17	Aug 28	1.44	0.63	101	107
Orchesienne	France	Jun 25	Jun 18	3.24	0.68	89	64	Sep 17	Aug 28	1.53	0.64	107	108
Peace	Canada	Jun 25	Jun 18	4.24	1.34	116	126	Sep 17	Aug 28	1.20	0.59	84	100
Perry	United States	Jun 25	Jun 18	3.67	0.93	101	88	Sep 17	Aug 28	1.34	0.62	94	105
Prescot	Denmark	Jun 25	Jun 18	3.56	0.95	98	90	Sep 17	Aug 28	1.37	0.60	96	102
Ranger	United States	Jun 25	Jun 18	2.70	0.86	74	81	Sep 17	Aug 28	1.09	0.58	76	98
Saranac	United States	Jun 25	Jun 18	3.14	0.85	86	80	Sep 17	Aug 28	1.48	0.55	103	93
Site1	France	Jun 25	Jun 18	3.09	0.67	85	63	Sep 17	Aug 28	1.36	0.55	95	93
Spredor 2	United States	Jun 25	Jun 18	2.85	1.03	78	97	Sep 17	Aug 28	1.07	0.40	75	68
Szarvasi 1	Hungary	Jun 25	Jun 18	3.41	0.73	93	69	Sep 17	Aug 28	1.39	0.62	97	105
Szarvasi 6	Hungary	Jun 25	Jun 18	2.62	0.51	72	48	Sep 17	Aug 28	1.15	0.52	80	88
Teton	United States	Jun 25	Jun 18	2.88	0.77	79	73	Sep 17	Aug 28	0.68	0.25	48	42
Trumpetor	Canada	Jun 25	Jun 18	3.34	0.92	92	87	Sep 17	Aug 28	2.13	0.69	149	117
Veko	Denmark	Jun 25	Jun 18	3.72	1.12	102	106	Sep 17	Aug 28	1.44	0.63	101	107
Vela	Denmark	Jun 25	Jun 18	3.29	1.06	90	100	Sep 17	Aug 28	1.53	0.68	107	115
Verko	Hungary	Jun 25	Jun 18	4.17	1.14	114	108	Sep 17	Aug 28	1.71	0.56	120	95
Verneuill	France	Jun 25	Jun 18	3.19	0.79	87	75	Sep 17	Aug 28	1.63	0.61	114	103
Vrsac	Yugoslavia	Jun 25	Jun 18	3.26	0.79	89	75	Sep 17	Aug 28	1.29	0.52	90	88
Zia	United States	Jun 25	Jun 18	2.43	0.30	66	28	Sep 17	Aug 28	0.82	0.40	57	68
123	United States	Jun 25	Jun 18	2.31	0.77	63	73	Sep 17	Aug 28	1.30	0.55	91	93
Mean				3.15	0.82					1.34	0.54		
L.S.D. (P = .05)				0.94	0.25					0.49	0.16		

Red Clover

Test Site: Beaverlodge Research Station
Seeding Year: 1984

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe	Seed Yield	
					kg/ha	% of Altaswede
Altaswede*	Canada	8.0	45	Sep 24	580	100
Fanny 4n	Sweden	7.5	44	Sep 24	369	64
Fox	France	1.3	40	Sep 24	88	15
Hedda 4n	Sweden	6.8	50	Sep 24	338	58
Kora	Sweden	9.0	46	Sep 24	435	70
Matri 4n	East Germany	6.0	48	Sep 24	175	30
Molly 4n	Sweden	4.0	44	Sep 24	175	30
Napoca 4n	Romania	3.5	48	Sep 24	205	35
Norlac	Canada	8.5	38	Sep 24	495	85
Renova	Switzerland	2.5	37	Sep 24	147	25
Mean					301	
L.S.D. (P = .05)					200	

Test Site: Beaverlodge B (Foster Farm)
Seeding Year: 1984

Altaswede*	Canada	8.0	40	Sep 24	305	100
Fanny 4n	Sweden	3.8	34	Sep 24	122	40
Fox	France	0	-	-	0	0
Hedda 4n	Sweden	4.5	43	Sep 24	130	43
Kora	Sweden	7.5	41	Sep 24	213	70
Matri 4n	East Germany	1.0	45	Sep 24	7	2
Molly 4n	Sweden	2.8	38	Sep 24	30	10
Napoca 4n	Romania	0	-	-	0	0
Norlac	Canada	8.3	35	Sep 24	318	104
Renova	Switzerland	0	-	-	0	0
Mean					161	
L.S.D. (P = .05)					100	

Red Clover

Test Site: Fort Vermilion Experimental Farm
Seeding Year: 1984

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe	Seed Yield	
					kg/ha	% of Altaswede
Altaswede*	Canada	8.8	51	Sep 9	350	100
Fanny 4n	Sweden	9.0	54	Sep 9	372	106
Fox	France	3.0	64	Sep 9	126	36
Hedda 4n	Sweden	9.0	64	Sep 9	333	95
Kora	Sweden	8.8	64	Sep 9	536	153
Matri 4n	East Germany	8.5	56	Sep 9	229	65
Molly 4n	Sweden	8.3	59	Sep 9	385	110
Napoca 4n	Romania	8.5	61	Sep 9	226	65
Norlac	Canada	8.8	50	Sep 9	491	140
Renova	Switzerland	7.8	55	Sep 9	125	36
Mean					317	
L.S.D. (P = .05)					125	

Summary of Red Clover Seed Yields
1984 Seeding Year
(Yields are shown as % of Altaswede)

Cultivar	Origin	B'lodge A	B'lodge B	Falher	Fort Vermilion	Gimle	High Level	All Locations (Average)
Altaswede*	Canada	100	100	(a)	100	(b)	(a)	100
Fanny 4n	Sweden	64	40		106			70
Fox	France	15	0		36			17
Hedda 4n	Sweden	58	43		95			65
Kora	Sweden	70	70		153			98
Matri 4n	East Germany	30	2		65			32
Molly 4n	Sweden	30	10		110			50
Napoca 4n	Romania	35	0		65			33
Norlac	Canada	85	104		140			110
Renova	Switzerland	25	0		36			20
Altaswede Yield in kg/ha		580	305		350			412

(a) Not seeded

(b) Complete winterkill

Red Clover

Test Site: Beaverlodge Research Station
Seeding Year: 1984

Cultivar	Origin	1st Herbage Yield			2nd Herbage Yield		
		Day Cut	(DM) t/ha	% of Altaswede	Day Cut	(DM) t/ha	% of Altaswede
Altaswede*	Canada	Jun 26	2.20	100	Sep 12	2.49	100
Fanny 4n	Sweden	Jun 26	1.13	51	Sep 12	3.14	126
Fox	France	Jun 26	0.03	1	Sep 12	0.43	17
Hedda 4n	Sweden	Jun 26	1.03	47	Sep 12	2.79	112
Kora	Sweden	Jun 26	0.82	37	Sep 12	3.09	124
Matri 4n	East Germany	Jun 26	0.79	36	Sep 12	3.06	123
Molly 4n	Sweden	Jun 26	0.58	26	Sep 12	3.31	133
Napoca 4n	Romania	Jun 26	0.37	17	Sep 12	2.85	114
Norlac	Canada	Jun 26	0.70	32	Sep 12	2.01	81
Renova	Switzerland	Jun 26	0.08	4	Sep 12	1.07	43
Mean			0.77			2.42	
L.S.D. (P = .05)			1.04			1.17	

Test Site: Beaverlodge B (Foster Farm)
Seeding Year: 1984

Altaswede*	Canada	Jul 2	0.46	100	Sep 24	1.37	100
Fanny 4n	Sweden	Jul 2	0.43	93	Sep 24	0.97	71
Fox	France	-	0	0	-	0	0
Hedda 4n	Sweden	Jul 2	0.58	126	Sep 24	1.07	79
Kora	Sweden	Jul 2	0.82	178	Sep 24	1.20	88
Matri 4n	East Germany	Jul 2	0.06	13	Sep 24	0.15	11
Molly 4n	Sweden	Jul 2	0.26	57	Sep 24	0.65	47
Napoca 4n	Romania	-	0	0	-	0	0
Norlac	Canada	Jul 2	0.80	174	Sep 24	0.85	62
Renova	Switzerland	-	0	0	-	0	0
Mean			0.34			0.90	
L.S.D. (P = .05)			0.36			0.64	

Red Clover

Test Site: Fort Vermilion Experimental Farm
Seeding Year: 1984

Cultivar	Origin	1st Herbage Yield			2nd Herbage Yield		
		Day Cut	(DM) t/ha	% of Altaswede	Day Cut	(DM) t/ha	% of Altaswede
Altaswede*	Canada	Jun 24	3.92	100	Sep 9	2.39	100
Fanny 4n	Sweden	Jun 24	3.21	82	Sep 9	2.75	115
Fox	France	Jun 24	0.35	9	Sep 9	1.44	60
Hedda 4n	Sweden	Jun 24	5.21	133	Sep 9	2.91	122
Kora	Sweden	Jun 24	2.34	60	Sep 9	2.29	96
Matri 4n	East Germany	Jun 24	2.98	76	Sep 9	2.26	95
Molly 4n	Sweden	Jun 24	2.76	70	Sep 9	2.67	112
Napoca 4n	Romania	Jun 24	2.38	61	Sep 9	3.00	126
Norlac	Canada	Jun 24	4.15	106	Sep 9	2.00	84
Renova	Switzerland	Jun 24	1.10	28	Sep 9	2.46	103
Mean			2.84			2.42	
L.S.D. (P = .05)			0.93			0.95	

Summary of Red Clover Herbage Yields
1984 Seeding Year - 1985 Harvest
(Yields are shown as % of Altaswede)

Cultivar	Origin	B'lodge A		B'lodge B		Falher		Fort Vermilion		Gimle		High Level		All Locations (Average)	
		1st Cut	2nd Cut	1st Cut	2nd Cut	1st Cut	2nd Cut	1st Cut	2nd Cut	1st Cut	2nd Cut	1st Cut	2nd Cut	1st Cut	2nd Cut
Altaswede*	Canada	100	100	100	100	(a)		100	100	(b)		(a)		100	100
Fanny 4n	Sweden	51	126	93	71			82	115					75	104
Fox	France	1	17	0	0			9	60					3	26
Hedda 4n	Sweden	47	112	126	78			133	122					102	104
Kora	Sweden	37	124	178	88			60	96					92	103
Matri 4n	East Germany	36	123	13	11			76	95					42	76
Molly 4n	Sweden	26	133	57	47			70	112					51	97
Napoca 4n	Romania	17	114	0	0			61	126					26	80
Norlac	Canada	32	81	174	62			106	84					104	76
Renova	Switzerland	4	43	0	0			28	103					11	49
Altaswede Yield in (DM) t/ha		2.20	2.49	0.46	1.37			3.92	2.39					2.19	2.08

(a) Not seeded

(b) Complete winterkill

B

Cultivar Screening Trial
Seeding Year: 1983

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating		Herbage Yield Rating	
Bromegrass, Smooth (<u>Bromus inermis</u> Leyss.)					1984	1985	1984	1985
	Carlton*	Canada	5.0	93	5.0	2.3	5.0	3.0
	Szarvasi 52	Hungary	5.0	86	3.7	1.7	4.3	2.3
	* Carlton (Yield in kg/ha)				1057	342		
Fescue, Hard (<u>Festuca duruiscula</u> auct.)								
	Biljart*	Netherlands	5.0	39	2.0	3.0	1.0	2.0
	Crystal	Netherlands	5.0	41	1.3	2.0	1.0	1.7
	Hartina	Netherlands	5.0	45	1.7	3.0	1.0	2.0
	Scaldis	Netherlands	5.0	45	1.7	2.7	1.0	2.0
	Tournament	Netherlands	5.0	44	1.7	3.0	1.0	2.0
	Trol	Netherlands	5.0	42	1.3	2.7	1.0	1.3
	Valda	Netherlands	5.0	38	1.0	3.0	1.0	2.0
	Waldina	Netherlands	5.0	43	1.3	3.7	1.0	2.0
	* Biljart (Yield in kg/ha)				177	278		
Fescue, Meadow (<u>Festuca pratensis</u> Huds.; <u>F. elatior</u> auct.)								
	Barverte	Netherlands	5.0	78	4.0	2.0	4.0	2.3
	Beaumont	United States	5.0	77	5.0	3.0	4.0	3.0
	Else	Denmark	5.0	76	5.0	1.3	5.0	2.0
	Maldo	Denmark	5.0	78	5.0	2.3	5.0	2.7
	Mimer*	Sweden	5.0	78	4.7	2.7	4.7	2.7
	NFG	West Germany	5.0	74	5.0	2.7	4.3	2.7
	Otava	Czechoslovakia	5.0	80	5.0	3.0	4.7	3.0
	Predix	Switzerland	5.0	73	5.0	2.0	4.7	3.0
	Prefest	Switzerland	5.0	73	5.0	1.7	4.0	2.0
	Remko	Netherlands	5.0	71	4.7	2.0	4.0	2.3
	Salfat	Denmark	5.0	81	4.7	2.3	5.0	2.7

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating		Herbage Yield Rating	
Fescue, Meadow (<i>Festuca pratensis</i> Huds.; <i>F. elatior</i> auct.) cont'd					1984	1985	1984	1985
	Szarvasi 54	Hungary	5.0	78	4.7	2.3	5.0	2.7
	920	Canada	5.0	76	5.0	2.7	5.0	3.0
	930	Canada	5.0	81	4.7	2.3	4.7	2.7
* Mimer (Yield in kg/ha)					1007	332		
Fescue, Red (<i>Festuca rubra</i> L.)								
	Accent (3)	Netherlands	5.0	64	5.0	3.0	5.0	3.0
	Artist (2)	Netherlands	5.0	47	3.7	1.3	3.7	1.0
	Bar Frc 77-1 (1)	Netherlands	5.0	68	4.7	3.3	5.0	3.0
	Bellamy (1)	Netherlands	5.0	56	4.3	2.7	4.7	2.0
	Boreal* (3)	Canada	5.0	63	5.0	3.0	5.0	3.0
	Center (1)	Netherlands	5.0	50	3.3	1.3	3.7	1.7
	Ceres (1)	Netherlands	5.0	54	3.3	1.0	4.0	1.3
	Claret (1)	Netherlands	5.0	57	3.3	2.7	3.7	2.7
	Contour (1)	Netherlands	5.0	56	4.3	3.0	5.0	2.0
	Countess (1)	Northern Ireland	5.0	52	4.0	2.0	4.0	2.0
	Feru 0301 (3)	Iceland	5.0	44	2.3	2.7	2.3	2.0
	Feru 0313 (3)	Iceland	5.0	49	3.0	1.0	2.7	1.0
	FR HJA 37/13 (3)	Finland	5.0	52	4.0	1.3	3.3	1.3
	Logro FRT (4)	Northern Ireland	5.0	44	3.0	3.0	2.7	2.0
	Lovisa (2)	Sweden	5.0	44	4.3	1.0	4.0	1.3
	Mars (1)	Netherlands	5.0	61	3.7	2.7	4.3	2.0
	Mary (1)	Netherlands	5.0	63	4.7	2.7	4.7	2.7
	Milan (1)	West Germany	5.0	55	2.7	3.3	3.0	2.3
	Osiris (1)	Netherlands	5.0	50	4.3	2.0	3.7	2.0
	Pharus (1)	Netherlands	5.0	51	2.3	2.3	2.7	1.3
	Rodeo (1)	Netherlands	5.0	53	3.0	1.7	4.0	1.7
	Wilma (1)	Sweden	5.0	57	4.3	2.7	4.3	2.0
	WWRS 116 (3)	Sweden	5.0	58	4.0	2.0	4.7	2.3
	WWRS 121 (3)	Sweden	5.0	60	4.0	2.3	4.7	2.0
* Boreal (Yield in kg/ha)					1292	271		

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating		Herbage Yield Rating	
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Fescue, Red (*Festuca rubra* L.) cont'd

1984 1985 1984 1985

- (1) Rhizomes absent or rudimentary
- (2) Slender rhizomes
- (3) Strong rhizomes
- (4) Unclassified

Fescue, Sheep's (*Festuca ovina* L. *sensu lato*)

Fertalia*	Belgium	5.0	34	2.7	1.0	1.7	1.0
HM 102	Norway	5.0	32	2.3	3.3	1.0	2.0
Livina	West Germany	5.0	39	4.3	2.7	1.7	2.0
Liwally	West Germany	5.0	37	3.7	4.7	1.7	2.0
Ridu	Denmark	5.0	47	3.0	4.7	1.0	2.0
Rosette	United Kingdom	5.0	29	2.3	1.0	1.3	1.0
Triana	Denmark	5.0	49	3.3	4.7	1.0	2.0
Urial	France	5.0	28	1.3	1.0	1.0	1.0

*Fertalia (Yield in kg/ha)

110 52

Fescue, Tall (*Festuca arundinacea* Schreb.)

Barcel	Netherlands	4.4	70	3.7	1.3	3.3	1.3
Conway	United Kingdom	4.5	70	2.7	1.3	4.7	1.3
Dovey	United Kingdom	4.9	70	2.7	1.3	3.3	1.7
Grasslands Roa	New Zealand	4.0	64	2.0	1.0	3.3	1.3
Kenhy	United States	4.2	73	4.0	1.7	4.7	1.7
Kentucky 31*	United States	5.0	74	4.3	2.3	5.0	2.3
Lubrette	France	4.2	75	2.7	1.3	3.7	1.3
Monaco	Netherlands	4.7	69	3.0	2.0	4.0	2.0
Nutex	West Germany	5.0	79	4.3	1.7	4.0	2.3
Olympic	United States	4.5	69	3.0	1.0	3.0	1.7
Ondine	France	4.4	69	3.0	1.0	4.3	1.7
Pastelle	France	4.5	70	3.7	1.3	3.7	1.3
Penna	Italy	4.4	70	3.0	2.7	4.7	2.0

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating		Herbage Yield Rating	
Fescue, Tall (<i>Festuca arundinacea</i> Schreb.) cont'd					1984	1985	1984	1985
	Raba	France	4.4	67	2.0	1.0	3.0	1.0
	Rebel	United States	4.5	65	3.0	1.3	2.7	1.3
	Sopline	France	4.9	77	3.3	1.3	3.7	1.7
	1039	Canada	4.9	78	5.0	1.7	4.7	2.0
	*Kentucky 31 (Yield in kg/ha)				974	258		
Orchardgrass (<i>Dactylis glomerata</i> L.)								
	Amba	Denmark	3.8	71	1.3	1.3	3.7	2.0
	Angelkamp	West Germany	4.9	82	3.0	1.3	5.0	2.3
	Apelsvoll	Norway	5.0	82	4.0	2.0	5.0	2.3
	Barbridge	Netherlands	4.4	68	1.3	1.0	3.3	2.0
	Bartyle	Netherlands	3.7	69	2.0	1.0	4.0	1.7
	BC 6611	Canada	5.0	83	4.7	1.3	5.0	2.7
	B-15	Yugoslavia	2.7	64	0.7	0.3	2.3	1.0
	Dactus	Sweden	4.2	78	1.0	1.3	3.3	2.3
	Haka	Finland	5.0	82	3.0	1.7	5.0	2.3
	Hattfjelldal	Norway	5.0	83	5.0	2.0	5.0	2.3
	Hera Daehnfeldt	Denmark	4.4	75	1.3	1.0	4.0	2.0
	Karkloof	South Africa	2.0	58	0.7	1.0	1.7	1.3
	Kay*	Canada	5.0	80	2.7	1.7	5.0	2.3
	Lara	Switzerland	4.0	59	0.7	1.0	3.0	1.7
	LD 3015	Denmark	3.2	66	1.0	1.0	3.0	1.3
	Lemba R.v.P.	Belgium	4.2	68	1.0	0.7	3.0	1.7
	Lude	France	2.5	51	0.3	0.7	2.3	1.3
	Lully	France	3.5	58	0.3	0.7	2.3	1.7
	Lutetia	France	3.0	63	0.7	0.7	2.3	1.3
	Milona	Czechoslovakia	3.5	67	1.0	1.0	3.0	1.7
	Ornehoj	Denmark	3.5	69	1.0	0.7	3.7	1.7
	Phyllox Daehnfeldt	Denmark	2.7	67	1.0	1.0	3.3	1.3
	Potomac	United States	4.4	77	1.0	1.0	4.0	2.0
	Predac	Switzerland	3.7	64	0.7	0.7	3.3	2.0
	Reda	Switzerland	4.5	72	1.0	1.0	4.0	2.3
	Sylvan	United Kingdom	3.3	70	1.0	0.3	3.0	1.3

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating		Herbage Yield Rating	
Orchardgrass (<u>Dactylis glomerata</u> L.) cont'd					1984	1985	1984	1985
	Szarvasi 51	Hungary	4.5	69	1.0	1.3	4.0	2.3
	Tareda	Switzerland	3.9	71	1.0	1.0	3.0	2.0
	Valido	Netherlands	2.9	62	0.7	0	2.3	1.3
	* Kay (Yield in kg/ha)				175	71		
Timothy (<u>Phleum pratense</u> L.)								
	Barliza	Netherlands	5.0	75	5.0	2.7	5.0	2.7
	Bero Daehnfeldt	Denmark	5.0	78	5.0	2.3	4.7	2.7
	Climax*	Canada	5.0	79	5.0	1.7	5.0	2.7
	Engmo	Norway	5.0	79	5.0	2.7	4.7	3.0
	Liam (1)	United Kingdom	5.0	41	5.0	0.7	1.0	1.0
	Php 9	Netherlands	5.0	74	5.0	2.0	5.0	2.3
	Saga	Sweden	5.0	78	5.0	3.0	5.0	3.0
	SKI 49	West Germany	5.0	68	5.0	1.7	3.7	2.0
	Tiller	Netherlands	5.0	71	5.0	2.7	4.7	2.3
	Tirom	Romania	5.0	80	5.0	3.0	5.0	2.7
	* Climax (Yield in kg/ha)				606	98		
	(1) Turf timothy (<u>Phleum bertolonii</u> DC)							
Wheatgrass, Intermediate (<u>Agropyron intermedium</u> (Host) Beauv. ex Baumg.)								
	Chief*	Canada	5.0	103	5.0	3.0	3.7	3.0
	Clarke	Canada	5.0	94	5.0	2.7	4.0	2.7
	Oake	United States	5.0	106	5.0	3.7	4.7	3.0
	Sisagro	Italy	5.0	99	5.0	2.3	4.3	2.7
	*Chief (Yield in kg/ha)				535	235		

Cultivar Screening Trial
Seeding Year: 1984

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating	Herbage Yield Rating
Alfalfa (<u>Medicago sativa</u> L.)						
	Adriana	Italy	5.0	48	2.3	3.0
	Alize	France	5.0	60	2.7	3.7
	Answer	United States	5.0	58	2.0	3.3
	Apica	Canada	5.0	58	4.0	4.0
	Beaver*	Canada	5.0	45	1.7	2.7
	Buffalo	United States	4.3	48	1.3	2.3
	Cody	United States	5.0	57	2.3	2.0
	Dell'Italia Centrale	Italy	3.0	60	1.3	2.3
	Diablo Verde	United States	2.3	50	0.7	1.7
	Dunavka	Bulgaria	5.0	52	2.0	3.0
	Equipe	Italy	5.0	38	1.0	2.7
	Ezzelina	Italy	4.7	58	2.7	3.0
	Falkiner	Australia	4.3	45	1.0	2.7
	Gladiator	United States	5.0	45	1.7	3.0
	Glory	Canada	5.0	55	2.7	3.7
	Grasslands Oranga	New Zealand	3.3	57	3.7	3.0
	Hunter	Canada	5.0	48	1.7	2.7
	Hunterfield	Australia	1.0	55	0.7	1.0
	Hunter River	Australia	1.7	43	1.0	1.3
	Hyliki	Greece	5.0	47	1.0	3.0
	Hypati	Greece	5.0	55	1.3	3.0
	IC0-2	United States	5.0	50	2.0	3.0
	IC0-3	United States	5.0	48	1.7	3.0
	IC0-16	United States	5.0	45	1.3	3.0
	L-720	United States	5.0	58	2.7	3.3
	LS-C25	United States	5.0	60	2.7	3.0
	LS-1920	United States	4.3	50	2.7	2.3
	L.99/100 Florida	Italy	4.7	57	1.7	3.7
	L.202 Bresola	Italy	4.7	65	2.7	3.0
	La Bella Campagnola	Italy	4.3	48	1.3	3.0
	La Berica	Italy	4.0	60	2.0	2.7

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating	Herbage Yield Rating
Alfalfa (<u>Medicago sativa</u> L.) cont'd						
	Lahontan	United States	4.7	58	2.3	3.0
	Lifeuil	France	4.3	48	1.3	2.0
	Mamuntanas	Italy	3.0	50	2.7	2.0
	Maxidor	United States	2.0	53	1.0	1.3
	Medijana	Yugoslavia	4.7	52	2.0	2.7
	Mesilla	United States	2.0	50	1.3	1.3
	Moapa	United States	1.0	40	0.3	0.3
	Nomad	United States	5.0	47	2.7	2.3
	Nova	Australia	4.7	50	1.3	3.3
	Peak	United States	5.0	55	1.7	3.0
	Phytor	United States	5.0	50	2.0	2.7
	Pleven 1	Bulgaria	4.7	48	1.3	2.7
	Pleven 6	Bulgaria	4.7	63	2.3	3.0
	Primal	United States	5.0	52	1.0	3.7
	Prosementi Bologna	Italy	5.0	67	3.3	3.0
	Rere	New Zealand	4.0	53	1.0	3.0
	Robot	Italy	5.0	53	1.0	3.0
	Sette	Italy	4.7	57	2.7	3.3
	Sheffield	Australia	3.3	48	3.0	2.3
	Siriver	Australia	1.3	55	0.3	0.7
	Springfield	Australia	2.0	42	1.0	1.3
	Szarvasi 2	Hungary	5.0	57	2.3	3.3
	Szarvasi 4	Hungary	5.0	50	1.7	3.0
	Trek	Canada	5.0	58	3.0	3.7
	Turrena	Italy	2.7	48	1.3	2.0
	Vista	United States	5.0	52	2.3	3.3
	Wakefield	Australia	3.0	50	2.0	2.0
	W.H. Nova	West Germany	5.0	48	1.0	3.3
	524	United States	4.7	50	3.0	3.0
	526	United States	5.0	50	1.7	3.3
	532	United States	5.0	50	1.3	2.0

*Beaver (Yield in kg/ha)

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating	Herbage Yield Rating
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Birdsfoot Trefoil (Lotus corniculatus L.)

	Carroll	United States	3.0	35	2.0	2.0
	Cree	Canada	1.7	25	2.0	1.0
	Franco	Italy	0	-	0	0
	Leo*	Canada	2.3	33	2.3	2.3
	Mirabel	Canada	2.0	32	2.0	1.3

* Leo (Yield in kg/ha)

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Fescue, Meadow (Festuca pratensis Huds.; F. elatior auct.)

	Aberystwyth S.215	United Kingdom	4.0	50	2.3	2.0
	Balder	Denmark	4.0	53	2.7	2.7
	BAR 79-72S	Netherlands	4.7	53	2.3	2.3
	BAR 79-72T	Netherlands	4.7	50	3.7	3.3
	BAR 79-74I	Netherlands	4.3	48	2.7	2.3
	BY 1	Canada	4.7	57	3.3	3.3
	Fesko	West Germany	4.0	53	2.7	2.7
	G	Hungary	2.0	60	1.0	1.0
	Lifelix	West Germany	4.7	50	2.3	2.3
	Listella	West Germany	4.7	48	3.3	3.3
	Mimer*	Sweden	3.0	58	4.0	2.3
	Neuga	East Germany	3.7	48	2.0	1.7
	Ovari	Hungary	5.0	52	3.3	3.3
	Paltar	Romania	4.0	53	2.3	2.3
	Senu	Sweden	5.0	57	3.7	3.3
	Westa 4n	Poland	3.7	55	2.3	2.7

* Mimer (Yield in kg/ha)

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Fescue, Red (Festuca rubra L.)

	BAR FRR RC1	(3)	Netherlands	5.0	40	3.7	3.0
	BAR FRR RC2	(3)	Netherlands	5.0	43	3.3	3.3

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating	Herbage Yield Rating
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Fescue, Red (Festuca rubra L.) cont'd

BAR FRC 79-LAU	(1)	Netherlands	5.0	28	1.3	1.3
Boreal*	(3)	Canada	5.0	43	3.0	2.7
Borffesta	(2)	East Germany	5.0	37	2.0	2.7
ERG 436	(1)	Netherlands	5.0	28	2.3	1.7
G	(2)	Hungary	5.0	42	2.3	2.7
Magenta	(1)	Netherlands	5.0	32	1.0	1.0
Muse	(1)	France	5.0	30	1.0	1.3
Perelle	(2)	France	5.0	30	1.0	1.7
Premiere	(1)	Netherlands	5.0	28	1.0	1.7
Rabo	(1)	East Germany	5.0	30	1.7	1.7
Soprano	(1)	France	5.0	23	1.7	1.7
Tantop	(1)	West Germany	5.0	32	1.0	1.3
Virtus	(2)	West Germany	5.0	30	1.3	2.3

* Boreal (Yield in kg/ha)

360

- (1) Rhizomes absent or rudimentary
- (2) Slender rhizomes
- (3) Strong rhizomes
- (4) Unclassified

Fescue, Tall (Festuca arundinacea Schreb.)

Arola		West Germany	5.0	60	3.0	3.0
BAR 315		Netherlands	5.0	85	4.0	4.0
Brookston		United States	5.0	65	3.0	3.0
Buffalo		France	4.0	65	2.0	3.0
Festorina		Netherlands	5.0	80	3.0	3.0
Hounddog		United States	5.0	60	2.0	3.0
Kentucky 31*		United States	5.0	75	5.0	5.0
Lince		Italy	3.0	80	1.0	2.0
Orino		Netherlands	5.0	70	3.0	3.0
Pandur		Romania	4.0	60	1.0	1.0

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating	Herbage Yield Rating
Fescue, Tall (<u>Festuca arundinacea</u> Schreb.) cont'd						
	Parnas	Romania	4.0	65	1.0	2.0
	Sibilla	Italy	0	0	0	0
	* Kentucky 31 (Yield in kg/ha)				661	
Fescue x Ryegrass Hybrid (<u>Festuca pratensis</u> L. x <u>Lolium perenne</u> L.)						
	Elmet	United Kingdom	0	0	0	0
	Kemal*	United States	4.0	53	3.3	3.0
	Prior	United Kingdom	4.0	58	3.3	3.3
	* Kemal (Yield in kg/ha)				452	
Orchardgrass (<u>Dactylis glomerata</u> L.)						
	Abar	Poland	2.0	70	0.3	1.7
	Amba	Denmark	2.7	65	0.7	1.7
	Cesarina	Italy	0	0	0	0
	Dika	Poland	2.7	58	0.7	1.7
	Dora	Italy	1.7	60	0.3	1.3
	Goliat	Romania	2.7	73	0.7	2.0
	Gorom	Romania	3.0	60	0.7	1.7
	Gotar	Romania	0	0	0	0
	ISI-81-1	United States	2.7	75	0.7	1.7
	Jesper	Denmark	1.7	75	0.3	1.0
	Kay*	Canada	3.7	65	1.7	2.3
	Lidacta	West Germany	2.0	35	0	0.7
	Lodola	Italy	2.3	70	0.7	1.7
	Loke	Sweden	2.3	73	0.7	2.0
	Marta	Italy	0	0	0	0
	Motterwitzer	East Germany	3.0	63	1.0	1.7
	Nera	Poland	2.7	75	0.3	1.3
	Poiana	Romania	2.3	80	0.7	1.3

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating	Herbage Yield Rating
Orchardgrass (<u>Dactylis glomerata</u> L.) cont'd						
	Satra	Poland	3.3	65	1.0	2.7
	* Kay (Yield in kg/ha)				77	
Ryegrass, Perennial (<u>Lolium perenne</u> L.)						
	A 193/83	Hungary	4.7	45	5.0	3.0
	Anduril	Denmark	3.0	50	2.7	2.3
	Baca	Czechoslovakia	2.7	40	2.3	2.0
	Baranna	Netherlands	4.0	32	2.7	2.3
	Baranova	Netherlands	2.0	40	1.3	1.3
	Barclay	Netherlands	3.7	35	1.7	1.7
	Bardonna	West Germany	3.0	33	2.3	1.7
	Bartony	Netherlands	3.7	35	2.0	1.7
	BAR LP 79F	Netherlands	2.7	28	1.3	1.3
	BAR LP 80ZA	Netherlands	2.7	38	1.7	1.3
	BAR LP 410	Netherlands	3.0	30	1.7	1.3
	Belfort 4n	West Germany	0	0	0	0
	Belida	Denmark	1.7	35	0.7	0.3
	Bellatrix	Netherlands	3.3	38	2.0	2.0
	Bison 4n	United States	0	0	0	0
	Bonita 4n	West Germany	3.3	33	2.7	2.3
	BT-1	United States	4.0	33	3.3	2.3
	Butterfly	West Germany	3.7	43	3.0	2.7
	Chevron	United Kingdom	1.3	30	0.7	0.7
	Cirdan	Denmark	3.0	47	2.3	2.3
	Citation	United States	2.7	25	1.7	1.3
	Condesa 4n	Netherlands	1.7	43	1.3	1.0
	Contender	United Kingdom	3.7	43	2.7	2.3
	Corona	West Germany	3.0	30	1.0	1.0
	Darbo	Denmark	3.0	43	2.3	2.3
	Diana	West Germany	3.3	40	2.0	1.7
	Elka	Netherlands	3.0	28	1.0	1.0
	Game	Netherlands	3.7	35	3.0	2.0

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating	Herbage Yield Rating
Ryegrass, Perennial (<i>Lolium perenne</i> L.) cont'd						
	Gazon	Poland	4.0	45	2.7	2.7
	Grasslands Nui	New Zealand	0	0	0	0
	Green Isle 4n	Ireland	0	0	0	0
	Idole	France	1.7	20	0.3	0.3
	Kerem	West Germany	3.7	45	2.7	2.3
	LD 2343	Denmark	2.3	38	1.3	1.3
	LD 2344	Denmark	3.7	43	2.0	2.3
	LD 2408	Denmark	2.3	45	2.7	2.7
	Lidura	West Germany	2.7	38	1.7	1.0
	Lihersa	West Germany	2.7	38	2.3	2.0
	Lilope	West Germany	3.0	35	2.7	1.7
	Limedia	West Germany	2.7	37	2.3	2.0
	Liperlo	West Germany	2.0	40	1.0	0.7
	Liprior	West Germany	2.3	40	2.0	1.3
	Liraylo	West Germany	0	0	0	0
	Lorina	West Germany	2.0	28	1.0	1.0
	Magella	Netherlands	3.3	40	3.0	2.7
	Maprima	East Germany	2.7	48	1.3	1.7
	Marietta	West Germany	2.7	32	1.3	1.3
	Marta	Romania	3.7	43	2.7	2.3
	Monta	Netherlands	1.3	30	0.3	0.3
	Moranta	Netherlands	1.7	40	1.0	0.7
	Morgana	Netherlands	1.3	35	0.7	0.7
	Norlea*	Canada	4.3	47	3.3	3.0
	Oakpark	Ireland	1.7	45	1.0	1.0
	Pageant	United Kingdom	0	0	0	0
	Pamir	Italy	1.7	40	0.7	0.3
	Pennant 4n	United Kingdom	2.0	43	1.7	1.3
	Perfect	Netherlands	2.3	38	1.7	1.0
	Perray	West Germany	3.0	45	1.7	1.7
	Pippin	Denmark	3.0	40	1.3	1.7
	Pleno	Denmark	1.3	35	0.3	0.3
	Plush	United Kingdom	4.3	33	2.0	2.0
	Premier	United States	3.7	37	3.0	1.7
	Rapid	Romania	2.3	45	1.7	1.0

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating	Herbage Yield Rating
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Ryegrass, Perennial (Lolium perenne L.) cont'd

Rapsod	Romania	3.0	43	2.0	1.3
Saione	Denmark	2.0	38	0.7	1.3
Senator	West Germany	1.7	35	1.0	1.0
Servo	Sweden	5.0	43	3.7	3.0
Svea	Sweden	4.7	45	4.3	3.0
Tando	West Germany	3.0	35	2.0	1.0
Tonga 4n	Denmark	2.3	35	2.0	1.7
Tresor	Netherlands	2.7	35	1.0	1.3
Vejo	Italy	0	0	0	0

* Norlea (Yield in kg/ha)

456

Timothy (Phleum pratense L.)

BAR 81-3	Netherlands	5.0	68	4.0	4.0
BAR 82-4	Netherlands	5.0	70	3.3	3.3
Climax*	Canada	5.0	72	4.0	4.0
Php 10	Netherlands	5.0	65	4.0	3.7
Php 11	Netherlands	5.0	67	4.0	3.3
Php 137.82	Netherlands	5.0	65	4.3	3.3
Php 157.82	Netherlands	5.0	63	3.3	3.3
Z 3011	West Germany	5.0	63	4.0	3.7

* Climax (Yield in kg/ha)

402

Wildrye, Russian (Elymus junceus Fisch.)

Sawki*	Canada	5.0	83	0.3	2.0
Swift	Canada	5.0	80	0.3	2.0

* Sawki (Yield in kg/ha)

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SUMMARY OF FORAGE SEED YIELDS IN NORTHERN ALBERTA

Species Cultivar	Origin	B'lodge A	B'lodge B	Falher	Fort Vermilion	Gimli	High Level	All Locations
Bromegrass, Smooth (<u>Bromus inermis</u> Leyss.) Yields shown as % of Carlton								
Baylor	United States	68(3)*	55(3)	73(3)	72(3)		56(3)	65(15)
Beacon	United States	65(5)			45(2)	62(2)		60 (9)
Blair	United States	42(3)	41(3)	43(3)	52(3)		40(3)	44(15)
Carlton	Canada	100(8)	100(6)	100(6)	100(8)	100(2)	100(3)	100(33)
Jubilee	Canada	60(5)	55(3)	52(3)	51(5)	64(2)	51(3)	55(21)
Lyon	United States	46(3)	70(3)	68(3)	52(3)			59(12)
Magna	Canada	86(3)	92(6)	99(6)	108(6)		96(3)	98(24)
Orfeu	Romania	81(6)	91(3)	94(3)	79(3)		107(3)	89(18)
Regar(1)	United States	47(3)	50(6)	45(6)	38(6)		38(3)	44(24)
Signal	Canada	124(8)	118(3)	105(3)	123(5)	157(2)	117(3)	123(24)
Svaja	Sweden	81(5)	78(3)	71(3)	69(5)	65(2)	64(3)	72(21)
Tempo	Canada	54(6)	56(6)	51(6)	67(6)			57(24)
Carlton (Yield in kg/ha)		691(8)	624(6)	611(6)	563(8)	248(2)	601(3)	598(33)

(1) Meadow Bromegrass - (Bromus biebersteinii Roem et Schult.)

* Data years

Fescue, Red (Festuca rubra L.) Yields shown as % of Boreal

Agram	(1)	Netherlands	46(5)	28(6)	24(6)	29(4)		31(21)
Atlanta	(1)	Netherlands	34(5)	21(3)	20(3)	24(2)		24(13)
Ballade	(2)	France	9(3)	16(3)	8(3)	17(2)	8(2)	11(13)
Banner	(4)	United States	56(5)	37(6)	43(6)	34(4)	21(2)	41(23)
Bastide	(2)	France	20(6)	19(6)	9(6)	4(4)	11(2)	14(24)
Beauty	(1)	Netherlands	31(1)	40(1)		44(1)		38 (3)
Bergond	(3)	Denmark	39(3)					39 (3)
Bingo	(1)	Netherlands	21(3)	30(3)	22(3)	51(2)		29(11)
Boreal	(3)	Canada	100(11)	100(7)	100(6)	100(7)	100(2)	100(35)
Cascade	(4)	United States		23(3)	21(3)	18(2)		21 (8)
Checker	(4)	United States	50(3)	29(3)	26(3)	36(2)		35(11)
Chiwago	(2)	West Germany	36(2)					36 (2)
Commodore	(3)	Netherlands	58(1)	85(1)		56(1)		66 (3)
Dawson	(2)	Netherlands		39(3)	43(2)	21(2)		35 (7)

Species	Cultivar		Origin	B'lodge A	B'lodge B	Falher	Fort Vermilion	Gimle	High Level	All Locations
	Diamond	(1)	Netherlands	50(2)	24(3)	27(3)	18(2)			29(10)
	Eboli	(1)	Denmark	15(2)						15 (2)
	Encota	(1)	Netherlands		18(3)	22(3)	20(2)			20 (8)
	Engina	(3)	Netherlands	73(3)	112(3)	67(3)	71(2)			82(11)
	Ensylva	(3)	Netherlands	33(6)	45(6)	25(6)	33(4)		42(2)	35(24)
	Envira	(3)	Netherlands	72(6)	93(6)	92(6)	69(4)		114(2)	85(24)
	Enzet	(3)	Netherlands	93(6)	91(6)	82(6)	74(4)		130(2)	90(24)
	Epaulette	(2)	United Kingdom	11(3)	14(3)	11(3)	13(2)		11(2)	12(13)
	Falter	(1)	West Germany	10(2)						10 (2)
	Faramir	(2)	Denmark	22(2)						22 (2)
	Fortress	(3)	United States	51(6)	73(6)	47(6)	42(4)		58(2)	55(24)
	Frida	(1)	Netherlands	17(3)	28(3)	34(2)	25(2)			25(10)
	Futuro	(3)	West Germany	21(2)						21 (2)
	G	(2)	Hungary	58(1)	69(1)		74(1)			67 (3)
	Gavotte	(1)	Netherlands	18(2)						18 (2)
	Grelø	(2)	Denmark	19(3)	25(3)	7(3)	11(2)			16(11)
	Hackle	(2)	United Kingdom	11(3)	9(3)	4(3)	8(2)		3(2)	7(13)
	Hawk	(2)	United Kingdom	75(2)						75 (2)
	Highlight	(1)	Netherlands		29(3)	30(3)	24(2)			28 (8)
	Ivalo	(1)	Denmark	32(2)	29(6)	19(6)	26(4)			26(18)
	Jade	(1)	Netherlands	35(3)						35 (3)
	Keszthelyi	2(2)	Hungary	45(3)	63(6)	57(6)	32(4)		43(2)	51(21)
	Koket	(1)	Netherlands		40(3)	30(3)	29(2)			34 (8)
	Leik	(3)	Norway	86(6)	79(4)	66(3)	139(5)	88(2)	121(2)	97(22)
	Lifalla	(1)	West Germany		30(3)	33(3)	21(2)			29 (8)
	Lirota	(1)	West Germany	13(2)						13 (2)
	Lirouge	(1)	West Germany	19(3)	17(6)	18(6)	29(4)			20(19)
	Lobi	(1)	West Germany	36(2)						36 (2)
	Luster	(1)	Netherlands	18(5)	27(3)	15(3)	35(4)	38(2)		25(17)
	Manoir	(2)	France	9(3)	25(3)	7(3)	11(2)			13(11)
	Menuet	(1)	Netherlands		28(3)	31(3)	21(2)			27 (8)
	Merlin	(2)	United Kingdom	13(3)	20(3)	10(3)	8(2)			13(11)
	Moncorde	(3)	Netherlands	55(6)	61(6)	50(6)	61(4)		40(2)	56(24)
	Oasis	(2)	Netherlands	20(9)	26(6)	31(5)	13(6)	32(2)		23(28)
	Odra	(1)	West Germany		35(3)	46(3)	38(2)			40 (8)
	Oriflamme	(2)	United Kingdom	18(3)	21(3)	17(3)	31(2)		54(2)	26(13)
	Parita	(1)	Netherlands	28(3)	29(3)	30(3)	59(2)			34(11)
	Perelle	(2)	France	2(1)	3(1)		11(1)			5 (3)
	Pernille	(3)	Denmark	37(3)	43(6)	35(6)	30(4)		54(2)	38(21)

Species	Cultivar	Origin	B'lodge A	B'lodge B	Falher	Fort Vermilion	Gimle	High Level	All Locations
	Pollux	(3) Denmark		70(6)	62(6)	45(4)		63(2)	61(18)
	Puma	(1) Denmark	32(6)	31(6)	25(6)	31(4)			30(22)
	Rapid	(3) Netherlands	61(3)	87(6)	80(6)	64(4)		116(2)	80(21)
	Rasengold	(1) West Germany		43(3)	44(3)	28(2)			40(8)
	Reptans	(3) Sweden	68(6)	76(3)	80(3)	75(2)		92(2)	76(16)
	Roland 21	(3) West Germany	50(6)	72(3)	71(3)	50(2)		68(2)	60(16)
	Rolax	(1) Belgium		48(3)	37(3)	28(2)			39(8)
	Rubina Roskilde	(3) Denmark	58(3)						58(3)
	Satin	(2) Sweden	14(1)	21(1)		24(1)			20(3)
	Scarlet	(1) Netherlands	42(5)	31(6)	28(6)	41(4)			35(21)
	Solfège	(1) France	25(2)						25(2)
	Sonnet	(2) Netherlands	13(3)	18(3)	7(3)	11(2)			12(11)
	Tamara	(1) Denmark		36(3)	39(3)	34(2)			37(8)
	Tatjana	(1) Denmark	30(3)	40(6)	43(5)	47(4)			41(18)
	Tridano	(3) Denmark	56(2)						56(2)
	Valaska	(4) Czechoslovakia	42(5)	23(3)	27(3)	45(4)	44(2)		37(17)
	Veni	(1) Denmark	31(6)	38(6)	38(6)	31(4)			35(22)
	Waldorf	(1) Netherlands		28(3)	24(3)	26(2)			26(8)
	Zernickower	(3) East Germany	73(6)	92(4)	64(3)	74(5)	88(2)	131(2)	82(22)
Boreal (Yield in kg/ha)			438(11)	570(7)	511(6)	668(7)	594(2)	390(2)	529(35)

(1) Rhizomes absent or rudimentary

(2) Slender rhizomes

(3) Strong rhizomes

(4) Unclassified

Timothy (Phleum pratense L.) Yields shown as % of Climax

Adda	Iceland	187(1)	192(1)		357(1)	273(1)		252(4)
Alpage	France	109(5)	101(3)	137(3)	113(5)	116(2)	99(3)	112(21)
Barmidi	Netherlands	71(3)	76(3)	71(2)	36(1)			69(9)
Barmoti	Netherlands		125(3)	121(2)	85(2)			112(7)
Bartimi	Netherlands	125(3)	112(6)	119(5)	112(5)		83(3)	111(22)
Barvanti	Netherlands	74(3)	61(3)	62(2)	22(2)			57(10)
Basho	Canada	65(6)	77(6)	62(5)	46(3)		40(3)	62(23)
Bilbo	Denmark	119(6)	117(3)	130(3)	121(3)		129(3)	123(18)
Bodin	Norway		155(3)	177(2)	168(2)			165(7)
Bottnia II	Sweden	173(6)	125(6)	164(5)	232(5)		285(3)	185(25)

Species	Cultivar	Origin	B'lodge A	B'lodge B	Falher	Fort Vermilion	Gimle	High Level	All Locations
	Bounty	Canada	70(3)	71(3)	72(2)	117(3)		72(3)	81(14)
	Castella	Netherlands	76(3)						76 (3)
	Champ	Canada	109(3)	79(3)	75(2)	84(3)		71(3)	84(14)
	Clair	United States	78(3)						78 (3)
	Climax	Canada	100(11)	100(7)	100(5)	100(8)	100(3)	100(3)	100(37)
	Engmo	Norway	185(6)	138(6)	180(5)	239(5)		264(3)	193(25)
	Erecta	Belgium	124(3)	95(6)	104(5)	81(5)		125(3)	102(22)
	Farol	Netherlands		76(3)	59(2)				69 (5)
	Forus	Norway		115(3)	117(2)	106(2)			113 (7)
	G	Hungary	123(1)	128(1)		179(1)	156(1)		147 (4)
	Georgikon	Hungary		110(3)	147(2)	99(2)			117 (7)
	Goliath	Netherlands	115(6)	105(6)	123(5)	112(5)		156(3)	119(25)
	Grindstad	Norway		122(3)	88(2)	99(2)			106 (7)
	Hokuo	Japan	94(3)	92(3)	60(2)	76(2)			83(10)
	Hokusyu	Japan	117(6)	78(4)	190(3)	110(6)	78(3)	169(3)	119(25)
	Itasca	Sweden	79(3)	75(3)	84(3)	100(3)		101(3)	88(15)
	Korpa	Iceland	240(6)	147(7)	203(5)	246(8)	198(3)	270(3)	214(32)
	Ludor	France	52(5)	50(3)	58(3)	58(5)	61(2)	56(3)	55(21)
	Melora	Netherlands	113(5)	81(3)	105(3)	81(5)	88(2)	90(3)	94(21)
	Mino	Denmark	91(6)	91(6)	77(5)	65(5)		117(3)	86(25)
	Motim	Netherlands	89(3)	69(3)	94(2)	42(2)			75(10)
	Motterwitzer	East Germany	121(3)						121 (3)
	Nosappu	Japan	151(6)	115(4)	123(3)	134(6)	119(3)	117(3)	130(25)
	Otto	Finland	164(3)	134(6)	198(5)	194(5)		203(3)	176(22)
	Palermo	Netherlands	41(3)	55(3)	22(2)	9(2)			37(10)
	Phlewila	West Germany		86(3)	98(2)	104(2)			95 (7)
	Polka	United Kingdom	113(6)	101(3)	121(3)	128(3)		90(3)	111(18)
	Pronto	United States	98(6)	105(6)	100(5)	84(5)		144(3)	103(25)
	Purlieu	United Kingdom	84(6)	96(3)	122(3)	87(3)		92(3)	94(18)
	Ramona	Netherlands		47(6)	10(2)	30(1)			37 (9)
	Rasant	West Germany	165(6)	140(6)	214(5)	161(5)		216(3)	174(25)
	Richmond	Canada	100(3)	107(6)	108(5)	97(5)		105(3)	104(22)
	Salvo	Canada	74(7)	68(3)	56(3)	62(5)	60(2)	60(3)	65(23)
	Tammisto	Finland		126(3)	168(2)	157(2)			147 (7)
	Tarmo	Finland		139(3)	167(2)	108(2)			138 (7)
	Tiiti	Finland	195(3)	128(3)	247(3)	266(3)		222(3)	212(15)
	Timfor	United States	92(3)	89(3)	96(2)	64(2)			86(10)
	Topas Otofte	Denmark	126(6)	105(6)	76(4)	120(5)		127(3)	111(24)
	Verdant	United States	109(6)	102(6)	116(5)	101(5)		120(3)	108(25)

Species Cultivar	Origin	B'lodge A	B'lodge B	Falher	Fort Vermilion	Gimle	High Level	All Locations
Winda	Netherlands	36(3)						36 (3)
Climax (Yield in kg/ha)		312(11)	292(7)	138(5)	229(8)	260(3)	119(3)	247(37)

Clover, Red (Trifolium pratense L.) Yields shown as % of Altaswede

Aberystwyth S.123	United Kingdom		27(2)	47(2)				37 (4)
Altaswede	Canada	100(7)	100(7)	100(6)	100(7)	100(2)		100(29)
Astra 4n	United Kingdom		35(2)	26(3)	33(3)			31 (8)
Bjorn	Sweden	76(5)	78(6)	70(6)	86(6)			78(23)
Deben 4n	United Kingdom	17(2)						17 (2)
Diper	France	29(2)						29 (2)
Fanny 4n	Sweden	64(1)	40(1)		106(1)			70 (3)
Florex	United States	67(4)	77(3)	20(2)	47(2)	77(2)		61(13)
Florie	United States	46(4)	60(3)	19(2)	32(2)	45(2)		43(13)
Fox	France	15(1)	0(1)		36(1)			17 (3)
Gollum	Denmark	92(4)	87(3)	28(2)	49(2)	82(2)		73(13)
Granta	United Kingdom	66(2)	29(4)	17(2)	0(2)			28(10)
Grasslands Pawera	New Zealand	32(3)	41(3)	4(1)	0(1)			28 (8)
Gumpensteiner	Austria	41(3)	22(5)	9(2)	4(2)			22(12)
Hamidori 4n	Japan		5(2)					5 (2)
Hedda 4n	Sweden	58(1)	43(1)		95(1)			65 (3)
Heges Hohenheimer	West Germany		0(1)		0(1)			0 (2)
Janbo 4n	West Germany	20(2)						20 (2)
Kenstar	United States	27(2)						27 (2)
Kora	Sweden	70(1)	70(1)		153(1)			98 (3)
Krano Pajbjerg	Denmark	126(3)	97(6)	55(5)	36(2)			82(16)
Kvarta	Czechoslovakia	28(2)						28 (2)
Lossam 4n	France	22(2)	12(2)	3(2)	0(1)			11 (7)
Marcom	France		3(2)		0(1)			2 (3)
Marino	East Germany	51(4)	36(3)	17(2)	41(2)	44(2)		40(13)
Matri 4n	East Germany	30(1)	2(1)		65(1)			32 (3)
Molly 4n	Sweden	30(1)	10(1)		110(1)			50 (3)
Mont-Calme	Switzerland	46(3)	22(5)	9(2)	14(2)			25(12)
Napoca 4n	Romania	35(1)	0(1)		65(1)			33 (3)
Norlac	Canada	104(6)	107(7)	88(6)	113(7)			104(26)
Norseman 4n	United Kingdom		0(1)		0(1)			0 (2)
Pacific	Canada	80(2)	33(3)	0(1)	3(2)			33 (8)

Species	Cultivar	Origin	B'lodge A	B'lodge B	Falher	Fort Vermilion	Gimle	High Level	All Locations
	Palna	Denmark	102(4)	82(3)	23(2)	25(2)	87(2)		71(13)
	Patavium	Italy	51(2)	38(2)	1(2)	0(1)			26 (7)
	Perenta 4n	East Germany	30(3)	16(6)	13(2)	18(3)			19(14)
	Quin	United Kingdom	29(2)						29 (2)
	Quinequeli	Chile	43(2)	51(2)	0(1)	0(1)			31 (6)
	Red Head 4n	West Germany		0(1)					0 (1)
	Redman	United States	42(2)						42 (2)
	Renova	Switzerland	25(1)	0(1)		36(1)			20 (3)
	Sally 4n	Sweden	40(2)	62(6)	26(6)	44(3)			44(17)
	Sara 4n	Sweden	40(4)	86(3)	27(3)	49(3)	50(2)		50(15)
	Start	Czechoslovakia	41(2)						41 (2)
	Temara 4n	Switzerland	13(2)	16(3)	4(2)	0(1)			10 (8)
	Tripo 4n	Norway		54(3)	56(3)				55 (6)
	Triton 4n	Sweden	47(2)						47 (2)
	Altaswede (Yield in kg/ha)		338(7)	398(7)	214(6)	682(7)	324(2)		409(29)