

FORAGE CULTIVAR TRIALS - 1987

PREPARED BY
NORTHERN RESEARCH GROUP
AGRICULTURE CANADA RESEARCH STATION
BEAVERLODGE, ALBERTA

IN CO-OPERATION WITH

Alberta
AGRICULTURE



FORAGE CULTIVAR TRIALS

G.M. Howe

1987

FOREWORD

This report is the tenth 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. Fort Vermilion. Experimental Farm (NW-13-108-13-W5th)

Dark Gray Luvisol (Leith coarse loam) to Orthic Gray Luvisol (Culp coarse loam).

A - Replicated Trials

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

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.

B - Screening Trials

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.

Starting in 1987, seed is harvested and actual yields published.

C - Summary of Seed Yields

This section contains a summary of forage seed yield data collected from the various test sites established in northern Alberta. Only those cultivars registered in Canada and cultivars eligible for certification under the OECD scheme are listed.

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

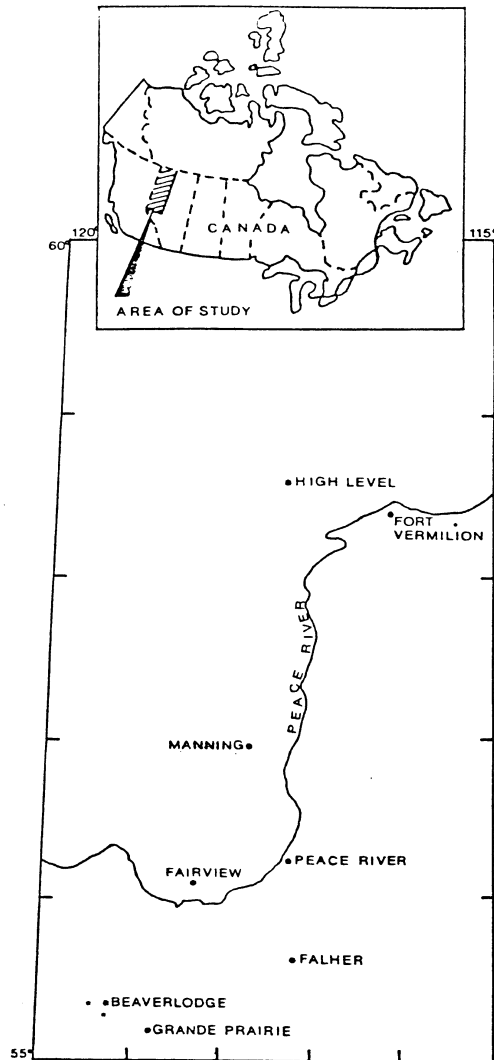
The author acknowledges the contributions of the following people to the program: W. Conrad, T. Cramer, A. Heggelund, B. Miller, F. Swanson and J. Woods.

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

ENVIRONMENTAL DATA FOR SELECTED SITES IN THE STUDY AREA



		Beaverlodge		Fairview		Fort Vermilion	
		1951-80	1987	1951-80	1987	1951-80	1987
Growing Degree Days							
Above 5°C	- May - Aug	988.8	1032.8	1078.0	N/A	1110.3	N/A
Total Hours	- Annual	2125.5		2059.9		2106.9	
Bright Sun	May - Aug	1111.8	1063.6	1060.3	N/A	1134.9	N/A
Total Precip. (mm)	- Annual	467.0		446.6		382.5	
	May - Aug	235.2	265.8	236.8	N/A	201.7	N/A
Temperature (°C)							
Mean	- Annual	1.6		1.3		-1.2	
	May - Aug	13.0	13.4	13.7	N/A	13.9	N/A
Mean Maximum	- Annual	7.0		6.3		4.5	
	May - Aug	19.2	19.7	19.6	N/A	20.5	N/A
Mean Minimum	- Annual	-3.7		-3.6		-6.9	
	May - Aug	6.7	7.1	7.8	N/A	7.4	N/A
Photoperiod	- June 22	17:25		17:38		18:18	
Last Spring Frost (0°C)		May 24	May 16	May 19	N/A	May 28	N/A
First Fall Frost (0°C)		Sep 7	Sep 9	Sep 16	N/A	Sep 3	N/A
Frost Free Period (days)		105	116	119	N/A	97	N/A

TABLE OF CONTENTS

<u>A - Replicated Trials</u>	<u>Page</u>	<u>B - Screening Trials 1986- 1987</u>	<u>Page</u>
Red Fescue (<u>Festuca rubra</u> L.)		White Clover (<u>Trifolium repens</u> L.)	11
Beaverlodge A 1986 - seed	1	Sainfoin (<u>Onobrychis viciifolia</u> Scop.)	16
Beaverlodge B 1986 - seed	2	Bromegrass (<u>Bromus inermis</u> Leyss.)	12
Beaverlodge A 1986 - herbage	3	Hard and Sheep's Fescue (<u>Festuca ovina</u> L. <u>sensu lato</u> ; <u>F. tenuifolia</u> Sibth; <u>F. duruiscula</u> auct.)	17
Beaverlodge B 1986 - herbage	4	Meadow Fescue (<u>Festuca pratensis</u> Huds.; <u>F. elatior</u> auct.)	12,17
Timothy - Hay (<u>Phleum pratense</u> L.)		Red Fescue (<u>Festuca rubra</u> L.)	13,18
Beaverlodge A 1986 - seed	5	Tall Fescue (<u>Festuca arundinacea</u> Schreb.)	13,18
Beaverlodge B 1986 - seed	6	Orchardgrass (<u>Dactylis glomerata</u> L.)	14,19
Beaverlodge A 1986 - herbage	7	Redtop (<u>Agrostis gigantea</u> Roth.)	19
Beaverlodge B 1986 - herbage	8	Reed Canarygrass (<u>Phalaris arundinacea</u> L.)	14
		Hybrid Ryegrass (<u>Lolium x Boucheanum</u> Kunth; <u>L. x hybridum</u> Hausskn.)	19
		Perennial Ryegrass (<u>Lolium perenne</u> L.)	20
		Timothy (<u>Phleum pratense</u> L.)	14
<u>B - Screening Trials 1986- 1987</u>		<u>C - Summary of Seed Yields</u>	
Alfalfa (<u>Medicago sativa</u> L.)	10,16	Bromegrass (<u>Bromus inermis</u> Leyss.)	23
Birdsfoot Trefoil (<u>Lotus corniculatus</u> L.)	11	Red Fescue (<u>Festuca rubra</u> L.)	23
Alsike Clover (<u>Trifolium incarnatum</u> L.)	11	Timothy (<u>Phleum pratense</u> L.)	25
Red Clover (<u>Trifolium pratense</u> L.)	11	Red Clover (<u>Trifolium pratense</u> L.)	27

REPLICATED TRIALS

Red Fescue

Test Site: Beaverlodge Research Station
Seeding Year: 1986

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1987	Seed Yield	
					kg/ha 1987	% of Boreal
Accent	(3) Netherlands	9.0	65	July 13	506	51
B 7733	(3) Canada	9.0	60	July 13	1019	102
Boreal*	(3) Canada	9.0	65	July 13	999	100
Ceres	(3) Netherlands	9.0	58	July 14	349	35
Claudia	(3) Netherlands	9.0	56	July 11	440	44
Logro	(4) Ireland	9.0	40	July 10	73	7
Szarvasi 58	(2) Hungary	9.0	66	July 13	540	54
Terhi	(3) Finland	9.0	64	July 13	765	77
Victor	(3) Netherlands	9.0	60	July 13	700	70
Mean					613.9	
L.S.D. (P = .05)					198.8	

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

Red Fescue

Test Site: Beaverlodge B (Foster Farm)
Seeding Year: 1986

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1987	Seed Yield	
					kg/ha 1987	% of Boreal
Accent	(3) Netherlands	9.0	59	July 14	424	54
B 7733	(3) Canada	9.0	54	July 13	751	96
Boreal*	(3) Canada	9.0	55	July 13	781	100
Ceres	(3) Netherlands	9.0	51	July 15	194	25
Claudia	(3) Netherlands	9.0	49	July 12	289	37
Logro	(4) Ireland	9.0	40	July 10	64	8
Szarvasi 58	(2) Hungary	9.0	61	July 13	657	84
Terhi	(3) Finland	9.0	63	July 13	680	87
Victor	(3) Netherlands	9.0	54	July 13	493	63
Mean					493.2	
L.S.D. (P = .05)					214.6	

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

Red Fescue

Test Site: Beaverlodge Research Station
Seeding Year: 1986

Herbage Yield (DM)

Cultivar	Origin	Cut 1		Cut 2		Total	
		(t/ha)	% of Boreal	(t/ha)	% of Boreal	(t/ha)	% of Boreal
Accent	(3) Netherlands	2.81	96	3.84	105	6.65	101
B 7733	(3) Canada	2.33	80	3.54	96	5.87	89
Boreal*	(3) Canada	2.92	100	3.67	100	6.59	100
Ceres	(3) Netherlands	1.17	40	2.38	65	3.56	54
Claudia	(3) Netherlands	1.43	49	2.88	78	4.32	66
Logro	(4) Ireland	0.34	12	1.26	34	1.61	24
Szarvasi 58	(2) Hungary	2.90	99	3.71	101	6.62	100
Terhi	(3) Finland	2.91	100	3.86	105	6.77	103
Victor	(3) Netherlands	2.29	78	3.57	97	5.86	89
Mean		2.12		3.19		5.31	
L.S.D. (P = .05)		0.79		0.71		1.26	

(1) Rhizomes absent or rudimentary

(2) Slender rhizomes

(3) Strong rhizomes

(4) Unclassified

Red Fescue

Test Site: Beaverlodge B (Foster Farm)
Seeding Year: 1986

Herbage Yield (DM)

Cultivar	Origin	Cut 1		Cut 2		Total	
		(t/ha)	% of Boreal	(t/ha)	% of Boreal	(t/ha)	% of Boreal
Accent	(3) Netherlands	2.02	105	3.44	107	5.45	106
B 7733	(3) Canada	1.73	90	3.04	95	4.77	93
Boreal*	(3) Canada	1.93	100	3.21	100	5.14	100
Ceres	(3) Netherlands	0.94	49	2.09	65	3.03	59
Claudia	(3) Netherlands	1.39	72	3.06	95	4.45	87
Logro	(4) Ireland	0.16	8	0.70	22	0.87	17
Szarvasi 58	(2) Hungary	2.55	132	3.35	104	5.90	115
Terhi	(3) Finland	2.04	106	3.34	104	5.39	105
Victor	(3) Netherlands	2.10	109	2.86	89	4.97	97
Mean		1.69		2.85		4.54	
L.S.D. (P = .05)		0.78		0.76		1.37	

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

Timothy

Test Site: Beaverlodge Research Station
Seeding Year: 1986

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1987	Seed Yield	
					kg/ha 1987	% of Climax
Alexander	Sweden	9.0	80	July 29	457	87
Alma	Finland	9.0	86	July 29	838	160
Barnee	Netherlands	9.0	75	Aug 13	311	59
Bero Daehnfeldt	Denmark	9.0	79	July 30	476	91
Bottnia II	Sweden	9.0	85	July 30	772	147
Climax*	Canada	9.0	86	July 30	525	100
Comtal	Netherlands	9.0	75	July 30	542	103
Enforti	Netherlands	9.0	76	July 30	484	92
Extremo	Netherlands	9.0	68	July 25	360	69
Impala	Netherlands	9.0	76	July 30	567	108
Kunpu	Japan	9.0	70	July 20	342	65
Lirocco	West Germany	9.0	78	July 28	562	107
Mariposa	Canada	9.0	78	July 29	433	82
Saga	Sweden	9.0	85	July 30	813	155
Thibet	Netherlands	9.0	64	Aug 21	167	32
Tiiti	Finland	9.0	86	July 30	641	122
Tiller	Netherlands	9.0	73	July 27	413	79
Tirom	Romania	9.0	75	July 29	520	99
Transfer	Netherlands	9.0	80	July 29	510	97
Tromba	Netherlands	9.0	80	July 29	544	104
Tundra	Denmark	9.0	78	July 30	531	101
Winmor	United States	9.0	81	Aug 5	254	48
Wugra	East Germany	9.0	73	July 29	461	88
Mean					490.7	
L.S.D. (P = 0.5)					125.3	

Timothy

Test Site: Beaverlodge B (Foster Farm)
Seeding Year: 1986

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1987	Seed Yield	
					kg/ha 1987	% of Climax
Alexander	Sweden	9.0	73	July 29	582	145
Alma	Finland	9.0	75	July 29	822	204
Barnee	Netherlands	9.0	64	Aug 14	223	55
Bero Daehnfelddt	Denmark	9.0	68	July 29	339	84
Bottnia II	Sweden	9.0	76	July 29	702	175
Climax*	Canada	9.0	75	July 29	402	100
Comtal	Netherlands	9.0	69	July 29	514	128
Enforti	Netherlands	9.0	65	July 29	434	108
Extremo	Netherlands	9.0	63	July 23	395	98
Impala	Netherlands	9.0	65	July 29	519	129
Kunpu	Japan	9.0	65	July 20	281	70
Lirocco	West Germany	9.0	66	July 28	407	101
Mariposa	Canada	9.0	69	July 28	354	88
Saga	Sweden	9.0	74	July 29	786	196
Thibet	Netherlands	9.0	56	Aug 14	165	41
Tiiti	Finland	9.0	75	July 29	623	155
Tiller	Netherlands	9.0	61	July 24	348	86
Tirom	Romania	9.0	65	July 27	473	118
Transfer	Netherlands	9.0	65	July 28	452	112
Tromba	Netherlands	9.0	70	July 28	514	128
Tundra	Denmark	9.0	68	July 29	448	111
Winmor	United States	9.0	78	July 29	270	67
Wugra	East Germany	9.0	64	July 28	475	118
Mean					457.7	
L.S.D. (P = .05)					124.4	

Timothy

Test Site: Beaverlodge Research Station
Seeding Year: 1986

Herbage Yield (DM)

Cultivar	Origin	Cut 1		Cut 2		Total	
		(t/ha)	% of Climax	(t/ha)	% of Climax	(t/ha)	% of Climax
Alexander	Sweden	2.73	86	3.66	87	6.39	87
Alma	Finland	3.23	102	3.16	76	6.40	87
Barnee	Netherlands	2.89	91	2.23	53	5.12	69
Bero Daehnfeldt	Denmark	3.18	100	3.62	87	6.80	92
Bottnia II	Sweden	3.25	102	3.06	73	6.31	86
Climax*	Canada	3.18	100	4.19	100	7.37	100
Comtal	Netherlands	2.56	81	3.72	89	6.29	85
Enforti	Netherlands	2.69	85	3.49	83	6.18	84
Extremo	Netherlands	2.13	67	3.64	87	5.77	78
Impala	Netherlands	2.40	75	3.51	84	5.91	80
Kunpu	Japan	2.04	64	3.60	86	5.64	76
Lirocco	West Germany	2.27	71	3.40	81	5.67	77
Mariposa	Canada	2.31	73	3.79	90	6.09	83
Saga	Sweden	3.08	97	2.76	66	5.83	79
Thibet	Netherlands	2.92	92	2.39	57	5.31	72
Tiiti	Finland	3.58	113	2.99	71	6.57	89
Tiller	Netherlands	2.45	77	4.61	110	7.06	96
Tirom	Romania	2.40	76	4.16	99	6.56	89
Transfer	Netherlands	2.68	84	3.82	91	6.49	88
Tromba	Netherlands	2.90	91	4.12	98	7.02	95
Tundra	Denmark	2.52	79	3.82	91	6.34	86
Winmor	United States	2.43	76	4.20	100	6.63	90
Wugra	East Germany	2.62	82	3.53	84	6.15	83
Mean		2.71		3.54		6.26	
L.S.D. (P = .05)		1.02		0.71		1.46	

Timothy

Test Site: Beaverlodge B (Foster Farm)
Seeding Year: 1986

Herbage Yield (DM)

Cultivar	Origin	Cut 1		Cut 2		Total	
		(t/ha)	% of Climax	(t/ha)	% of Climax	(t/ha)	% of Climax
Alexander	Sweden	3.21	100	3.60	103	6.80	101
Alma	Finland	3.19	99	3.45	99	6.64	99
Barnee	Netherlands	2.81	87	1.68	48	4.49	67
Bero Daehnfeldt	Denmark	2.55	79	3.38	97	5.93	88
Bottnia II	Sweden	3.33	103	3.01	86	6.35	94
Climax*	Canada	3.22	100	3.50	100	6.72	100
Comtal	Netherlands	2.67	83	3.39	97	6.06	90
Enforti	Netherlands	2.60	81	3.16	90	5.75	86
Extremo	Netherlands	2.70	84	3.59	103	6.29	94
Impala	Netherlands	2.80	87	3.27	93	6.07	90
Kunpu	Japan	2.50	78	4.20	120	6.70	100
Lirocco	West Germany	2.43	75	3.73	107	6.16	92
Mariposa	Canada	2.79	87	3.75	107	6.54	97
Saga	Sweden	3.23	100	3.02	86	6.25	93
Thibet	Netherlands	2.37	74	1.78	51	4.15	62
Tiiti	Finland	3.43	107	3.17	91	6.60	98
Tiller	Netherlands	2.41	75	3.81	109	6.22	92
Tirom	Romania	2.93	91	3.96	113	6.89	103
Transfer	Netherlands	2.97	92	3.49	100	6.46	96
Tromba	Netherlands	2.78	86	3.45	99	6.23	93
Tundra	Denmark	3.06	95	3.63	104	6.69	100
Winmor	United States	2.81	87	3.58	102	6.39	95
Wugra	East Germany	2.55	79	3.07	88	5.62	84
Mean		2.84		3.33		6.17	
L.S.D. (P = .05)		0.72		0.74		1.32	

SCREENING TRIALS

Cultivar Screening Trial
Seeding Year: 1985

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating		Herbage Yield Rating	
					1986	1987	1986	1987
Alfalfa (<u>Medicago sativa</u> L.)								
	120	United States	5.0	66	3.0	2.67	3.7	2.67
	Alegro	France	5.0	69	4.3	3.33	4.0	3.00
	Amador	United States	3.0	64	2.7	2.00	2.0	2.00
	Beaver*	Canada	5.0	64	5.0	2.33	3.3	3.33
	Blazer	United States	5.0	63	4.3	2.33	4.0	2.33
	BY 2	Canada	5.0	63	3.7	1.33	4.0	2.33
	Classic	United States	5.0	64	4.7	2.67	4.0	2.67
	Fundulea 652	Romania	5.0	68	3.3	3.00	4.0	3.00
	Gloria	Romania	5.0	68	3.7	3.00	3.7	3.00
	Heinrichs	Canada	5.0	63	3.7	1.67	4.0	2.67
	Joaquin II	United States	5.0	61	3.0	1.00	3.0	2.50
	Kiliana	West Germany	5.0	68	4.0	3.00	3.7	2.33
	Lovetch	Bulgaria	5.0	63	3.7	3.00	3.3	3.33
	Lutetia	Romania	5.0	64	5.0	2.67	3.3	2.67
	Magnum	United States	5.0	67	4.7	2.50	4.0	2.50
	Matador	United States	2.3	63	2.0	1.33	1.7	1.00
	New Mexico 11-1	United States	3.0	64	2.3	2.50	1.7	1.50
	Preserve	United States	5.0	71	3.7	3.33	4.0	3.00
	Rangelander	Canada	5.0	59	5.0	1.67	3.7	2.33
	Rayen	Chile	2.3	58	1.3	0.33	1.3	0.67
	Regal	United States	5.0	66	4.7	2.33	4.0	2.67
	Spectrum	United States	5.0	69	4.7	3.33	3.7	3.33
	Star	France	5.0	66	4.3	3.00	4.0	3.00
	Trident	United States	5.0	60	3.7	2.50	3.7	2.00
	Trifecta	Australia	2.7	64	2.0	1.67	1.7	1.33
	Turbo	United States	5.0	62	3.7	1.67	3.3	2.00
	Warrior	United States	5.0	60	3.7	2.00	4.0	2.67
	WWB 8	Sweden	5.0	66	4.7	2.33	4.0	2.67
	WWB 9	Sweden	5.0	56	3.0	1.67	3.3	2.00
	WWB 10	Sweden	5.0	59	3.0	2.67	3.3	2.33

*Beaver (Yield in kg/ha)

833 529

Cultivar Screening Trial
Seeding Year: 1985

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating		Herbage Yield Rating	
					1986	1987	1986	1987
Birdsfoot Trefoil (<u>Lotus corniculatus</u> L.)								
	Leo*	Canada	3.7	49	5.0	2.00	3.7	2.33
	Szabolcsi 1	Hungary	2.7	40	3.3	2.00	3.3	2.33
	* Leo (Yield in kg/ha)				750	612		
Alsike Clover (<u>Trifolium incarnatum</u> L.)								
	Aurora*	Canada	4.0	33	4.7	3.00	2.7	1.67
	Frida	Sweden	4.7	33	5.0	2.00	3.0	2.33
	SV 0244	Sweden	4.0	34	4.7	2.33	2.7	2.00
	* Aurora (Yield in kg/ha)				341	85		
Red Clover (<u>Trifolium pratense</u> L.)								
	Altaswede*	Canada	4.3	59	5.0	3.00	4.0	3.67
	GKT Tetra	Hungary	2.3	49	3.0	1.67	2.0	2.00
	Prosper	United States	3.3	39	3.7	2.33	2.3	2.33
	Rajah	Denmark	4.0	51	5.0	2.33	3.7	2.67
	Ruttinova	Switzerland	2.3	44	2.3	1.00	1.7	1.33
	Verdi	France	2.0	50	2.3	1.33	1.0	1.33
	* Altaswede (Yield in kg/ha)				512	511		
White Clover (<u>Trifolium repens</u> L.)								
	Ala	Poland	4.3	14	4.7	2.00	2.3	2.00
	G 66	Hungary	4.0	20	4.0	1.00	1.7	2.67
	Luclair	France	3.7	17	3.0	1.00	1.0	1.33

Cultivar Screening Trial
Seeding Year: 1985

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating		Herbage Yield Rating	
					1986	1987	1986	1987
White Clover (<u>Trifolium repens</u> L.) cont'd								
	Lune De Mai	France	4.3	16	3.7	1.00	1.7	2.33
	Lustar	France	3.7	16	2.7	1.00	1.0	1.67
	Major	France	3.3	15	2.3	1.33	1.0	2.00
	Makibasiro	Japan	3.7	13	2.3	1.67	1.0	1.33
	Merwi	Belgium	4.3	15	3.0	1.33	1.7	2.00
	Nora*	Sweden	4.7	15	4.0	2.67	2.3	1.67
	Radi	Poland	4.3	20	4.0	1.00	2.0	2.33
	Rema	Poland	4.7	19	5.0	2.00	2.3	2.00
	Rivendel	Denmark	4.7	13	4.0	1.33	2.3	1.67
	Ross	Ireland	3.7	17	1.7	1.00	1.0	2.33
	Sandra	Sweden	4.3	16	4.0	1.33	2.3	2.33
	* Nora (Yield in kg/ha)				266	22		
Bromegrass (<u>Bromus inermis</u> Leys.)								
	Bravo	Canada	5.0	111	5.0	4.67	5.0	5.00
	Carlton*	Canada	5.0	110	5.0	5.00	5.0	5.00
	* Carlton (Yield in kg/ha)				1205	1196		
Meadow Fescue (<u>Festuca pratensis</u> Huds; <u>F. elatior</u> auct.)								
	Barmondo	Netherlands	5.0	74	5.0	4.00	5.0	4.33
	Bartran	Netherlands	5.0	66	5.0	3.33	5.0	3.33
	Benfesta	East Germany	5.0	77	5.0	4.67	5.0	4.33
	Maiko	Denmark	5.0	76	5.0	3.67	5.0	4.00
	Merifest	Belgium	5.0	69	5.0	3.00	5.0	3.67
	Mimer*	Sweden	5.0	73	5.0	3.67	5.0	3.67
	* Mimer (Yield in kg/ha)				1230	443		

Cultivar Screening Trial
Seeding Year: 1985

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating		Herbage Yield Rating	
					1986	1987	1986	1987
Red Fescue (<u>Festuca rubra</u> L.)								
	Bar Frc 10 (1)	Netherlands	5.0	44	4.0	3.00	3.0	2.67
	Barnica (1)	Netherlands	5.0	46	4.3	3.00	3.0	3.00
	Baruba (1)	Netherlands	5.0	44	2.3	2.33	2.3	3.00
	Boreal* (3)	Canada	5.0	63	5.0	5.00	4.0	3.67
	Club (1)	France	5.0	47	3.7	3.00	3.0	4.00
	Epsom (1)	Netherlands	5.0	48	3.3	2.67	2.7	3.00
	Ferota (1)	Czechoslovakia	5.0	48	4.3	3.00	2.7	3.00
	Flemo (3)	Netherlands	5.0	65	5.0	4.00	4.0	4.00
	Ombra (1)	United States	5.0	58	4.0	4.00	3.0	3.33
	Recent (2)	Netherlands	5.0	54	3.0	2.00	3.3	4.67
	Rufilla (2)	Netherlands	5.0	61	3.0	2.33	3.3	5.00
	Testop (2)	West Germany	5.0	53	3.3	2.00	3.0	4.33
	Tiptop (1)	West Germany	5.0	49	3.0	3.00	2.0	2.67
	Venus (1)	Netherlands	5.0	47	4.0	4.00	3.0	3.00
	WWRs 124 (3)	Sweden	5.0	55	4.3	2.00	4.0	5.00
	WWRs 125 (3)	Sweden	5.0	57	4.3	2.00	4.0	4.67
	WWRs 127 (3)	Sweden	5.0	49	4.3	3.33	3.0	2.67
	WWRs 128 (3)	Sweden	5.0	59	4.3	3.33	3.7	4.33

* Boreal (Yield in kg/ha)

850 845

(1) Rhizomes absent or rudimentary

(2) Slender rhizomes

(3) Strong rhizomes

Tall Fescue (Festuca arundinacea Schreb.)

	Cigale	France	5.0	73	3.7	3.67	4.7	3.67
	Kentucky 31*	United States	5.0	79	5.0	4.33	4.7	3.67
	Luther	France	5.0	92	3.7	5.00	4.7	4.67
	Mustang	United States	4.7	75	3.7	4.33	4.3	3.33

* Kentucky 31 (Yield in kg/ha)

505 328

Cultivar Screening Trial
Seeding Year: 1985

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating		Herbage Yield Rating		
					1986	1987	1986	1987	
Orchardgrass (<u>Dactylis glomerata</u> L.)									
	Filippa	Denmark	5.0	82	1.0	4.00	3.7	4.33	
	Kay*	Canada	5.0	85	3.0	5.00	5.0	4.00	
	Niva	Czechoslovakia	5.0	81	1.0	4.00	3.3	4.00	
	Pennlate	United States	0	-	0	0.00	0	0.00	
	Remanso	Netherlands	2.7	67	1.0	2.33	2.0	1.67	
	* Kay (Yield in kg/ha)					213	1171		
Reed Canarygrass (<u>Phalaris arundinacea</u> L.)									
	Castor*	Canada	5.0	115	2.3	2.67	2.3	3.00	
	Motterwitzer	East Germany	5.0	110	2.3	1.33	2.3	3.00	
	* Castor (Yield in kg/ha)					84	123		
Timothy (<u>Phleum pratense</u> L.)									
	Alma	Finland	5.0	75	4.0	3.33	4.3	3.33	
	Climax*	Canada	5.0	75	4.0	3.00	4.3	3.00	
	EPHP 102	Netherlands	5.0	75	4.0	3.33	4.7	3.33	
	EPHP 112	Netherlands	5.0	72	4.0	2.67	4.7	3.00	
	EPHP 122	Netherlands	5.0	75	4.0	2.67	4.3	2.33	
	Kunpu	Japan	5.0	68	3.7	2.33	4.7	2.33	
	Lirocco	West Germany	5.0	70	3.7	2.67	4.3	2.00	
	Mariposa	Canada	5.0	71	3.7	2.67	3.7	2.00	
	M3-8897	United Kingdom	5.0	68	4.0	2.00	2.7	1.50	
	PHP 12	Netherlands	5.0	72	3.7	3.00	4.0	2.33	
	PHP 14	Netherlands	5.0	76	4.0	2.33	3.0	2.33	
	RVP 02	Belgium	5.0	69	3.3	2.00	4.3	2.00	
	RVP 03	Belgium	5.0	68	4.0	3.00	5.0	3.00	
	Thibet	Netherlands	5.0	64	4.0	0.67	3.7	1.00	

Cultivar Screening Trial
Seeding Year: 1985

Species	Cultivar	Origin	Hardiness	Height (cm)	Seed Yield Rating		Herbage Yield Rating	
					1986	1987	1986	1987
Timothy (<u>Phleum pratense</u> L.) cont'd								
	Winmor	United States	5.0	83	4.0	2.67	4.3	3.33
	Wugra	East Germany	5.0	72	4.0	3.00	4.7	3.33
	WWT 100	Sweden	5.0	75	4.0	3.33	4.7	2.67
	Z 3022	West Germany	5.0	72	4.0	3.00	4.0	2.67
	* Climax (Yield in kg/ha)				374	265		

Cultivar Screening Trial
Seeding Year: 1986

Species	Cultivar	Origin	Hardiness	Height (cm)	Date Ripe	Seed Yield (kg/ha)	% of St*	Herbage Yield Rating
Alfalfa (<u>Medicago sativa</u> L.)								
	555	United States	5.0	57	Sep 11	288	46	3.00
	581	United States	5.0	59	Sep 11	240	39	3.00
	5929	United States	5.0	62	Sep 11	147	24	2.00
	Alouette	Canada	5.0	62	Sep 11	705	114	3.33
	Apollo II	United States	5.0	60	Sep 11	606	98	3.00
	Armor	United States	5.0	63	Sep 11	702	113	3.00
	Beaver*	Canada	5.0	62	Sep 11	620	100	3.33
	Caliverde	United States	5.0	58	Sep 11	239	39	2.67
	Cheronia	Greece	5.0	60	Sep 11	181	29	2.33
	CUF 101	United States	5.0	55	Sep 11	89	14	2.00
	Dart	United States	5.0	60	Sep 11	695	112	3.00
	DK 135	United States	5.0	55	Sep 11	530	85	3.00
	Drummor	United States	5.0	58	Sep 11	638	103	3.67
	Honeoye	United States	5.0	57	Sep 11	669	108	3.33
	Husky	United States	5.0	57	Sep 11	577	93	3.00
	Itaca	Italy	5.0	57	Sep 11	261	42	2.67
	Julus	Sweden	5.0	58	Sep 11	593	96	2.67
	Pierce	United States	5.0	60	Sep 11	277	45	2.33
	Roma	Italy	5.0	62	Sep 11	239	39	2.33
	San Isidro	Spain	5.0	50	Sep 11	51	8	2.00
	Surpass	United States	5.0	58	Sep 11	470	76	2.67
	Szentesi Rona	Hungary	5.0	58	Sep 11	673	109	3.33
	Thunder	United States	5.0	63	Sep 11	669	108	3.67
	Mean					436.1		
	L.S.D. (P = 0.05)					250.5		

Sainfoin (Onobrychis viciifolia Scop.)

	Melrose*	Canada	5.0	58		485	100	3.67
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Cultivar Screening Trial
Seeding Year: 1986

Species	Cultivar	Origin	Hardiness	Height (cm)	Date Ripe	Seed Yield (kg/ha)	% of St*	Herbage Yield Rating
Sainfoin (<u>Onobrychis viciifolia</u> Scop.) cont'd								
	Nova	Canada	5.0	62		374	77	3.33
	Visnovsky vicesecny	Czechoslovakia	5.0	53		53	11	2.33
	Mean					304.0		
	L.S.D. (P = .05)					540.8		
Hard Fescue (<u>Festuca ovina</u> L.)								
	Barreppo	Netherlands	5.0	33	July 6	117	54	2.33
	Biljart*	Netherlands	5.0	37	July 6	218	100	2.67
	Espro	Poland	5.0	35	July 6	242	111	2.33
	Fakir	Netherlands	5.0	40	July 6	183	84	3.00
	Galop	Netherlands	5.0	37	July 6	156	72	2.67
	Reliant	United States	5.0	40	July 6	265	122	3.33
	Saphir	France	5.0	10	*	3	1	1.00
	Silvana	Netherlands	5.0	38	July 6	224	103	3.33
	Mean					191.9		
	L.S.D. (P = .05)					112.2		
Meadow Fescue (<u>Festuca pratensis</u> Huds.; <u>F. elatior</u> auct.)								
	Leopard	West Germany	5.0	72	July 15	524	79	4.67
	Liforte	West Germany	5.0	80	July 15	858	130	4.67
	Mimer*	Sweden	5.0	78	July 15	660	100	4.67
	Pluto	Netherlands	5.0	72	July 15	490	74	4.00
	Stella	Netherlands	5.0	73	July 15	605	92	4.33
	Mean					617.9		
	L.S.D. (P = .05)					235.6		

Cultivar Screening Trial
Seeding Year: 1986

Species	Cultivar	Origin	Hardiness	Height (cm)	Date Ripe	Seed Yield (kg/ha) % of St*		Herbage Yield Rating
Red Fescue (<u>Festuca rubra</u> L.)								
	Alltop (1)	West Germany	5.0	50	July 13	203	34	2.33
	Boreal* (3)	Canada	5.0	58	July 13	593	100	3.67
	CRF 85 (3)	United States	5.0	47	July 11	35	6	2.00
	Laurent (1)	Belgium	5.0	45	July 10	134	23	2.33
	Rosana (1)	Czechoslovakia	5.0	40	July 10	56	9	2.00
	Victory (1)	United States	5.0	52	July 10	231	39	2.67
	Mean					219.0		
	L.S.D. (P = .05)					273.7		
	(1) Rhizomes absent or rudimentary							
	(2) Slender rhizomes							
	(3) Strong rhizomes							
Tall Fescue (<u>Festuca arundinacea</u> Schreb.)								
	Adora	France	5.0	73	July 17	84	22	3.33
	Au-triumph	United States	5.0	55	July 15	239	62	2.00
	Clemfine	United States	5.0	77	July 17	120	31	3.33
	Donia	France	5.0	60	July 17	217	56	2.00
	Falcon	United States	5.0	75	July 17	237	61	3.67
	Grombali	Tunisia	0.0	*	*	0	0	0.00
	Kentucky 31*	United States	5.0	67	July 15	386	100	3.67
	Mustang	United States	5.0	60	July 17	294	76	2.33
	Mean					200.5		
	L.S.D. (P = .05)					198.5		

Cultivar Screening Trial
Seeding Year: 1986

Species	Cultivar	Origin	Hardiness	Height (cm)	Date Ripe	Seed Yield (kg/ha)	% of St*	Herbage Yield Rating
Orchardgrass (<u>Dactylis glomerata</u> L.)								
	Arly	France	5.0	73	July 13	295	46	4.33
	Baza	Poland	5.0	100	July 17	362	56	4.67
	Kay*	Canada	5.0	88	July 13	645	100	4.33
	Keszthelyi 54	Hungary	5.0	83	July 13	452	70	3.33
	Leigestra	West Germany	5.0	73	July 13	536	83	4.00
	Shinyo	Japan	5.0	77	July 13	346	54	3.33
	Sparta	Denmark	5.0	75	July 13	294	46	3.33
	Trebina	East Germany	5.0	77	July 13	679	105	4.00
	Mean					451.1		
	L.S.D. (P = .05)					200.8		
Hybrid Ryegrass (<u>Lolium</u> x <u>Boucheanum</u> Kunth)								
	Aloha	Ireland	3.33	62	July 24	526	66	3.00
	Butler*	Denmark	3.33	63	July 23	795	100	3.33
	Esga	Poland	2.00	62	July 25	664	84	3.00
	Gazella	Switzerland	3.67	58	July 21	420	53	3.33
	Tetrelite	United States	3.67	63	July 24	786	99	3.67
	Mean					638.3		
	L.S.D. (P = .05)					690.0		
Red Top (<u>Agrostis gigantea</u> Roth)								
	Freja	Sweden	5.0	48	Aug 11	375	69	2.67
	Gosta	Poland	5.0	63	Aug 11	308	57	3.33
	Kita	Poland	5.0	67	Aug 11	386	71	3.33
	Listra	West Germany	5.0	62	Aug 11	394	73	3.00

Cultivar Screening Trial
Seeding Year: 1986

Species	Cultivar	Origin	Hardiness	Height (cm)	Date Ripe	Seed Yield (kg/ha) % of St*	Herbage Yield Rating
Red Top (<u>Agrostis gigantea</u> Roth) cont'd							
	NFG*	West Germany	5.0	68	Aug 11	541 100	3.67
	Streaker	United States	5.0	63	Aug 11	452 84	3.33
	Zygma	Poland	5.0	67	Aug 11	360 67	3.33
	Mean					395.3	
	L.S.D. (P = .05)					123.7	

Species	Cultivar	Origin	Hardiness	Height (cm)	Date Ripe	Seed Yield (kg/ha) % of St*	Herbage Yield (t/ha DM) ¹
Perennial Ryegrass (<u>Lolium perenne</u> L.)							
	Amado	Denmark	5.0	48	July 27	483 59	3.54
	Antrim	United Kingdom	5.0	38	July 30	444 55	3.79
	Argone	Poland	5.0	40	July 31	337 41	3.50
	Barylou	Netherlands	5.0	32	July 17	263 32	2.52
	Chantal	Denmark	5.0	48	July 30	354 44	3.35
	Cockade	United Kingdom	5.0	40	July 31	505 62	3.02
	Danny	Denmark	5.0	43	July 30	504 62	3.59
	Duramo	West Germany	5.0	43	July 28	396 49	3.96
	Edgar	Netherlands	5.0	37	July 27	385 47	3.60
	Gambit	Netherlands	5.0	42	July 30	141 17	3.01
	Gator	United States	5.0	33	July 27	710 87	2.35
	Hella	Denmark	5.0	37	July 17	342 42	3.11
	Hermes	Netherlands	5.0	37	July 28	539 66	2.95
	Honneur	Netherlands	5.0	37	July 31	356 44	3.62
	Kerdion	Netherlands	5.0	37	July 31	325 40	3.65

¹ Perennial Ryegrass - regrowth harvested September 10 and herbage weights measured.

Cultivar Screening Trial
Seeding Year: 1986

Species	Cultivar	Origin	Hardiness	Height (cm)	Date Ripe	Seed Yield		Herbage Yield
						(kg/ha)	% of St*	(t/ha DM) ¹
Perennial Ryegrass (<u>Lolium perenne</u> L.) cont'd								
	Lilasso	West Germany	5.0	43	July 29	761	94	3.82
	Limage	West Germany	5.0	40	July 30	417	51	3.75
	Limes	West Germany	5.0	35	July 31	219	27	2.83
	Lisabelle	West Germany	5.0	38	July 30	377	46	3.39
	Manhattan	United States	5.0	35	July 21	664	82	2.95
	Master	Netherlands	5.0	30	July 28	424	52	2.94
	Matura	East Germany	5.0	47	July 31	447	55	4.41
	Mondial	Netherlands	5.0	37	July 30	460	57	2.39
	Norlea*	Canada	5.0	43	July 30	813	100	3.35
	Outsider	Netherlands	5.0	38	July 31	553	68	2.78
	Ovation	Netherlands	5.0	32	July 24	680	84	1.64
	Palmer	United States	5.0	38	July 22	932	115	3.52
	Patora	Denmark	5.0	40	July 31	360	44	3.06
	Pelleas	Netherlands	5.0	38	July 30	406	50	3.48
	Peramo	West Germany	5.0	43	July 19	767	94	3.53
	Polly	Denmark	5.0	48	July 27	493	61	3.62
	Rally	Denmark	5.0	47	July 31	478	59	3.48
	Ranger	West Germany	5.0	38	July 27	661	81	3.01
	Riikka	Finland	5.0	47	July 30	820	101	3.49
	Spargo	Netherlands	5.0	48	July 30	421	52	4.35
	Tasdale	Australia	5.0	40	July 17	535	66	3.08
	Mean					493.6		3.29
	L.S.D. (P = .05)					267.8		1.01

¹ Perennial Ryegrass - regrowth harvested September 10 and herbage weights measured.

**NORTHERN ALBERTA
REPLICATED TRIAL
SEED YIELD SUMMARY**

SUMMARY OF FORAGE SEED YIELDS IN NORTHERN ALBERTA

Species	Cultivar	Origin	B'lodge A	B'lodge B	Falher	Fort Vermilion	Gimle	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

	Accent	(3) Netherlands	51(1)	54(1)					53(2)
	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)
	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	29(2)	42(2)		42(2)	61(1)		41(7)
	Bingo	(1) Netherlands	21(3)	30(3)	22(3)	51(2)			29(11)
	Boreal	(3) Canada	100(13)	100(9)	100(6)	100(8)	100(3)	100(2)	100(41)
	Cascade	(4) United States	23(3)	21(3)	21(3)	18(2)			21(8)
	Ceres	(3) Netherlands	35(1)	25(1)					30(2)
	Checker	(4) United States	50(3)	29(3)	26(3)	36(2)			35(11)
	Claudia	(3) Netherlands	44(1)	37(1)					41(2)
	Commodore	(3) Netherlands	61(2)	82(2)		50(2)	73(1)		66(7)

Species	Cultivar	Origin	B'lodge A	B'lodge B	Falher	Fort Vermilion	Gimle	High Level	All Locations
	Dawson	(2) Netherlands		39(3)	43(2)	21(2)			35 (7)
	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)
	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	80(2)	83(2)		78(2)	80(1)		80 (7)
	Gavotte	(1) Netherlands	18(2)						18 (2)
	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)
	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	90(7)	82(5)	66(3)	130(6)	79(3)	121(2)	96(26)
	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	14(2)	14(2)		10(2)			13 (6)
	Pernille	(3) Denmark	37(3)	43(6)	35(6)	30(4)		54(2)	38(21)
	Puma	(1) Denmark	32(6)	31(6)	25(6)	31(4)			30(22)

Species	Cultivar	Origin	B'lodge A	B'lodge B	Falher	Fort Vermilion	Gimle	High Level	All Locations
	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	22(2)	26(2)		20(2)	26(1)		23(7)
	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)
	Szarvasi 58	(2) Hungary	54(1)	84(1)					69(2)
	Tamara	(1) Denmark		36(3)	39(3)	34(2)			37(8)
	Tatjana	(1) Denmark	30(3)	40(6)	43(5)	47(4)			41(18)
	Terhi	(3) Finland	77(1)	87(1)					82(2)
	Tridano	(3) Denmark	56(2)						56(2)
	Veni	(1) Denmark	31(6)	38(6)	38(6)	31(4)			35(22)
	Victor	(3) Netherlands	70(1)	63(1)					67(2)
	Waldorf	(1) Netherlands		28(3)	24(3)	26(2)			26(8)
	Zernickower	(3) East Germany	77(7)	95(5)	64(3)	73(6)	88(3)	131(2)	83(26)
	Boreal (Yield in kg/ha)		510(13)	657(9)	511(6)	618(8)	898(3)	390(2)	586(41)

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

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

	Adda	Iceland	248(2)	211(2)		313(2)	227(2)		250(8)
	Alexander	Sweden	87(1)	145(1)					116(2)
	Alma	Finland	160(1)	204(1)					182(2)
	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)
	Barnee	Netherlands	59(1)	55(1)					57(2)
	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)

Species	Cultivar	Origin	B' lodge A	B' lodge B	Falher	Fort Vermillion	Gimle	High Level	All Locations
	Basho	Canada	65(6)	77(6)	62(5)	46(3)		40(3)	62(23)
	Bero Daehnfeldt	Denmark	91(1)	84(1)					88(2)
	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	169(7)	132(7)	164(5)	232(5)		285(3)	182(27)
	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(13)	100(7)	100(5)	100(9)	100(4)	100(3)	100(43)
	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)
	Extremo	Netherlands	69(1)	98(1)					84(2)
	Farol	Netherlands		76(3)	59(2)				69(5)
	Forus	Norway		115(3)	117(2)	106(2)			113(7)
	G	Hungary	156(2)	143(2)		150(2)	153(2)		151(8)
	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)
	Hokussyu	Japan	115(7)	84(5)	190(3)	106(7)	92(4)	169(3)	118(29)
	Itasca	Sweden	79(3)	75(3)	84(3)	100(3)		101(3)	88(15)
	Korpa	Iceland	241(7)	153(8)	203(5)	249(9)	191(4)	270(3)	215(36)
	Kunpu	Japan	65(1)	70(1)					68(2)
	Lirocco	West Germany	107(1)	101(1)					104(2)
	Mariposa	Canada	82(1)	88(1)					85(2)
	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	144(7)	113(5)	123(3)	135(7)	122(4)	117(3)	128(29)
	Otto	Finland	164(3)	134(6)	198(5)	194(5)		203(3)	176(22)
	Phlewiola	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)
	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)
	Saga	Sweden	155(1)	196(1)					176(2)

Species	Cultivar	Origin	B'lodge A	B'lodge B	Falher	Fort Vermilion	Gimle	High Level	All Locations
	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)
	Thibet	Netherlands	32(1)	41(1)					37(2)
	Tiiti	Finland	177(4)	135(4)	247(3)	266(3)		222(3)	203(17)
	Tiller	Netherlands	79(1)	86(1)					83(2)
	Timfor	United States	92(3)	89(3)	96(2)	64(2)			86(10)
	Tirom	Romania	99(1)	118(1)					109(2)
	Topas Otofte	Denmark	126(6)	105(6)	76(4)	120(5)		127(3)	111(24)
	Tromba	Netherlands	104(1)	128(1)					116(2)
	Verdant	United States	109(6)	102(6)	116(5)	101(5)		120(3)	108(25)
	Winmor	United States	48(1)	67(1)					58(2)
	Wugra	East Germany	88(1)	118(1)					103(2)

Climax (Yield in kg/ha) 317(13) 285(8) 138(5) 218(9) 308(4) 119(3) 257(43)

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

	Altaswede	Canada	100(8)	100(8)	100(6)	100(8)	100(2)		100(32)
	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	59(2)	35(2)		100(2)			65(6)
	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	63(2)	39(2)		116(2)			73(6)
	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	72(2)	70(2)		89(2)			77(6)
	Krano Pajbjerg	Denmark	126(3)	97(6)	55(5)	36(2)			82(16)

Species	Cultivar	Origin	B' lodge A	B' lodge B	Falher	Fort Vermilion	Gimle	High Level	All Locations
	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	34(2)	3(2)		93(2)			43 (6)
	Molly 4n	Sweden	28(2)	11(2)		75(2)			38 (6)
	Mont-Calme	Switzerland	46(3)	22(5)	9(2)	14(2)			25(12)
	Napoca 4n	Romania	30(2)	0(1)		65(1)			31 (4)
	Norlac	Canada	102(7)	105(8)	88(6)	120(8)			101(29)
	Norseman 4n	United Kingdom		0(1)		0(1)			0 (2)
	Pacific	Canada	80(2)	33(3)	0(1)	3(2)			33 (8)
	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	15(2)	0(1)		36(1)			13 (4)
	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)
	Atlaswede (Yield in kg/ha)		326(8)	337(8)	214(6)	622(8)	324(2)		382(32)