Forage Cultivar Trials

Northern Research Group
Canada Agriculture Research Branch
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AGRICULTURE, FOOD AND
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FORAGE CULTIVAR TRIALS

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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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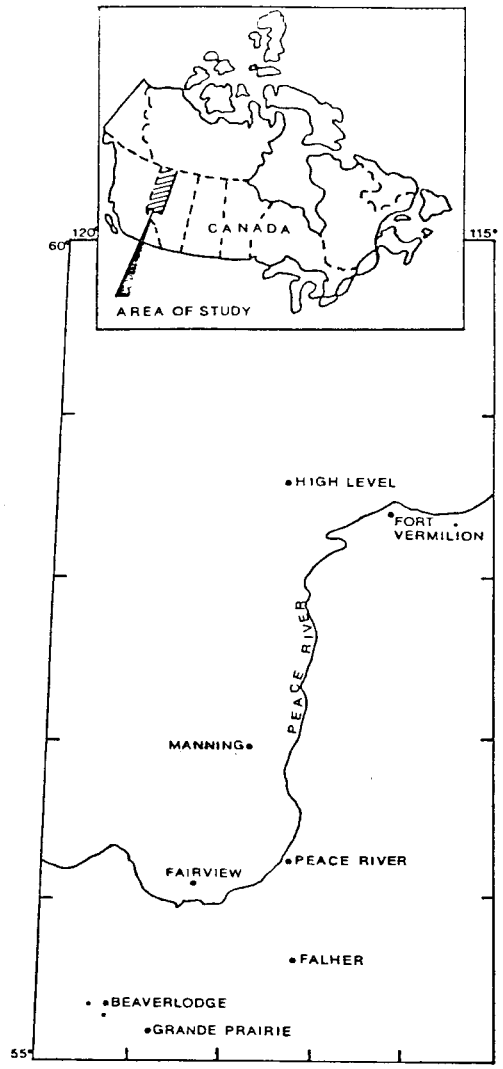
Cover Photo: Farm scene courtesy of the Alberta Photograph Library



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 Bright Sun	Annual	2125.5		2059.9		2106.9	
	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

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	Seed Yield % 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	Seed Yield % 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

Cultivar		Origin	Herbage Yield (DM)					
			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

Cultivar		Origin	Herbage Yield (DM)					
			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	Seed Yield % 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	Seed Yield % 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 Daehnfeldt	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

Cultivar	Origin	Herbage Yield (DM)					
		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

Cultivar	Origin	Herbage Yield (DM)					
		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 (Medicago sativa 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 (Lotus corniculatus 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 (Trifolium incarnatum 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 (Trifolium pratense 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 (Trifolium repens 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 (Trifolium repens 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 (Bromus inermis Leyss.)								
	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 (Festuca pratensis Huds; F. elatior 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 (Festuca rubra 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 (Dactylis glomerata 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 (Phalaris arundinacea 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 (Phleum pratense 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