FORAGE

CULTIVAR

TRIALS

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IN CO-OPERATION WITH Alberta AGRICULTURE

FORAGE CULTIVAR TRIALS

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1982

FOREWORD

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

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

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

1. Beaverlodge A. Research Station (SE-1-72-10-W6th)

   Soil type Esher-Hythe. Texture is medium fine, medium organic matter. Subsoil has poor permeability.

2. Beaverlodge B. Foster Farm (SE-25-71-10-W6th)

   Near Beaverlodge, Alberta. Soil type Goose-Codner. High organic matter and very fertile. Orthic humic Gleysol. Clay loam to sandy loam.

3. Falher. Beaupre Farm (NW-1-78-21-W5th)

   Near Falher, Alberta. Soil type Falher-Nampa. Fine textured with medium to low organic matter. Poor moisture penetration and percolation. Subject to crusting. Luvisol lacustrine clay loam to clay.

4. Fort Vermilion. Experimental Farm (NW-13-108-13-W5th)

   Soil type Leith-Culp. Coarse textured with medium to low organic matter. Subsoil very permeable and calcareous.

5. High Level. Fedeyko Farm (NW-1-35-109-17-W5th)

   Near High Level, Alberta. Soil type Davis-Tangent. Orthic and Dark Gray Luvisol. Medium textured with low to medium organic matter. Good permeability. Moderately calcareous lacustrine loam to silt loam.

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

Seed and herbage (dry matter) yields are expressed both as actual production per hectare and as a percent of a designated (*) standard. The Least Significant Difference at the 5% level is also presented for each test. Winter survival is shown as a Hardiness Scale of 1 (poor) to 9 (best).

* Note: A technical error has been discovered in the perennial ryegrass data as reported in publication 81-16B-1981. This data should be disregarded.

This publication will supplement "Forage Introductions Publication No. 70-16A-1979" which reports on all forages introduced since 1969.

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BROMEGRASS

Test Site: Beaverlodge Research Station
Seeding Year: 1979

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Carlton 1980	Seed Yield % of Carlton 1981	Seed Yield % of Carlton 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Carlton 1980	Herbage Yield % of Carlton 1981	Herbage Yield % of Carlton 1982
Baylor	United States	9	98	Aug 12	Aug 05	Aug 09	732	499	412	56	92	74	3.80	4.44	4.74	79	90	95
Blair	United States	9	103	Aug 12	Aug 05	Aug 09	334	390	286	26	72	51	3.51	4.24	4.82	73	86	96
Carlton*	Canada	9	101	Aug 12	Aug 05	Aug 09	1299	544	557	100	100	100	4.79	4.93	5.01	100	100	100
Jubilee	Canada	9	97	Aug 12	Aug 05	Aug 09	721	374	347	56	69	62	4.36	4.91	5.19	91	100	104
Kesto	Finland	9	107	Aug 12	Aug 05	Aug 09	884	498	451	68	92	81	4.60	4.88	5.36	96	99	107
Magna	Canada	9	107	Aug 12	Aug 05	Aug 09	1112	521	433	86	96	78	4.98	4.77	5.05	104	97	101
Mandan 404	United States	9	97	Aug 12	Aug 05	Aug 09	875	483	321	67	89	58	4.66	5.19	5.04	97	105	101
Orfeu	Rumania	9	102	Aug 12	Aug 05	Aug 09	1126	558	513	87	103	92	4.54	4.79	5.00	95	97	100
Redpatch	Canada	9	98	Aug 12	Aug 05	Aug 09	309	299	257	24	55	46	3.40	4.04	4.94	71	82	99
Regar	United States	9	94	Aug 12	Jul 22	Jul 23	479	492	165	37	90	30	3.72	5.40	4.86	78	110	97
S-8800	Canada	9	105	Aug 12	Aug 05	Aug 09	1388	582	627	107	107	113	5.78	4.73	4.86	121	96	97
Svaja	Sweden	9	100	Aug 12	Aug 05	Aug 09	1161	479	475	89	88	85	5.96	4.58	5.79	124	93	116
Tempo	Canada	9	95	Aug 12	Aug 05	Aug 09	654	318	337	50	58	61	3.83	4.14	4.64	80	84	93
WWF 72	Sweden	9	98	Aug 12	Aug 05	Aug 09	1098	393	381	85	72	68	5.24	4.87	5.47	109	99	109
Mean							869	459	397				4.51	4.71	5.06			
L.S.D. (P = .05)							124	132	142				0.99	0.86	1.12			

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Carlton 1980	Seed Yield % of Carlton 1981	Seed Yield % of Carlton 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Carlton 1980	Herbage Yield % of Carlton 1981	Herbage Yield % of Carlton 1982
Baylor	United States	9	92	Aug 02	Aug 04	Aug 09	592	495	416	40	70	77	3.85	5.36	5.42	67	86	120
Blair	United States	9	89	Jul 29	Aug 04	Aug 09	492	373	251	33	53	46	3.77	5.60	4.80	65	90	106
Carlton*	Canada	9	90	Aug 02	Aug 04	Aug 09	1478	710	543	100	100	100	5.77	6.23	4.51	100	100	100
Jubilee	Canada	9	83	Aug 01	Aug 04	Aug 09	720	412	377	49	58	69	4.22	5.57	4.65	73	89	103
Kesto	Finland	9	89	Aug 02	Aug 04	Aug 09	1024	527	411	69	74	76	5.01	5.32	4.11	87	85	91
Magna	Canada	9	95	Aug 02	Aug 04	Aug 09	1183	689	543	80	97	100	5.75	6.00	4.81	100	96	107
Mandan 404	United States	9	84	Aug 02	Aug 04	Aug 09	906	436	391	61	61	72	4.50	5.26	4.57	78	84	101
Orfeu	Rumania	9	86	Jul 29	Aug 04	Aug 09	1369	599	521	93	84	96	5.56	5.53	4.13	96	89	92
Redpatch	Canada	9	88	Aug 02	Aug 04	Aug 09	345	330	254	23	46	47	2.95	4.98	4.16	51	80	92
Regar	United States	9	88	Jul 28	Jul 22	Jul 23	619	514	31	42	72	6	3.78	5.37	4.26	66	86	94
S-8800	Canada	9	93	Jul 28	Aug 04	Aug 09	1754	847	612	119	119	113	6.61	6.38	4.22	115	102	94
Svaja	Sweden	9	86	Aug 02	Aug 04	Aug 09	1156	593	372	78	84	69	5.32	5.76	4.26	92	92	94
Tempo	Canada	9	80	Aug 02	Aug 04	Aug 09	782	380	321	53	54	59	3.71	4.34	3.68	64	70	82
WWF 72	Sweden	9	84	Aug 02	Aug 04	Aug 09	1053	473	343	71	67	63	5.13	6.08	4.20	89	98	93
Mean							963	527	385				4.71	5.56	4.41			
L.S.D. (P = .05)							86	143	78				0.78	0.86	0.72			

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Carlton 1980	Seed Yield % of Carlton 1981	Seed Yield % of Carlton 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Carlton 1980	Herbage Yield % of Carlton 1981	Herbage Yield % of Carlton 1982
Baylor	United States	9	79	Aug 01	Aug 04	Jul 29	919	546	301	66	83	86	3.69	6.78	(1)	77	103	(1)
Blair	United States	9	80	Aug 01	Aug 04	Jul 29	475	386	184	34	59	52	2.90	6.09		60	92	
Carlton*	Canada	9	78	Aug 01	Aug 04	Jul 29	1397	657	352	100	100	100	4.82	6.59		100	100	
Jubilee	Canada	9	72	Aug 01	Aug 04	Jul 29	625	441	186	45	67	57	3.49	6.27		72	95	
Kesto	Finland	9	77	Aug 01	Aug 04	Jul 29	1050	597	247	75	91	71	4.15	6.45		86	98	
Magna	Canada	9	80	Aug 01	Aug 04	Jul 29	1179	732	358	84	111	102	4.49	7.23		93	110	
Mandan 404	United States	9	70	Aug 01	Aug 04	Jul 29	603	518	241	43	79	68	3.08	5.76		64	87	
Orfeu	Rumania	9	74	Aug 01	Aug 04	Jul 29	1274	712	283	91	108	80	4.77	6.52		99	99	
Redpatch	Canada	9	78	Aug 01	Aug 04	Jul 29	362	419	184	26	64	52	2.74	5.09		57	77	
Regar	United States	9	76	Jul 23	Jul 22	Jul 29	457	527	22	33	80	6	3.00	5.21		62	79	
S-8800	Canada	9	84	Jul 28	Aug 04	Jul 29	1513	704	304	108	107	86	5.16	7.77		107	118	
Svaja	Sweden	9	75	Aug 01	Aug 04	Jul 29	959	517	244	69	79	69	4.23	6.38		88	97	
Tempo	Canada	9	69	Aug 01	Aug 04	Jul 29	498	436	168	36	66	48	2.73	5.11		57	78	
WWF 72	Sweden	9	70	Aug 01	Aug 04	Jul 29	999	578	146	72	88	41	4.50	6.20		93	94	
Mean							880	555	230				3.84	6.25				
L.S.D. (P = .05)							69	145	75				0.62	1.15				

(1) Herbage Not Measured

BROMEGRASS

Test Site: Ft. Vermilion Experimental Farm
Seeding Year: 1979

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Carlton 1980	Seed Yield % of Carlton 1981	Seed Yield % of Carlton 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Carlton 1980	Herbage Yield % of Carlton 1981	Herbage Yield % of Carlton 1982
Baylor	United States	9	92	Jul 30	Jul 29	Jul 29	627	547	409	58	131	58	9.17	6.36	5.82	89	98	90
Blair	United States	9	92	Jul 30	Jul 29	Jul 29	482	456	208	45	109	29	7.88	6.00	4.90	77	93	76
Carlton*	Canada	9	98	Jul 30	Jul 29	Jul 29	1077	418	709	100	100	100	10.28	6.47	6.48	100	100	100
Jubilee	Canada	9	90	Jul 30	Jul 29	Jul 29	488	314	337	45	75	48	8.68	5.93	5.73	84	92	88
Kesto	Finland	9	91	Jul 30	Jul 29	Jul 29	728	447	355	68	107	50	9.13	5.72	4.99	89	88	77
Magna	Canada	9	100	Jul 30	Jul 29	Jul 29	962	627	621	89	150	88	10.15	7.50	7.22	99	116	111
Mandan 404	United States	9	88	Jul 30	Jul 29	Jul 29	551	343	398	52	82	56	8.10	6.07	5.87	79	94	91
Orfeu	Rumania	9	94	Jul 30	Jul 29	Jul 29	819	410	504	76	98	71	9.57	6.84	5.78	93	106	89
Redpatch	Canada	9	96	Jul 30	Jul 29	Jul 29	634	396	334	59	95	47	7.48	6.33	6.12	73	98	94
Regar	United States	9	89	Jul 10	Jul 19	Jul 21	206	231	169	19	55	24	6.78	4.82	4.16	66	74	64
S-8800	Canada	9	105	Jul 30	Jul 29	Jul 29	1146	701	673	106	168	95	10.58	7.22	6.60	103	112	102
Svaja	Sweden	9	98	Jul 30	Jul 29	Jul 29	780	373	575	72	89	81	10.05	7.64	7.19	98	118	111
Tempo	Canada	9	94	Jul 30	Jul 29	Jul 29	499	450	330	46	108	47	8.20	6.21	5.45	80	96	84
WWF 72	Sweden	9	92	Jul 30	Jul 29	Jul 29	652	196	448	61	47	63	8.99	6.18	5.97	87	96	92
Mean							689	422	434				8.93	6.38	5.88			
L.S.D. (P = .05)							112	117	187				1.86	1.24	1.00			

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Carlton 1980	Seed Yield % of Carlton 1981	Seed Yield % of Carlton 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Carlton 1980	Herbage Yield % of Carlton 1981	Herbage Yield % of Carlton 1982
Baylor	United States	9	79	Jul 28	Jul 29	Jul 29	382	440	194	44	76	54	3.22	3.29	2.10	71	72	85
Blair	United States	9	78	Jul 28	Jul 29	Jul 29	257	341	121	30	59	34	2.52	3.22	1.85	56	71	75
Carlton*	Canada	9	79	Jul 28	Jul 29	Jul 29	868	579	356	100	100	100	4.54	4.54	2.47	100	100	100
Jubilee	Canada	9	72	Jul 28	Jul 29	Jul 29	406	327	180	47	56	51	3.92	3.89	2.27	86	86	92
Kesto	Finland	9	81	Jul 28	Jul 29	Jul 29	663	509	222	76	88	62	4.40	3.96	2.15	97	87	85
Magna	Canada	9	83	Jul 28	Jul 29	Jul 29	730	677	320	84	117	90	4.52	4.35	2.49	100	96	101
Mandan 404	United States	9	74	Jul 28	Jul 29	Jul 29	415	371	199	48	64	56	3.05	3.32	2.00	67	73	81
Orfeu	Rumania	9	80	Jul 28	Jul 29	Jul 29	942	609	375	109	105	105	5.07	4.71	2.47	112	104	100
Redpatch	Canada	9	75	Jul 28	Jul 29	Jul 29	166	306	113	19	53	32	1.56	2.64	1.80	34	58	73
Regar	United States	9	79	Jul 10	Jul 19	Jul 21	331	310	44	38	54	12	3.37	3.95	1.44	74	87	58
S-8800	Canada	9	83	Jul 28	Jul 29	Jul 29	824	834	446	95	144	125	5.15	5.00	2.66	113	110	108
Svaja	Sweden	9	77	Jul 28	Jul 29	Jul 29	547	431	179	63	74	50	3.86	4.31	1.74	85	95	70
Tempo	Canada	9	71	Jul 28	Jul 29	Jul 29	352	394	139	41	68	39	3.31	3.18	1.74	73	70	70
WWF 72	Sweden	9	74	Jul 28	Jul 29	Jul 29	792	358	260	91	62	73	4.98	4.60	2.52	110	101	102
Mean							549	463	225				3.82	3.93	2.12			
L.S.D. (P = .05)							70	134	55				0.89	0.92	0.53			

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Oasis 1980	Seed Yield % of Oasis 1981	Seed Yield % of Oasis 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Oasis 1980	Herbage Yield % of Oasis 1981	Herbage Yield % of Oasis 1982
Adonis	Netherlands	9	52	Jul 17	Jul 14	Jul 20	44	204	57	200	91	211	2.49	2.87	2.00	68	81	83
Agram	Netherlands	9	50	-	Jul 18	Jul 20	34	289	38	155	128	141	1.99	2.40	1.51	54	68	63
Atlanta	Netherlands	9	48	Jul 17	Jul 14	(1)	32	158	13	145	70	48	2.43	2.30	1.80	66	65	75
Bingo	Netherlands	9	50	Jul 17	Jul 11	Jul 23	30	173	41	136	77	152	2.72	2.52	1.68	74	71	70
Fidelimo	Netherlands	9	50	Jul 17	Jul 11	(1)	47	206	34	214	92	126	1.84	2.66	1.62	50	75	68
Ivalo	Denmark	9	48	Jul 14	Jul 14	Jul 22	24	310	44	109	138	163	2.17	2.98	1.83	59	84	76
Lirouge	West Germany	9	43	Jul 14	Jul 08	Jul 20	28	165	34	127	73	126	2.90	2.74	1.66	79	78	69
Luster	Netherlands	9	36	Jul 17	Jul 08	Jul 23	23	128	63	105	57	223	1.74	2.61	1.70	48	74	71
Oasis*	Netherlands	9	45	Jul 10	Jul 08	(1)	22	225	27	100	100	100	3.66	3.53	2.40	100	100	100
Parita	Netherlands	9	51	Jul 17	Jul 15	Jul 20	49	235	46	223	104	170	2.73	3.10	1.88	75	88	78
Puma	Denmark	9	51	Jul 15	Jul 11	(1)	50	198	47	227	88	174	3.10	2.88	1.21	85	82	50
Scarlet	Netherlands	9	54	Jul 15	Jul 11	(1)	77	182	34	350	81	126	2.89	3.11	1.62	79	88	68
Tatjana	Denmark	9	52	Jul 12	Jul 09	Jul 22	64	234	56	291	104	207	2.30	2.93	1.51	63	83	63
Valaska	Czechoslovakia	9	63	Jul 10	Jul 08	Jul 23	70	184	91	318	82	337	2.80	3.49	2.01	77	99	84
Veni	Denmark	9	48	Jul 17	Jul 08	Jul 20	69	145	100	314	64	370	3.27	3.41	1.99	89	97	83
Z-436	Netherlands	9	51	Jul 17	Jul 15	Jul 22	42	216	92	191	96	341	2.42	2.69	1.60	66	76	67
Mean							44	203	51				2.59	2.89	1.75			
L.S.D. (P = .05)							24	111	26				0.74	0.64	0.48			

(1) Seed Not Harvested, Yield Estimated

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Oasis 1980	Seed Yield % of Oasis 1981	Seed Yield % of Oasis 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Oasis 1980	Herbage Yield % of Oasis 1981	Herbage Yield % of Oasis 1982
Adonis	Netherlands	9	45	Jul 18	Jul 13	Jul 13	142	315	29	107	108	264	0.47	4.69	2.35	35	87	78
Agram	Netherlands	9	40	Jul 18	Jul 13	Jul 16	157	378	24	118	129	218	0.45	4.89	2.47	33	90	82
Atlanta	Netherlands	9	39	Jul 18	Jul 13	Jul 19	124	260	12	93	89	109	0.40	4.35	2.54	30	80	84
Bingo	Netherlands	9	43	Jul 10	Jul 13	Jul 19	148	381	20	111	130	182	0.88	4.87	2.82	65	90	93
Fidelimo	Netherlands	9	42	Jul 10	Jul 13	Jul 16	159	390	9	120	134	82	0.90	5.03	2.08	67	92	67
Ivalo	Denmark	9	42	Jul 08	Jul 13	Jul 13	298	316	15	224	108	136	1.16	4.63	2.56	86	86	84
Lirouge	West Germany	9	41	Jul 08	Jul 08	Jul 13	131	131	28	98	45	255	0.91	4.88	2.04	67	90	67
Luster	Netherlands	9	40	Jul 10	Jul 13	Jul 13	167	309	19	126	106	173	1.01	4.52	2.08	75	84	69
Oasis*	Netherlands	9	39	Jul 03	Jul 08	(1)	133	292	11	100	100	100	1.35	5.41	3.03	100	100	100
Parita	Netherlands	9	48	Jul 10	Jul 13	Jul 15	145	366	26	109	125	236	0.86	5.04	2.93	64	93	97
Puma	Denmark	9	43	Jul 10	Jul 13	Jul 13	195	373	24	147	128	218	1.29	4.71	1.88	96	87	62
Scarlet	Netherlands	9	44	Jul 18	Jul 13	Jul 19	222	424	17	167	145	155	0.64	5.14	1.73	47	95	57
Tatjana	Denmark	9	49	Jul 10	Jul 12	Jul 13	307	404	71	231	138	645	1.25	4.20	1.85	93	78	61
Valaska	Czechoslovakia	9	53	Jul 03	Jul 08	Jul 13	198	172	55	149	59	500	1.50	4.94	3.16	111	91	104
Veni	Denmark	9	52	Jul 18	Jul 13	Jul 13	365	384	81	274	132	736	1.00	5.24	2.70	74	97	89
Z-436	Netherlands	9	48	Jul 18	Jul 13	Jul 13	148	373	57	111	128	518	0.43	4.97	2.70	32	92	89
Mean							190	330	31				0.91	4.84	2.43			
L.S.D. (P = .05)							96	76	19				0.32	0.52	0.60			

(1) Seed Not Harvested, Yield Estimated

CHEWINGS FESCUE

Test Site: Falher (Beaupre Farm)
Seeding Year: 1979

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Oasis 1980	Seed Yield % of Oasis 1981	Seed Yield % of Oasis 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Oasis 1980	Herbage Yield % of Oasis 1981	Herbage Yield % of Oasis 1982
Adonis	Netherlands	9	35	Jul 09	Jul 13	(1)	59	338	13	64	97	118	0.27	3.06	0.27	42	80	42
Agram	Netherlands	9	30	Jul 04	Jul 13		57	316	11	62	91	100	0.41	2.80	0.36	63	73	56
Atlanta	Netherlands	9	33	Jul 09	Jul 15		46	233	8	50	67	73	0.29	2.57	0.30	45	67	47
Bingo	Netherlands	9	31	Jul 04	Jul 13		52	252	11	57	72	100	0.39	3.30	0.35	60	87	55
Fidelimo	Netherlands	9	30	Jul 02	Jul 13		83	305	12	90	88	109	0.45	2.51	0.26	69	66	41
Ivalo	Denmark	9	31	Jul 02	Jul 13		51	111	12	55	32	109	0.43	2.17	0.38	66	57	59
Lirouge	West Germany	9	33	Jul 02	Jul 15		42	137	20	46	39	182	0.29	2.52	0.36	45	66	56
Luster	Netherlands	9	31	Jul 04	Jul 13		68	140	13	74	40	118	0.55	2.48	0.32	85	65	50
Oasis*	Netherlands	9	35	Jun 30	Jul 07		92	348	11	100	100	100	0.65	3.81	0.64	100	100	100
Parita	Netherlands	9	32	Jul 09	Jul 13		103	314	13	112	90	118	0.37	2.99	0.35	57	78	55
Puma	Denmark	9	33	Jul 02	Jul 15		82	233	12	89	67	109	0.57	2.65	0.33	88	70	52
Scarlet	Netherlands	9	36	Jul 04	Jul 15		92	321	11	100	92	100	0.53	2.91	0.30	82	76	47
Tatjana	Denmark	9	33	Jul 04	Jul 15		126	308	17	137	89	155	0.75	2.55	0.32	115	67	50
Valaska	Czechoslovakia	9	40	Jun 30	Jul 07		114	215	54	124	62	491	0.72	2.90	0.99	111	76	155
Veni	Denmark	9	42	Jul 09	Jul 15		120	365	30	130	105	273	0.46	3.39	0.46	71	89	72
Z-436	Netherlands	9	37	Jul 04	Jul 13		67	378	27	73	109	245	0.42	2.79	0.46	65	73	72
Mean							78	270	17				0.47	2.84	0.40			
L.S.D. (P = .05)							23	71	8				0.15	0.45	0.12			

(1) Seed Not Harvested, Yield Estimated

CHEWINGS FESCUE

Test Site: Ft. Vermilion Experimental Farm
Seeding Year: 1979

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Oasis 1980	Seed Yield % of Oasis 1981	Seed Yield % of Oasis 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Oasis 1980	Herbage Yield % of Oasis 1981	Herbage Yield % of Oasis 1982
Adonis	Netherlands	9	46	Jul 10	Jul 13	(1)	45	196	(1)	100	408	(1)	2.96	3.70	0.66	50	70	73
Agram	Netherlands	9	42	Jul 10	Jul 16		94	218		209	454		2.70	2.86	0.71	45	59	78
Atlanta	Netherlands	9	44	Jul 10	Jul 18		49	99		109	206		3.13	3.17	0.70	53	66	77
Bingo	Netherlands	9	44	Jul 04	Jul 11		24	295		53	615		2.63	3.58	0.75	44	74	82
Fidelimo	Netherlands	9	42	Jul 10	Jul 12		118	194		262	404		2.77	3.14	0.51	46	65	56
Ivalo	Denmark	9	40	Jun 29	Jul 11		19	217		42	452		2.25	2.96	0.54	38	62	59
Lirouge	West Germany	9	45	Jun 29	Jul 09		35	233		78	485		3.10	3.68	0.56	52	77	62
Luster	Netherlands	9	42	Jul 10	Jul 09		87	191		193	398		3.30	3.20	0.55	55	67	60
Oasis*	Netherlands	9	47	Jun 25	Jul 11		45	48		100	100		5.95	4.81	0.91	100	100	100
Parita	Netherlands	9	43	Jul 10	Jul 15		75	299		167	623		3.66	4.03	0.68	62	84	75
Puma	Denmark	9	41	Jul 10	Jul 09		55	249		122	519		2.65	3.21	0.56	45	67	62
Scarlet	Netherlands	9	45	Jul 10	Jul 16		163	208		362	433		2.80	2.76	0.58	47	58	64
Tatjana	Denmark	9	45	Jul 02	Jul 10		177	341		393	710		3.18	3.64	0.48	53	76	53
Valaska	Czechoslovakia	9	55	Jun 25	Jul 07		94	207		209	431		4.07	3.29	1.31	68	68	144
Veni	Denmark	9	49	Jul 10	Jul 17		57	197		127	410		2.70	3.91	0.80	45	81	88
Z-436	Netherlands	9	43	Jul 10	Jul 15		21	191		47	398		3.08	3.07	0.63	52	64	69
Mean							72	211					3.18	3.44	0.69			
L.S.D. (P = .05)							71	63					0.69	0.59	0.22			

(1) Seed Heads Not Formed

CREEPING RED RESCUE

Test Site: Beaverlodge Research Station
Seeding Year: 1979

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Boreal 1980	Seed Yield % of Boreal 1981	Seed Yield % of Boreal 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Boreal 1980	Herbage Yield % of Boreal 1981	Herbage Yield % of Boreal 1982
Ballade	France	8	46	(1)	Jul 21	(1)	20	73	17	6	10	16	4.11	2.19	2.06	81	53	87
Banner	United States	9	57	Jul 17	Jul 21	Jul 20	76	339	116	23	46	109	2.97	3.58	2.25	58	87	95
Bastide	France	8	39	(1)	Jul 21	(1)	20	131	17	6	18	16	3.62	1.49	1.97	71	36	83
Boreal*	Canada	9	62	Jul 17	Jul 21	Jul 20	330	741	106	100	100	100	5.09	4.12	2.36	100	100	100
Carlawn	Canada	9	60	Jul 17	Jul 21	Jul 20	280	488	84	85	66	79	3.76	3.79	2.33	74	92	99
Chomade	France	8	57	Jul 17	Jul 21	Jul 20	81	198	44	25	27	42	2.52	2.65	1.37	50	64	58
Corona	Netherlands	9	49	(1)	Jul 21	(1)	76	160	17	23	22	16	4.49	2.88	1.98	88	70	84
Ensylva	Netherlands	9	51	Jul 17	Jul 21	(1)	95	217	17	29	29	16	4.24	2.70	1.75	83	66	74
Envira	Netherlands	9	57	Jul 17	Jul 21	Jul 20	242	472	86	73	64	81	4.33	3.33	2.35	85	81	100
Enzet	Netherlands	9	63	Jul 17	Jul 21	Jul 20	328	541	149	99	73	141	4.50	3.69	2.18	88	90	92
Epaulette	United Kingdom	8	47	(1)	Jul 21	(1)	40	76	17	12	10	16	3.90	3.19	2.53	77	77	107
Fess	United Kingdom	8	36	(1)	Jul 21	(1)	20	90	17	6	12	16	4.10	1.64	2.04	81	40	86
Fortress	United States	9	57	Jul 17	Jul 21	(1)	149	406	47	45	55	44	4.11	3.74	2.68	81	91	114
Hackle	United Kingdom	7	45	(1)	Jul 21	(1)	20	85	30	6	11	28	4.02	1.69	1.89	79	41	80
Keszthelyi 2	Hungary	9	62	Jul 17	Jul 21	Jul 20	152	278	96	46	38	91	4.45	3.26	2.51	87	79	106
Leik	Norway	9	63	Jul 17	Jul 13	Jul 20	330	464	97	100	63	92	4.40	5.87	2.16	86	142	92
Maxim	Sweden	8	53	Jul 17	Jul 21	(1)	88	367	24	27	50	23	2.49	2.75	1.76	49	67	75
Milda	France	9	58	Jul 17	Jul 21	(1)	92	317	64	28	43	60	4.64	3.67	1.93	91	89	82
Moncorde	Netherlands	9	51	Jul 17	Jul 19	(1)	157	483	37	48	65	35	4.15	3.39	1.85	82	82	78
Oriflamme	United Kingdom	9	54	Jul 17	Jul 15	(1)	42	149	20	13	20	19	3.59	3.28	2.35	71	80	100
Patio	Netherlands	8	61	Jul 17	Jul 21	Jul 20	131	451	121	40	61	114	4.30	4.40	2.59	84	107	110
Pernille	Denmark	8	56	Jul 17	Jul 21	(1)	114	303	24	35	41	23	4.70	3.48	1.96	92	84	83
Pollux	Denmark	9	60	Jul 17	Jul 21	(1)	144	386	40	44	52	38	4.16	3.87	2.45	82	94	104
Rapid	Netherlands	9	60	Jul 17	Jul 21	Jul 20	146	489	80	44	66	75	3.76	3.88	2.41	74	94	102
Reptans	Sweden	9	64	Jul 17	Jul 21	(1)	171	488	74	52	66	70	4.75	4.17	2.16	93	101	92
Roland 21	West Germany	9	63	Jul 17	Jul 21	Jul 20	171	276	99	52	37	93	5.27	4.33	3.09	104	105	131
Skot	Denmark	8	50	Jul 17	Jul 21	(1)	93	91	20	28	12	19	4.70	3.19	2.23	92	77	94
Zernickower	East Germany	9	58	Jul 17	Jul 21	Jul 20	266	335	107	81	45	101	4.85	3.96	2.87	95	96	122
Mean							138	318	60				4.14	3.36	2.22			
L.S.D. (P = .05)							67	109	42				1.02	0.81	0.68			

(1) Seed Not Havested, Yield Estimated

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Boreal 1980	Seed Yield % of Boreal 1981	Seed Yield % of Boreal 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Boreal 1980	Herbage Yield % of Boreal 1981	Herbage Yield % of Boreal 1982
Ballade	France	9	38	Jul 18	Jul 22	(1)	36	256	13	3	34	24	1.53	7.03	3.74	35	83	113
Banner	United States	9	49	Jul 21	Jul 22	Jul 21	176	503	81	17	66	150	1.43	7.79	2.84	32	92	86
Bastide	France	9	37	Jul 11	Jul 22	Jul 21	61	339	17	6	45	31	0.48	7.01	2.35	11	83	71
Boreal*	Canada	9	49	Jul 21	Jul 22	Jul 21	1036	759	54	100	100	100	4.42	8.44	3.32	100	100	100
Carlawn	Canada	9	52	Jul 21	Jul 22	Jul 21	878	865	42	85	114	78	3.79	8.58	3.26	86	102	98
Chomade	France	9	45	Jul 18	Jul 22	Jul 21	155	325	34	15	43	63	1.31	6.92	2.51	30	82	76
Corona	Netherlands	9	40	Jul 18	Jul 22	(1)	94	420	7	9	55	13	2.38	8.17	2.93	54	97	88
Ensylva	Netherlands	9	41	Jul 18	Jul 22	(1)	414	302	13	40	40	24	2.41	7.49	3.61	55	89	109
Envira	Netherlands	9	52	Jul 21	Jul 22	Jul 21	806	788	77	78	104	143	3.35	8.37	3.25	76	99	98
Enzet	Netherlands	9	57	Jul 19	Jul 22	Jul 21	767	791	135	74	104	250	3.26	9.01	3.77	74	107	114
Epaulette	United Kingdom	9	40	Jul 18	Jul 13	Jul 21	59	190	17	6	25	31	2.29	7.01	2.98	52	83	90
Fess	United Kingdom	9	30	Jul 18	Jul 22	Jul 21	59	247	12	6	33	22	1.93	6.40	3.02	44	76	91
Fortress	United States	9	49	Jul 21	Jul 22	(1)	565	695	20	55	92	37	3.48	8.76	3.08	79	104	93
Hackle	United Kingdom	9	33	Jul 18	Jul 22	(1)	28	131	10	3	17	19	2.20	5.88	2.82	50	70	85
Keszthelyi 2	Hungary	9	56	Jul 21	Jul 22	Jul 21	614	563	67	59	74	124	3.50	8.39	3.15	79	99	95
Leik	Norway	9	55	Jul 18	Jul 22	Jul 21	630	687	49	61	91	91	3.62	9.60	3.19	82	114	96
Maxim	Sweden	9	45	Jul 21	Jul 22	(1)	471	600	13	45	79	24	2.59	7.98	2.85	59	95	86
Milda	France	9	51	Jul 18	Jul 22	(1)	325	523	24	31	69	44	2.73	8.69	2.77	62	103	83
Moncorde	Netherlands	9	45	Jul 21	Jul 22	(1)	557	494	30	54	65	56	3.09	8.31	3.22	70	98	97
Oriflamme	United Kingdom	9	41	Jul 11	Jul 22	(1)	121	255	13	12	34	24	1.30	7.71	2.26	29	91	68
Patio	Netherlands	9	53	Jul 18	Jul 22	Jul 21	568	636	89	55	84	165	3.07	9.60	3.52	69	114	106
Pernille	Denmark	9	42	Jul 21	Jul 13	(1)	397	386	7	38	51	13	3.22	7.46	2.95	73	88	89
Pollux	Denmark	9	47	Jul 21	Jul 22	(1)	633	621	27	61	82	50	3.78	8.88	3.42	86	105	103
Rapid	Netherlands	9	51	Jul 18	Jul 22	Jul 21	589	763	73	57	101	135	2.67	8.59	3.01	60	102	91
Reptans	Sweden	9	51	Jul 21	Jul 22	(1)	649	720	30	63	95	56	3.58	9.24	3.31	81	109	100
Roland 21	West Germany	9	54	Jul 18	Jul 22	Jul 21	541	717	76	52	94	141	3.48	9.95	3.66	78	118	110
Skot	Denmark	9	42	Jul 11	Jul 22	(1)	67	258	13	6	34	24	1.40	7.45	3.04	32	88	92
Zernickower	East Germany	9	55	Jul 18	Jul 22	Jul 21	703	810	72	68	107	133	3.17	9.82	2.75	72	116	83
Mean							429	523	40				2.69	8.19	3.09			
L.S.D. (P = .05)							93	116	26				0.50	0.82	0.82			

(1) Seed Not Harvested, Yield Estimated

CREEPING RED FESCUE

Test Site: Falher (Beaupre Farm)
Seeding Year: 1979

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Boreal 1980	Seed Yield % of Boreal 1981	Seed Yield % of Boreal 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Boreal 1980	Herbage Yield % of Boreal 1981	Herbage Yield % of Boreal 1982
Ballade	**France**	8	31	**Jul 14**	**Jul 15**	(1)	9	106	3	2	13	15	0.87	3.76	0.58	38	78	85
Banner	United States	9	39	Jul 14	Jul 15		62	419	13	11	50	65	0.72	3.10	0.24	32	64	35
Bastide	**France**	8	26	**Jul 14**	**Jul 15**		7	136	7	1	16	35	0.38	2.44	0.35	17	51	51
Boreal*	Canada	9	42	Jul 14	Jul 15		566	844	20	100	100	100	2.28	4.82	0.68	100	100	100
Carláwn	**Canada**	9	39	**Jul 14**	**Jul 15**		490	687	13	87	81	65	2.11	4.68	0.40	93	97	59
Chomade	France	9	33	Jul 12	Jul 15		59	296	13	10	35	65	0.56	2.53	0.20	25	52	29
Corona	**Netherlands**	9	32	**Jul 14**	**Jul 15**		22	305	3	4	36	15	1.01	3.83	0.41	44	79	60
Ensylva	Netherlands	8	31	Jul 04	Jul 15		149	249	0	26	30	0	0.97	2.95	0.37	43	61	54
Envira	**Netherlands**	9	46	**Jul 14**	**Jul 15**		486	845	44	86	100	220	1.87	4.66	0.79	82	97	116
Enzet	Netherlands	9	44	Jul 14	Jul 15		553	855	44	98	101	220	2.18	4.86	0.82	96	101	121
Epaulette	**United Kingdom**	9	33	**Jul 14**	**Jul 15**		7	144	7	1	17	35	0.95	3.00	0.53	42	62	78
Fess	United Kingdom	9	27	Jul 14	Jul 15		34	130	3	6	15	15	0.67	2.94	0.35	29	61	51
Fortress	**United States**	9	38	**Jul 14**	**Jul 15**		178	525	13	31	62	65	1.77	4.35	0.63	78	91	93
Hackle	United Kingdom	8	30	Jul 14	Jul 15		15	36	10	3	4	50	0.88	2.51	0.56	39	52	82
Keszthelyi 2	**Hungary**	9	45	**Jul 14**	**Jul 15**		262	476	30	46	56	150	1.77	4.33	0.98	78	90	144
Leik	Norway	9	48	Jul 04	Jul 15		344	566	30	61	67	150	1.67	5.18	0.38	73	107	56
Maxim	**Sweden**	9	33	**Jul 14**	**Jul 24**		178	424	3	31	50	15	1.06	1.76	0.26	46	37	38
Milda	France	9	38	Jul 14	Jul 15		145	418	13	26	50	65	1.46	4.04	0.65	64	84	96
Moncorde	**Netherlands**	9	35	**Jul 14**	**Jul 15**		178	373	7	31	44	35	1.31	3.48	0.38	57	72	56
Oriflamme	United Kingdom	9	32	Jul 01	Jul 07		96	155	3	17	18	15	0.57	1.08	0.26	25	22	38
Patio	**Netherlands**	9	43	**Jul 14**	**Jul 15**		269	708	37	48	84	185	1.68	5.27	0.83	74	109	122
Pernille	Denmark	9	34	Jul 14	Jul 15		185	349	3	33	41	15	1.57	4.45	0.43	69	92	63
Pollux	**Denmark**	9	41	**Jul 14**	**Jul 15**		342	599	13	60	71	65	1.89	4.91	0.59	83	102	87
Rapid	Netherlands	9	42	Jul 14	Jul 15		375	691	37	66	82	185	1.46	4.45	0.67	64	92	99
Reptans	**Sweden**	9	45	**Jul 14**	**Jul 15**		381	741	24	67	88	120	1.97	5.23	0.45	86	109	66
Roland 21	West Germany	9	43	Jul 14	Jul 15		324	655	37	57	78	185	2.33	4.70	0.82	102	98	121
Skot	**Denmark**	9	34	**Jul 14**	**Jul 15**		56	235	10	10	28	50	0.99	3.96	0.54	43	82	79
Zernickower	East Germany	9	45	Jul 14	Jul 15		278	578	57	49	68	285	1.47	3.34	0.97	64	69	143
Mean							216	448	18				1.37	3.81	0.54			
L.S.D. (P = .05)							81	123	16				0.32	0.76	0.28			

(1) Seed Not Harvested, Yield Estimated

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Boreal 1980	Seed Yield % of Boreal 1981	Seed Yield % of Boreal 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Boreal 1980	Herbage Yield % of Boreal 1981	Herbage Yield % of Boreal 1982
Ballade	France	9	45	Jul 09	Jul 15	(2)	75	33	(2)	18	15	(2)	4.02	2.97	1.41	74	64	77
Banner	United States	9	46	Jul 09	Jul 15		121	261		30	119		2.89	3.48	1.07	53	75	59
Bastide	France	9	35	Jul 09	Jul 15		26	22		6	10		2.53	2.58	0.65	47	56	36
Boreal*	Canada	9	55	Jul 09	Jul 15		410	219		100	100		5.44	4.61	1.82	100	100	100
Carlawn	Canada	9	53	Jul 09	Jul 15		525	199		128	91		5.56	4.24	1.38	102	92	76
Chomade	France	9	45	Jul 09	Jul 15		112	152		27	69		2.11	2.55	0.91	39	55	50
Corona	Netherlands	9	42	Jul 09	Jul 15		73	46		18	21		4.48	3.96	1.07	82	86	59
Ensylva	Netherlands	9	46	Jul 09	Jul 15		85	57		21	26		4.11	4.00	1.64	76	87	90
Envira	Netherlands	9	56	Jul 09	Jul 15		337	216		82	99		6.28	4.89	1.98	115	106	109
Enzet	Netherlands	9	58	Jul 09	Jul 15		395	266		96	121		5.72	6.08	2.54	105	132	140
Epaulette	United Kingdom	9	45	Jul 09	Jul 15		46	34		11	16		3.72	4.12	1.34	68	89	74
Fess	United Kingdom	9	44	(1)	Jul 15		61	52		15	24		3.09	2.75	0.83	57	60	46
Fortress	United States	9	51	Jul 09	Jul 15		147	117		36	53		4.90	4.93	1.82	90	107	100
Hackle	United Kingdom	9	43	(1)	Jul 15		0	48		0	22		1.88	2.88	1.17	35	62	64
Keszthelyi 2	Hungary	9	56	Jul 09	Jul 15		63	88		15	40		4.76	4.51	2.06	88	98	113
Leik	Norway	9	60	Jul 09	Jul 15		952	338		232	154		6.11	4.99	1.38	112	108	76
Maxim	Sweden	9	45	Jul 09	Jul 15		145	22		35	10		4.01	2.79	1.06	74	61	58
Milda	France	9	49	Jul 09	Jul 15		96	52		23	24		4.64	4.51	1.88	85	98	103
Moncorde	Netherlands	9	48	Jul 09	Jul 15		253	117		31	53		5.54	4.77	1.51	102	103	83
Oriflamme	United Kingdom	9	43	Jul 09	Jul 15		96	98		23	45		4.43	2.91	0.94	81	63	52
Patio	Netherlands	9	54	Jul 09	Jul 15		127	196		31	89		5.12	5.10	1.47	94	111	81
Pernille	Denmark	9	47	Jul 09	Jul 15		75	80		18	37		4.30	5.21	1.50	79	113	82
Pollux	Denmark	9	53	Jul 09	Jul 15		112	106		27	48		4.98	5.01	1.95	92	109	107
Rapid	Netherlands	9	54	Jul 09	Jul 15		389	175		95	80		5.78	4.43	1.70	106	96	93
Reptans	Sweden	9	55	Jul 09	Jul 15		299	175		73	80		5.71	5.18	1.92	105	112	105
Roland 21	West Germany	9	57	Jul 09	Jul 15		143	173		35	79		5.71	5.82	1.88	105	126	103
Skot	Denmark	9	44	Jul 09	Jul 15		42	40		10	18		4.24	4.03	1.01	78	87	55
Zernickower	East Germany	9	57	Jul 09	Jul 15		229	243		56	111		5.88	5.15	2.08	108	112	114
Mean							194	129					4.57	4.23	1.50			
L.S.D. (P = .05)							93	59					1.00	1.01	0.47			

(1) Seed Not Harvested, Yield Estimated
(2) Seed Heads Not Formed

CREEPING RED FESCUE

Test Site: High Level (Fedeyko Farm)
Seeding Year: 1979

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Boreal 1980	Seed Yield % of Boreal 1981	Seed Yield % of Boreal 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Boreal 1980	Herbage Yield % of Boreal 1981	Herbage Yield % of Boreal 1982
Ballade	**France**	8	37	(1)	Jul 09	(2)	7	53	(2)	2	13	(2)	1.06	2.85	0.66	39	67	99
Banner	United States	9	33	Jul 11	Jul 09		36	125		9	32		0.61	1.89	0.40	23	44	60
Bastide	**France**	8	38	(1)	Jul 09		3	83		1	21		0.33	1.55	0.30	12	36	45
Boreal*	Canada	9	38	Jul 10	Jul 09		386	393		100	100		2.69	4.28	0.67	100	100	100
Carlawn	**Canada**	9	56	Jul 10	Jul 09		438	340		113	87		2.51	3.71	0.87	93	87	130
Chomade	France	8	36	Jul 10	Jul 09		44	81		11	21		0.51	1.50	0.72	19	35	107
Corona	Netherlands	9	41	Jul 10	Jul 09		59	138		15	35		1.13	3.64	0.50	42	85	75
Ensylva	Netherlands	9	38	Jul 10	Jul 09		159	166		41	42		1.60	2.99	0.58	59	70	87
Envira	**Netherlands**	9	50	Jul 10	Jul 09		418	467		108	119		2.62	4.24	0.80	97	99	119
Enzet	Netherlands	9	47	Jul 10	Jul 09		520	494		135	126		2.91	4.51	1.09	108	105	167
Epaulette	**United Kingdom**	9	37	Jul 10	Jul 09		21	64		5	16		1.65	4.30	0.31	61	100	46
Fess	United Kingdom	9	31	(1)	Jul 09		5	62		1	16		0.64	2.02	0.44	24	47	66
Fortress	**United States**	9	48	Jul 10	Jul 09		172	281		45	72		2.10	4.20	0.83	78	98	124
Hackle	United Kingdom	8	31	(1)	Jul 12		3	18		1	5		0.88	2.08	0.55	33	49	82
Keszthelyi 2	**Hungary**	9	50	Jul 10	Jul 09		104	231		27	59		2.22	4.38	1.17	83	102	175
Leik	Norway	9	53	Jul 10	Jul 09		460	486		119	124		2.84	5.30	0.87	106	124	130
Maxim	**Sweden**	9	42	Jul 10	Jul 10		152	199		39	51		1.10	2.81	0.65	41	66	97
Milda	France	9	45	Jul 10	Jul 09		135	173		35	44		2.06	3.05	0.84	77	71	125
Moncorde	**Netherlands**	9	41	Jul 10	Jul 09		153	219		40	56		1.71	3.94	0.63	64	92	94
Oriflamme	United Kingdom	9	43	Jun 24	Jun 29		92	327		24	83		1.31	2.54	0.77	49	59	115
Patio	**Netherlands**	9	47	Jul 10	Jul 09		202	355		52	90		1.89	4.07	0.91	70	95	136
Pernille	Denmark	9	44	Jul 10	Jul 09		171	252		44	64		2.17	4.23	0.91	81	99	136
Pollux	**Denmark**	9	46	Jul 10	Jul 09		291	201		75	51		3.36	4.78	1.15	125	112	172
Rapid	Netherlands	9	47	Jul 10	Jul 09		406	500		105	127		2.77	4.46	0.87	103	104	130
Reptans	**Sweden**	9	48	Jul 10	Jul 09		373	346		97	88		2.95	4.99	0.88	110	110	131
Roland 21	West Germany	9	49	Jul 10	Jul 09		215	313		56	80		2.19	4.48	1.07	81	105	160
Skot	Denmark	9	39	Jul 10	Jul 09		90	83		23	21		1.53	3.45	0.60	57	81	90
Zernickower	East Germany	9	47	Jul 10	Jul 09		510	514		132	131		3.57	5.25	0.73	133	123	109
Mean							201	249					1.89	3.63	0.74			
L.S.D. (P = .05)							83	70					0.43	0.82	0.97			

(1) Seed Not Harvested, Yield Estimated
(2) Seed Heads Not Formed

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1982	Seed Yield Kg/ha 1982	Seed Yield % of Boreal 1982	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Boreal 1982
Boreal* (3)	Canada	9	53	Jul 20	315	100	4.29	100
Carlawn (3)	Canada	9	51	Jul 20	252	80	3.82	89
Chiwago (2)	West Germany	9	58	Jul 20	67	21	2.44	57
Eboli (1)	Denmark	9	35	Jul 12	48	15	2.33	54
Falter (1)	West Germany	9	43	Jul 16	18	6	2.28	53
Futuro (3)	West Germany	9	60	Jul 20	80	25	3.75	87
Gavotte (1)	Netherlands	9	38	Jul 14	57	18	2.03	47
Hawk (3)	United Kingdom	9	53	Jul 20	169	54	3.71	86
Lirota (1)	West Germany	9	38	Jul 12	44	14	2.23	52
Lobi (1)	West Germany	9	35	Jul 12	70	22	2.33	54
Oasis (2)	Netherlands	9	40	Jul 12	24	8	2.73	64
Solfège (1)	France	9	44	Jul 19	8	3	1.61	38
Tridano (3)	Denmark	9	55	Jul 20	215	68	4.23	99
Mean					105		2.91	
L.S.D. (P = .05)					35		0.66	

(1) Non-Creeping
(2) Slender Creeping
(3) Strong Creeping
(4) Unclassified

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Kay 1981	Seed Yield % of Kay 1982	Herbage Yield (DM) 1981	Herbage Yield t/ha 1982	Herbage Yield % of Kay 1981	Herbage Yield % of Kay 1982
Akimidori	Japan	6	80	-	Jul 23	0	108	0	40	0.33	3.95	16	63
Anita	Netherlands	1	-	-	-	0	-	0	-	0	-	0	-
Aonami	Japan	6	80	-	Jul 23	0	117	0	44	0.27	3.94	13	63
Cambria	United Kingdom	0	-	-	-	0	-	0	-	0	-	0	-
Crown	United States	7	88	-	Jul 23	0	159	0	59	0.37	4.26	17	68
Hallmark	United States	6	70	Jul 22	Jul 23	6	186	3	69	0.36	4.63	17	74
Hawk	United States	7	78	Jul 22	Jul 23	18	183	9	68	0.50	2.76	24	44
Ina	Canada	7	76	Jul 22	Jul 23	36	133	17	50	0.54	3.83	25	61
Juno	Canada	7	74	Jul 22	Jul 23	30	311	14	116	1.03	4.33	49	69
Kay*	Canada	9	84	Jul 22	Jul 23	211	268	100	100	2.12	6.24	100	100
MLM 14012	Canada	7	77	Jul 22	Jul 23	7	161	3	60	0.47	3.84	22	62
Napier	United States	8	67	Jul 22	Jul 23	43	153	20	57	0.51	3.19	24	51
Nika	Poland	9	74	Jul 22	Jul 23	39	82	18	31	0.83	4.38	39	70
Okamidori	Japan	8	84	Jul 22	Jul 23	87	219	41	82	1.51	5.40	71	87
OK-WH-19	Canada	9	84	Jul 22	Jul 23	265	261	126	97	1.45	4.72	68	76
OR-WH	Canada	9	79	Jul 22	Jul 23	113	264	54	99	1.17	4.55	55	73
Plano	Netherlands	1	-	-	-	0	-	0	-	0	-	0	-
Porto	Australia	0	-	-	-	0	-	0	-	0	-	0	-
Saborto	United Kingdom	0	-	-	-	0	-	0	-	0	-	0	-
Sumas	Canada	9	79	Jul 22	Jul 23	122	225	58	84	1.00	3.74	47	60
Mean						49	189			0.62	4.25		
L.S.D. (P = .05)						38	112			0.43	2.02		

Test Site: Beaverlodge (Foster's Farm)
Seeding Year: 1979

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Evergreen 1980	Seed Yield % of Evergreen 1981	Seed Yield % of Evergreen 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Evergreen 1980	Herbage Yield % of Evergreen 1981	Herbage Yield % of Evergreen 1982
Baret	Netherlands	9	47	Aug 11	Aug 13	Aug 20	370	325	118	95	98	62	1.58	4.32	3.94	75	82	78
Evergreen*	Sweden	9	53	Aug 11	Aug 13	Aug 20	389	333	191	100	100	100	2.12	5.25	5.07	100	100	100
Piccolo	Netherlands	9	52	Aug 11	Aug 13	Aug 20	430	262	126	111	79	66	1.86	4.46	4.46	88	85	88
Rali	West Germany	9	51	Aug 11	Aug 13	Aug 20	418	361	95	107	108	50	1.99	5.64	3.71	94	107	73
Rusadan	Denmark	9	49	Aug 11	Aug 13	Aug 20	236	198	89	61	59	47	1.17	2.95	3.59	55	56	71
Mean							369	296	124				1.75	4.52	4.15			
L.S.D. (P = .05)							79	51	48				0.29	0.65	0.59			

Test Site: Beaverlodge Research Station
Seeding Year: 1979

Baret	Netherlands	9	41	Aug 26	Aug 13	(1)	167	149	(1)	66	84	(1)	2.08	1.66	(1)	73	54	(1)
Evergreen*	Sweden	9	48	Aug 26	Aug 13		252	177		100	100		2.83	3.09		100	100	
Piccolo	Netherlands	9	46	Aug 26	Aug 13		173	143		69	81		2.49	1.35		88	44	
Rali	West Germany	9	49	Aug 26	Aug 13		204	121		81	68		3.15	1.95		111	63	
Rusadan	Denmark	9	45	Aug 26	Aug 13		94	98		37	55		3.64	0.66		129	21	
Mean							178	137					2.84	1.74				
L.S.D. (P = .05)							83	61					0.66	0.43				

(1) Harvest Not Taken

Test Site: Falher (Beaupre Farm)
Seeding Year: 1979

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Evergreen 1980	Seed Yield % of Evergreen 1981	Seed Yield % of Evergreen 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Evergreen 1980	Herbage Yield % of Evergreen 1981	Herbage Yield % of Evergreen 1982
Baret	**Netherlands**	9	35	Aug 12	Aug 26	(1)	181	293	(1)	62	68	(1)	0.88	3.53	(1)	53	63	(1)
Evergreen*	Sweden	9	46	Aug 12	Aug 26		291	431		100	100		1.66	5.61		100	100	
Piccolo	Netherlands	9	36	Aug 12	Aug 26		146	298		50	69		0.77	2.99		46	53	
Rali	West Germany	9	31	Aug 12	Aug 26		235	64		81	15		1.11	2.73		67	49	
Rusadan	Denmark	9	33	Aug 12	Aug 26		87	100		30	23		0.36	2.02		22	36	
Mean							188	237					0.96	3.38				
L.S.D. (P = .05)							36	48					0.23	0.50				

Test Site: Ft. Vermilion Experimental Farm
Seeding Year: 1979

Baret	Netherlands	9	43	Aug 19	Aug 10	(1)	66	114	(1)	31	58	(1)	4.46	1.62	(1)	46	52	(1)
Evergreen*	Sweden	9	66	Aug 19	Aug 10		216	196		100	100		9.68	3.14		100	100	
Piccolo	Netherlands	9	41	Aug 19	Aug 10		32	92		15	47		3.60	1.97		37	63	
Rali	West Germany	9	45	Aug 19	Aug 10		128	89		59	45		5.95	1.78		127	57	
Rusadan	Denmark	9	38	Aug 19	Aug 10		22	59		10	30		4.19	2.18		43	69	
Mean							93	110					5.58	2.14				
L.S.D. (P = .05)							67	40					1.71	0.37				

(1) Harvest Not Taken Due to Drought

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Climax 1980	Seed Yield % of Climax 1981	Seed Yield % of Climax 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Climax 1980	Herbage Yield % of Climax 1981	Herbage Yield % of Climax 1982
Alpage	France	9	81	Aug 18	Aug 05	Aug 11	384	204	180	105	109	129	5.21	3.30	4.04	98	104	85
Asterix	Netherlands	7	60	Sep 06	Aug 16	Sep 14	465	63	55	127	34	40	6.28	1.69	3.69	118	53	77
Bartimi	Netherlands	8	77	Aug 12	Aug 05	Aug 11	405	260	202	110	138	145	5.11	3.59	4.64	96	114	97
Basho	Canada	9	74	Aug 20	Aug 07	Aug 13	192	87	81	52	46	58	3.71	2.71	3.33	70	86	70
Bilbo	Denmark	9	84	Aug 16	Aug 05	Aug 11	309	219	212	84	116	153	4.84	3.00	4.23	91	95	89
Bottnia II	Sweden	9	85	Aug 12	Aug 05	Aug 11	703	432	405	192	230	291	4.89	4.83	5.44	92	153	114
Bounty	Canada	9	83	Aug 19	Aug 11	Aug 16	218	158	111	59	84	80	4.51	2.77	4.26	85	88	89
Champ	Canada	9	82	Aug 12	Aug 05	Jul 30	353	202	198	96	107	142	5.05	3.57	5.66	95	113	119
Climax*	Canada	9	84	Aug 12	Aug 13	Aug 11	367	188	139	100	100	100	5.30	3.16	4.77	100	100	100
Engmo	Norway	9	83	Aug 12	Aug 05	Aug 11	571	414	420	156	220	302	4.63	5.03	5.34	87	159	112
Erecta	Belgium	9	80	Aug 13	Aug 05	Aug 13	469	228	164	128	121	118	5.64	3.15	4.82	106	100	101
Goliath	Netherlands	8	79	Aug 12	Aug 05	Aug 11	407	233	183	111	124	132	5.58	3.18	4.72	105	101	99
Hokushu	Japan	8	78	Aug 19	Aug 13	Aug 18	443	295	143	121	157	103	6.60	3.61	5.17	125	114	108
Itasca	Sweden	9	86	Aug 12	Aug 05	Aug 11	268	155	124	73	82	89	5.05	3.50	5.23	95	111	110
Korpa	Iceland	9	85	Aug 12	Aug 05	Jul 30	792	401	373	216	213	268	4.61	3.96	4.56	87	125	96
Ludor	France	8	74	Aug 19	Aug 13	Aug 11	131	104	64	36	55	46	4.81	1.93	2.96	91	61	62
Melora	Netherlands	9	77	Aug 16	Aug 11	Aug 13	363	210	132	99	112	95	5.80	5.21	5.21	109	165	109
Mino	Denmark	8	78	Aug 16	Aug 13	Aug 11	304	251	117	82	134	84	5.33	2.72	4.51	101	86	95
Nosappu	Japan	9	90	Aug 12	Aug 05	Aug 11	496	332	315	135	177	227	5.28	4.25	5.75	100	134	121
Otto	Finland	9	86	Aug 12	Aug 05	Aug 11	537	308	291	146	164	209	4.41	4.00	4.78	83	127	100
Polka	United Kingdom	9	85	Aug 13	Aug 05	Aug 11	431	201	188	117	107	135	5.07	3.05	4.56	96	97	96
Pota	Denmark	9	85	Aug 12	Aug 05	Aug 11	406	206	294	111	110	212	5.50	3.39	5.24	104	107	110
Pronto	United States	9	84	Aug 13	Aug 05	Aug 13	403	229	124	110	122	89	5.48	3.55	5.58	103	112	117
Purlieu	United Kingdom	9	80	Aug 16	Aug 05	Aug 18	358	147	127	98	78	91	5.04	2.88	4.98	95	91	104
Rasant	West Germany	9	85	Aug 12	Aug 05	Aug 11	607	348	297	165	185	214	5.01	3.78	4.73	95	120	99
Richmond	Canada	9	83	Aug 16	Aug 05	Jul 30	319	186	189	87	99	136	4.81	2.99	5.15	91	95	108
RVP 251F	Belgium	8	79	Aug 16	Aug 11	Aug 13	272	138	100	74	73	72	5.94	2.93	4.07	112	93	85
Salvo	Canada	9	78	Aug 13	Aug 05	Jul 30	225	60	142	61	32	102	4.47	1.85	4.39	84	59	92
Sigma	Netherlands	9	60	Aug 26	Aug 17	Aug 25	671	262	241	183	139	173	6.10	3.14	6.04	115	99	127
Tiiti	Finland	9	87	Aug 12	Aug 05	Aug 11	631	382	340	172	203	245	5.50	4.07	5.50	104	129	115
Tilda	Denmark	9	82	Aug 12	Aug 05	Aug 11	358	288	241	98	153	173	4.77	3.97	4.60	90	126	96
Topas Otofte	Denmark	9	82	Aug 12	Aug 05	Aug 11	399	258	204	109	137	147	5.51	3.48	4.80	104	110	101
Verdant	United States	9	93	Aug 12	Aug 13	Aug 11	410	326	196	112	173	141	6.17	4.09	4.88	116	129	102
Mean							404	236	200				5.16	3.32	4.78			
L.S.D. (P = .05)							155	63	85				0.95	1.27	1.31			

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1982	Seed Yield Kg/ha 1982	Seed Yield % of Climax 1982	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Climax 1982
Arabelle	West Germany	9	64	Aug 11	117	67	6.13	71
Bartowia	Poland	9	74	Aug 11	228	130	8.40	97
Camilla	Netherlands	9	68	Aug 11	128	73	7.00	81
Climax*	Canada	9	80	Aug 11	175	100	8.65	100
Lacombe Composite	Canada	9	81	Aug 11	226	129	8.16	94
Marpessa	Netherlands	9	73	Aug 11	335	191	7.80	90
Mentor	Netherlands	9	75	Aug 11	316	181	5.74	66
Molstad	Norway	9	72	Aug 11	186	106	7.06	82
Salvo	Canada	9	73	Aug 11	192	110	6.89	80
Saxo	Denmark	9	66	Aug 11	127	73	6.77	78
Skala	Poland	9	73	Aug 11	188	107	7.92	92
Valstad	Norway	9	68	Aug 11	284	162	6.35	74
Mean					208		7.24	
L.S.D. (P = .05)					76		0.68	

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Climax 1980	Seed Yield % of Climax 1981	Seed Yield % of Climax 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Climax 1980	Herbage Yield % of Climax 1981	Herbage Yield % of Climax 1982
Alpage	France	9	73	Aug 05	Aug 13	Aug 09	358	239	264	105	84	114	4.22	4.35	4.22	98	93	93
Asterix	Netherlands	9	62	Aug 25	Aug 17	Sep 07	114	63	56	34	22	24	4.11	3.66	5.32	95	78	117
Bartimi	Netherlands	9	70	Aug 11	Aug 13	Aug 09	406	386	215	119	136	93	4.29	5.60	4.45	99	119	98
Basho	Canada	9	70	Aug 05	Aug 10	Jul 30	352	148	215	104	52	93	3.68	3.37	4.38	85	72	96
Bilbo	Denmark	9	74	Aug 05	Aug 04	Aug 09	433	255	313	127	90	135	4.49	4.50	4.80	104	96	106
Bottnia II	Sweden	9	75	Jul 30	Aug 07	Aug 09	498	311	390	146	110	169	5.54	5.20	4.75	129	111	105
Bounty	Canada	9	75	Aug 11	Aug 11	Aug 16	291	176	137	86	62	59	4.27	4.08	4.31	99	87	95
Champ	Canada	9	71	Jul 30	Aug 06	Jul 30	304	159	214	89	56	93	4.01	4.17	4.90	93	89	108
Climax*	Canada	9	76	Aug 05	Aug 13	Aug 09	340	283	231	100	100	100	4.31	4.70	4.54	100	100	100
Engmo	Norway	9	76	Aug 05	Aug 07	Aug 09	639	213	350	188	75	152	5.28	4.31	4.43	123	92	98
Erecta	Belgium	9	70	Aug 05	Aug 13	Aug 09	369	260	319	109	92	138	4.30	4.40	4.50	100	94	99
Goliath	Netherlands	9	72	Aug 05	Aug 04	Aug 09	354	268	281	104	95	122	4.77	4.89	4.82	111	104	106
Hokushu	Japan	9	69	Aug 11	Aug 14	Aug 18	219	307	176	64	108	76	5.22	5.09	5.32	121	108	117
Itasca	Sweden	9	74	Jul 30	Aug 04	Aug 09	295	159	190	87	56	82	4.44	4.90	4.62	103	104	102
Korpa	Iceland	9	72	Jul 30	Aug 04	Aug 09	274	289	476	81	102	206	5.70	4.86	5.40	132	103	119
Ludor	France	8	67	Aug 11	Aug 13	Aug 21	181	162	85	53	57	37	3.70	3.12	3.43	86	66	76
Melora	Netherlands	9	68	Aug 11	Aug 13	Aug 20	269	274	145	79	97	63	4.78	4.21	4.65	111	90	102
Mino	Denmark	9	72	Aug 11	Aug 13	Aug 18	306	286	182	90	101	79	4.63	4.48	4.61	107	95	102
Nosappu	Japan	9	74	Jul 30	Aug 04	Aug 09	506	247	327	149	87	142	5.06	4.61	4.98	117	98	110
Otto	Finland	9	72	Jul 30	Aug 04	Aug 09	501	252	356	147	89	154	4.53	4.73	4.05	105	101	89
Polka	United Kingdom	9	77	Aug 05	Aug 13	Aug 09	384	217	264	113	77	114	4.06	4.04	4.55	94	86	100
Pota	Denmark	9	74	Aug 05	Aug 09	Aug 09	436	284	256	128	101	111	4.80	5.17	4.78	111	110	105
Pronto	United States	9	75	Aug 05	Aug 04	Aug 09	389	223	259	114	79	112	4.79	4.51	5.10	111	96	112
Purlieu	United Kingdom	9	73	Aug 11	Aug 13	Aug 21	334	301	186	98	106	81	5.22	4.56	4.69	121	97	103
Ramona	Netherlands	7	39	Aug 11	Aug 16	Aug 15	205	132	63	60	47	27	2.36	1.98	3.08	55	42	68
Rasant	West Germany	9	71	Jul 30	Aug 04	Jul 30	558	289	433	164	102	187	4.85	4.88	4.20	113	104	93
Richmond	Canada	9	67	Jul 30	Aug 04	Aug 02	422	182	295	124	64	128	4.42	3.85	4.42	103	82	97
RVP 251F	Belgium	9	70	Aug 11	Aug 13	Aug 09	180	153	142	53	54	61	3.97	4.07	4.53	92	87	100
Salvo	Canada	8	65	Jul 30	Aug 04	Jul 30	275	80	225	81	28	97	3.54	2.47	4.34	82	53	96
Sigma	Netherlands	9	60	Aug 25	Aug 16	Sep 02	332	268	116	98	95	50	3.63	4.40	5.32	84	94	117
Tiiti	Finland	9	72	Jul 30	Aug 13	Aug 09	437	337	317	129	119	137	5.64	5.05	4.98	131	107	110
Tilda	Denmark	9	73	Aug 05	Aug 04	Aug 09	517	235	337	152	83	146	5.14	4.96	4.51	119	105	99
Topas Otofte	Denmark	9	74	Aug 05	Aug 08	Aug 09	486	248	287	143	88	124	4.98	4.71	4.61	116	100	102
Verdant	United States	9	81	Aug 05	Aug 13	Aug 09	358	301	232	105	106	100	5.11	5.04	4.80	119	93	106
Mean							371	235	245				4.53	4.38	4.60			
L.S.D. (P = .05)							85	66	77				0.85	0.56	0.78			

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Climax 1980	Seed Yield % of Climax 1981	Seed Yield % of Climax 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Climax 1980	Herbage Yield % of Climax 1981	Herbage Yield % of Climax 1982
Alpage	France	9	51	Aug 06	Aug 06	Aug 09	148	212	26	116	150	217	1.82	3.33	(1)	92	108	(1)
Asterix	Netherlands	7	35	Aug 20	Aug 14	Aug 09	28	109	0	46	77	0	0.69	2.93		35	95	
Bartimi	Netherlands	9	49	Aug 06	Aug 11	Aug 09	186	257	15	145	182	125	1.83	3.59		92	116	
Basho	Canada	8	45	Aug 06	Jul 31	Aug 09	79	49	3	62	35	25	1.44	2.10		73	68	
Bilbo	Denmark	9	54	Jul 29	Aug 14	Aug 09	176	164	26	138	116	217	1.94	3.04		98	98	
Bottnia II	Sweden	9	56	Jul 29	Jul 31	Aug 09	206	344	37	161	244	308	2.34	4.22		118	137	
Bounty	Canada	9	54	Aug 06	Aug 14	Aug 09	104	91	8	81	65	67	1.43	2.31		72	75	
Champ	Canada	9	45	Aug 06	Aug 14	Aug 09	107	93	11	84	66	92	1.50	2.47		76	80	
Climax*	Canada	9	52	Aug 06	Aug 11	Aug 09	128	141	12	100	100	100	1.98	3.09		100	100	
Engmo	Norway	9	54	Aug 06	Jul 31	Aug 09	222	372	28	173	264	233	2.07	3.92		105	127	
Erecta	Belgium	9	55	Jul 29	Jul 31	Aug 09	120	241	24	94	171	200	1.86	3.39		94	110	
Goliath	Netherlands	8	51	Jul 29	Aug 08	Aug 09	150	268	15	117	190	125	1.96	3.29		99	106	
Hokushu	Japan	9	54	Aug 08	Aug 12	Aug 09	164	353	16	128	250	133	2.07	3.86		105	125	
Itasca	Sweden	9	51	Jul 29	Aug 11	Aug 09	108	120	7	84	85	58	1.91	3.10		96	100	
Korpa	Iceland	9	55	Jul 29	Jul 31	Jul 29	245	290	54	191	207	450	2.02	3.73		102	121	
Ludor	France	9	51	Aug 06	Aug 14	Aug 09	62	91	11	48	65	92	1.55	2.71		78	88	
Melora	Netherlands	9	47	Aug 08	Aug 14	Aug 09	81	200	13	63	142	108	1.87	3.21		94	104	
Mino	Denmark	8	49	Aug 08	Aug 14	Aug 09	153	169	21	120	120	175	1.93	2.45		97	79	
Nosappu	Japan	9	53	Aug 06	Jul 31	Aug 09	165	142	38	129	101	317	2.01	3.30		102	107	
Otto	Finland	9	57	Jul 29	Jul 31	Aug 09	265	304	56	207	216	467	2.32	3.91		117	127	
Polka	United Kingdom	9	53	Aug 06	Aug 06	Aug 09	172	135	34	134	96	283	1.92	2.97		97	96	
Pota	Denmark	9	55	Jul 29	Aug 06	Aug 09	133	159	19	104	113	158	2.20	3.65		111	118	
Pronto	United States	9	49	Aug 06	Aug 14	Aug 09	155	157	23	121	111	192	1.85	3.14		95	102	
Purlieu	United Kingdom	8	51	Aug 12	Aug 14	Aug 09	135	193	15	105	137	125	1.44	2.89		73	94	
Rasant	West Germany	9	58	Jul 29	Aug 11	Jul 29	323	421	112	252	299	933	2.27	4.23		115	137	
Richmond	Canada	9	52	Jul 29	Jul 31	Aug 09	139	200	26	109	142	217	1.85	2.75		93	89	
RVP 251F	Belgium	9	51	Aug 08	Aug 14	Aug 09	70	154	15	55	109	125	1.75	3.00		88	97	
Salvo	Canada	9	42	Jul 29	Jul 31	Jul 29	56	92	10	44	65	83	1.42	1.88		72	61	
Sigma	Netherlands	8	39	Aug 12	Aug 11	Aug 09	189	339	11	148	240	92	1.70	3.24		86	105	
Tiiti	Finland	9	59	Jul 29	Aug 06	Jul 29	272	373	50	213	265	417	2.45	4.09		124	132	
Tilda	Denmark	9	55	Jul 29	Aug 06	Aug 09	196	180	32	153	128	267	2.00	3.47		101	112	
Topas Otofte	Denmark	9	55	Aug 06	Jul 31	Aug 09	174	156	34	136	111	283	2.06	3.18		104	103	
Verdant	United States	9	53	Aug 06	Aug 14	Aug 09	139	181	32	109	128	267	1.97	3.68		99	119	
Mean							149	205	25				1.82	3.14				
L.S.D. (P = .05)							62	72	18				0.41	0.64				

(1) Herbage Not Measured

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Climax 1980	Seed Yield % of Climax 1981	Seed Yield % of Climax 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Climax 1980	Herbage Yield % of Climax 1981	Herbage Yield % of Climax 1982
Alpage	France	9	65	Jul 30	Aug 10	Aug 04	239	243	73	89	155	90	8.04	3.61	1.91	80	107	97
Asterix	Netherlands	9	41	Aug 19	Aug 10	Aug 04	133	118	14	49	75	17	6.91	2.68	1.19	69	79	61
Bartimi	Netherlands	9	68	Jul 30	Aug 10	Aug 04	346	335	105	128	213	130	10.13	4.70	1.71	101	139	87
Basho	Canada	9	66	Jul 30	Aug 10	Aug 04	95	92	48	35	59	59	6.91	3.30	1.99	69	98	102
Bilbo	Denmark	9	70	Jul 30	Aug 10	Aug 04	292	233	91	108	148	112	9.50	4.26	2.12	94	126	108
Bottnia II	Sweden	9	73	Jul 30	Jul 29	Aug 04	960	547	87	356	348	107	17.53	7.23	2.10	174	214	107
Bounty	Canada	9	70	Jul 30	Aug 10	Aug 04	325	187	83	120	119	102	9.02	2.83	1.76	90	84	90
Champ	Canada	9	69	Jul 30	Aug 10	Aug 04	240	116	70	89	74	86	11.19	4.29	1.78	111	127	91
Climax*	Canada	9	69	Jul 30	Aug 10	Aug 04	270	157	81	100	100	100	10.06	3.38	1.96	100	100	100
Engmo	Norway	9	73	Jul 30	Jul 29	Aug 04	955	570	98	354	363	121	16.05	6.39	1.83	160	189	93
Erecta	Belgium	9	64	Jul 30	Aug 10	Aug 04	307	174	79	114	111	98	7.72	3.34	1.84	77	99	94
Goliath	Netherlands	9	70	Jul 30	Aug 10	Aug 04	393	278	126	146	177	155	12.42	4.01	1.96	123	119	100
Hokushu	Japan	9	67	Jul 30	Aug 10	Aug 04	215	298	62	80	190	77	9.79	4.77	1.91	97	141	97
Itasca	Sweden	9	72	Jul 30	Aug 10	Aug 04	276	159	73	102	101	90	11.48	4.57	2.05	114	135	105
Korpa	Iceland	9	72	Jul 30	Jul 29	Aug 04	949	451	131	351	287	162	14.54	5.66	1.93	145	167	98
Ludor	France	9	66	Jul 30	Aug 10	Aug 04	174	100	50	64	64	62	10.42	3.47	1.46	104	103	74
Melora	Netherlands	9	60	Jul 30	Aug 10	Aug 04	158	208	28	59	132	35	8.53	4.16	1.89	85	123	96
Mino	Denmark	9	69	Jul 30	Aug 10	Aug 04	153	214	77	57	136	95	6.94	3.70	2.01	69	109	103
Nosappu	Japan	9	74	Jul 30	Aug 10	Aug 04	312	270	124	116	172	153	12.50	5.43	2.34	124	161	119
Otto	Finland	9	76	Jul 30	Aug 01	Aug 04	737	369	153	273	235	189	13.71	4.61	2.33	136	136	119
Polka	United Kingdom	9	72	Jul 30	Aug 10	Aug 04	282	263	107	104	168	132	9.72	4.53	2.37	97	134	121
Pota	Denmark	9	73	Jul 30	Aug 10	Aug 04	315	235	76	117	150	94	12.51	4.84	2.05	124	143	105
Pronto	United States	9	65	Jul 30	Aug 10	Aug 04	284	207	77	105	132	95	10.17	4.25	2.17	101	126	111
Purlieu	United Kingdom	9	62	Jul 30	Aug 10	Aug 04	122	274	47	45	175	58	7.70	4.63	1.68	77	137	86
Rasant	West Germany	9	71	Jul 30	Jul 29	Aug 04	421	394	204	156	251	252	9.78	3.87	2.17	97	114	111
Richmond	Canada	9	74	Jul 30	Aug 01	Aug 04	208	247	137	77	157	169	9.11	4.19	2.36	91	124	120
RVP 251F	Belgium	9	63	Jul 30	Aug 10	Aug 04	177	207	36	66	132	44	11.17	4.15	1.99	111	123	102
Salvo	Canada	9	60	Aug 09	Jul 29	Aug 04	166	110	58	62	70	72	7.96	3.94	2.09	79	117	107
Sigma	Netherlands	9	50	Sep 01	Aug 10	Aug 04	509	399	32	189	254	40	9.39	3.90	1.28	93	115	65
Tiiti	Finland	9	67	Jul 30	Aug 10	Aug 04	725	500	124	269	318	153	14.40	5.88	2.32	143	174	118
Tilda	Denmark	9	72	Jul 30	Aug 10	Aug 04	461	296	99	171	189	122	11.86	4.73	1.79	118	140	91
Topas Otofte	Denmark	9	71	Jul 30	Aug 10	Aug 04	365	334	120	135	213	148	12.29	4.90	2.16	122	145	110
Verdant	United States	9	77	Jul 30	Aug 10	Aug 04	332	270	104	123	172	128	11.80	5.46	2.63	117	162	134
Mean							350	268	87				10.64	4.41	1.97			
L.S.D. (P = .05)							124	109	47				2.72	1.31	0.44			

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Date Ripe 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Climax 1980	Seed Yield % of Climax 1981	Seed Yield % of Climax 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Climax 1980	Herbage Yield % of Climax 1981	Herbage Yield % of Climax 1982
Alpage	France	8	51	Jul 28	Aug 01	Aug 05	169	154	32	92	101	145	1.44	2.09	(1)	84	83	(1)
Asterix	Netherlands	8	35	Aug 02	Aug 11	Aug 05	137	204	6	75	134	27	1.72	2.38		100	94	
Bartimi	Netherlands	8	53	Jul 28	Aug 01	Aug 05	141	133	24	98	88	109	1.51	1.67		88	66	
Basho	Canada	8	53	Jul 28	Jul 29	Aug 05	53	70	19	29	46	86	0.66	1.48		38	58	
Bilbo	Denmark	8	60	Jul 28	Aug 07	Aug 05	177	248	38	86	163	173	2.02	2.03		117	80	
Bottnia II	Sweden	8	62	Jul 28	Jul 29	Aug 05	576	389	54	313	256	245	3.14	3.62		183	143	
Bounty	Canada	8	58	Aug 02	Aug 11	Aug 05	114	114	28	62	75	127	1.54	1.69		90	67	
Champ	Canada	8	54	Jul 28	Aug 08	Aug 05	144	88	22	83	58	100	1.59	2.03		92	80	
Climax*	Canada	8	56	Aug 02	Aug 11	Aug 05	184	152	22	100	100	100	1.72	2.53		100	100	
Engmo	Norway	8	56	Jul 28	Jul 29	Aug 05	538	361	46	292	238	209	2.81	3.05		163	121	
Erecta	Belgium	8	53	Jul 28	Jul 29	Aug 05	217	194	38	118	128	173	1.55	2.11		90	83	
Goliath	Netherlands	8	56	Jul 28	Aug 11	Aug 05	307	220	32	167	145	145	2.29	2.35		133	93	
Hokushu	Japan	8	56	Aug 07	Aug 11	Aug 05	248	331	27	135	218	123	2.33	2.76		135	109	
Itasca	Sweden	8	52	Aug 02	Aug 11	Aug 05	161	175	27	62	115	123	1.18	2.14		69	85	
Korpa	Iceland	8	55	Jul 28	Jul 29	Aug 05	582	333	53	250	219	241	3.14	2.13		183	84	
Ludor	France	8	51	Jul 28	Aug 11	Aug 05	90	87	25	49	57	114	1.50	1.62		87	64	
Melora	Netherlands	8	50	Aug 02	Aug 11	Aug 05	143	169	9	82	111	41	1.68	1.91		98	75	
Mino	Denmark	8	58	Jul 28	Aug 11	Aug 05	147	245	28	111	161	127	1.71	2.78		99	110	
Nosappu	Japan	8	58	Jul 28	Aug 08	Aug 05	201	171	46	95	113	209	1.99	2.26		116	89	
Otto	Finland	8	57	Jul 28	Jul 29	Aug 05	390	282	54	212	186	245	2.31	2.91		134	115	
Polka	United Kingdom	8	56	Jul 28	Aug 11	Aug 05	176	104	41	96	68	186	1.79	1.81		104	72	
Pota	Denmark	8	57	Jul 28	Jul 29	Aug 05	141	124	28	77	82	127	1.51	1.99		88	79	
Pronto	United States	8	59	Jul 28	Aug 05	Aug 05	293	187	37	159	123	168	2.33	3.04		135	120	
Purlieu	United Kingdom	8	54	Aug 13	Aug 08	Aug 05	108	198	25	125	130	114	1.28	2.13		74	84	
Rasant	West Germany	8	57	Jul 28	Jul 29	Aug 05	403	306	63	219	201	286	1.97	2.73		115	108	
Richmond	Canada	8	58	Jul 28	Jul 29	Aug 05	157	183	36	85	120	164	2.31	2.27		134	90	
RVP 251F	Belgium	8	53	Jul 28	Aug 11	Aug 05	123	137	19	92	90	86	1.57	2.35		91	93	
Salvo	Canada	8	52	Jul 28	Aug 01	Aug 05	65	121	28	35	80	127	1.90	1.96		110	77	
Sigma	Netherlands	8	45	Aug 13	Aug 11	Aug 05	418	420	24	215	276	109	1.13	2.55		66	101	
Tiiti	Finland	8	59	Jul 28	Jul 29	Aug 05	456	279	60	248	184	273	2.07	2.75		120	109	
Tilda	Denmark	8	61	Jul 28	Aug 01	Aug 05	306	161	54	166	106	245	2.90	2.75		169	109	
Topas Otofte	Denmark	8	61	Jul 28	Jul 29	Aug 05	224	188	43	97	124	195	2.40	2.25		140	89	
Verdant	United States	8	59	Jul 28	Aug 11	Aug 05	230	174	27	125	114	123	1.94	1.84		113	73	
Mean							237	203	34				1.91	2.30				
L.S.D. (P = .05)							96	100	23				0.66	0.85				

(1) Herbage Not Measured

Cultivar	Origin	Height (cm)	Hardiness			Seed Yield Kg/ha			Seed Yield % of Altaswede			Herbage Yield (DM) t/ha			Herbage Yield % of Altaswede		
			1980	1981	1982	1980	1981	1982	1980	1981	1982	1980	1981	1982	1980	1981	1982
Altaswede*	Canada	44	9	8	7	573	166	59	100	100	100	4.21	2.02	3.69	100	100	100
Bjorn	Sweden	46	9	8	8	442	197	66	77	119	112	5.07	2.19	3.64	121	108	100
Florex	United States	45	8	6	6	529	128	24	92	77	41	4.53	1.77	2.29	107	88	64
Florie	United States	48	7	4	4	377	96	14	66	58	24	3.37	0.93	1.90	81	46	51
Gollum	Denmark	49	8	5	5	537	207	23	94	125	39	4.33	1.40	1.67	102	69	45
Granta	United Kingdom	56	8	1	-	447	39	-	78	23	-	3.43	0	-	81	0	-
Grasslands Pawera	New Zealand	45	8	3	3	169	85	3	29	51	5	4.28	0.82	0.99	102	41	27
Gumpensteiner	Austria	43	8	3	2	307	15	9	54	9	15	2.99	0.34	0.40	69	17	11
Krano	Denmark	48	9	6	4	679	304	26	118	183	44	4.33	1.88	1.77	102	93	49
Lossam 4n	France	55	8	1	-	161	0	-	28	0	-	3.28	0	-	79	0	-
Marino	East Germany	48	8	4	4	381	50	34	66	30	58	2.99	0.64	1.28	69	32	35
Merkur	Sweden	49	9	7	6	437	276	37	76	166	63	4.65	2.51	2.82	110	124	76
Mont-Calme	Switzerland	40	7	3	2	360	0	4	63	0	7	2.75	0.06	0.32	67	3	9
Norlac	Canada	43	9	8	8	645	208	70	113	125	119	4.78	2.64	3.03	112	131	84
Pacific	Canada	49	7	1	-	594	0	-	104	0	-	2.91	0	-	69	0	-
Palna	Denmark	45	9	6	6	594	252	13	104	152	22	5.14	2.18	1.52	121	108	42
Patavium	Italy	45	4	3	-	378	0	-	66	0	-	1.70	0	-	41	0	-
Perenta 4n	Rumania	51	8	3	2	218	22	1	38	13	2	2.72	0.30	0.79	64	15	21
Quinequeli	Chile	43	4	1	-	317	0	-	55	0	-	1.53	0	-	36	0	-
Rea 4n	Sweden	51	9	2	-	285	0	-	50	0	-	1.83	0	-	43	0	-
Sally 4n	Sweden	43	8	3	1	247	69	0	43	42	0	1.50	0.62	0	36	31	0
Sara 4n	Sweden	39	7	4	2	278	48	0	49	29	0	1.51	0.65	0	36	32	0
Taplanszentkereszti	Hungary	44	8	1	-	492	0	-	86	0	-	2.86	0	-	69	0	-
Temara 4n	Switzerland	49	9	1	-	93	0	-	16	0	-	0.98	0	-	24	0	-
Tristan	United States	44	9	5	5	494	130	54	86	78	92	3.50	1.21	2.61	83	60	73
Venla	Finland	47	9	6	5	479	190	20	84	114	34	4.45	1.97	2.16	107	98	59
Mean						404	95	25				3.29	0.93	1.72			
L.S.D. (P = .05)						128	71	27				1.19	0.64	1.21			

RED CLOVER

Test Site: Beaverlodge Research Station
Seeding Year: 1981

Cultivar	Origin	Height (cm)	Hardiness 1982	Seed Yield		Herbage Yield	
				Kg/ha 1982	% of Altaswede 1982	(DM) t/ha 1982	% of Altaswede 1982
Altaswede*	Canada	51	9	266	100	5.42	100
Bjorn	Sweden	50	9	169	64	4.73	87
Deben 4n	United Kingdom	48	9	79	30	4.93	91
Diper	France	47	9	142	53	4.54	84
Janbo 4n	Denmark	45	9	88	33	4.76	88
Kenstar	United States	46	9	140	53	4.76	88
Kvarta	Czechoslovakia	53	9	104	39	5.27	97
Norlac	Canada	50	9	245	92	4.27	79
Quin	United Kingdom	46	9	153	58	5.06	93
Redman	United States	48	9	195	73	5.84	108
Start	Czechoslovakia	48	9	178	67	5.20	96
Triton 4n	Sweden	48	9	173	65	6.69	123
Mean				161		5.13	
L.S.D. (P = .05)				63		0.51	

Cultivar	Origin	Height (cm)	Hardiness			Seed Yield						Herbage Yield					
						Kg/ha			% of Altaswede			(DM) t/ha			% of Altaswede		
			1980	1981	1982	1980	1981	1982	1980	1981	1982	1980	1981	1982	1980	1981	1982
Altaswede*	Canada	(1)	8	8	8	677	300	116	100	100	100	5.40	3.36	3.75	100	100	100
Bjorn	Sweden		8	8	8	487	271	105	72	90	91	4.95	2.30	2.79	92	68	74
Florex	United States		8	7	7	476	318	46	70	106	40	5.35	2.49	2.33	99	74	62
Florie	United States		7	6	6	398	196	61	59	65	60	4.77	1.56	1.91	88	46	51
Gollum	Denmark		8	7	7	572	286	93	84	95	80	5.48	1.69	2.53	101	50	67
Granta	United Kingdom		8	0	-	404	0	-	60	0	-	4.41	0	-	82	0	-
Grasslands Pawera	New Zealand		6	3	2	278	154	11	41	51	9	5.23	0.86	0.47	97	26	13
Gumpensteiner	Austria		6	4	0	319	114	0	47	38	0	4.37	0.58	0	91	17	0
Krano	Denmark		8	7	7	705	364	95	104	121	82	4.13	1.46	2.04	76	43	54
Lossam 4n	France		7	0	-	122	0	-	18	0	-	5.09	0	-	94	0	-
Marino	East Germany		8	4	0	248	145	0	37	48	0	5.39	1.34	0	100	40	0
Merkur	Sweden		8	7	7	776	348	126	115	116	109	6.83	2.52	2.30	126	75	61
Mont-Calme	Switzerland		8	3	0	319	55	0	47	18	0	4.51	0.16	0	84	5	0
Norlac	Canada		8	8	8	933	371	167	138	124	144	5.52	3.02	3.00	102	90	80
Pacific	Canada		5	0	-	560	0	-	83	0	-	2.74	0	-	51	0	-
Palna	Denmark		6	6	5	699	141	61	103	47	53	5.92	2.30	2.03	110	68	54
Patavium	Italy		4	0	-	375	0	-	55	0	-	2.21	0	-	41	0	-
Perenta 4n	Rumania		6	3	0	151	15	0	22	5	0	4.32	0.37	0	80	11	0
Quinequeli	Chile		4	0	-	494	0	-	73	0	-	2.56	0	-	47	0	-
Rea 4n	Sweden		8	5	5	492	369	25	73	123	22	8.09	1.88	2.82	150	56	75
Sally 4n	Sweden		8	7	7	541	387	15	80	129	13	7.00	3.06	4.21	130	91	112
Sara 4n	Sweden		8	6	6	486	430	24	72	143	21	7.09	2.76	4.17	131	82	111
Taplanszentkereszti	Hungary		7	0	-	467	252	-	69	84	-	3.91	0	-	72	0	-
Temara 4n	Switzerland		5	0	-	151	0	-	22	0	-	5.43	0	-	101	0	-
Tristan	United States		8	6	0	400	0	0	59	0	0	5.63	1.29	0	104	38	0
Venla	Finland		7	7	7	678	174	83	100	58	72	5.31	2.06	3.01	98	61	80
Mean						470	180	54				5.06	1.35	1.97			
L.S.D. (P = .05)						115	104	43				1.09	0.69	0.83			

(1) Height Not Measured

Cultivar	Origin	Height (cm)	Hardiness			Seed Yield						Herbage Yield					
						Kg/ha			% of Altaswede			(DM) t/ha			% of Altaswede		
			1980	1981	1982	1980	1981	1982	1980	1981	1982	1980	1981	1982	1980	1981	1982
Altaswede*	Canada	(1)	8	8	7	509	504	7	100	100	100	1.98	4.08	0.26	100	100	100
Bjorn	Sweden		8	7	7	309	320	14	61	63	200	1.92	2.09	0.17	97	51	65
Florex	United States		5	2	-	203	0	-	40	0	-	0.78	0	-	39	0	-
Florie	United States		5	2	-	188	0	-	37	0	-	0.54	0	-	27	0	-
Gollum	Denmark		7	3	0	280	0	0	55	0	0	0.70	0.79	0	35	19	0
Granta	United Kingdom		5	1	-	174	0	-	34	0	-	0.28	0	-	14	0	-
Grasslands Pawera	New Zealand		2	-	-	22	-	-	4	-	-	0.14	-	-	7	-	-
Gumpensteiner	Austria		3	1	-	89	0	-	17	0	-	0.22	0	-	11	0	-
Krano	Denmark		5	2	-	222	150	-	44	30	-	0.89	0	-	45	0	-
Lossam 4n	France		3	1	-	26	0	-	5	0	-	0.07	-	-	4	-	-
Marino	East Germany		4	1	-	177	0	-	35	0	-	0.30	0	-	15	0	-
Merkur	Sweden		7	6	6	224	200	20	44	40	286	1.10	2.07	0.16	56	51	62
Mont-Calme	Switzerland		3	1	-	93	0	-	18	0	-	0.26	0	-	13	0	-
Norlac	Canada		8	7	6	400	469	2	79	93	29	1.87	3.15	0.03	94	77	12
Pacific	Canada		2	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Palna	Denmark		5	2	-	235	0	-	46	0	-	0.76	0	-	38	0	-
Patavium	Italy		2	1	-	14	0	-	3	0	-	0.03	-	-	2	-	-
Perenta 4n	Rumania		4	2	-	130	0	-	26	0	-	0.39	0	-	20	0	-
Quinequeli	Chile		2	-	-	0	-	-	0	-	-	0.06	-	-	3	-	-
Rea 4n	Sweden		4	4	2	121	34	0	24	7	0	0.47	0.36	0	24	9	0
Sally 4n	Sweden		7	6	6	98	130	1	19	26	14	0.91	2.68	0.20	46	66	77
Sara 4n	Sweden		6	5	5	116	154	3	23	31	43	0.63	2.09	0.14	32	51	54
Tapianszentkereszti	Hungary		3	-	-	44	-	-	9	-	-	0.21	-	-	11	-	-
Temara 4n	Switzerland		4	1	-	44	0	-	9	0	-	0.25	0	-	13	0	-
Tristan	United States		7	1	-	187	0	-	37	0	-	0.61	0	-	31	0	-
Venla	Finland		7	4	4	325	190	8	64	38	229	1.13	1.41	0.20	57	35	7
Mean						163	86	6				0.64	0.94	0.13			
L.S.D. (P = .05)						100	107	18				0.47	0.85	0.27			

(1) Height Not Measured

Cultivar	Origin	Height (cm)	Hardiness 1980	Hardiness 1981	Hardiness 1982	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield Kg/ha 1982	Seed Yield % of Altaswede 1980	Seed Yield % of Altaswede 1981	Seed Yield % of Altaswede 1982	Herbage Yield (DM) t/ha 1980	Herbage Yield (DM) t/ha 1981	Herbage Yield (DM) t/ha 1982	Herbage Yield % of Altaswede 1980	Herbage Yield % of Altaswede 1981	Herbage Yield % of Altaswede 1982
Altaswede*	Canada	45	8	7	7	1475	613	60	100	100	100	4.83	4.46	1.31	100	100	100
Bjorn	Sweden	49	8	7	7	1354	417	67	92	68	112	4.87	4.66	1.20	101	104	92
Florex	United States	49	6	2	-	987	0	-	67	0	-	3.63	0	-	75	0	-
Florie	United States	49	4	1	-	662	0	-	45	0	-	2.16	0	-	45	0	-
Gollum	Denmark	50	6	2	-	1014	0	-	69	0	-	3.51	0	-	73	0	-
Granta	United Kingdom	-	1	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Grasslands Pawera	New Zealand	-	1	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Gumpensteiner	Austria	40	1	-	-	103	-	-	7	-	-	0.32	-	-	7	-	-
Krano	Denmark	53	5	2	-	759	0	-	51	0	-	2.40	0	-	50	0	-
Lossam 4n	France	-	1	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Marino	East Germany	54	6	2	-	866	0	-	59	0	-	3.09	0	-	64	0	-
Merkur	Sweden	44	7	4	3	1272	289	108	86	47	180	3.31	3.57	1.35	69	80	103
Mont-Calme	Switzerland	45	2	-	-	301	-	-	20	-	-	0.74	-	-	15	-	-
Norlac	Canada	44	8	7	7	1369	634	165	93	103	275	4.88	5.15	1.50	101	115	115
Pacific	Canada	-	1	-	-	59	-	-	4	-	-	0	-	-	0	-	-
Palna	Denmark	52	4	1	-	513	0	-	35	0	-	1.28	0	-	27	0	-
Patavium	Italy	-	1	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Perenta 4n	Rumania	50	5	3	3	295	55	28	20	9	47	1.57	1.00	1.30	33	22	99
Quinequeli	Chile	-	1	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Rea 4n	Sweden	50	5	3	3	414	130	41	28	21	68	1.90	2.05	1.45	39	46	111
Sally 4n	Sweden	47	6	4	4	627	292	35	43	48	58	3.79	4.05	1.95	78	91	149
Sara 4n	Sweden	48	6	5	3	790	209	44	54	34	73	4.46	4.13	1.45	92	93	111
Taplanszentkereszti	Hungary	-	1	-	-	32	-	-	2	-	-	0	-	-	0	-	-
Temara 4n	Switzerland	55	2	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Tristan	United States	54	7	2	-	853	0	-	58	0	-	2.77	0	-	57	0	-
Venla	Finland	48	7	4	3	1306	189	97	89	31	162	4.38	3.62	1.69	91	81	129
Mean						579	188	72				2.07	2.04	1.47			
L.S.D. (P = .05)						280	106	74				1.03	1.11	0.82			