Forage Cultivar Trials

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FORAGE CULTIVAR TRIALS

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FOREWORD

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

Seed and herbage (dry matter) yields are expressed both as actual production per hectare and as a percent of a designated (*) standard. 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).

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

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Cultivar	Origin	Hardiness	Height (cm)	Date Ripe 1980	Date Ripe 1981	Seed Yield Kg/ha 1980	Seed Yield Kg/ha 1981	Seed Yield % Carlton 1980	Seed Yield % Carlton 1981	Herbage Yield t/ha 1980	Herbage Yield t/ha 1981	Herbage Yield % Carlton 1980	Herbage Yield % Carlton 1981
Baylor	USA	9	98	Aug 12	Aug 5	732	459	56	92	3.80	4.44	79	90
Blair	USA	9	100	Aug 12	Aug 5	334	350	26	72	3.51	4.24	73	86
Carlton*	Canada	9	102	Aug 12	Aug 5	1299	544	100	100	4.79	4.93	100	100
Jubilee	Canada	9	98	Aug 12	Aug 5	721	374	56	69	4.36	4.91	91	100
Kesto	Finland	9	106	Aug 12	Aug 5	884	498	68	92	4.60	4.88	96	99
Magna	Canada	9	108	Aug 12	Aug 5	1112	521	86	96	4.98	4.77	104	97
Mandan 404	USA	9	97	Aug 12	Aug 5	875	483	67	89	4.66	5.19	97	105
Orfeu	Rumania	9	102	Aug 12	Aug 5	1126	558	87	103	4.54	4.79	95	97
Redpatch	Canada	9	96	Aug 12	Aug 5	309	299	24	55	3.40	4.04	71	82
Regar	USA	9	102	Aug 12	July 22	479	492	37	90	3.72	5.40	78	110
S-8800	Canada	9	106	Aug 12	Aug 5	1388	582	107	107	5.78	4.73	121	96
Svaja	Sweden	9	102	Aug 12	Aug 5	1161	479	89	88	5.96	4.58	124	93
Tempo	Canada	9	98	Aug 12	Aug 5	654	318	50	58	3.83	4.14	80	84
WWF 72	Sweden	9	97	Aug 12	Aug 5	1098	393	85	72	5.24	4.87	109	99
Mean						869	4.59			4.51	4.71		
L.S.D. (P = .05)						123.79	131.73			0.99	0.86		

BROMEGRASS

Test Site: Beaverlodge (Foster's Farm)
Seeding year: 1978

Cultivar	Origin	Hardiness	Height (cm)	Date Ripe July 1979	Date Ripe July 1980	Date Ripe 1981	Seed Yield Data: Yield kg/ha 1979	Yield kg/ha 1980	Yield kg/ha 1981	% of Carlton 1979	% of Carlton 1980	% of Carlton 1981	Herbage Yield Data: Yield (DM) t/ha 1979	Yield (DM) t/ha 1980	Yield (DM) t/ha 1981	% of Carlton 1979	% of Carlton 1980	% of Carlton 1981
Barton	USA	9	77	27	26	Aug 4	87	207	326	38	61	72	(1)	6.30	4.51	(1)	120	101
Carlton	Canada	9	76	27	30	Aug 4	227	340	451	100	100	100		5.23	4.47		100	100
Lyon	USA	9	72	27	30	Aug 4	75	227	406	33	67	90		5.78	4.97		111	111
Magna	Canada	9	81	27	30	Aug 4	165	429	425	72	126	94		5.54	4.25		106	95
Mandan 404	USA	9	72	27	30	Aug 4	146	223	329	64	66	73		4.64	4.13		89	92
Regar	USA	9	76	27	28	July 22	226	137	337	99	40	75		5.44	4.60		104	103
Tempo	Canada	9	72	27	30	Aug 4	112	232	273	49	68	61		3.84	3.65		73	82
S-7695	Canada	9	78	27	30	Aug 4	305	624	535	133	184	119		5.85	4.41		112	99
S-7855	Canada	9	75	27	30	Aug 4	104	211	330	45	62	73		4.91	4.38		94	98
S-8778	Canada	9	81	27	30	Aug 4	276	795	671	121	234	149		6.14	5.04		117	113
S-8792	Canada	9	83	27	30	Aug 4	188	365	425	82	103	94		5.30	4.23		101	95
Mean							174	345	410					5.36	4.42			
L.S.D. (= .05)							53.16	143.27	98.30					0.94	0.72			

(1) Herbage not measured