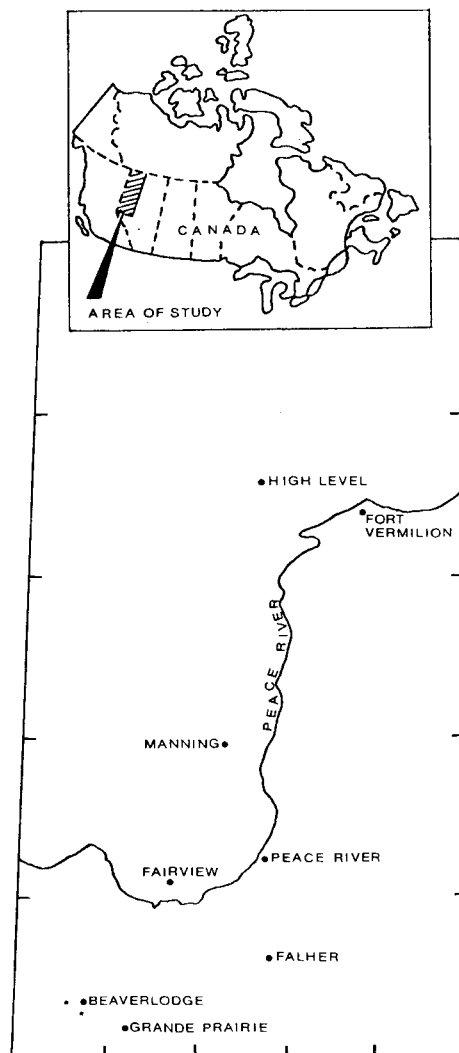




ENVIRONMENTAL DATA FOR SELECTED SITES IN THE STUDY AREA

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

A

Red Fescue

Test Site: Beaverlodge Research Station
Seeding Year: 1984

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

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

Red Fescue

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

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

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

Red Fescue

Test Site: Fort Vermilion Experimental Farm
Seeding Year: 1984

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

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

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

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

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

(a) Not seeded
(b) Seed not harvested

Red Fescue

Test Site: Beaverlodge Research Station
Seeding Year: 1984

Cultivar		Origin	1st Herbage Yield			2nd Herbage Yield		
			Day Cut	(DM)	t/ha % of Boreal	Day Cut	(DM)	t/ha % of Boreal
Beauty	(1)	Netherlands	Jun 18	0.11	22	Aug 21	0.24	26
Boreal*	(3)	Canada	Jun 18	0.50	100	Aug 21	0.91	100
B 7733	(3)	Canada	Jun 18	0.78	156	Aug 21	1.28	141
Carlawn	(3)	Canada	Jun 18	0.80	160	Aug 21	0.81	89
Commodore	(3)	Netherlands	Jun 18	0.55	110	Aug 21	0.86	95
G	(2)	Hungary	Jun 18	0.40	80	Aug 21	0.90	99
Islandic	(3)	Netherlands	Jun 18	0.57	114	Aug 21	1.41	155
Leik	(3)	Norway	Jun 18	0.99	198	Aug 21	1.42	156
Perelle	(2)	France	Jun 18	0.09	18	Aug 21	0.35	38
Robot	(3)	United Kingdom	Jun 18	0.77	154	Aug 21	1.29	142
Satin	(2)	Sweden	Jun 18	0.30	60	Aug 21	1.06	116
Zernickower	(3)	East Germany	Jun 18	1.06	212	Aug 21	1.43	157
Mean				0.58			1.00	
L.S.D. (P = .05)				0.34			0.35	

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

Red Fescue

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

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

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

Red Fescue

Test Site: Fort Vermilion Experimental Farm
Seeding Year: 1984

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

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

Red Fescue

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

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

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