

British Columbia

Alberta

Western Canadian Grass Seed Testing Program



2000 Report

Saskatchewan

Manitoba

INTRODUCTION

This report provides a summary of the grass seed trials conducted under the Western Grass Testing Program during 2000. The main objective of these trials is to determine the seed production potential and adaptability of grass varieties for contract seed production for the domestic and export market. All attempts have been made to ensure the success of these trials, however, at times environmental conditions may adversely affect the yield results regardless of the management practices followed.

We thank the following companies for their sponsorship of our research endeavours and look forward to cooperating and working with them during the 2001 production year.

Advanta Seeds Pacific, Inc.
Alberta Research Council
Brett-Young Seeds Ltd.
Cascade International Seed Co.
Cebeco International Seeds, Inc.
Dawson Seed Company Ltd.
Deutsche Saatveredelung
Lesco, Inc.
Montana Turfgrass Technologies
Newfield Seeds
Northstar Seed Ltd.
Parsons Seeds
Peace Valley Seeds
Pickseed
Proven Seed
Scott's Company
Turf-Seed, Inc.

Data Collection Procedures

Seed Yield	reported on a clean seed basis in kg ha^{-1} ($\text{kg ha}^{-1} \times 0.9 = \text{lbs ac}^{-1}$)
Harvest Date	date the variety was swathed.
Plant Height	measured in centimetres and is the height of the plant at harvest from ground level to the tip of the seed head ($1 \text{ cm} \times 0.3937 = \text{inches}$).

Trial Procedures

For information on specific trial procedures, contact the respective location representative listed on the following page.

* Please Note *

Some varieties in this report have been tested for shorter periods of time than others. It is advised not to use average yield figures to make variety comparisons for single-year data. Only after a **minimum** of three years of testing should data be considered as 90% reliable. In some cases, data may not be reported due to extreme variations that cannot be accounted for in the statistical design.

Statistical information for this report was generated through an Analysis of Variation (ANOVA). Least significant difference (LSD) values are presented at the bottom of each table when statistically significant differences are present using the 5% level of significance. This means there is a 95% probability that you can reject the hypothesis that the treatments are the same or there is only a 5% probability that the treatment differences occurred by chance. If the difference in treatment values is less than the LSD value, the treatments are not considered to be significantly different.

Disclaimer

Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement is implied.

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Protocol for Western Grass Seed Testing (WGST) Program

1. Research Sponsorship Charge

The research sponsorship charge will be \$110CAN/entry/year/location and is requested on an annual basis as years of production will vary with the species being tested. The charge is applied for the establishment year. Funds will be administered by Alberta Agriculture, Food and Rural Development for the Western Grass Seed Testing Program.

2. Eligibility of Entries

Released and experimental lines of all tame grass species will be considered if they are of interest to commercial seed companies. We reserve the right to **NOT** initiate tests:

- if seed arrives late
- if there is lack of space in any year at a particular location
- if there are too few entries in any year for a particular location

3. Seed Requirements and Deadline for Seed Entry

The applicant will provide for **EACH TEST LOCATION**:

- 50 gm of bentgrass, Kentucky bluegrass or timothy
- 100 gm of creeping red, chewings, hard, meadow, sheep and tall fescue, annual or perennial ryegrass or orchard grass
- 200 gm of meadow or smooth brome grass

Submitted seed shall be supplied by **March 1** of the establishment year and will include the percent germination and relative maturity (early, medium or late) of each variety.

Please indicate whether the submission is a forage or turf type. Also, in the case of fescues please indicate whether the submission is a creeping, chewings, hard, meadow, sheep or tall fescue.

4. Use of Seed

Seed submitted will only be used to establish the agreed upon trials. The seed will **NOT** be used for increase, selection or distribution

5. Test Locations (see map page 3)

1. Fort St. John, British Columbia
2. Beaverlodge, Alberta
3. Brooks, Alberta (irrigated)
4. Bow Island, Alberta (irrigated)
5. Vegreville, Alberta
6. Melfort, Saskatchewan
7. Outlook, Saskatchewan (irrigated)
8. Portage La Prairie, Manitoba (irrigated)
9. Arborg, Manitoba

The applicant selects the locations where they wish their material to be tested.

6. Test Description

Due to plot equipment differences and land availability at the various test sites, certain minimums will be met in establishing trials. Each test will be a randomized complete block consisting of a minimum of 4 replicates. No test will have more than 25 entries of a particular species. Plots will be seeded at appropriate seeding rates for the species being tested and normal cultural practices for the area will be carried out. A minimum of 3 sq. m is to be harvested.

Species, check varieties and years of testing (establishment year and seed production years):

Bentgrasses - 18th Green - 4 yrs.	Tall Fescue - Courtenay - 4 yrs
Kentucky Bluegrass - Abbey - 4 yrs	Orchard Grass - Kay - 3 yrs
Meadow Bromegrass - Fleet - 4 yrs	Annual Ryegrass - Aubade - 1 yr
Smooth Bromegrass - Carlton - 4 yrs	Perennial Ryegrass - Norlea - 2 yr
Meadow Fescue - Mimer - 4 yrs	Timothy - Climax - 4 yrs
Red Fescue - Boreal - 3 yrs	

Information to be recorded will include pure seed yield, % stand in fall and spring, plant height, harvest date and if available, climatic data for each test site.

7. Publication of Results

Data will undergo appropriate statistical analyses and each applicant will be provided with an annual report. Information on varieties will be made available in various annual reports and upon request to seed producers.

- 8.** All reasonable care will be taken to ensure a successful test, however, a guarantee can not be made that a particular test will be successful.
- 9.** For further information, contact:

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Table 1. **Seed yields (kg ha⁻¹) for Kentucky Bluegrass 1997** seed production trials

Variety	Bow Island			Brooks		
	1998	1999	2000	1998	1999	2000
Abbey	1050	1628	1486	876	1499	1010
MTT 483	831	795	749	586	890	492
MTT 683	799	865	732	655	843	444
Mean	893	1096	989	706	1077	648
CV (%)	8.2	12.5	12.6	24.3	10.8	16.5
LSD (0.05)	126	237	216	ns	201	185

Table 2. **Harvest dates for Kentucky Bluegrass 1997** seed production trials

Variety	Bow Island			Brooks		
	1998	1999	2000	1998	1999	2000
Abbey	17 July	16 July	10 July	14 July	14 July	11 July
MTT 483	17 July	16 July	10 July	14 July	14 July	11 July
MTT 683	17 July	16 July	10 July	14 July	14 July	11 July

Table 3. **Plant heights (cm) for Kentucky Bluegrass 1997** seed production trials

Variety	Bow Island			Brooks		
	1998	1999	2000	1998	1999	2000
Abbey	55	56	56	69	68	54
MTT 483	52	58	50	66	64	66
MTT 683	57	57	59	61	67	61
Mean	54	57	55	65	66	60
CV (%)	10.7	5.2	10.8	7.0	3.8	9.6
LSD (0.05)	ns	ns	ns	ns	ns	ns

Table 4. **Seed yields (kg ha⁻¹) for Kentucky Bluegrass 1998** seed production trials

Variety	Bow Island		Brooks		Beaverlodge		Outlook	
	1999	2000	1999	2000	1999*	2000	1999	2000
Abbey	994	1649	1113	605	317	387	471	349
Dormie	1350	873	907	428	.	.	.	.
LSKB CT 98-1	1028	1585	.	.	335	474	.	.
Opal	986	863	693	299	.	.	.	.
PST 638	504	705	375	162	150	97	.	.
VB 17921	383	858	759	507	.	.	287	479
VB19111	880	1044	989	604	.	.	253	437
Mean	860	1082	806	434	267	319	337	422
CV (%)	13.6	19.6	14.2	18.1	19.3	22.3	10	32.8
LSD (0.05)	200	316	172	118	89	123	59	239

* corrected yields for 1999

Table 5. **Harvest dates for Kentucky Bluegrass 1998** seed production trials

Variety	Bow Island		Brooks		Beaverlodge		Outlook	
	1999	2000	1999	2000	1999	2000	1999	2000
Abbey	21 Jul	12 Jul	22 Jul	18 Jul	28 Jul	25 Jul	16 Jul	4 Aug
Dormie	21 Jul	17 Jul	22 Jul	18 Jul	.	.	.	.
LSKB CT 98-1	21 Jul	12 Jul	.	.	28 Jul	25 Jul	.	.
Opal	21 Jul	17 Jul	22 Jul	18 Jul	.	.	.	.
PST 638	21 Jul	17 Jul	22 Jul	18 Jul	9 Aug	14 Aug	.	.
VB 17921	21 Jul	17 Jul	22 Jul	18 Jul	.	.	16 Jul	4 Aug
VB19111	21 Jul	17 Jul	22 Jul	18 Jul	.	.	16 Jul	4 Aug

Table 6. **Plant heights (cm) for Kentucky Bluegrass 1998** seed production trials

Variety	Bow Island		Brooks		Beaverlodge		Outlook	
	1999	2000	1999	2000	1999	2000	1999	2000
Abbey	71	60	76	64	49	38	66	
Dormie	78	70	83	63	.	.	.	
LSKB CT 98-1	70	67	.	.	60	48	.	
Opal	68	65	76	65	.	.	.	
PST 638	68	59	76	54	55	40	.	
VB 17921	71	66	79	66	.	.	76	
VB19111	71	67	81	59	.	.	68	
Mean	71	65	78	62	54	42	70	
CV (%)	8.2	8.5	7.9	4.4	5.7	13.3	5	
LSD (0.05)	ns	ns	ns	4	5	ns	6	

Table 7. **Seed yields (kg ha⁻¹) for Kentucky Bluegrass 1999** seed production trials

Variety	Bow Island	Brooks
	2000	2000
Abbey	1836	1466
Alpine	1178	645
America	1087	953
Banff	1264	838
Bluestar	1393	1470
Denim	1554	945
LSKB CT-1	1011	.
LSKB CT-2	1309	.
Pick 113-3	.	769
Pick H94-301	1146	838
Voyager	959	1045
Mean	1274	998
CV (%)	10.0	11.7
LSD (0.05)	177	170

Table 8. **Harvest dates for Kentucky Bluegrass 1999** seed production trials

Variety	Bow Island	Brooks
	2000	2000
Abbey	17 July	18 July
Alpine	20 July	27 July
America	20 July	18 July
Banff	17 July	24 July
Bluestar	17 July	18 July
Denim	20 July	24 July
LSKB CT-1	17 July	.
LSKB CT-2	17 July	.
Pick 113-3	.	27 July
Pick H94-301	17 July	18 July
Voyager	17 July	11 July

Table 9. **Plant heights (cm) for Kentucky Bluegrass 1999** seed production trials

Variety	Bow Island	Brooks
	2000	2000
Abbey	57	66
Alpine	65	61
America	56	63
Banff	63	71
Bluestar	57	71
Denim	63	67
LSKB CT-1	68	.
LSKB CT-2	70	.
Pick 113-3	.	65
Pick H94-301	60	57
Voyager	71	69
Mean	63	65
CV (%)	6.4	8.0
LSD (0.05)	6	8

Table 10. Summary of seed yield (kg/ha) for Kentucky Bluegrass 1997-2000

		Seed yield (kg/ha) per Production year											
Company	Variety	Bow Island			Brooks			Beaverlodge		Outlook			
		1	2	3	1	2	3	1	2	1	2		
Check	Abbey	1293	1639	1486	1152	1052	1010	317	387	471	349		
International	VB 17921	383	858		759	507				287	479		
	VB 19111	880	1044		989	604				253	437		
Lesco	LSKB CT 98-1	1028	1585					335	474				
	LSKB CT 1	1011											
	LSKB CT 2	1309											
Montana Turfgrass	MTT 483	831	795	749	586	890	492						
	MTT 683	799	865	732	655	843	444						
Newfield Seeds	Dormie	1350	873		907	428							
	Opal	986	863		693	299							
Pickseed	Alpine	1178			645								
	America	1087			953								
	Banff	1264			838								
	Pick 113-3				769								
	Pick H94-301	1146			838								
Turf-Seed	Bluestar	1393			1470								
	Denim	1554			945								
	PST 638	504	705		375	162		150	97				
	Voyager	959			1054								
Mean				1053	1025	989	852	598	648	267	319	337	422

Table 11. **Seed yields (kg ha⁻¹) for Smooth Brome grass 1998** seed production trials

Variety	Company	Brooks		Beaverlodge		Fort St. John	
		1999	2000	1999	2000	1999	2000
Bravo	Pickseed	969	288	378	222	416	642
Carlton	Check	1384	415	678	462	750	920
Mean		1177	352	528	342	583	781
CV (%)		10.3	7.8	28.2	21.6	11.7	38.5

Table 12. **Harvest dates for Smooth Brome grass 1998** seed production trials

Variety	Brooks		Beaverlodge		Fort St. John	
	1999	2000	1999	2000	1999	2000
Bravo	29 July	27 July	16 Aug	21 Aug		16 Aug
Carlton	29 July	27 July	16 Aug	21 Aug		16 Aug

Table 13. **Plant heights (cm) for Smooth Brome grass 1998** seed production trials

Variety	Brooks		Beaverlodge		Fort St. John	
	1999	2000	1999	2000	1999	2000
Bravo	128	110	141	99		
Carlton	133	115	133	99		
Mean	130	113	137	99		
CV (%)	8.5	3.7	1.3			

Table 14. **Seed yields (kg ha⁻¹) for Fine Fescue 1997** seed production trials

Variety	Bow Island			Brooks		
	1998	1999	2000	1998	1999	2000
Barcrown	404	492	790	.	587	369
Bighorn	1304	1077	1196	2110	1465	842
Discovery	1326	985	1280	1852	1303	740
Shademaster II	1381	1437	1391	1041	1171	396
Tiffany	1107	1509	2152	929	1274	732
Mean	1104	1100	1362	1483	1160	616
CV (%)	15.5	11.0	8.7	7.4	12.3	24.9
LSD (0.05)	321	186	183	220	220	237

Table 15. **Harvest dates for Fine Fescue 1997** seed production trials

Variety	Bow Island			Brooks		
	1998	1999	2000	1998	1999	2000
Barcrown	10 July	16 July	10 July	.	20 July	11 July
Bighorn	2 July	8 July	5 July	3 July	14 July	7 July
Discovery	2 July	8 July	5 July	3 July	14 July	7 July
Shademaster II	13 July	19 July	12 July	13 July	20 July	13 July
Tiffany	10 July	16 July	10 July	8 July	20 July	11 July

Table 16. **Plant heights (cm) for Fine Fescue 1997** seed production trials

Variety	Bow Island			Brooks		
	1998	1999	2000	1998	1999	2000
Barcrown	65	80	73	80	88	86
Bighorn	57	62	71	79	77	72
Discovery	55	67	66	73	77	76
Shademaster II	74	75	75	87	76	73
Tiffany	70	70	70	89	76	80
Mean	64	70	71	81	79	77
CV (%)	8.7	4.2	8.7	5.1	9.2	9.4
LSD (0.05)	9	6	ns	6	ns	ns

Table 17. **Seed yields (kg ha⁻¹) for Fine Fescue 1998** seed production trials

Variety	Bow Island		Brooks		Beaverlodge		Fort St. John	
	1999	2000	1999	2000	1999	2000	1999	2000
Boreal	2090	2281	1515	787	1207	518	666	528
Eugene	.	.	.	.	949	532	.	.
Jasper	.	.	.	.	714	316	1687	993
Kauni	.	.	.	.	956	687	1760	1274
LSFF CT 98-1	1719	1777	.	.	702	448	1036	756
LSFF CT 98-2	1593	2137	.	.	417	589	715	1290
LSFF CT 98-3	1510	1588	.	.	91	607	250	1117
PST 4RU	1288	1654	1493	1016	112	692	.	.
Seabreeze	1083	1191	726	199	171	207	.	.
SW Kristina	1222	1602	.	.	384	269	277	627
UGG 2001	.	.	.	.	566	255	759	654
UGG 2002	.	.	.	.	425	301	407	729
Mean	1501	1747	1244	667	558	452	968	912
CV (%)	11.8	17.4	16.9	21.8	18.0	26.2	27.2	16.7
LSD (0.05)	263	452	363	252	144	170	444	226

Table 18. **Harvest dates for Fine Fescue 1998** seed production trials

Variety	Bow Island		Brooks		Beaverlodge		Fort St. John	
	1999	2000	1999	2000	1999	2000	1999	2000
Boreal	16 Jul	12 Jul	22 Jul	14 Jul	28 Jul	27 Jul	.	8 Aug
Eugene	.	.	.	.	28 Jul	27 Jul	.	.
Jasper	.	.	.	.	28 Jul	27 Jul	.	9 Aug
Kauni	.	.	.	.	28 Jul	27 Jul	.	9 Aug
LSFF CT 98-1	16 Jul	10 Jul	.	.	28 Jul	27 Jul	.	8 Aug
LSFF CT 98-2	16 Jul	10 Jul	.	.	28 Jul	25 Jul	.	4 Aug
LSFF CT 98-3	8 Jul	5 Jul	.	.	19 Jul	21 Jul	.	28 Jul
PST 4RU	8 Jul	5 Jul	14 Jul	14 Jul	19 Jul	21 Jul	.	.
Seabreeze	16 Jul	10 Jul	20 Jul	14 Jul	19 Jul	25 Jul	.	.
SW Kristina	16 Jul	12 Jul	.	.	28 Jul	27 Jul	.	5 Aug
UGG 2001	.	.	.	.	28 Jul	27 Jul	.	8 Aug
UGG 2002	.	.	.	.	28 Jul	25 Jul	.	5 Aug

Table 19. **Plant heights (cm)** for **Fine Fescue 1998** seed production trials

Variety	Bow Island		Brooks		Beaverlodge		Fort St. John	
	1999	2000	1999	2000	1999	2000	1999	2000
Boreal	78	82	77	77	75	70		
Eugene	.	.	.	.	82	69	.	.
Jasper	.	.	.	.	76	69		
Kauni	.	.	.	.	83	70		
LSFF CT 98-1	71	73	.	.	73	67		
LSFF CT 98-2	77	82	.	.	69	68		
LSFF CT 98-3	69	68	.	.	69	63		
PST 4RU	64	68	77	69	63	60	.	.
Seabreeze	71	83	78	79	72	68	.	.
SW Kristina	83	81	.	.	72	66		
UGG 2001	.	.	.	.	83	69		
UGG 2002	.	.	.	.	71	64		
Mean	73	77	77	75	74	67		
CV (%)	7.0	6.3	8.3	7.7	5.7	8.4		
LSD (0.05)	8	7	ns	ns	6	8		

Table 20. **Seed yields (kg ha⁻¹) for Fine Fescue 1999** seed production trials

Variety	Bow Island	Brooks	Fort St. John	Melfort
	2000	2000*	2000	2000
ARCFS-1	.	.	632	.
ARCFS-2	.	.	586	.
ARCFS-V	.	.	1072	.
Boreal	2799	.	1345	357
Casanova	.	.	1065	.
Florentine	1549	.	.	.
Jasper E	2353	.	.	.
RU1511	.	.	1789	.
SW Kristina	.	.	.	146
Victory II	2685	.	.	.
Mean	2347	.	1127	251
CV (%)	11.6	.	28.5	27.0
LSD (0.05)	436	.	530	.

* Note - Seed yields not reported for Brooks due to error in cleaning operation

Table 21. **Harvest dates for Fine Fescue 1999** seed production trials

Variety	Bow Island	Brooks	Fort St. John	Melfort
	2000	2000	2000	2000
ARCFS-1	.	.	20 July	.
ARCFS-2	.	.	14 July	.
ARCFS-V	.	.	4 Aug	.
Boreal	13 July	14 July	9 Aug	.
Casanova	.	.	4 Aug	.
Florentine	13 July	14 July	.	.
Jasper E	13 July	14 July	.	.
RU1511	.	.	5 Aug	.
SW Kristina	.	.	.	.
Victory II	13 July	14 July	.	.

Table 22. **Plant heights (cm)** for **Fine Fescue 1999** seed production trials

Variety	Bow Island	Brooks	Fort St. John	Melfort
	2000	2000	2000	2000
ARCFS-1	.	.	.	.
ARCFS-2	.	.	.	.
ARCFS-V	.	.	.	.
Boreal	77	74	.	.
Casanova	.	.	.	.
Florentine	68	71	.	.
Jasper E	71	71	.	.
RU1511	.	.	.	.
SW Kristina	.	.	.	.
Victory II	76	70	.	.
Mean	73	71		
CV (%)	6.2	8.3		
LSD (0.05)	7	ns		

Table 23. Summary of seed yield (kg/ha) for Fine Fescues 1997-2000

			Seed yield (kg/ha) per Production year										
Species	Company	Variety	Bow Island			Brooks			Beaverlodge		Fort St. John		Melfort
			1	2	3	1	2	3	1	2	1		
	Check	Boreal	2445	2281		1515	787		1207	518	1006	528	357
Chewings	International	Casanova									1065		
	Pickseed	Victory II	2685										
	Turf-Seed	Tiffany	1107	1509	2152	929	1274	732					
Creeping	Newfield Seeds	SW Kristina	1222	1602					384	269	277	627	146
	Parsons Seeds	Kauni							956	687	1760	1274	
	Pickseed	Eugene							949	532			
		Jasper							714	316	1687	993	
		Jasper E	2353										
	Turf- Seed	Florentine	1549										
		Shademaster II	1381	1437	1391	1041	1171	396					
	Proven Seed	UGG 2001							566	255	759	654	
		UGG 2002							425	301	407	729	
Fine	International	RU1511									1789		
	Lesco	LSFF CT 98-1	1719	1777					702	448	1036	756	
		LSFF CT 98-2	1593	2137					417	589	715	1290	
		LSFF CT 98-3	1510	1588					91	607	250	1117	

Summary of seed yield (kg/ha) for Fine Fescues 1997-2000 (con't)

			Seed yield (kg/ha) per Production year										
Species	Company	Variety	Bow Island			Brooks			Beaverlodge		Fort St. John		Melfort
			1	2	3	1	2	3	1	2	1	2	
Hard	Turf-Seed	Discovery	1326	985	1280	1852	1303	740					
		PST 4RU	1288	1654		1493	1016		112	692			
Mountain	Research Council	ARCFS-1									632		
		ARCFS-2									586		
		ARCFS-V									1072		
Sheep	Turf-Seed	Bighorn	1304	1077	1196	2110	1465	842					
Slender	Peace Valley Seeds	Barcrown	404	492	790	0	587	369					
	Turf-Seed	Seabreeze	1083	1191		726	199		171	207			
Mean			1531	1478	1362	1208	975	616	558	452	932	885	251

Table 24. **Seed yields (kg ha⁻¹) for Tall Fescue 1997** seed production trials

Variety	Bow Island			Brooks		
	1998	1999	2000	1998	1999	2000
ATF-188	1565	1922	2209	2069	2068	1360
Courtenay	1162	1522	1978	1214	1719	1156
Fuego	1057	1530	2140	1129	1280	1057
Martin II	1136	2131	2167	1215	1869	1487
Matador	1875	2004	2325	2415	2043	1613
Regiment	1327	1977	2287	1653	1802	1312
Seine	1076	2405	2538	1379	1617	1408
Tarheel	1333	1386	2052	1976	1625	1287
Tulsa	1302	1819	2152	1784	1963	1362
Mean	1315	1855	2207	1648	1776	1338
CV (%)	10.9	14.7	7.7	12.1	12.2	12.1
LSD (0.05)	248	398	303	347	317	237

Table 25. **Harvest dates for Tall Fescue 1997** seed production trials

Variety	Bow Island			Brooks		
	1998	1999	2000	1998	1999	2000
ATF-188	17 July	21 July	17 July	16 July	22 July	18 July
Courtenay	13 July	19 July	13 July	14 July	22 July	16 July
Fuego	17 July	21 July	20 July	16 July	22 July	18 July
Martin II	15 July	19 July	13 July	14 July	22 July	18 July
Matador	17 July	21 July	20 July	16 July	22 July	18 July
Regiment	17 July	21 July	17 July	16 July	22 July	18 July
Seine	15 July	21 July	20 July	16 July	22 July	18 July
Tarheel	17 July	21 July	17 July	16 July	22 July	18 July
Tulsa	17 July	21 July	17 July	16 July	22 July	18 July

Table 26. **Plant heights (cm)** for **Tall Fescue 1997** seed production trials

Variety	Bow Island			Brooks		
	1998	1999	2000	1998	1999	2000
ATF-188	100	86	94	106	94	98
Courtenay	119	111	113	127	118	130
Fuego	111	111	118	120	106	113
Martin II	98	110	104	122	109	116
Matador	86	83	90	108	94	87
Regiment	88	88	88	109	97	99
Seine	100	102	103	115	99	105
Tarheel	99	83	91	114	95	103
Tulsa	85	91	87	108	95	107
Mean	98	96	99	114	101	106
CV (%)	6.4	9.3	14.7	8.4	6.9	9.7
LSD (0.05)	9	13	21	14	10	15

Table 27. **Seed yields (kg ha⁻¹) for Tall Fescue 1998** seed production trials

Variety	Bow Island		Brooks		Beaverlodge		Fort St. John	
	1999	2000	1999	2000	1999	2000	1999	2000
Antti (mf)	.	.	.	.	958	200	.	.
Courtenay	.	2352	2210	1473	1029	213	1661	.
Kokanee	.	.	.	.	575	196	.	.
LSTF CT 98-1	2216	2036	.	.	917	174	1142	.
Mimer (mf)	.	.	.	.	1192	230	.	.
PST 5DU	2651	2990	2926	1476	1247	198	.	.
PST 5E5	2665	2791	3205	1655	933	175	.	.
PST 5LMD	1366	2412	2357	1425	669	170	.	.
Retu	.	.	.	.	791	190	.	.
Safari	2852	2367	2688	1498	1227	236	.	.
Mean	2350	2499	2677	1511	954	197	1402	.
CV (%)	11.6	13.5	14.5	12.5	16.7	41.3	27.8	.
LSD (0.05)	421	ns	599	ns	231	ns	.	.

mf - Meadow fescue

Table 28. **Harvest dates for Tall Fescue 1998** seed production trials

Variety	Bow Island		Brooks		Beaverlodge		Fort St. John	
	1999	2000	1999	2000	1999	2000	1999	2000
Antti (mf)	.	.	.	.	28 Jul	9 Aug	.	.
Courtenay	21 Jul	12 Jul	29 Jul	18 Jul	4 Aug	9 Aug	.	.
Kokanee	.	.	.	.	4 Aug	9 Aug	.	.
LSTF CT 98-1	21 Jul	17 Jul	.	.	6 Aug	11 Aug	.	.
Mimer (mf)	.	.	.	.	28 Jul	9 Aug	.	.
PST 5DU	21 Jul	17 Jul	29 Jul	21 Jul	8 Aug	11Aug	.	.
PST 5E5	21 Jul	17 Jul	29 Jul	21 Jul	6 Aug	11Aug	.	.
PST 5LMD	21 Jul	17 Jul	29 Jul	21 Jul	8 Aug	11Aug	.	.
Retu	.	.	.	.	4 Aug	9 Aug	.	.
Safari	21 Jul	13 Jul	29 Jul	21 Jul	6 Aug	11Aug	.	.

mf - Meadow Fescue

Table 29. **Plant heights (cm) for Tall Fescue 1998** seed production trials

Variety	Bow Island		Brooks		Beaverlodge		Fort St. John	
	1999	2000	1999	2000	1999	2000	1999	2000
Antti (mf)	.	.	.	.	84	76	.	.
Courtenay	128	136	112	119	97	98	.	.
Kokanee	.	.	.	.	107	97	.	.
LSTF CT 98-1	98	103	.	.	59	48	.	.
Mimer (mf)	.	.	.	.	84	74	.	.
PST 5DU	83	97	99	108	56	45	.	.
PST 5E5	95	102	93	93	65	53	.	.
PST 5LMD	93	101	88	91	50	43	.	.
Retu	.	.	.	.	98	94	.	.
Safari	111	112	102	106	71	57	.	.
Mean	101	108	99	104	77	68		
CV (%)	9.0	11.4	9.5	9.3	5.7	8.4		
LSD (0.05)	14	19	14	ns	6	8		

mf - Meadow Fescue

Table 30. **Seed yields (kg ha⁻¹) for Tall Fescue 1999** seed production trials

	Brooks	Beaverlodge	Fort St. John	Outlook
Variety	2000	2000	2000	2000
Cajun 2	.	.	.	1558
Cody	.	332	.	.
Courtenay	2023	390	1212	1774
F.T.K.98	2048	502	.	.
Martin 2	.	.	.	1808
Mimer (mf)	.	279	1601	.
Premil (mf)	.	232	980	.
TF9201	.	269	.	.
Wyatt	.	494	.	.
Mean	2036	357	1264	1714
CV (%)	10.8	34.9	12.8	13
LSD (0.05)		185	280	397

mf - Meadow Fescue

Table 31. **Harvest dates for Tall Fescue 1999** seed production trials

	Brooks	Beaverlodge	Fort St. John	Outlook
Variety	2000	2000	2000	2000
Cajun 2	.	.	.	18 Aug
Cody	.	10 Aug	.	.
Courtenay	18 July	10 Aug	6 Aug	18 Aug
F.T.K.98	18 July	10 Aug	.	.
Martin 2	.	.	.	18 Aug
Mimer (mf)	.	10 Aug	4 Aug	.
Premil (mf)	.	10 Aug	9 Aug	.
TF9201	.	10 Aug	.	.
Wyatt	.	10 Aug	.	.

mf - Meadow Fescue

Table 32. **Plant heights (cm)** for **Tall Fescue 1999** seed production trials

	Brooks	Beaverlodge	Fort St. John	Outlook
Variety	2000	2000	2000	2000
Cajun 2	.	.	.	.
Cody	.	59	.	.
Courtenay	124	91	.	.
F.T.K.98	118	94	.	.
Martin 2	.	.	.	.
Mimer (mf)	.	66	.	.
Premil (mf)	.	67	.	.
TF9201	.	79	.	.
Wyatt	.	58	.	.
Mean	121	73		
CV (%)	1.1	6.8		
LSD (0.05)		7		

mf - Meadow Fescue

Table 33. Summary of seed yield (kg/ha) for Meadow Fescue 1997-2000

		Seed yield (kg/ha) per Production year		
Company	Variety	Beaverlodge		Fort St. John
		1	2	1
Check	Miner	735	230	1601
International	Premil	232		980
Parsons Seeds	Antti	958	200	
Mean		642	215	1290

Table 34. Summary of seed yield (kg/ha) for Tall Fescues 1997-2000

			Seed yield (kg/ha) per Production year									
Company	Variety	Type	Bow Island			Brooks			Beaverlodge		Fort St. John	Outlook
			1	2	3	1	2	3	1	2	1	1
Check	Courtenay	Forage	1162	1937		1815	1596		710	213	1437	1774
Advanta	Fuego	Forage	1057	1530	2140	1129	1280	1057				
	Regiment	Turf	1327	1977	2287	1653	1802	1312				
	Seine	Forage	1076	2405	2538	1379	1617	1408				
	Tulsa	Turf	1302	1819	2152	1784	1963	1362				
Dawson Seeds	F.T.K. 98	Forage				2048			502			
International	Cajun 2	Forage										1558
	Martin 2	Forage	1136	2131	2167	1215	1869	1487				1808
Lesco	LSTF CT 98-1		2216	2036					917	174	1142	

Summary of **seed yield (kg/ha)** for **Tall Fescues** 1997-2000 (con't)

			Seed yield (kg/ha) per Production year									
Company	Variety	Type	Bow Island			Brooks			Beaverlodge		Fort St. John	Outlook
			1	2	3	1	2	3	1	2	1	1
Parsons Seeds	Kokanee	Forage							575	196		
	Retu	Forage							791	190		
Pickseed	TF9201								269			
Scotts	ATF - 188		1564	1992	2209	2069	2068	1360				
	Cody								332			
	Wyatt								494			
Turf-Seed	Matador	Turf	1875	2004	2325	2415	2043	1613				
	PST 5DU	Turf	2651	2990		2926	1476		1247	198		
	PST 5E5	Turf	2665	2791		3205	1655		933	175		
	PST 5LMD	Turf	1366	2412		2357	1425		669	170		
	Safari	Turf	2852	2367		2688	1498		1227	236		
	Tarheel	Turf	1333	1386	2052	1976	1625	1287				
Mean			1685	2122	2205	2047	1686	1338	722	194	1290	1713

Table 35. **Seed yields (kg ha⁻¹) for Orchard Grass 1997** seed production trials

Variety	Bow Island			Brooks		
	1998	1999	2000	1998	1999	2000
Arctic	310	766	1093	681	888	709
Lidacta	125	781	1325	120	571	472
Mean	217	773	1209	401	729	591
CV (%)	11.9	9.2	4.6	20.0	17.8	10.4

Table 36. **Harvest dates for Orchard Grass 1997** seed production trials

Variety	Bow Island			Brooks		
	1998	1999	2000	1998	1999	2000
Arctic	17 July	16 July	12 July	16 July	22 July	14 July
Lidacta	17 July	16 July	10 July	16 July	22 July	14 July

Table 37. **Plant heights (cm) for Orchard Grass 1997** seed production trials

Variety	Bow Island			Brooks		
	1998	1999	2000	1998	1999	2000
Arctic	112	116	133	126	124	131
Lidacta	108	116	119	122	124	132
Mean	110	116	126	124	124	132
CV (%)	5.6	8.2	2.9	2.2	3.1	6.9

Table 38. **Seed yields (kg ha⁻¹) for Orchard Grass 1998** seed production trials

Variety	Bow Island		Brooks	
	1999	2000	1999	2000
Artic	1210	1119	768	831
Lidacta	742	745	214	343
Mean	976	932	491	587
CV (%)	7.9	8.2	27.7	26.4

Table 39. **Harvest dates for Orchard Grass 1998** seed production trials

Variety	Bow Island		Brooks	
	1999	2000	1999	2000
Artic	16 July	10 July	29 July	18 July
Lidacta	16 July	10 July	29 July	18 July

Table 40. **Plant heights (cm) for Orchard Grass 1998** seed production trials

Variety	Bow Island		Brooks	
	1999	2000	1999	2000
Artic	114	104	116	127
Lidacta	112	104	116	125
Mean	113	104	116	126
CV (%)	4.4	9.2	4.7	6.9

Table 41. **Seed yields (kg ha⁻¹) for Orchard Grass 1999** seed production trials

	Brooks	Beaverlodge
Variety	2000	2000
A2000	1263	100
Aplus	1464	76
Haka	.	119
Kay	1312	48
Mammoth	822	.
Okay	.	71
Mean	1215	83
CV (%)	7.9	27.5
LSD (0.05)	153	35

Table 42. **Harvest dates for Orchard Grass 1999** seed production trials

	Brooks	Beaverlodge
Variety	2000	2000
A2000	14 July	4 Aug
Aplus	14 July	4 Aug
Haka	.	4 Aug
Kay	14 July	4 Aug
Mammoth	14 July	.
Okay	.	4 Aug

Table 43. **Plant heights (cm) for Orchard Grass 1999** seed production trials

	Brooks	Beaverlodge
Variety	2000	2000
A2000	125	73
Aplus	124	73
Haka	.	72
Kay	120	72
Mammoth	123	.
Okay	.	71
Mean	123	72
CV (%)	6.2	3.0
LSD (0.05)	ns	ns

Table 44. Summary of seed yield (kg/ha) for Orchard Grass 1997-2000

Company	Variety	Seed yield (kg/ha) per Production year						
		Bow Island			Brooks			Beaverlodge
		1	2	3	1	2	3	1
Check	Kay				1312			48
Cascade	Mammoth				822			
Dawson Seed	A2000				1263			100
	APlus				1464			76
	Arctic	760	942	1093	725	859	709	
	Lidacta	433	763	1325	167	457	472	
Parsons Seeds	Haka							119
Pickseed	Okay							71
Mean		597	853	1209	959	658	591	83

Table 45. **Intermediate Ryegrass 2000** seed production variety trial Bow Island, Alberta - 2000 harvest

Variety	Company	Harvest Date	Seed yield (kg ha ⁻¹)	Plant height (cm)
Gulf	Pickseed	11 Aug	1894	95
Transist	Pickseed	11 Aug	1465	79
Mean			1679	87
CV (%)			7.7	3.2

Table 46. **Seed yields (kg ha⁻¹) for Perennial Ryegrass 1999** seed production trials

	Bow Island	Brooks	Beaverlodge	Outlook	Melfort
Variety	2000	2000	2000	2000	2000
2HO	2435	1734	243	.	.
94-1	.	1513	.	.	.
Chaparral	1860	1450	142	.	.
Charger II	2413	1934	236	.	.
Dancer	1754	.	.	.	.
Lowgrow	2145	1604	.	.	.
LPEE-93	1733	.	.	.	.
Magyar	.	966	.	.	.
Norlea	2644	1584	935	527	338
NSCL 32	.	.	.	590	31
Penguin	.	1873	.	.	.
Pick F3 (Fiesta III)	2484	1979	.	.	.
Roadrunner	2762	2228	279	.	.
Rutgers 8000	2609	.	.	.	.
SR4010	.	2018	.	.	.
SR4100	.	1979	.	.	.
SR4200	.	2014	.	.	.
Sunshine	2158	1577	.	.	.
Mean	2272	1747	367	558	184
CV (%)	7.0	13.8	19.5	36	33.2
LSD (0.05)	231	345	110	457	

Table 47. **Harvest dates for Perennial Ryegrass 1999** seed production trials

	Bow Island	Brooks	Beaverlodge	Outlook	Melfort
Variety	2000	2000	2000	2000	2000
2HO	17 July	20 July	21 Aug	.	.
94-1	.	24 July	.	.	.
Chaparral	20 July	24 July	21 Aug	.	.
Charger II	17 July	24 July	14 Aug	.	.
Dancer	24 July	.	.	.	.
Lowgrow	20 July	20 July	.	.	.
LPEE-93	20 July	.	.	.	.
Magyar	.	24 July	.	.	.
Norlea	24 July	24 July	21 Aug	.	.
NSCL 32	.	.	.	.	.
Penguin	.	24 July	.	.	.
Pick F3 (Fiesta III)	17 July	20 July	.	.	.
Roadrunner	17 July	20 July	21 Aug	.	.
Rutgers 8000	17 July	.	.	.	.
SR4010	.	20 July	.	.	.
SR4100	.	20 July	.	.	.
SR4200	.	20 July	.	.	.
Sunshine	17 July	24 July	.	.	.

Table 48. **Plant heights (cm) for Perennial Ryegrass 1999** seed production trials

	Bow Island	Brooks	Beaverlodge	Outlook	Melfort
Variety	2000	2000	2000	2000	2000
2HO	60	67	39	.	.
94-1	.	54	.	.	.
Chaparral	60	61	30	.	.
Charger II	60	63	31	.	.
Dancer	69	.	.	.	.
Lowgrow	69	67	.	.	.
LPEE-93	62	.	.	.	.
Magyar	.	70	.	.	.
Norlea	81	76	54	.	.
NSCL 32	.	.	.	.	.
Penguin	.	62	.	.	.
Pick F3 (Fiesta III)	59	59	.	.	.
Roadrunner	59	59	31	.	.
Rutgers 8000	59	.	.	.	.
SR4010	.	59	.	.	.
SR4100	.	67	.	.	.
SR4200	.	68	.	.	.
Sunshine	63	59	.	.	.
Mean	64	64	37		
CV (%)	9.3	8.0	7.5		
LSD (0.05)	9	7	4		

Table 49. Summary of seed yield (kg/ha) for Perennial Ryegrass 1997-2000

Company	Variety	Type	Seed yield (kg/ha)					Outlook
			Bow Island	Brooks	Beaverlodge	Fort St. John	Melfort	
Check	Norlea	Forage	2012	1528	862	1500	338	527
Advanta	Dimension	Turf	700	1081				
Cascade	Catia		692	1202				
	Pearl	Turf	966	1159				
Cebeco Zaden	ER2012		911	936				
	ET161		679	323				
	LP49		343	371				
International	Cambridge		842	955				
	Gator II	Turf	1132	1543				
	Minerva		686	292				
	Respect		982	862				
Lesco	LSPR CT 98-1		1880		1103	1129		
	LSPR CT 98-2		1887		694	936		
Newfield Seeds	NSCL 32						31	590
Pickseed	94-1			1513				
	Cutter	Turf			566	772		
	Dancer		1754					
	Darius			883				
	Lex 86		1173	896				
	Lowgrow		2145	1604				

LPEE 93

1124

974

792

573

Summary of seed yield (kg/ha) for Perennial Ryegrass 1997-2000 (con't)

Company	Variety	Type	Seed yield (kg/ha)					Outlook
			Bow Island	Brooks	Beaverlodge	Fort St. John	Melfort	
Pickseed (con't)	Magyar			966				
	Pick F3 (Fiesta III)		2484	1979				
	Secretariat		1144	1304				
	Sunshine		2158	1577				
Scotts	Majesty		979	1441				
	MB45		883	1247				
	Rutgers 8000		2609					
Turf- Seed	2HO		2435	1734	243			
	Brightstar	Turf	1785	1303	794			
	Chaparral		1860	1450	142			
	Charger II	Turf	1677	1687	236			
	Citation 3	Turf	628	1236				
	PST 2M3		1286	1457	922			
	Roadrunner		2762	2228	279			
Proven	Barball	Turf	900	1078				
	Barclay	Turf	573	587				
	Barlow		587	457				
	Barrage	Turf	857	1071				
	Penguin			1873				
	SR4010			2018				
	SR4100			1979				
	SR4200			2014				

Mean

1339 | 1265 | 603 | 982 | 184 | 559

Table 50. **Seed yields (kg ha⁻¹) for Timothy 1998** seed production trials

Variety	Beaverlodge		Fort St. John	
	1999	2000	1999	2000
BOR 72002	147	120	.	.
BOR 94301	122	113	.	.
BOR 94322	172	103	.	.
Climax	157	112	860	780
Grasslands Charlton	40	47	.	.
UGG 1703	265	138	672	712
Mean	151	106	753	746
CV (%)	16.8	26.7	8.5	8.8
LSD (0.05)	38	43		

Table 51. **Harvest dates for Timothy 1998** seed production trials

Variety	Beaverlodge		Fort St. John	
	1999	2000	1999	2000
BOR 72002	17 Aug	11 Aug	.	.
BOR 94301	17 Aug	11 Aug	.	.
BOR 94322	17 Aug	11 Aug	.	.
Climax	17 Aug	11 Aug		17 Aug
Grasslands Charlton	17 Aug	11 Aug	.	.
UGG 1703	17 Aug	11 Aug		17 Aug

Table 52. **Plant heights (cm) for Timothy 1998** seed production trials

Variety	Beaverlodge		Fort St. John	
	1999	2000	1999	2000
BOR 72002	88	70	.	.
BOR 94301	80	66	.	.
BOR 94322	91	72	.	.
Climax	81	69		
Grasslands Charlton	85	67	.	.
UGG 1703	84	68		
Mean	85	68		
CV (%)	8.0	6.3		
LSD (0.05)	ns	ns		

Table 53. **Seed yields (kg ha⁻¹)** for **Timothy 1999** seed production trials

	Beaverlodge	Fort St. John	Melfort
Variety	2000	2000	2000
Climax	124	390	532
Fidanza	202	.	.
Latima	95	.	.
RVP03	141	.	.
Titan	179	692	526
Mean	148	541	529
CV (%)	29.7	24.3	17.1
LSD (0.05)	68		

Table 54. **Harvest dates** for **Timothy 1999** seed production trials

	Beaverlodge	Fort St. John	Melfort
Variety	2000	2000	2000
Climax	21 Aug	17 Aug	
Fidanza	21 Aug	.	.
Latima	21 Aug	.	.
RVP03	21 Aug	.	.
Titan	21 Aug	17 Aug	

Table 55. **Plant heights (cm)** for **Timothy 1999** seed production trials

	Beaverlodge	Fort St. John	Melfort
Variety	2000	2000	2000
Climax	61		
Fidanza	63	.	.
Latima	50	.	.
RVP03	68	.	.
Titan	63		
Mean	61		
CV (%)	11.2		
LSD (0.05)	10		

Table 56. Summary of seed yield (kg/ha) for Timothy 1997-2000

Company	Variety	Seed yield (kg/ha) per Production year				
		Beaverlodge		Fort St. John		Melfort
		1	2	1	2	1
Check	Climax	140	112	625	780	532
Dawson Seed	Titan	179		692		526
International	Latima	95				
Parsons Seeds	BOR 72002	147	109			
	BOR 94301	122	113			
	BOR 94322	172	103			
Pickseed	Fidanza	202				
	Grasslands Charlton	40	47			
	RVP03	141				
Proven	UGG 1703	265	138	672	712	
Mean		150	104	663	746	529

APPENDIX 1

ALBERTA WEATHER DATA

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Seasonal Mean or Total
Beaverlodge CDA - Mean Monthly Temperature (°C)	2000	-	-	-	2.8	-	13.3	15.9	13.2	9.5	3.7			
	1999	-13.9	-7.5	-2.6	4.1	7.5	12.0	13.7	15.3	9.6	4.6	-2.8	-3.6	3.0
	1998	-18.4	-5.4	-3.0	5.8	13.8	14.2	17.3	16.5	11.0	4.1	-5.8	-11.8	3.2
	1997	-14.9	-5.2	-6.9	1.5	9.3	13.1	14.8	14.3	11.1	2.3	-2.4	-2.3	2.9
	30 yr	-13.6	-10.0	-5.1	3.2	9.5	13.3	15.3	14.4	9.6	4.5	-6.1	-11.9	1.9
Mean Monthly Precipitation (mm)	2000	-	-	-	15.6	-	45.4	33.8	82.7	63.4	24.5			
	1999	-	-	-	17.2	27.0	26.6	29.8	29.2	14.0	13.0	20.6	4.2	-
	1998	-	7.2	-	10.2	49.8	40.2	25.0	19.4	23.4	29.6	-	-	-
	1997	-	-	26.6	-	40.8	72.2	113.6	58.2	57.4	22.6	3.8	2.4	-
	30 yr	32.9	22.6	22.1	20.3	37.5	71.7	67.4	64.7	47.1	23.2	28.0	29.3	467.0
Bow Island - Mean Monthly Temperature (°C)	2000	-	-	-	5.9	11.9	15.4	20.6	18.9	13.0	7.0			
	1999	-7.7	1.2	3.1	7.2	11.6	15.9	17.4	19.9	12.8	8.9	4.5	0.2	7.9
	1998	-12.0	-0.6	-1.8	9.0	15.4	15.9	21.9	21.9	16.5	8.6	1.2	-6.9	7.5
	1997	-12.9	-1.6	0.3	4.9	13.0	16.9	19.2	19.5	16.8	7.6	0.1	-1.5	6.9
	30 yr	-10.6	-6.3	-0.9	6.6	12.4	17.6	19.7	19.6	12.9	7.6	-1.0	-7.9	5.8
Mean Monthly Precipitation (mm)	2000	-	-	-	-	8.4	50.6	11.0	16.2	27.4	10.2			
	1999	10.1	0.5	0.3	37.9	43.9	102.8	37.7	41.8	9.0	26.9	15.2	8.2	334.3
	1998	7.4	0.3	41.2	13.3	29.0	109.2	20.8	15.2	20.6	13.2	2.0	11.5	283.7
	1997	4.3	3.1	11.4	6.1	42.2	49.3	8.2	23.0	7.6	7.1	3.3	1.5	167.1
	30 yr	18.6	11.3	13.1	34.2	44.9	69.8	30.9	32.4	30.4	12.3	12.8	19.0	329.6
	2000				5.6	11.3	15.0	20.2	18.3	11.8	6.3			

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Seasonal Mean or Total
Brooks CDC-South - Mean Monthly Temperature (°C)	1999	-11.5	-1.3	1.1	6.0	10.1	14.3	16.2	18.2	11.8	6.8	2.6	-1.4	6.1
	1998	-15.1	-1.5	-3.2	7.9	13.8	15.3	21.0	20.4	15.0	6.9	-0.8	-8.8	5.9
	1997	-15.4	-3.2	-2.0	4.6	12.6	16.6	18.8	18.6	14.7	5.5	-0.9	-2.9	5.6
	30 yr	-12.5	-8.2	-2.7	5.1	11.4	15.9	18.4	17.5	11.6	6.4	-3.7	-10.2	4.1
Mean Monthly Precipitation (mm)	2000	-	-	-	-	13.0	28.6	3.4	31.4	24.4	5.5			
	1999	17.1	1.5	4.2	38.1	39.8	115.0	110.2	47.2	2.4	5.2	7.1	7.4	395.2
	1998	15.5	1.9	60.4	17.9	24.1	101.4	29.8	8.8	24.6	6.2	4.4	17.5	312.5
	1997	6.4	3.5	46.9	13.0	42.8	39.0	11.6	42.8	8.6	4.1	4.9	11.4	235.0
	30 yr	18.4	11.6	17.0	27.2	39.0	65.5	38.1	36.3	38.8	16.0	15.0	18.0	340.9

Provided by Shane Chetner of the Conservation and Development Branch, Alberta Agriculture, Food and Rural Development. This information is based on unverified preliminary data obtained from Environment Canada.

APPENDIX 2

SASKATCHEWAN WEATHER DATA

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Seasonal Mean or Total
Melfort														
Mean Monthly Temperature (C)	2000	-18.6	-11.1	-1.5	2.8	9.1	13.0	17.6	16.5	11.0				
	1999	-17.9	-10.9	-4.1	5.7	10.2	14.0	15.6	16.9	9.9	3.3	-1.2	-8.0	2.8
	1998	-18.8	-6.0	-8.4	6.6	13.1	14.0	17.9	19.2	12.2	3.0	-4.7	-5.6	3.5
	1997	-22.3	-12.6	-11.0	-2.6	8.7	16.8	18.5	17.6	13.2	2.6	-4.6	-5.6	1.6
	30yr	-19.1	-15.5	-9.0	2.2	10.6	15.5	17.6	16.3	10.4	3.9	-7.0	-16.2	0.8
Total Monthly Precipitation (mm)	2000	18.6	6.4	4.4	15.0	42.6	73.6	106.4	49.6	25.4				
	1999	9.2	3.6	1.5	41.4	41.5	56.0	96.0	36.0	19.2	11.2	3.8	2.2	321.6
	1998	2.8	1.6	2.2	19.0	15.2	87.8	42.8	6.2	31.4	20.0	11.6	1.8	242.4
	1997	36.8	16.7	12.3	30.2	29.0	96.3	51.3	41.3	57.2	30.6	8.6	12.4	422.7
	30yr	17.7	13.9	18.5	20.7	41.4	61.9	66.6	53.1	41.4	26.6	18.2	22.5	402.5
Outlook (PFRA)														
Mean Monthly Temperature (C)	2000	-14.2	-9.1	-0.2	4.8	11.8	14.4	19.2	17.9	12.7				
	1999	-14.5	-6.1	-2.1	6.8	10.6	15.1	16.9	18.3	11.1	2.1	2.7	-3.3	4.8
	1998	-16.3	-8.9	-4.8	8.2	13.2	15.2	20.3	20.6	14.5	6.5	-1.8	-9.8	4.7
	1997	-17.6	-9.1	-6.7	3.4	11.0	17.4	18.8	18.7	14.9	5.1	-2.0	-3.1	4.2
	1996	-21.1	-10.5	-8.4	3.3	8.5	16.5	18.3	19.1	10.8	4.1	-10.7	-16.6	1.1
	30yr	-15.5	-11.8	-5.3	4.6	11.8	16.6	19.0	18.0	12.0	5.9	-4.5	-12.7	3.2
Total Monthly Precipitation (mm)	2000	29.3	7.9	12.7	33.0	15.4	50.8	82.2	49.5	34.6				
	1999	3.6	4.0	4.4	12.0	61.4	63.2	91.2	37.8	11.6	2.4	3.8	10.2	305.6
	1998	1.4	2.6	3.2	7.2	12.4	112.4	21.0	73.4	45.2	38.2	9.6	13.0	339.6
	1997	22.8	3.6	27.1	22.1	28.2	64.6	6.2	29.3	30.4	15.0	4.1	2.4	255.8
	1996	9.2	8.0	2.0	42.0	68.5	61.4	60.5	5.0	60.4	7.9	20.6	40.2	385.7
	30yr	14.8	13.0	17.9	17.9	39.3	60.4	54.5	34.2	28.6	13.6	12.8	16.4	323.4

This information is based on unverified preliminary data obtained from Environment Canada

Western Grass Seed Testing (WGST) Program

Application for Entry

1. Company: _____ Contact person: _____
 Mailing address: _____

2. 2000 entries: (if you wish to add more entries, please attach another sheet)

Species	Type (Forage, Turf)	Variety name/code	% germ	Relative maturity (early, medium, late)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

3. Please indicate at which locations you wish your entries tested (see attached map). The applicant will be invoiced once test sites for the current test year are finalized.

Fort St. John, BC _____	Melfort, SK _____
Beaverlodge, AB _____	Outlook, SK (IRR) _____
Bow Island, AB (IRR) _____	Portage La Prairie, MB (IRR) _____
Brooks, AB (IRR) _____	Arborg, MB _____
Vegreville, AB _____	

Send by March 1, 2001 to: Henry Najda
 Crop Diversification Centre South
 SS 4
 Brooks, AB Canada T1R 1E6
 Phone: 403-362-1346, Fax: 403-362-1311, or
 e-mail: henry.najda@gov.ab.ca.