

Forage Cultivar Trials

Northern Research Group  
Canada Agriculture Research Branch  
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In cooperation with



FORAGE CULTIVAR TRIALS: 1993 BULLETIN

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Cover:

Dunvegan Bridge over the Peace River in north-west Alberta  
with insets of red fescue and red clover

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In co-operation with Alberta Agriculture

## CONTENTS

	Page No.
INTRODUCTION	1
ACKNOWLEDGEMENTS	1
CULTIVAR INDEX OF GRASSES AND LEGUMES	2-3
TYPES OF TRIALS AND EXPERIMENTAL PROCEDURES	4
METEOROLOGICAL GRAPHS FOR BEAVERLODGE RESEARCH STATION	5
PERFORMANCE OF CULTIVARS IN SEED TRIALS	6-15
Grasses:	
Bentgrass, Colonial ( <i>Agrostis</i> species)	7
Fescue, Red ( <i>Festuca rubra</i> L.)	8
Fescue, Tall ( <i>Festuca arundinacea</i> Schreber)	9
Orchardgrass ( <i>Dactylis glomerata</i> L.)	10
Timothy ( <i>Phleum pratense</i> L.)	11
Wheatgrass, Crested ( <i>Agropyron cristatum</i> L.)	12
Legumes:	
Alfalfa/Lucerne ( <i>Medicago</i> species)	13-14
Sainfoin ( <i>Onobrychis viciifolia</i> Scop.)	15
PERFORMANCE OF CULTIVARS IN HERBAGE TRIALS	16-25
Grasses:	
Bentgrass, Colonial ( <i>Agrostis</i> species)	17
Fescue, Red ( <i>Festuca rubra</i> L.)	18
Fescue, Tall ( <i>Festuca arundinacea</i> Schreber)	19
Orchardgrass ( <i>Dactylis glomerata</i> L.)	20
Timothy ( <i>Phleum pratense</i> L.)	21
Wheatgrass, Crested ( <i>Agropyron cristatum</i> L.)	22
Legumes:	
Alfalfa/Lucerne ( <i>Medicago</i> species)	23-24
Sainfoin ( <i>Onobrychis viciifolia</i> Scop.)	25
APPENDIX I: SEED MAINTAINERS/AGENTS OF CULTIVARS	26

## INTRODUCTION

This bulletin provides information on the agronomic performance of forage cultivars in the Peace River region of Canada. It is the fifteenth in a series of reports published cooperatively by Agriculture Canada's Research Station at Beaverlodge and Alberta Agriculture.

The primary objective is to provide information on the seed production potential of forage cultivars, especially those certified by the Organisation for Economic Co-operation and Development (OECD) for movement in international trade. The information should assist local primary producers and agribusiness to establish equitable contracts for the production of seed of specific cultivars, the harvested seed being destined for export to other countries, or other regions of Canada, where the cultivar is adapted for herbage production or amenity use. In addition, plant breeders should find the information useful in the selection of parental germplasm for the development of new cultivars. The secondary objective is to identify forage cultivars that are suitable for herbage and/or amenity use, both locally and within other regions of Canada.

## ACKNOWLEDGEMENTS

The trials were supported financially by Agriculture Canada, Alberta Agriculture, and by the seed maintainers/agents of the cultivars. They were conducted with the technical assistance of Tom Cramer, Lois Connelly, Marlene Probst, Ashley Heggelund, Tim Nelson, Lia Scheunhage, Bill Guise, John Lieverse, and Owen Lee, and with the administrative assistance of Barbara Neumeier and Janet Kerr. Land was provided by Norm Foster of Beaverlodge and Bill Uhryn of Rycroft. Meteorological graphs for Beaverlodge were generated from the records of the Atmospheric Environment Service Station maintained by Peter Mills of Agriculture Canada. Each contribution is gratefully acknowledged.

## CULTIVAR INDEX OF GRASSES AND LEGUMES

GRASS SPECIES & Cultivar	Scientific name	Country of origin #	Seed agent/ maintainer ##	Page
BENTGRASS, COLONIAL				
	<i>Agrostis</i> species			
Exeter	<i>A. tenuis</i> Sibth.	USA	14	7,17
Rasti	<i>A. capillaris</i> L.	FIN	9	7,17
FESCUE, RED <i>Festuca rubra</i> L.				
Boreal	<i>ssp. rubra</i>	CAN	15	8,18
Ferota	<i>ssp. trichophylla</i>	CSK	8	8,18
Herald	<i>ssp. rubra</i>	NLD	1	8,18
Kong	<i>ssp. rubra</i>	NLD	1	8,18
Rosanna	<i>ssp. trichophylla</i>	CSK	8	8,18
Salem	<i>ssp. rubra</i>	USA	7	8,18
Samanta	<i>ssp. rubra</i>	NLD	1	8,18
Vista	<i>ssp. rubra</i>	USA	5	8,18
ERU 764	<i>ssp. rubra</i>	NLD	1	8,18
ERG 1143	<i>ssp. commutata</i>	NLD	1	8,18
ERG 676-1	<i>ssp. commutata</i>	NLD	1	8,18
FESCUE, TALL <i>Festuca arundinacea</i> Schreber				
Alta		USA	16	9,19
HJA 2170		FIN	9	9,19
ORCHARDGRASS <i>Dactylis glomerata</i> L.				
Kay		CAN	4,10,17	10,20
Tatu		FIN	9	10,20
TIMOTHY <i>Phleum pratense</i> L.				
Climax		CAN	16,18	11,21
Carola		SWE	3	11,21
HJA 1077		FIN	9	11,21
HJA 1168		FIN	9	11,21
SV 8406		SWE	6	11,21
SV 8414		SWE	6	11,21
SV 8505		SWE	6	11,21
SVTT 8407		SWE	6	11,21
SVTT 8423		SWE	6	11,21
T120		SWE	3	11,21
WHEATGRASS, CRESTED				
	<i>Agropyron cristatum</i> L.			
Fairway		CAN	16	12,22
Hycrest	(hybrid cultivar)	USA	10	12,22

## CULTIVAR INDEX OF GRASSES AND LEGUMES

LEGUME SPECIES & Cultivar	Scientific name	Country of origin #	Seed agent/ maintainer ##	Page
ALFALFA/LUCERNE				
	<i>Medicago species</i>			
Anik	<i>M. falcata</i> L.	CAN	19	13-14, 23-24
Beaver	<i>M. sativa</i> L.	CAN	20	13-14, 23-24
Peace	<i>M. sativa</i> L.	CAN	21	13-14, 23-24
Rambler	<i>M. media</i> L.	CAN	18	13-14, 23-24
5262	<i>M. sativa</i> L.	USA	2	13-14, 23-24
5311	<i>M. sativa</i> L.	USA	2	13-14, 23-24
5364	<i>M. sativa</i> L.	USA	2	13-14, 23-24
BLM 1019	<i>M. media</i> L.	CAN	13	13-14, 23-24
NRG 8301	<i>M. media</i> L.	CAN	13	13-14, 23-24
AC Caribou	<i>M. sativa</i> L.	CAN	1, 12, 21	13-14, 23-24
188PF11	<i>M. sativa</i> L.	USA	2	13-14, 23-24
188PF12	<i>M. sativa</i> L.	USA	2	13-14, 23-24
83CF042	<i>M. sativa</i> L.	USA	2	13-14, 23-24
89-03-06	<i>M. sativa</i> L.	CAN	11	13-14, 23-24
SAINFOIN <i>Onobrychis viciifolia</i> Scop.				
Melrose		CAN	21	15, 25
Nova		CAN	18	15, 25
BSAN 01		CAN	13	15, 25
BSAN 02		CAN	13	15, 25
BSAN 03		CAN	13	15, 25
BSAN 04		CAN	13	15, 25

# The code letters used for the countries of origin are in the Alpha-3 format designated by the International Organization for Standardization. These codes are specified in their publication: "Codes for the representation of names of countries", i.e., their Reference No. ISO 3166-1974(E).

## See Appendix I for information on how to contact each seed maintainer/agent. If you require further information about a cultivar, please contact the seed maintainer/agent of that cultivar.

## TYPES OF TRIALS AND EXPERIMENTAL PROCEDURES

Two types of cultivar trials were conducted, one for seed and the other for herbage production. Each trial was established in 1991 and was harvested for two production years, 1992 and 1993. The trials were situated in the north, centre, and south of the Peace region of Alberta. The *NORTH PEACE* trials were located at Fort Vermilion Experimental Farm (58° 23'N, 116° 02'W) on a soil classified as a Dark Gray Luvisol (Leith coarse loam) to an Orthic Gray Luvisol (Culp coarse loam). The *CENTRAL PEACE* trials were located at Bill Uhryn's farm (55° 53'N, 118° 28'W) on a soil classified as an Orthic Gray Luvisol (Davis loam to silt loam). The *SOUTH PEACE* trials were located at Beaverlodge Research Station (55° 12'N, 119° 24'W) on a soil classified as a Dark Gray Solod (Esher clay) to Dark Gray Luvisol (Hythe fine loam). Each site had been fallow for one or two crop years before seeding. Soil analyses indicated adequate reserves of potassium and sulfur at each site. Prior to seeding, 150 kg/ha of 11-55-0 fertilizer was incorporated into each seedbed. Nitrogen fertilizer (as 34:0:0) was applied to each grass trial in the fall of 1991 and 1992, just prior to soil freeze-up, at a rate of 68 kg/ha N. During the trials, weeds were controlled by a combination of trimming, inter-row cultivation, and locally recommended herbicides.

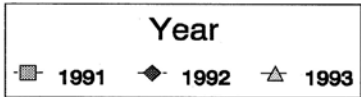
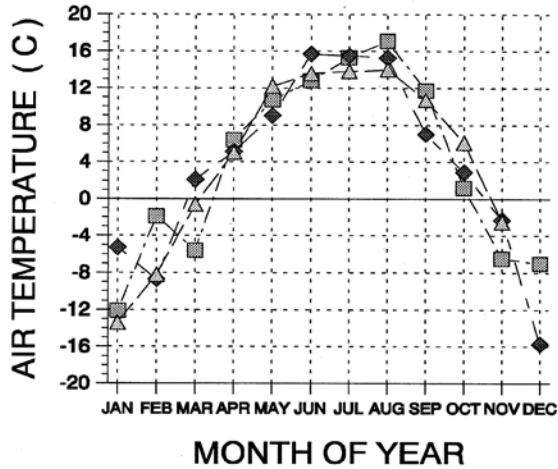
The cultivars included in the trials, in addition to the checks, were determined by the response we received from Canadian seed companies, and their foreign associates, to our request for entries. Seed and herbage trials were conducted for eight species, consisting of six grasses and two legumes. Seed trials were established at each of the three sites but herbage trials were established at the *South Peace* site only. The seeding rates were 200 viable seeds/m<sup>2</sup> for the seed trials and 500 viable seeds/m<sup>2</sup> for the herbage trials, and the trials were seeded in late May to mid June, 1991. The legume seed was treated with *Rhizobia* inoculant immediately prior to seeding.

The experimental design for each trial was a randomized complete block with four replications. Individual experimental plots of a cultivar were comprised of four rows, each 6.1 m long, spaced 30.5 cm apart. The harvested area of each plot, for both seed and herbage, was the central 5 m from the two centre rows in each plot (3.05 m<sup>2</sup>). Experimental observations for the seed trials included a fall rating of establishment (scale 0 to 5 with the latter being very good), a spring rating of winter survival (scale 0 to 9 with the latter being complete survival), the date of flowering, the date of seed maturity/harvest, and the cleaned seed yield of each individual plot. For the herbage trials, similar information was recorded for establishment and winter survival and, whenever feasible, two cuts of herbage were taken in each production year.

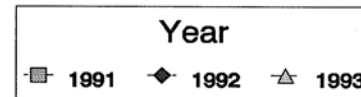
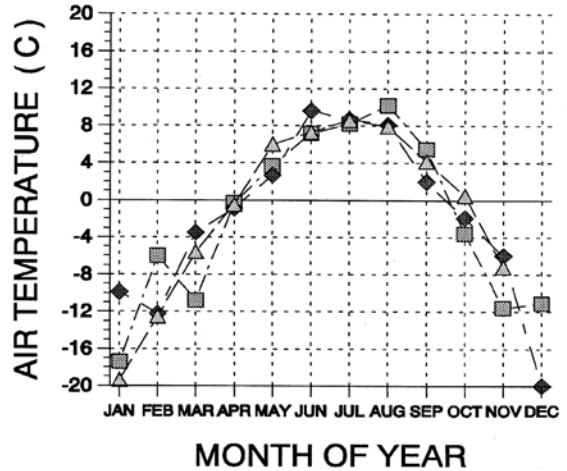
In the seed trials, pollination of the legumes was ensured by the provision of leafcutting bees (*Megachile rotundata*) in addition to the other pollinating insects (*Bombus* and *Megachile* spp., and *Apis*).

The **SED** value below each column in the tables of results is the **Standard Error** for assessing the **Difference** between any pair of cultivar means within that column.

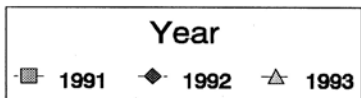
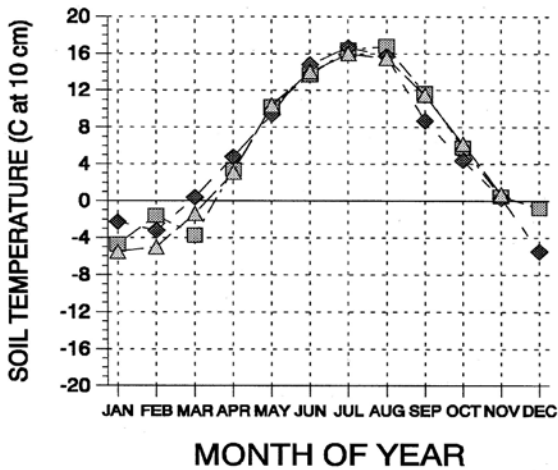
**MEAN DAILY AIR TEMPERATURE  
BEAVERLODGE RESEARCH STATION**



**MINIMUM DAILY AIR TEMPERATURE  
BEAVERLODGE RESEARCH STATION**

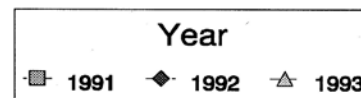
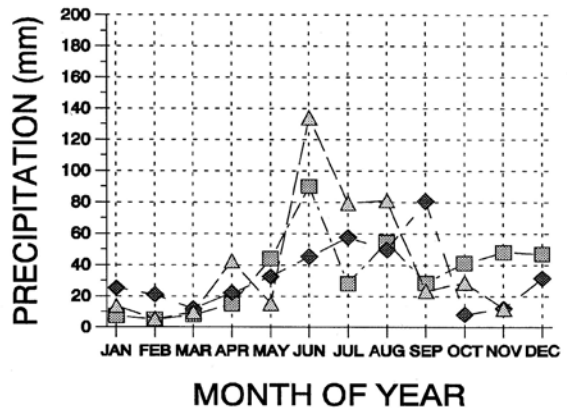


**MEAN DAILY SOIL TEMPERATURE  
BEAVERLODGE RESEARCH STATION**



**TOTAL PRECIPITATION  
BEAVERLODGE RESEARCH STATION**

Annual Precipitation (1916-81) = 453 mm





PERFORMANCE  
OF  
CULTIVARS  
IN  
SEED TRIALS

CROP: BENTGRASS, COLONIAL (Agrostis species)										LOCATION: SOUTH PEACE								
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN								
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD(kg/ha)			SEED YIELD(% check)				
		SURVIVAL 1992	RATING 1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN		
EXETER(*)	3	9	9	9	39	42	41	22	41	27	48	0	24	100	-	100		
RASTI	3	9	9	9	44	42	43	30	41	35	123	76	100	259	-	418		
SED =	0.1	0	0	0	0	0	0	0	0	0	28	14	15	-	-	-		

CROP: BENTGRASS, COLONIAL (Agrostis species)										LOCATION: CENTRAL PEACE								
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN								
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD(kg/ha)			SEED YIELD(% check)				
		SURVIVAL 1992	RATING 1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN		
EXETER(*)	4	9	9	9	40	43	42	27	37	32	95	55	75	100	100	100		
RASTI	3	9	9	9	40	43	42	27	37	32	187	199	193	196	364	257		
SED =	0.6	0.3	0	0.1	0	0	0	0	0	0	25	27	19	-	-	-		

CROP: BENTGRASS, COLONIAL (Agrostis species)										LOCATION: NORTH PEACE								
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN								
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD(kg/ha)			SEED YIELD(% check)				
		SURVIVAL 1992	RATING 1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN		
EXETER(*)	5	1#	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
RASTI	5	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
SED =	0.3	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

\* CHECK CULTIVAR

\*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

# TRIAL DISCONTINUED IN SUMMER 1992 BECAUSE OF POOR SURVIVAL IN WINTER 1991-92

CROP: FESCUE, RED (Festuca rubra L.)										LOCATION: SOUTH PEACE							
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN							
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)		WINTER SURVIVAL RATING 1992 1993 MEAN		FLOWERING DATE (Day 1=May 1) 1992 1993 MEAN			SEED MATURITY DATE (Day 1=July 1) 1992 1993 MEAN			SEED	YIELD (kg/ha)		SEED	YIELD (%)		check
	1992	1993	1992	1993	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	
BOREAL (*)	5		9	9	9	32	35	34	16	22	19	1038	783	911	100	100	100
FEROTA	5		9	9	9	27	35	31	9	12	11	335	224	280	32	29	31
HERALD	5		9	9	9	32	35	33	13	22	18	543	285	414	52	36	45
KONG	5		9	9	9	33	35	34	14	22	18	536	544	540	52	69	59
ROSANNA	5		9	9	9	27	35	31	7	5	6	182	137	160	18	17	18
SALEM	5		9	9	9	31	35	33	16	22	19	504	588	546	49	75	60
SAMANTA	5		9	9	9	29	35	32	9	10	10	300	476	388	29	61	43
VISTA	5		9	9	9	31	35	33	16	21	19	691	493	592	67	63	65
ERU 764	5		9	9	9	31	35	33	16	21	19	901	790	846	87	101	93
ERG-1143	5		9	9	9	28	35	32	14	12	13	237	326	281	23	42	31
ERG-676-1	5		9	9	9	29	35	32	10	12	11	293	383	338	28	49	37
SED =	0.3		0.1	0	0.1	0.9	0	0.5	1.4	0.8	0.8	112	54	62	-	-	-

CROP: FESCUE, RED (Festuca rubra L.)										LOCATION: CENTRAL PEACE							
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN							
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)		WINTER SURVIVAL RATING 1992 1993 MEAN		FLOWERING DATE (Day 1=May 1) 1992 1993 MEAN			SEED MATURITY DATE (Day 1=July 1) 1992 1993 MEAN			SEED	YIELD (kg/ha)		SEED	YIELD (%)		check
	1992	1993	1992	1993	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	
BOREAL (*)	5		9	9	9	37	34	35	20	23	22	1080	1095	1087	100	100	100
FEROTA	5		9	9	9	32	34	33	13	23	18	456	530	493	42	48	45
HERALD	5		9	9	9	37	34	36	13	23	18	683	642	662	63	59	61
KONG	5		9	9	9	36	34	35	20	23	22	645	550	597	60	50	55
ROSANNA	5		9	9	9	32	34	33	13	23	18	252	351	301	23	32	28
SALEM	5		9	9	9	35	34	35	20	23	22	1038	701	870	96	64	80
SAMANTA	5		9	9	9	33	34	33	13	23	18	441	601	521	41	55	48
VISTA	5		9	9	9	37	34	36	13	23	18	739	573	656	68	52	60
ERU 764	5		9	9	9	36	34	35	20	23	22	1135	1071	1103	105	98	101
ERG-1143	5		9	9	9	32	34	33	13	23	18	785	905	845	73	83	78
ERG-676-1	5		9	9	9	32	34	33	13	23	18	740	794	767	69	73	71
SED =	0.3		0.2	0	0.1	1	0	0.5	0	0	0	105	80	66	-	-	-

CROP: FESCUE, RED (Festuca rubra L.)										LOCATION: NORTH PEACE							
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN							
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)		WINTER SURVIVAL RATING 1992 1993 MEAN		FLOWERING DATE (Day 1=May 1) 1992 1993 MEAN			SEED MATURITY DATE (Day 1=July 1) 1992 1993 MEAN			SEED	YIELD (kg/ha)		SEED	YIELD (%)		check
	1992	1993	1992	1993	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	
BOREAL (*)	5		6	9	7	#	34	-	#	28	-	0#	1331	666	#	100	100
FEROTA	5		6	9	8	-	34	-	-	28	-	0	260	130	-	20	20
HERALD	5		4	9	7	-	34	-	-	28	-	0	716	358	-	54	54
KONG	5		6	9	7	-	34	-	-	28	-	0	842	421	-	63	63
ROSANNA	5		5	9	7	-	34	-	-	28	-	0	138	69	-	10	10
SALEM	5		2	9	6	-	34	-	-	28	-	0	1122	561	-	84	84
SAMANTA	4		1	9	3	-	34	-	-	28	-	0	747	373	-	56	56
VISTA	5		4	9	7	-	34	-	-	28	-	0	896	448	-	67	67
ERU 764	5		5	9	7	-	34	-	-	28	-	0	1130	565	-	85	85
ERG-1143	4		4	9	7	-	34	-	-	28	-	0	424	210	-	32	32
ERG-676-1	5		6	9	7	-	34	-	-	28	-	0	607	303	-	46	46
SED =	0.3		1.1	0.1	0.6	-	0	-	-	0	-	0	109	51	-	-	-

\* CHECK CULTIVAR

\*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

# ENVIRONMENTAL CONDITIONS SUPPRESSED GROWTH, DEVELOPMENT, AND SEED PRODUCTION

CROP: FESCUE, TALL (Festuca arundinacea Schreber)										LOCATION: SOUTH PEACE								
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN								
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)		WINTER SURVIVAL RATING 1992 1993 MEAN			FLOWERING DATE (Day 1=May 1) 1992 1993 MEAN			SEED MATURITY DATE (Day 1=July 1) 1992 1993 MEAN			SEED YIELD(kg/ha) 1992 1993 MEAN			SEED YIELD(% check) 1992 1993 MEAN			
	ALTA(*)	5		9	9	9	38	40	39	19	35	27	819	310	564	100	100	100
HJA_2170	5		9	9	9	38	40	39	19	35	27	823	429	626	101	138	111	
SED =	0		0	0	0	0	0	0	0	0	0	35	23	21	-	-	-	

CROP: FESCUE, TALL (Festuca arundinacea Schreber)										LOCATION: CENTRAL PEACE								
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN								
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)		WINTER SURVIVAL RATING 1992 1993 MEAN			FLOWERING DATE (Day 1=May 1) 1992 1993 MEAN			SEED MATURITY DATE (Day 1=July 1) 1992 1993 MEAN			SEED YIELD(kg/ha) 1992 1993 MEAN			SEED YIELD(% check) 1992 1993 MEAN			
	ALTA(*)	5		9	9	9	40	40	40	20	30	25	1401	622	1011	100	100	100
HJA_2170	5		9	9	9	40	40	40	20	30	25	1292	895	1094	92	144	108	
SED =	0		0.5	0	0.3	0	0	0	0	0	0	134	176	111	-	-	-	

CROP: FESCUE, TALL (Festuca arundinacea Schreber)										LOCATION: NORTH PEACE								
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN								
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)		WINTER SURVIVAL RATING 1992 1993 MEAN			FLOWERING DATE (Day 1=May 1) 1992 1993 MEAN			SEED MATURITY DATE (Day 1=July 1) 1992 1993 MEAN			SEED YIELD(kg/ha) 1992 1993 MEAN			SEED YIELD(% check) 1992 1993 MEAN			
	ALTA(*)	5		2	3	3	-	38	-	-	27	-	0	0	0	-	-	-
HJA_2170	5		7	9	8	-	38	-	-	27	-	0	497	249	-	-	-	
SED =	0		0.9	0	0.5	-	0	-	-	0	-	0	78	39	-	-	-	

\* CHECK CULTIVAR

\*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

CROP: ORCHARDGRASS ( <i>Dactylis glomerata</i> L.)										LOCATION: SOUTH PEACE							
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN							
CULTIVAR (**)	ESTABLISHMENT RATING		WINTER SURVIVAL RATING			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD(kg/ha)			SEED YIELD(% check)		
	(0-5 WITH 5=GOOD)		1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN
KAY (*)	5		9	9	9	34	35	35	16	22	19	590	144	367	100	100	100
TATU	5		9	9	9	34	35	35	16	22	19	584	150	367	99	104	100
SED =	0.3		0	0	0	0	0	0	0	0	0	38	18	21	-	-	-

CROP: ORCHARDGRASS ( <i>Dactylis glomerata</i> L.)										LOCATION: CENTRAL PEACE							
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN							
CULTIVAR (**)	ESTABLISHMENT RATING		WINTER SURVIVAL RATING			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD(kg/ha)			SEED YIELD(% check)		
	(0-5 WITH 5=GOOD)		1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN
KAY (*)	5		9	9	9	35	34	34	20	23	22	576	449	512	100	100	100
TATU	5		9	9	9	35	34	34	20	23	22	754	498	626	131	111	122
SED =	0		0	0	0	0	0	0	0	0	0	34	21	20	-	-	-

CROP: ORCHARDGRASS ( <i>Dactylis glomerata</i> L.)										LOCATION: NORTH PEACE							
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN							
CULTIVAR (**)	ESTABLISHMENT RATING		WINTER SURVIVAL RATING			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD(kg/ha)			SEED YIELD(% check)		
	(0-5 WITH 5=GOOD)		1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN
KAY (*)	5		8	9	9	39	34	37	42	27	35	61	209	135	100	100	100
TATU	5		7	8	7	39	34	37	42	27	35	43	114	78	70	54	58
SED =	0.4		0.9	0.3	0.5	0	0	0	0	0	0	14	35	19	-	-	-

\* CHECK CULTIVAR

\*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

CROP: TIMOTHY (Phleum pratense L.)										LOCATION: SOUTH PEACE						
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN						
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER SURVIVAL			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD (kg/ha)			SEED YIELD (% check)		
		1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN			
CLIMAX (*)	5	9	9	9	48	51	50	34	-	-	360	0#	180	100	-	100
CAROLA	5	9	9	9	48	51	50	34	-	-	375	0	188	104	-	104
HJA 1077	5	9	9	9	48	51	50	34	-	-	413	0	207	115	-	115
HJA 1168	5	9	9	9	48	51	50	34	-	-	561	0	280	156	-	156
SV 8406	5	9	9	9	48	51	50	34	-	-	320	0	160	89	-	89
SV 8414	5	9	9	9	48	51	50	34	-	-	413	0	206	115	-	115
SV 8505	5	9	9	9	48	51	50	34	-	-	443	0	222	123	-	123
SVTT 8407	5	9	9	9	48	51	50	34	-	-	457	0	228	127	-	127
SVTT 8423	5	9	9	9	48	51	50	34	-	-	457	0	229	127	-	127
T120	5	9	9	9	48	51	50	34	-	-	518	0	259	144	-	144
SED =	0.1	0	0	0	0	0	0	0	-	-	42	0	21	-	-	-

CROP: TIMOTHY (Phleum pratense L.)										LOCATION: CENTRAL PEACE						
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN						
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER SURVIVAL			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD (kg/ha)			SEED YIELD (% check)		
		1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN			
CLIMAX (*)	5	9	9	9	47	46	47	41	55	48	898	654	776	100	100	100
CAROLA	5	9	9	9	43	41	42	41	55	48	792	527	659	88	81	85
HJA 1077	5	9	9	9	43	46	45	41	55	48	965	703	834	108	108	108
HJA 1168	5	9	9	9	43	46	45	41	55	48	900	744	822	100	114	106
SV 8406	5	9	7	8	43	42	43	41	55	48	748	478	613	83	73	79
SV 8414	5	9	9	9	43	46	45	41	55	48	906	661	783	101	101	101
SV 8505	5	9	9	9	43	44	44	41	55	48	802	414	608	89	63	78
SVTT 8407	5	9	9	9	43	44	44	41	55	48	973	542	758	108	83	98
SVTT 8423	5	9	9	9	43	41	42	41	55	48	1087	558	823	121	85	106
T120	5	9	9	9	43	39	41	41	55	48	880	776	828	98	119	107
SED =	0.2	0.1	1	0.5	0.2	0	0.1	0	0	0	117	134	89	-	-	-

CROP: TIMOTHY (Phleum pratense L.)										LOCATION: NORTH PEACE						
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN						
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER SURVIVAL			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD (kg/ha)			SEED YIELD (% check)		
		1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN			
CLIMAX (*)	5	7	9	8	40	44	42	42	42	42	135	183	159	100	100	100
CAROLA	5	9	9	9	40	41	41	42	42	42	173	164	169	128	89	106
HJA 1077	5	9	9	9	40	44	42	42	42	42	410	218	314	303	119	197
HJA 1168	5	9	9	9	40	41	41	42	42	42	288	333	310	213	182	195
SV 8406	5	8	9	8	40	41	41	42	42	42	173	218	195	128	119	123
SV 8414	4	8	9	9	40	44	42	42	42	42	227	210	218	168	114	137
SV 8505	5	8	9	9	40	44	42	42	42	42	213	203	208	157	111	131
SVTT 8407	5	9	9	9	40	41	41	42	42	42	260	140	200	192	77	126
SVTT 8423	5	9	9	9	40	44	42	42	42	42	296	224	260	219	122	163
T120	5	8	9	9	40	40	40	42	42	42	246	195	221	182	107	139
SED =	0.3	0.5	0	0.2	0	0	0	0	0	0	34	44	28	-	-	-

\* CHECK CULTIVAR

\*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

# ENVIRONMENTAL CONDITIONS PREVENTED SEED MATURATION

CROP: WHEATGRASS, CRESTED ( <i>Agropyron cristatum</i> L.)										LOCATION: SOUTH PEACE						
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN						
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD(kg/ha)			SEED YIELD(% check)		
		SURVIVAL 1992	RATING 1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN
FAIRWAY (*)	5	9	9	9	39	35	37	37	47	42	981	245	613	100	100	100
HYCREST	5	9	9	9	39	35	37	37	47	42	759	553	656	77	226	107
SED =	0	0	0	0	0	0	0	0	0	0	95	48	53	-	-	-

CROP: WHEATGRASS, CRESTED ( <i>Agropyron cristatum</i> L.)										LOCATION: CENTRAL PEACE						
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN						
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD(kg/ha)			SEED YIELD(% check)		
		SURVIVAL 1992	RATING 1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN
FAIRWAY (*)	5	9	9	9	42	34	38	41	37	39	1023	448	736	100	100	100
HYCREST	5	9	9	9	42	34	38	41	37	39	1021	605	813	100	135	111
SED =	0	0	0	0	0	0	0	0	0	0	61	37	36	-	-	-

CROP: WHEATGRASS, CRESTED ( <i>Agropyron cristatum</i> L.)										LOCATION: NORTH PEACE						
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN						
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD(kg/ha)			SEED YIELD(% check)		
		SURVIVAL 1992	RATING 1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN
FAIRWAY (*)	5	9	9	9	41	34	38	42	42	42	1336	812	1074	100	100	100
HYCREST	5	9	9	9	41	34	38	42	42	42	1062	990	1026	79	122	96
SED =	0	0	0	0	0	0	0	0	0	0	116	78	70	-	-	-

\* CHECK CULTIVAR

\*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

CROP: ALFALFA/LUCERNE (Medicago species)										LOCATION: SOUTH PEACE						
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN						
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD(kg/ha)			SEED YIELD(% check)		
		SURVIVAL 1992	RATING 1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN
ANIK	5	9	9	9	53	65	59	73	-	-	162	0#	81	456	-	456
BEAVER(*)	5	9	9	9	59	68	64	73	-	-	35	0	18	100	-	100
PEACE	5	9	9	9	56	67	61	73	-	-	57	0	29	162	-	162
RAMBLER	5	9	9	9	59	68	64	73	-	-	109	0	55	308	-	308
5262	5	9	9	9	59	68	64	73	-	-	19	0	9	53	-	53
5311	5	9	9	9	59	68	64	73	-	-	42	0	21	119	-	119
5364	5	9	9	9	59	68	63	73	-	-	34	0	17	97	-	97
BLM 1019	5	9	9	9	56	66	61	73	-	-	55	0	27	155	-	155
NRG 8301	5	9	9	9	59	68	64	73	-	-	50	0	25	141	-	141
AC CARIBOO	5	9	9	9	59	68	64	73	-	-	55	0	28	156	-	156
188PF11	5	9	9	9	59	68	64	73	-	-	77	0	39	218	-	218
188PF12	5	9	9	9	59	68	64	73	-	-	24	0	12	68	-	68
83CF042	5	9	9	9	59	68	64	73	-	-	36	0	18	101	-	101
89-03-06	5	9	9	9	56	67	61	73	-	-	32	0	16	91	-	91
SED =	0	0	0	0	0	0.3	0.2	0	-	-	19	0	10	-	-	-

CROP: ALFALFA/LUCERNE (Medicago species)										LOCATION: CENTRAL PEACE						
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN						
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD(kg/ha)			SEED YIELD(% check)		
		SURVIVAL 1992	RATING 1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN
ANIK	5	9	9	9	57	61	59	76	-	-	219	0#	110	73	-	73
BEAVER(*)	5	9	9	9	57	61	59	76	-	-	300	0	150	100	-	100
PEACE	5	9	9	9	57	61	59	76	-	-	277	0	139	92	-	92
RAMBLER	5	9	9	9	57	61	59	76	-	-	282	0	141	94	-	94
5262	5	9	9	9	57	61	59	76	-	-	135	0	68	45	-	45
5311	5	9	9	9	57	61	59	76	-	-	258	0	129	86	-	86
5364	5	9	9	9	57	61	59	76	-	-	242	0	121	81	-	81
BLM 1019	5	9	9	9	57	61	59	76	-	-	189	0	95	63	-	63
NRG 8301	5	9	9	9	57	61	59	76	-	-	205	0	103	68	-	68
AC CARIBOO	5	9	9	9	57	61	59	76	-	-	282	0	141	94	-	94
188PF11	5	9	9	9	57	61	59	76	-	-	226	0	113	75	-	75
188PF12	5	9	9	9	57	61	59	76	-	-	150	0	75	50	-	50
83CF042	5	9	9	9	57	61	59	76	-	-	183	0	91	61	-	61
89-03-06	5	9	9	9	57	61	59	76	-	-	166	0	83	55	-	55
SED =	0.2	0.3	0	0.1	0	0	0	0	-	-	49	0	24	-	-	-

\* CHECK CULTIVAR

\*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

# ENVIRONMENTAL CONDITIONS PREVENTED SEED MATURATION



CROP: ALFALFA/LUCERNE (Medicago species)										LOCATION: NORTH PEACE						
SEEDING YEAR: 1991										PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN						
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD (kg/ha)			SEED YIELD (% check)		
		SURVIVAL	RATING	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN
ANIK	3	9	9	9	60	58	59	97	90	94	210	331	271	84	93	89
BEAVER(*)	5	8	8	8	65	62	63	97	90	94	252	357	304	100	100	100
PEACE	5	9	9	9	63	60	62	97	90	94	340	487	413	135	136	136
RAMBLER	5	9	9	9	66	63	65	97	90	94	200	296	248	79	83	82
5262	5	6	8	7	66	63	65	97	90	94	148	233	190	59	65	63
5311	5	3	6	5	67	64	65	97	90	94	122	87	104	48	24	34
5364	5	5	7	6	67	64	65	97	90	94	167	154	160	66	43	53
BLM_1019	5	9	9	9	65	62	63	97	90	94	303	400	352	120	112	116
NRG_8301	5	9	9	9	64	61	62	97	90	94	214	269	242	85	76	79
AC CARIBOO	5	7	8	8	66	63	64	97	90	94	271	373	322	108	105	106
188PF11	5	8	9	8	67	64	65	97	90	94	270	380	325	107	106	107
188PF12	5	8	8	8	67	64	66	97	90	94	147	258	202	58	72	67
83CF042	4	6	9	7	66	63	64	97	90	94	187	199	193	74	56	63
89-03-06	4	7	7	7	66	63	65	97	90	94	146	186	166	58	52	55
SED =	0.3	1.1	1.0	0.7	0.8	0.8	0.6	0	0	0	53	63	41	-	-	-

\* CHECK CULTIVAR

\*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

CROP: SAINFOIN (*Onobrychis viciifolia* Scop.) LOCATION: SOUTH PEACE  
 SEEDING YEAR: 1991 PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN

CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD (kg/ha)			SEED YIELD (% check)		
		SURVIVAL 1992	RATING 1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN
MELROSE (*)	5	9	9	9	46	35	41	30	-	-	273	0#	137	100	-	100
NOVA	5	9	9	9	46	35	41	30	-	-	197	0	99	72	-	72
BSAN_01	5	9	9	9	46	40	43	30	-	-	351	0	176	128	-	128
BSAN_02	5	9	9	9	46	40	43	30	-	-	228	0	114	83	-	83
BSAN_03	5	9	9	9	46	40	43	30	-	-	177	0	88	65	-	65
BSAN_04	5	9	9	9	46	40	43	30	-	-	353	0	177	129	-	129
SED =	0	0	0	0	0	0.8	0.4	0	-	-	112	0	56	-	-	-

CROP: SAINFOIN (*Onobrychis viciifolia* Scop.) LOCATION: CENTRAL PEACE  
 SEEDING YEAR: 1991 PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN

CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD (kg/ha)			SEED YIELD (% check)		
		SURVIVAL 1992	RATING 1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN
MELROSE (*)	5	9	9	9	51	39	45	41	44	43	449	105	277	100	100	100
NOVA	5	9	9	9	51	39	45	41	44	43	653	95	374	145	90	135
BSAN_01	5	9	9	9	51	40	45	41	50	46	257	55	156	57	52	56
BSAN_02	5	9	9	9	51	40	46	41	44	43	295	58	176	66	55	64
BSAN_03	5	9	9	9	51	40	46	41	50	46	354	59	206	79	56	74
BSAN_04	5	9	9	9	51	40	46	41	44	43	282	55	168	63	52	61
SED =	0	0	0.2	0.1	0	0.3	0.1	0	4	1.8	96	44	53	-	-	-

CROP: SAINFOIN (*Onobrychis viciifolia* Scop.) LOCATION: NORTH PEACE  
 SEEDING YEAR: 1991 PRODUCTION YEAR: 1992, 1993 & TWO-YEAR MEAN

CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD (kg/ha)			SEED YIELD (% check)		
		SURVIVAL 1992	RATING 1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN	1992	1993	MEAN
MELROSE (*)	5	0##	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NOVA	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BSAN_01	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BSAN_02	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BSAN_03	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BSAN_04	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SED =	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\* CHECK CULTIVAR  
 \*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT  
 # ENVIRONMENTAL CONDITIONS PREVENTED SEED MATURATION  
 ## TRIAL DISCONTINUED IN SUMMER 1992 BECAUSE OF POOR SURVIVAL IN WINTER 1991-92

PERFORMANCE  
OF  
CULTIVARS  
IN  
HERBAGE TRIALS

CROP: BENTGRASS, COLONIAL (Agrostis species)				LOCATION: SOUTH PEACE				
SEEDING YEAR: 1991				PRODUCTION YEAR: 1992				
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER SURVIVAL RATING	CUT 1 (8th June )		HERBAGE DRY MATTER YIELD CUT 2 (10th Sept)		ANNUAL TOTAL	
			kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
EXETER (*)	2	8	0#	-	393	100	393	100
RASTI	4	9	0	-	176	45	176	45
	SED = 0.5	0	0	-	169	-	169	-

CROP: BENTGRASS, COLONIAL (Agrostis species)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1991				PRODUCTION YEAR: 1993			
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1 (15th June)		HERBAGE DRY MATTER YIELD CUT 2 (26th Aug )		ANNUAL TOTAL	
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
EXETER (*)	9	0#	-	2962	100	2962	100
RASTI	9	0	-	3323	112	3323	112
	SED =	0	-	454	-	454	-

CROP: BENTGRASS, COLONIAL (Agrostis species)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1991				PRODUCTION YEAR: 2-YEAR MEAN (1992 AND 1993)			
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1		HERBAGE DRY MATTER YIELD CUT 2		ANNUAL TOTAL	
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
EXETER (*)	9	0#	-	1678	100	1678	100
RASTI	9	0	-	1750	104	1750	104
	SED =	0	-	242	-	242	-

\* CHECK CULTIVAR

\*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

# INSUFFICIENT HERBAGE FOR YIELD ASSESSMENT BUT PLOTS WERE TRIMMED

CROP: FESCUE, RED (Festuca rubra L.)				LOCATION: SOUTH PEACE				
SEEDING YEAR: 1991				PRODUCTION YEAR: 1992				
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER SURVIVAL RATING	CUT 1 (8th June )		HERBAGE DRY MATTER YIELD		ANNUAL TOTAL	
			kg/ha	(% check)	CUT 2 (10th Sept)	(% check)	kg/ha	(% check)
BOREAL (*)	5	9	1150	100	687	100	1837	100
FEROTA	5	9	860	75	161	23	1020	56
HERALD	5	9	692	60	367	53	1060	58
KONG	5	9	832	72	896	130	1727	94
ROSANNA	5	9	806	70	151	22	957	52
SALEM	5	9	677	59	334	49	1012	55
SAMANTA	5	9	643	56	697	101	1340	73
VISTA	5	9	1013	88	605	88	1618	88
ERU 764	5	9	1048	91	381	55	1429	78
ERG-1143	5	9	666	58	0	0	666	36
ERG-676-1	5	9	545	47	155	23	700	38
SED = 0.1			325	-	165	-	423	-

CROP: FESCUE, RED (Festuca rubra L.)				LOCATION: SOUTH PEACE				
SEEDING YEAR: 1991				PRODUCTION YEAR: 1993				
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1 (15th June)		HERBAGE DRY MATTER YIELD		ANNUAL TOTAL		
		kg/ha	(% check)	CUT 2 (26th Aug )	(% check)	kg/ha	(% check)	
BOREAL (*)	9	1642	100	4329	100	5972	100	
FEROTA	9	786	48	2478	57	3264	55	
HERALD	9	1264	77	3716	86	4980	83	
KONG	9	1973	120	3793	88	5766	97	
ROSANNA	9	1060	65	1971	46	3031	51	
SALEM	9	1077	66	4084	94	5161	86	
SAMANTA	9	1548	94	3326	77	4874	82	
VISTA	9	1762	107	4306	99	6068	102	
ERU 764	9	1526	93	3984	92	5511	92	
ERG-1143	9	960	58	729	17	1689	28	
ERG-676-1	9	738	45	2243	52	3147	53	
SED =			196	-	412	-	465	-

CROP: FESCUE, RED (Festuca rubra L.)				LOCATION: SOUTH PEACE				
SEEDING YEAR: 1991				PRODUCTION YEAR: 2-YEAR MEAN (1992 AND 1993)				
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1		HERBAGE DRY MATTER YIELD		ANNUAL TOTAL		
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)	
BOREAL (*)	9	1396	100	2508	100	3905	100	
FEROTA	9	823	59	1319	53	2142	55	
HERALD	9	978	70	2042	81	3020	77	
KONG	9	1402	100	2345	93	3747	96	
ROSANNA	9	933	67	1061	42	1994	51	
SALEM	9	877	63	2209	88	3086	79	
SAMANTA	9	1095	78	2011	80	3107	80	
VISTA	9	1387	99	2456	98	3843	98	
ERU 764	9	1287	92	2183	87	3470	89	
ERG-1143	9	813	58	364	15	1178	30	
ERG-676-1	9	641	46	1199	48	1924	49	
SED =			191	-	222	-	314	-

\* CHECK CULTIVAR

\*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

CROP: FESCUE, TALL ( <i>Festuca arundinacea</i> Schreber)				LOCATION: SOUTH PEACE				
SEEDING YEAR: 1991				PRODUCTION YEAR: 1992				
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER SURVIVAL RATING	HERBAGE DRY MATTER YIELD					
			CUT 1 (22nd June)		CUT 2 (10th Sept)		ANNUAL TOTAL	
			kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
ALTA(*)	5	9	4200	100	532	100	4732	100
HJA_2170	5	9	4148	99	729	137	4877	103
SED =	0	0	130	-	182	-	231	-

CROP: FESCUE, TALL ( <i>Festuca arundinacea</i> Schreber)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1991				PRODUCTION YEAR: 1993			
CULTIVAR (**)	WINTER SURVIVAL RATING	HERBAGE DRY MATTER YIELD					
		CUT 1 (15th June)		CUT 2 (26th Aug )		ANNUAL TOTAL	
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
ALTA(*)	9	559	100	2377	100	2936	100
HJA_2170	9	842	151	2664	112	3506	119
SED =	0	269	-	599	-	775	-

CROP: FESCUE, TALL ( <i>Festuca arundinacea</i> Schreber)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1991				PRODUCTION YEAR: 2-YEAR MEAN (1992 AND 1993)			
CULTIVAR (**)	WINTER SURVIVAL RATING	HERBAGE DRY MATTER YIELD					
		CUT 1		CUT 2		ANNUAL TOTAL	
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
ALTA(*)	9	2380	100	1455	100	3834	100
HJA_2170	9	2495	105	1696	117	4191	109
SED =	0	149	-	313	-	404	-

\* CHECK CULTIVAR

\*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

CROP: ORCHARDGRASS (Dactylis glomerata L.)			LOCATION: SOUTH PEACE						
SEEDING YEAR: 1991			PRODUCTION YEAR: 1992						
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER SURVIVAL RATING	HERBAGE DRY MATTER YIELD				ANNUAL TOTAL		
			CUT 1 (8th June )		CUT 2 (10th Sept)		kg/ha	(% check)	
			kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)	
KAY (*)	5	9	2323	100	2453	100	4776	100	
TATU	5	9	2695	116	1829	75	4389	92	
SED =		0	179	-	155	-	176	-	

CROP: ORCHARDGRASS (Dactylis glomerata L.)			LOCATION: SOUTH PEACE						
SEEDING YEAR: 1991			PRODUCTION YEAR: 1993						
CULTIVAR (**)	WINTER SURVIVAL RATING	HERBAGE DRY MATTER YIELD				ANNUAL TOTAL			
		CUT 1 (15th June)		CUT 2 (26th Aug )		kg/ha	(% check)		
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)		
KAY (*)	9	1399	100	3777	100	5175	100		
TATU	9	1238	89	3058	81	4296	83		
SED =		55	-	343	-	311	-		

CROP: ORCHARDGRASS (Dactylis glomerata L.)			LOCATION: SOUTH PEACE						
SEEDING YEAR: 1991			PRODUCTION YEAR: 2-YEAR MEAN (1992 AND 1993)						
CULTIVAR (**)	WINTER SURVIVAL RATING	HERBAGE DRY MATTER YIELD				ANNUAL TOTAL			
		CUT 1		CUT 2		kg/ha	(% check)		
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)		
KAY (*)	9	1861	100	3115	100	4976	100		
TATU	9	1967	106	2443	78	4343	87		
SED =		85	-	188	-	188	-		

\* CHECK CULTIVAR

\*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

CROP: TIMOTHY (Phleum pratense L.)			LOCATION: SOUTH PEACE					
SEEDING YEAR: 1991			PRODUCTION YEAR: 1992					
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER SURVIVAL RATING	CUT 1 (22nd June)		HERBAGE DRY MATTER YIELD		ANNUAL TOTAL	
			kg/ha	(% check)	CUT 2 (10th Sept)	(% check)	kg/ha	(% check)
CLIMAX (*)	5	9	4531	100	1133	100	5664	100
CAROLA	5	9	3446	76	925	82	4371	77
HJA 1077	5	9	4130	91	696	61	4826	85
HJA 1168	5	9	3662	81	489	43	4151	73
SV 8406	5	9	3704	82	685	60	4390	77
SV 8414	5	9	3744	83	1275	112	5019	89
SV 8505	5	9	3735	82	978	86	4712	83
SVTT 8407	5	9	3750	83	1012	89	4761	84
SVTT 8423	5	9	4417	97	843	74	5260	93
T120-	5	9	4525	100	1864	164	6389	113
SED =	0	0	441	-	304	-	650	-

CROP: TIMOTHY (Phleum pratense L.)			LOCATION: SOUTH PEACE					
SEEDING YEAR: 1991			PRODUCTION YEAR: 1993					
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1 (15th June)		HERBAGE DRY MATTER YIELD		ANNUAL TOTAL		
		kg/ha	(% check)	CUT 2 (26th Aug )	(% check)	kg/ha	(% check)	
CLIMAX (*)	9	1257	100	4901	100	6158	100	
CAROLA	9	1136	90	4503	92	5639	92	
HJA 1077	9	1333	106	4672	95	6006	98	
HJA 1168	9	1082	86	4696	96	5778	94	
SV 8406	9	996	79	4906	100	5901	96	
SV 8414	9	1366	109	4717	96	6083	99	
SV 8505	9	1065	85	4482	91	5547	90	
SVTT 8407	9	1321	105	5182	106	6503	106	
SVTT 8423	9	1215	97	5099	104	6314	103	
T120-	9	2184	174	4555	93	6739	109	
SED =	0	264	-	482	-	499	-	

CROP: TIMOTHY (Phleum pratense L.)			LOCATION: SOUTH PEACE					
SEEDING YEAR: 1991			PRODUCTION YEAR: 2-YEAR MEAN (1992 AND 1993)					
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1		HERBAGE DRY MATTER YIELD		ANNUAL TOTAL		
		kg/ha	(% check)	CUT 2	(% check)	kg/ha	(% check)	
CLIMAX (*)	9	2894	100	3017	100	5911	100	
CAROLA	9	2291	79	2714	90	5005	85	
HJA 1077	9	2731	94	2684	89	5416	92	
HJA 1168	9	2372	82	2593	86	4964	84	
SV 8406	9	2350	81	2795	93	5145	87	
SV 8414	9	2555	88	2996	99	5551	94	
SV 8505	9	2400	83	2730	90	5130	87	
SVTT 8407	9	2535	88	3097	103	5632	95	
SVTT 8423	9	2816	97	2971	98	5787	98	
T120-	9	3354	116	3210	106	6564	111	
SED =	0	257	-	285	-	410	-	

\* CHECK CULTIVAR

\*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT



CROP: WHEATGRASS, CRESTED ( <i>Agropyron cristatum</i> L.)				LOCATION: SOUTH PEACE				
SEEDING YEAR: 1991				PRODUCTION YEAR: 1992				
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER SURVIVAL RATING	CUT 1 (8th June )		CUT 2 (10th Sept)		ANNUAL TOTAL	
			kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
FAIRWAY (*)	5	9	2785	100	762	100	3547	100
HYCREST	5	9	3120	112	1257	165	4378	123
SED =	0	0	382	-	300	-	679	-

CROP: WHEATGRASS, CRESTED ( <i>Agropyron cristatum</i> L.)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1991				PRODUCTION YEAR: 1993			
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1 (15th June)		CUT 2 (26th Aug )		ANNUAL TOTAL	
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
FAIRWAY (*)	9	2743	100	3503	100	6246	100
HYCREST	9	3417	125	4293	123	7709	123
SED =	0	338	-	72	-	381	-

CROP: WHEATGRASS, CRESTED ( <i>Agropyron cristatum</i> L.)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1991				PRODUCTION YEAR: 2-YEAR MEAN (1992 AND 1993)			
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1		CUT 2		ANNUAL TOTAL	
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
FAIRWAY (*)	9	2764	100	2133	100	4897	100
HYCREST	9	3268	118	2775	130	6043	123
SED =	0	255	-	154	-	389	-

\* CHECK CULTIVAR

\*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

CROP: ALFALFA/LUCERNE (Medicago species)			LOCATION: SOUTH PEACE					
SEEDING YEAR: 1991			PRODUCTION YEAR: 1992					
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER SURVIVAL RATING	HERBAGE DRY MATTER YIELD				ANNUAL TOTAL	
			CUT 1 (2nd July )		CUT 2 (10th Sept)		kg/ha	(% check)
			kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
ANIK	5	9	2194	116	196	49	2390	104
BEAVER(*)	5	9	1889	100	400	100	2289	100
PEACE	5	9	1943	103	438	110	2381	104
RAMBLER	5	9	2291	121	273	68	2563	112
5262	5	9	1543	82	416	104	1959	86
5311	5	9	1986	105	487	122	2472	108
5364	5	9	1898	100	575	144	2473	108
BLM_1019	5	9	1794	95	352	88	2145	94
NRG_8301	5	9	1659	88	432	108	2092	91
SF8001	5	9	2238	118	533	133	2771	121
188PF11	5	9	1982	105	569	142	2550	111
188PF12	5	9	1854	98	473	118	2355	103
83CF042	5	9	1836	97	554	139	2390	104
89-03-06	5	9	1836	97	608	152	2444	107
SED =	0	0	163	-	76	-	185	-

CROP: ALFALFA/LUCERNE (Medicago species)			LOCATION: SOUTH PEACE					
SEEDING YEAR: 1991			PRODUCTION YEAR: 1993					
CULTIVAR (**)	WINTER SURVIVAL RATING	HERBAGE DRY MATTER YIELD				ANNUAL TOTAL		
		CUT 1 (4th Aug )		CUT 2 ( # )		kg/ha	(% check)	
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)	
ANIK	9	3407	110	0#	-	3407	110	
BEAVER(*)	9	3100	100	0	-	3100	100	
PEACE	9	2905	94	0	-	2905	94	
RAMBLER	9	3274	106	0	-	3274	106	
5262	9	3044	98	0	-	3044	98	
5311	9	3108	100	0	-	3108	100	
5364	9	2937	95	0	-	2937	95	
BLM_1019	9	2982	96	0	-	2982	96	
NRG_8301	9	2885	93	0	-	2885	93	
SF8001	9	3149	102	0	-	3149	102	
188PF11	9	3195	103	0	-	3195	103	
188PF12	9	3144	101	0	-	3144	101	
83CF042	9	2851	92	0	-	2851	92	
89-03-06	9	3255	105	0	-	3255	105	
SED =	0	228	-	0	-	228	-	

\* CHECK CULTIVAR

\*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

# INSUFFICIENT REGROWTH FOR A SECOND CUT

CROP: ALFALFA/LUCERNE (Medicago species)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1991				PRODUCTION YEAR: 2-YEAR MEAN (1992 AND 1993)			
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1		HERBAGE DRY MATTER YIELD		ANNUAL TOTAL	
		kg/ha	(% check)	kg/ha	CUT 2 (% check)	kg/ha	(% check)
ANIK	9	2801	112	98	49	2899	108
BEAVER (*)	9	2495	100	200	100	2694	100
PEACE	9	2424	97	219	110	2643	98
RAMBLER	9	2782	112	136	68	2919	108
5262	9	2294	92	208	104	2502	93
5311	9	2547	102	243	122	2790	104
5364	9	2417	97	287	144	2705	100
BLM_1019	9	2388	96	176	88	2563	95
NRG_8301	9	2272	91	216	108	2488	92
SF8001	9	2694	108	267	133	2960	110
188PF11	9	2589	104	284	142	2873	107
188PF12	9	2499	100	237	118	2749	102
83CF042	9	2344	94	277	139	2621	97
89-03-06	9	2545	102	304	152	2849	106
SED =	0	146	-	38	-	147	-

\* CHECK CULTIVAR

\*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

CROP: SAINFOIN ( <i>Onobrychis viciifolia</i> Scop.)				LOCATION: SOUTH PEACE				
SEEDING YEAR: 1991				PRODUCTION YEAR: 1992				
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER SURVIVAL RATING	HERBAGE DRY MATTER YIELD					
			CUT 1 (22nd June)		CUT 2 ( # )		ANNUAL TOTAL	
			kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
MELROSE (*)	5	9	3095	100	0#	-	3095	100
NOVA	5	9	2874	93	0	-	2874	93
BSAN_01	5	9	2755	89	0	-	2755	89
BSAN_02	5	9	3048	98	0	-	3048	98
BSAN_03	5	9	2573	83	0	-	2573	83
BSAN_04	5	9	2602	84	0	-	2602	84
SED =	0	0	195	-	0	-	195	-

CROP: SAINFOIN ( <i>Onobrychis viciifolia</i> Scop.)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1991				PRODUCTION YEAR: 1993			
CULTIVAR (**)	WINTER SURVIVAL RATING	HERBAGE DRY MATTER YIELD					
		CUT 1 (15th June)		CUT 2 (26th Aug )		ANNUAL TOTAL	
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
MELROSE (*)	9	1403	100	2561	100	3964	100
NOVA	9	1481	106	2752	107	4233	107
BSAN_01	9	1417	101	2232	87	3649	92
BSAN_02	9	989	70	2448	96	3437	87
BSAN_03	9	1010	72	2533	99	3543	89
BSAN_04	9	1623	116	2421	95	4045	102
SED =	0	216	-	340	-	328	-

CROP: SAINFOIN ( <i>Onobrychis viciifolia</i> Scop.)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1991				PRODUCTION YEAR: 2-YEAR MEAN (1992 AND 1993)			
CULTIVAR (**)	WINTER SURVIVAL RATING	HERBAGE DRY MATTER YIELD					
		CUT 1		CUT 2		ANNUAL TOTAL	
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
MELROSE (*)	9	2249	100	1281	100	3529	100
NOVA	9	2178	97	1376	107	3554	101
BSAN_01	9	2086	93	1116	87	3202	91
BSAN_02	9	2018	90	1224	96	3242	92
BSAN_03	9	1792	80	1266	99	3058	87
BSAN_04	9	2113	94	1211	95	3323	94
SED =	0	146	-	170	-	191	-

\* CHECK CULTIVAR

\*\* SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

# INSUFFICIENT REGROWTH FOR A SECOND CUT

## APPENDIX I: SEED MAINTAINERS/AGENTS OF CULTIVARS

ID#	LOCATION	PHONE #	FAX #
1	Brett-Young Seeds Ltd. Winnipeg, Manitoba	204/261-7932	204/261-7075
2	Pioneer Hi-Bred Ltd. Chatham, Ontario	519/352-6350	519/352-6823
3	United Grain Growers Ltd. Edmonton, Alberta	403/479-2051	403/479-6027
4	Oseco Inc. Brampton, Ontario	416/846-5080	416/846-6909
5	Zajac Performance Seeds North Haledon, New Jersey, USA	201/423-1660	201/423-6018
6	Svalof Seed Ltd. Lindsay, Ontario	705/324-3293	705/324-2550
7	Cascade International Seed Co. Aumsville, Oregon, USA	503/749-1822	503/749-1824
8	Booker Seeds Ltd. Sleaford, Lincolnshire, UK	44-529-304511	44-529-303908
9	Moore Seed Processors Inc. Debolt, Alberta	403/957-3964	403/957-2580
10	Kenneth C. Long Seeds Ltd. Spring Coulee, Alberta	403/653-4114	403/653-4114
11	Agriculture Canada Research Stn. Saskatoon, Saskatchewan	306/975-7014	306/242-1839
12	Agriculture Canada Research Stn. Sainte-Foy, Quebec	418/657-7980	418/648-2402
13	Agriculture Canada Research Stn. Beaverlodge, Alberta	403/354-2212	403/354-8171
14	Pickseed Canada Inc. Richmond Hill, Ontario	416/884-1147	416/884-1538
15	United Grain Growers Ltd. Edmonton, Alberta	403/479-2051	403/479-6027
16	Public cultivar	-	-
17	Richardson Seed Co. Ltd. Burnaby, British Columbia	604/420-3437	604/420-2314
18	Newfield Seeds Ltd. Nipawin, Saskatchewan	306/862-4678	306/862-9505
19	Top Notch Nutri Ltd. (Buckerfield's) Abbotsford, British Columbia	604/852-9286	604/853-9086
20	Phillips' Seed Farm Ltd. Tisdale, Saskatchewan	306/873-5569	306/873-5363
21	SeCan Association Ottawa, Ontario	613/225-6891	613/225-6422