

FORAGE CULTIVAR TRIALS

1992 BULLETIN



AGRICULTURE CANADA RESEARCH STATION
BEAVERLODGE, ALBERTA
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IN CO-OPERATION WITH

Alberta
AGRICULTURE

FORAGE CULTIVAR TRIALS: 1992 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

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INTRODUCTION

This bulletin provides information on the agronomic performance of forage cultivars in the Peace River region of Canada. It is the fourteenth 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, Bill Guise, John Lieverse, and Owen Lee, and with the administrative assistance of Barbara Neumeier. Land was provided by Norm Foster of Beaverlodge. 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	*
Rasti	<i>A. capillaris</i> L.	FIN	9	*
FESCUE, RED				
	<i>Festuca rubra</i> L.			
Boreal	<i>ssp. rubra</i>	CAN	15	8
Ferota	<i>ssp. trichophylla</i>	CSK	8	8
Herald	<i>ssp. rubra</i>	NLD	1	8
Kong	<i>ssp. rubra</i>	NLD	1	8
Rosanna	<i>ssp. trichophylla</i>	CSK	8	8
Salem	<i>ssp. rubra</i>	USA	7	8
Samanta	<i>ssp. rubra</i>	NLD	1	8
Vista	<i>ssp. rubra</i>	USA	5	8
ERU 764	<i>ssp. rubra</i>	NLD	1	8
ERG 1143	<i>ssp. commutata</i>	NLD	1	8
ERG 676-1	<i>ssp. commutata</i>	NLD	1	8
FESCUE, TALL				
	<i>Festuca arundinacea</i> Schreber			
Alta		USA	16	9, 17
HJA 2170		FIN	9	9, 17
ORCHARDGRASS				
	<i>Dactylis glomerata</i> L.			
Kay		CAN	4, 10, 17	10, 18
Tatu		FIN	9	10, 18
TIMOTHY				
	<i>Phleum pratense</i> L.			
Climax		CAN	16, 18	11, 19-20
Carola		SWE	3	11, 19-20
HJA 1077		FIN	9	11, 19-20
HJA 1168		FIN	9	11, 19-20
SV 8406		SWE	6	11, 19-20
SV 8414		SWE	6	11, 19-20
SV 8505		SWE	6	11, 19-20
SVTT 8407		SWE	6	11, 19-20
SVTT 8423		SWE	6	11, 19-20
T120		SWE	3	11, 19-20
WHEATGRASS, CRESTED				
	<i>Agropyron cristatum</i> L.			
Fairway		CAN	16	12, 21
Hycrest	(hybrid cultivar)	USA	10	12, 21

CULTIVAR INDEX OF GRASSES AND LEGUMES

LEGUME SPECIES & Cultivar	Scientific name	Country of origin [#]	Seed agent/ maintainer ^{##}	Page
ALFALFA/LUCERNE				
	<i>Medicago</i> species			
Anik	<i>M. falcata</i> L.	CAN	19	13-14, 22-24
Beaver	<i>M. sativa</i> L.	CAN	20	13-14, 22-24
Peace	<i>M. sativa</i> L.	CAN	21	13-14, 22-24
Rambler	<i>M. media</i> L.	CAN	18	13-14, 22-24
5262	<i>M. sativa</i> L.	USA	2	13-14, 22-24
5311	<i>M. sativa</i> L.	USA	2	13-14, 22-24
5364	<i>M. sativa</i> L.	USA	2	13-14, 22-24
BLM 1019	<i>M. media</i> L.	CAN	13	13-14, 22-24
NRG 8301	<i>M. media</i> L.	CAN	13	13-14, 22-24
AC Caribou	<i>M. sativa</i> L.	CAN	1, 12, 21	13-14, 22-24
188PF11	<i>M. sativa</i> L.	USA	2	13-14, 22-24
188PF12	<i>M. sativa</i> L.	USA	2	13-14, 22-24
83CF042	<i>M. sativa</i> L.	USA	2	13-14, 22-24
89-03-06	<i>M. sativa</i> L.	CAN	11	13-14, 22-24
SAINFOIN <i>Onobrychis viciifolia</i> Scop.				
Melrose		CAN	21	15, 25-26
Nova		CAN	18	15, 25-26
BSAN 01		CAN	13	15, 25-26
BSAN 02		CAN	13	15, 25-26
BSAN 03		CAN	13	15, 25-26
BSAN 04		CAN	13	15, 25-26

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.

* Establishment of these cultivars, in both seed and herbage trials, was too poor to justify continuation.

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 1990 and was harvested for two production years, 1991 and 1992. The trials were conducted in the north and south of the Peace region of Alberta. The northern 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); in the tables, this is referred to as *NORTH PEACE*. In order to make the southern trials more representative of the area, each trial conducted in the south was split among two sites; two of the four replicates were 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), while the remaining two replicates were at Foster's Farm near Beaverlodge (55 10'N, 119 23'W) on a soil classified as an Orthic Humic Gleysol (Goose fine loam to Codner clay). Each site had been fallow for at least two crop years before seeding. Prior to seeding, 150 kg/ha of 12-51-0 fertilizer and 100 kg/ha of 0-0-50-17 fertilizer was incorporated into each seedbed. Nitrogen fertilizer (as 34:0:0) was applied to each grass trial in the fall of 1990 and 1991, 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. Thus, there were eight trials in total including six grass and two legume species. Separate seed and herbage production trials of each of the eight species were seeded at both the *North* and *South* Peace locations in late May or early June, 1990. The seeding rates were 200 viable seeds/m² for the seed trials and 500 viable seeds/m² for the herbage trials. The legume seed was treated with *Rhizobia* inoculant immediately prior to seeding.

The experimental design for each species was a randomized complete block with four replications. Individual experimental plots 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 m²). 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 hardiness (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.

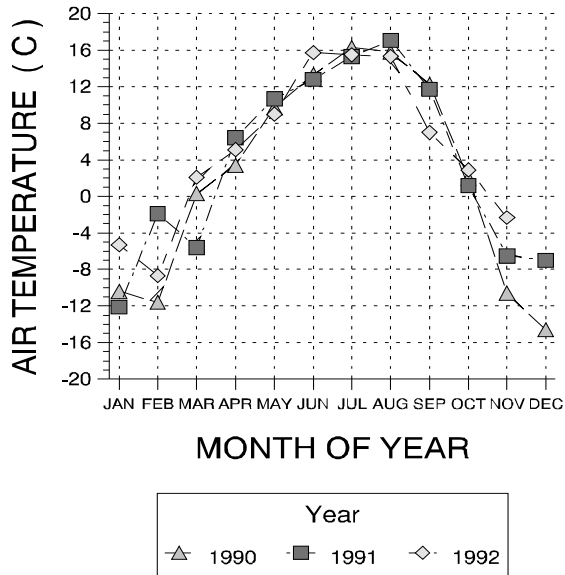
In the seed trials, pollination of the legumes was ensured by

the provision of leafcutting bees (*Megachile rotundata*) in addition to the natural pollinating insects (*Bombus* and *Megachile* spp., and *Apis*).

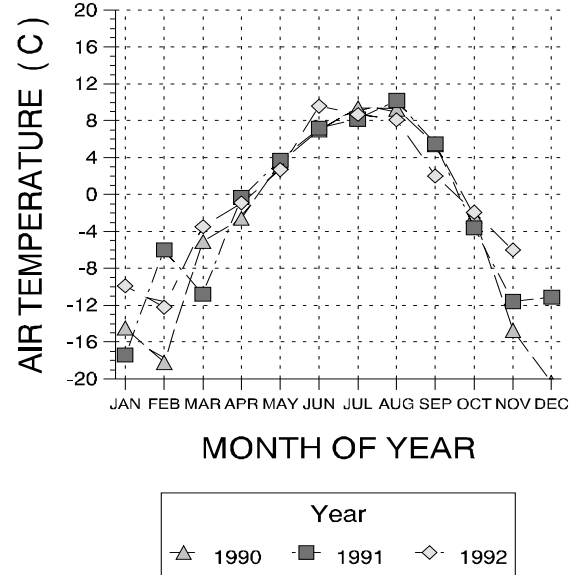
Crop establishment was not good enough to justify the continuation of the six grass trials for herbage production at the *North Peace* site. Harsh environmental conditions killed all the legumes grown for seed and herbage at this same site during winter 1990-91 and, in the following winter, caused the discontinuation of some seed trials. Colonial bentgrass trials with two cultivars (*Exeter* and *Rasti*) were seeded at each site but none established well enough to justify continuation.

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.

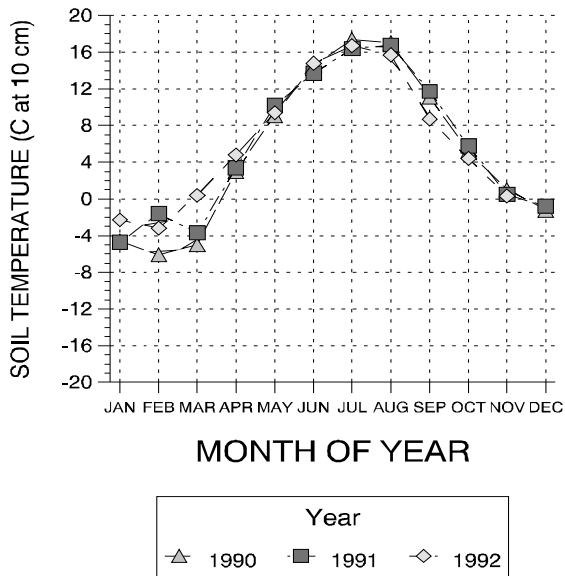
MEAN DAILY AIR TEMPERATURE
BEAVERLODGE RESEARCH STATION



MINIMUM DAILY AIR TEMPERATURE
BEAVERLODGE RESEARCH STATION



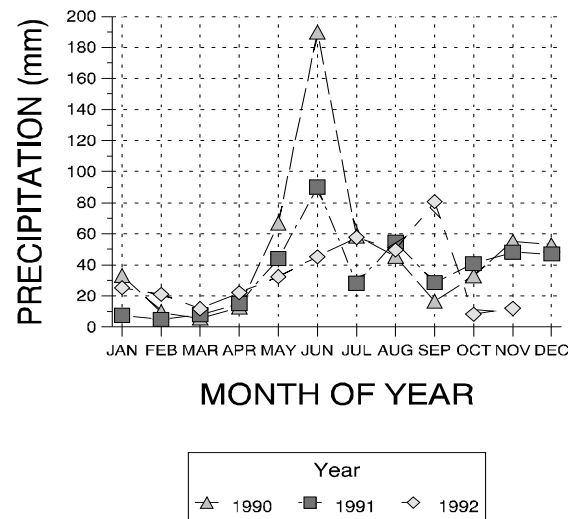
MEAN DAILY SOIL TEMPERATURE
BEAVERLODGE RESEARCH STATION



TOTAL PRECIPITATION

BEAVERLODGE RESEARCH STATION

Annual Precipitation (1916-81) = 453 mm



PERFORMANCE
OF
CULTIVARS
IN
SEED TRIALS

CROP: FESCUE, RED (<i>Festuca rubra</i> L.)											LOCATION: SOUTH PEACE							
SEEDING YEAR: 1990											PRODUCTION YEAR: 1991, 1992 & TWO-YEAR MEAN							
CULTIVAR (**)	ESTABLISHMENT	WINTER			FLOWERING DATE			SEED MATURITY DATE			SEED YIELD(kg/ha)			SEED YIELD(% check)				
	RATING (0-5 WITH 5=GOOD)	SURVIVAL 1991	RATING 1992	MEAN	(Day 1=May 1)	1991	1992	MEAN	(Day 1=July 1)	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN
BOREAL (*)	3	9	9	9	24	40	32		15	15	15	677	277	477		100	100	100
FEROTA	4	9	9	9	24	31	28		10	7	9	152	180	166		23	65	35
HERALD	3	9	9	9	24	40	32		15	14	14	489	130	309		72	47	65
KONG	3	9	9	9	24	44	34		15	15	15	336	133	235		50	48	49
ROSANNA	3	9	9	9	24	30	27		5	7	6	121	112	116		18	40	24
SALEM	2	9	9	9	24	39	31		15	15	15	374	189	281		55	68	59
SAMANTA	3	9	9	9	24	38	31		15	10	13	216	143	180		32	52	38
VISTA	3	9	9	9	24	38	31		15	14	14	579	104	341		85	38	72
ERU_764	4	9	9	9	24	39	32		15	15	15	780	346	563		115	125	118
ERG_1143	2	9	9	9	24	32	28		15	7	11	167	79	123		25	28	26
ERG_676-1	3	9	9	9	24	38	31		11	10	11	218	171	195		32	62	41
SED =		0.3	0.1	0	0.1	0	1.1	0.5	1.5	0	0.8	61	33	35	-	-	-	

CROP: FESCUE, RED (<i>Festuca rubra</i> L.)										LOCATION: NORTH PEACE								
SEEDING YEAR: 1990										PRODUCTION YEAR: 1991, 1992 & TWO-YEAR MEAN								
CULTIVAR (**)	ESTABLISHMENT RATING		WINTER SURVIVAL		RATING MEAN	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	1991	1992		1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	
BOREAL (*)	4		7	0 [#]	-	41	-	-	22	-	-	580	-	-	100	-	-	
FEROTA	4		6	0	-	22	-	-	22	-	-	53	-	-	9	-	-	
HERALD	5		8	0	-	41	-	-	22	-	-	250	-	-	43	-	-	
KONG	5		8	0	-	41	-	-	22	-	-	270	-	-	46	-	-	
ROSANNA	4		7	0	-	41	-	-	22	-	-	39	-	-	7	-	-	
SALEM	4		8	0	-	41	-	-	22	-	-	305	-	-	53	-	-	
SAMANTA	4		7	0	-	22	-	-	22	-	-	65	-	-	11	-	-	
VISTA	4		8	0	-	41	-	-	22	-	-	275	-	-	47	-	-	
ERU_764	5		8	0	-	41	-	-	22	-	-	597	-	-	103	-	-	
ERG_1143	3		8	0	-	22	-	-	22	-	-	171	-	-	30	-	-	
ERG_676-1	5		8	0	-	22	-	-	22	-	-	244	-	-	42	-	-	
SED =	0.4		0.6	0	-	0	-	-	0	-	-	50	-	-	-	-	-	

* 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, TALL (<i>Festuca arundinacea</i> Schreber)										LOCATION: SOUTH PEACE								
SEEDING YEAR: 1990										PRODUCTION YEAR: 1991, 1992 & 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)	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	
ALTA(*)	5		9	9	9	36	46	41	18	19	18	590	376	483	100	100	100	
HJA_2170	5		9	9	9	36	46	41	17	16	17	816	459	638	138	122	132	
SED =		0.4	0	0	0	0	0	0	0	0	0	114	18	58	-	-	-	

CROP: FESCUE, TALL (<i>Festuca arundinacea</i> Schreber)										LOCATION: NORTH PEACE									
SEEDING YEAR: 1990										PRODUCTION YEAR: 1991, 1992 & TWO-YEAR MEAN									
CULTIVAR (**)	ESTABLISHMENT RATING		WINTER SURVIVAL			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)	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN		
ALTA (*)	5		8	0 [#]	-	41	-	-	22	-	-	1026	-	-	100	-	-		
HJA_2170	5		9	0	-	41	-	-	22	-	-	1062	-	-	104	-	-		
SED =		0	0.4	0	-	0	-	-	0	-	-	56	-	-	-	-	-		

* 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: ORCHARDGRASS (<i>Dactylis glomerata</i> L.)									LOCATION: SOUTH PEACE								
SEEDING YEAR: 1990									PRODUCTION YEAR: 1991, 1992 & 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)		1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN
KAY(*)	4		9	9	9	24	39	32	11	16	14	252	323	288	100	100	100
TATU	4		9	9	9	24	39	32	17	16	16	161	210	185	64	65	64
SED =		0	0	0	0	0	0	0	0	0	0	33	53	31	-	-	-

CROP: ORCHARDGRASS (<i>Dactylis glomerata</i> L.)									LOCATION: NORTH PEACE								
SEEDING YEAR: 1990									PRODUCTION YEAR: 1991, 1992 & 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)		1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN
KAY(*)	4		7	0 [#]	-	41	-	-	22	-	-	233	-	-	100	-	-
TATU	4		7	0	-	41	-	-	22	-	-	230	-	-	99	-	-
SED =		0.7	0.4	0	-	0	-	-	0	-	-	17	-	-	-	-	-

* 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: TIMOTHY (<i>Phleum pratense</i> L.)										LOCATION: SOUTH PEACE						
SEEDING YEAR: 1990										PRODUCTION YEAR: 1991, 1992 & TWO-YEAR MEAN						
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	SURVIVAL 1991	WINTER RATING 1992	MEAN	FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD(kg/ha)			SEED YIELD(% check)		
					1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN
CLIMAX(*)	3	9	9	9	38	48	43	32	30	31	151	32 [#]	92	100	100	100
CAROLA	3	9	9	9	38	48	43	29	30	30	166	92	129	110	284	141
HJA_1077	3	9	9	9	38	49	43	29	30	30	228	55	141	151	170	154
HJA_1168	3	9	9	9	38	48	43	29	30	30	262	63	163	174	196	178
SV_8406	4	9	9	9	38	48	43	29	30	30	189	72	130	125	222	142
SV_8414	3	9	9	9	38	49	43	29	30	30	228	110	169	151	341	185
SV_8505	3	9	9	9	38	48	43	29	30	30	270	64	167	179	198	183
SVTT_8407	3	9	9	9	38	48	43	29	30	30	277	63	170	184	194	186
SVTT_8423	3	9	9	9	38	49	43	29	30	30	249	60	154	165	185	169
T120	3	9	9	9	38	48	43	29	30	30	369	71	220	245	221	240
SED =	0.4	0	0	0	0	0	0	0	0	0	42	25	24	-	-	-

CROP: TIMOTHY (<i>Phleum pratense</i> L.)										LOCATION: NORTH PEACE						
SEEDING YEAR: 1990										PRODUCTION YEAR: 1991, 1992 & TWO-YEAR MEAN						
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	SURVIVAL 1991	WINTER RATING 1992	MEAN	FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD(kg/ha)			SEED YIELD(% check)		
					1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN
CLIMAX(*)	3	8	0 [#]	-	41	-	-	44	-	-	430	-	-	100	-	-
CAROLA	3	7	0	-	41	-	-	44	-	-	391	-	-	91	-	-
HJA_1077	4	8	0	-	41	-	-	44	-	-	952	-	-	222	-	-
HJA_1168	3	8	0	-	41	-	-	44	-	-	816	-	-	190	-	-
SV_8406	3	8	0	-	41	-	-	44	-	-	497	-	-	116	-	-
SV_8414	4	7	0	-	41	-	-	44	-	-	561	-	-	131	-	-
SV_8505	3	8	0	-	41	-	-	44	-	-	536	-	-	125	-	-
SVTT_8407	3	8	0	-	41	-	-	44	-	-	655	-	-	152	-	-
SVTT_8423	3	8	0	-	41	-	-	44	-	-	607	-	-	141	-	-
T120	3	8	0	-	41	-	-	44	-	-	562	-	-	131	-	-
SED =	0.3	0.4	0	-	0	-	-	0	-	-	81	-	-	-	-	-

* 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

SPRAY-DRIFT OF CHEMICALS APPLIED TO A NEIGHBOURING FIELD MAY HAVE AFFECTED 1992 SEED YIELDS

CROP: WHEATGRASS, CRESTED (<i>Agropyron cristatum</i> L.)											LOCATION: SOUTH PEACE						
SEEDING YEAR: 1990											PRODUCTION YEAR: 1991, 1992 & 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)	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN
FAIRWAY(*)	5		9	9	9	38	42	40	32	36	34	1385	238	812	100	100	100
HYCREST	5		8	9	9	38	42	40	37	36	36	890	433	662	64	182	82
SED =		0	0	0	0	0	0	0	0	0	0	116	7	58	-	-	-

CROP: WHEATGRASS, CRESTED (<i>Agropyron cristatum</i> L.)										LOCATION: NORTH PEACE							
SEEDING YEAR: 1990										PRODUCTION YEAR: 1991, 1992 & TWO-YEAR MEAN							
CULTIVAR (**)	ESTABLISHMENT RATING		WINTER			FLOWERING DATE			SEED MATURITY DATE			SEED YIELD(kg/ha)			SEED YIELD(% check)		
	(0-5	WITH 5=GOOD)	SURVIVAL 1991	RATING 1992	MEAN	(Day 1=May 1)			(Day 1=July 1)			1991	1992	MEAN	1991	1992	MEAN
FAIRWAY(*)	4		8	0 [#]	-	41	-	-	44	-	-	765	-	-	100	-	-
HYCREST	5		8	0	-	41	-	-	44	-	-	694	-	-	91	-	-
SED =		0.3	0.3	0	-	0	-	-	0	-	-	57	-	-	-	-	-

* 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: ALFALFA/LUCERNE (<i>Medicago species</i>)									LOCATION: SOUTH PEACE								
SEEDING YEAR: 1990									PRODUCTION YEAR: 1991, 1992 & 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)		1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN
ANIK	4		9	8	9	45	53	49	57	58	58	186	73	129	42	188	54
BEAVER(*)	4		9	9	9	45	60	53	57	73	65	443	39	241	100	100	100
PEACE	5		9	9	9	45	55	50	57	73	65	533	40	286	120	103	119
RAMBLER	5		9	9	9	45	60	53	57	73	65	459	102	281	104	264	117
5262	5		9	9	9	45	60	53	57	73	65	347	13	180	78	32	75
5311	5		9	9	9	45	57	51	57	73	65	452	31	242	102	79	100
5364	5		9	9	9	45	60	53	57	73	65	380	12	196	86	31	81
BLM 1019	4		9	9	9	45	57	51	57	73	65	381	41	211	86	107	88
NRG_8301	4		9	9	9	45	60	53	57	73	65	340	22	181	77	56	75
AC CARIBOU	5		9	9	9	45	60	53	57	73	65	459	26	242	104	67	101
188PF11	4		9	9	9	45	60	53	57	73	65	417	34	225	94	87	94
188PF12	5		9	9	9	45	60	53	57	73	65	323	23	173	73	59	72
83CF042	5		9	9	9	45	60	53	57	73	65	376	15	195	85	38	81
89-03-06	5		9	9	9	45	56	51	57	73	65	316	17	166	71	44	69
SED =	0.4		0.2	0.2	0.1	0	0.2	0.1	0	0	0	58	18	30	-	-	-

* CHECK CULTIVAR

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

CROP: ALFALFA/LUCERNE (<i>Medicago species</i>)										LOCATION: NORTH PEACE							
SEEDING YEAR: 1990										PRODUCTION YEAR: 1991, 1992 & TWO-YEAR MEAN							
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER SURVIVAL RATING			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD(kg/ha)			SEED YIELD(% check)			
		1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	
ANIK	2	3 ^a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BEAVER(*)	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PEACE	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
RAMBLER	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5262	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5311	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5364	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BLM_1019	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NRG_8301	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
AC CARIBOU	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
188PF11	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
188PF12	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
83CF042	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
89-03-06	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SED = 0.3		0.7															

* CHECK CULTIVAR

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

TRIAL DICONCLUDED IN SUMMER 1991 BECAUSE OF POOR SURVIVAL DURING WINTER 1990-91

CROP: SAINFOIN (<i>Onobrychis viciifolia</i> Scop.)									LOCATION: SOUTH PEACE								
SEEDING YEAR: 1990									PRODUCTION YEAR: 1991, 1992 & TWO-YEAR MEAN								
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER SURVIVAL RATING			FLOWERING DATE (Day 1=May 1)			SEED MATURITY DATE (Day 1=July 1)			SEED YIELD(kg/ha)			SEED YIELD(% check)			
		1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	
MELROSE (*)	5	9	9	9	38	46	42	31	29	30	1165	434	800	100	100	100	
NOVA	5	8	9	9	38	46	42	31	29	30	1370	500	935	118	115	117	
BSAN_01	5	8	9	9	40	46	43	31	29	30	946	329	638	81	76	80	
BSAN_02	5	9	9	9	40	46	43	31	29	30	1263	309	786	108	71	98	
BSAN_03	4	9	9	9	40	46	43	31	29	30	1107	356	731	95	82	91	
BSAN_04	5	9	9	9	40	46	43	31	29	30	1036	325	680	89	75	85	
SED =	0.4	0.3	0.2	0.2	0.3	0	0.1	0	0	0	150	112	94	-	-	-	

CROP: SAINFOIN (<i>Onobrychis viciifolia</i> Scop.)										LOCATION: NORTH PEACE							
SEEDING YEAR: 1990										PRODUCTION YEAR: 1991, 1992 & 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)	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN	1991	1992	MEAN
MELROSE (*)	3		3'	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NOVA	2		2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BSAN_01	2		2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BSAN_02	2		3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BSAN_03	2		2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BSAN_04	2		3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SED =		0.5	0.8														

* CHECK CULTIVAR

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

TRIAL DICONCLUDED IN SUMMER 1991 BECAUSE OF POOR SURVIVAL DURING WINTER 1990-91

PERFORMANCE
OF
CULTIVARS
IN
HERBAGE TRIALS

CROP: FESCUE, TALL (<i>Festuca arundinacea</i> Schreber)					LOCATION: SOUTH PEACE			
SEEDING YEAR: 1990					PRODUCTION YEAR: 1991			
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER SURVIVAL RATING	CUT 1 (28th June) kg/ha (% check)		CUT 2 () kg/ha (% check)		ANNUAL TOTAL kg/ha (% check)	
ALTA (*)	5	8	1256	100	0	-	1256	100
HJA_2170	5	8	1775	141	0	-	1775	141
SED =		0	15	-	0	-	15	-

CROP: FESCUE, TALL (<i>Festuca arundinacea</i> Schreber)					LOCATION: SOUTH PEACE			
SEEDING YEAR: 1990					PRODUCTION YEAR: 1992			
CULTIVAR (**)		WINTER SURVIVAL RATING	CUT 1 (23rd June) kg/ha (% check)		CUT 2 (10th Sept) kg/ha (% check)		ANNUAL TOTAL kg/ha (% check)	
ALTA (*)		9	1495	100	665	100	2159	100
HJA_2170		9	1655	111	1736	261	3390	157
SED =		0	548	-	69	-	617	-

CROP: FESCUE, TALL (<i>Festuca arundinacea</i> Schreber)					LOCATION: SOUTH PEACE			
SEEDING YEAR: 1990					PRODUCTION YEAR: 2-YEAR MEAN (1991 AND 1992)			
CULTIVAR (**)		WINTER SURVIVAL RATING	CUT 1 kg/ha (% check)		CUT 2 kg/ha (% check)		ANNUAL TOTAL kg/ha (% check)	
ALTA (*)		9	1375	100	332	100	1708	100
HJA_2170		9	1715	125	868	261	2583	151
SED =		0	274	-	35	-	309	-

* CHECK CULTIVAR

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

CROP: ORCHARDGRASS (<i>Dactylis glomerata</i> L.)					LOCATION: SOUTH PEACE			
SEEDING YEAR: 1990					PRODUCTION YEAR: 1991			
CULTIVAR (**)	ESTABLISHMENT	WINTER	HERBAGE DRY MATTER YIELD					
	RATING	SURVIVAL	CUT 1 (28th June)		CUT 2 ()		ANNUAL TOTAL	
	(0-5 WITH 5=GOOD)	RATING	kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
KAY (*)	5	9	1561	100	0	-	1561	100
TATU	5	9	1431	92	0	-	1431	92
SED = 0.4		0	28	-	0	-	28	-

CROP: ORCHARDGRASS (<i>Dactylis glomerata</i> L.)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1990				PRODUCTION YEAR: 1992			
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1 (23rd June)		CUT 2 (10th Sept)		ANNUAL TOTAL	
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
KAY(*)	9	2073	100	1770	100	3842	100
TATU	9	2101	101	1838	104	3940	103
SED =		0	270	-	218	-	488

CROP: ORCHARDGRASS (<i>Dactylis glomerata</i> L.)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1990				PRODUCTION YEAR: 2-YEAR MEAN (1991 AND 1992)			
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1		CUT 2		ANNUAL TOTAL	
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
KAY(*)	9	1817	100	885	100	2702	100
TATU	9	1766	97	919	104	2685	99
SED =		0	136	-	109	-	245

* CHECK CULTIVAR

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

CROP: TIMOTHY (<i>Phleum pratense</i> L.)					LOCATION: SOUTH PEACE			
SEEDING YEAR: 1990					PRODUCTION YEAR: 1991			
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER SURVIVAL RATING	CUT 1 (28th June)		CUT 2 ()		ANNUAL TOTAL	
			kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
CLIMAX(*)	3	9	1531	100	0	-	1531	100
CAROLA	4	9	2299	150	0	-	2299	150
HJA_1077	4	9	1813	118	0	-	1813	118
HJA_1168	4	9	2109	138	0	-	2109	138
SV_8406	4	9	1554	101	0	-	1554	101
SV_8414	4	9	1982	129	0	-	1982	129
SV_8505	3	9	1620	106	0	-	1620	106
SVTT_8407	4	9	2094	137	0	-	2094	137
SVTT_8423	4	9	1469	96	0	-	1469	96
T120	4	9	2054	134	0	-	2054	134
SED = 0.3		0	307	-	0	-	307	-

CROP: TIMOTHY (<i>Phleum pratense</i> L.)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1990				PRODUCTION YEAR: 1992			
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1 (23rd June)		CUT 2 ()		ANNUAL TOTAL	
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
CLIMAX(*)	9	1729	100	0	-	1729	100
CAROLA	9	2486	144	0	-	2486	144
HJA_1077	9	2990	173	0	-	2990	173
HJA_1168	9	1161	67	0	-	1161	67
SV_8406	9	1959	113	0	-	1959	113
SV_8414	9	1676	97	0	-	1676	97
SV_8505	9	1888	109	0	-	1888	109
SVTT_8407	9	3057	177	0	-	3057	177
SVTT_8423	9	2039	118	0	-	2039	118
T120	9	2542	147	0	-	2542	147
SED =	0	496	-	0	-	496	-

* CHECK CULTIVAR

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

CROP: TIMOTHY (<i>Phleum pratense</i> L.)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1990				PRODUCTION YEAR: 2-YEAR MEAN (1991 AND 1992)			
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1		CUT 2		ANNUAL TOTAL	
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
CLIMAX(*)	9	1630	100	0	-	1630	100
CAROLA	9	2393	147	0	-	2393	147
HJA_1077	9	2401	147	0	-	2401	147
HJA_1168	9	1635	100	0	-	1635	100
SV_8406	9	1756	108	0	-	1756	108
SV_8414	9	1829	112	0	-	1829	112
SV_8505	9	1754	108	0	-	1754	108
SVTT_8407	9	2575	158	0	-	2575	158
SVTT_8423	9	1754	108	0	-	1754	108
T120	9	2298	141	0	-	2298	141
SED =	0	292	-	0	-	292	-

* 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: 1990				PRODUCTION YEAR: 1991			
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER SURVIVAL RATING	CUT 1 (28th June) kg/ha (% check)		CUT 2 () kg/ha (% check)		ANNUAL TOTAL kg/ha (% check)
FAIRWAY (*)	5	9	4781	100	0	-	4781 100
HYCREST	4	9	4438	93	0	-	4438 93
SED =	0	0	354	-	0	-	354 -

CROP: WHEATGRASS, CRESTED (<i>Agropyron cristatum</i> L.)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1990				PRODUCTION YEAR: 1992			
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1 (23rd June) kg/ha (% check)		CUT 2 (10th Sept) kg/ha (% check)		ANNUAL TOTAL kg/ha (% check)	
FAIRWAY (*)	9	3048	100	2514	100	5562	100
HYCREST	9	2957	97	2502	100	5459	98
SED =	0	667	-	589	-	1256	-

CROP: WHEATGRASS, CRESTED (<i>Agropyron cristatum</i> L.)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1990				PRODUCTION YEAR: 2-YEAR MEAN (1991 AND 1992)			
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1 kg/ha (% check)		CUT 2 kg/ha (% check)		ANNUAL TOTAL kg/ha (% check)	
FAIRWAY (*)	9	3915	100	1257	100	5172	100
HYCREST	9	3698	94	1251	100	4948	96
SED =	0	378	-	294	-	652	-

* CHECK CULTIVAR

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

CROP: ALFALFA/LUCERNE (<i>Medicago</i> species) SEEDING YEAR: 1990					LOCATION: SOUTH PEACE PRODUCTION YEAR: 1991			
CULTIVAR (**)	ESTABLISHMENT RATING	WINTER SURVIVAL RATING	HERBAGE DRY MATTER YIELD				ANNUAL TOTAL	
	(0-5 WITH 5=GOOD)		CUT 1 (26th June) kg/ha	(% check)	CUT 2 (9th Sept) kg/ha	(% check)	kg/ha	(% check)
ANIK	4	9	3577	91	4259	96	7836	94
BEAVER(*)	5	9	3933	100	4433	100	8367	100
PEACE	5	9	3519	89	4271	96	7790	93
RAMBLER	4	9	3869	98	4275	96	8144	97
5262	5	9	3593	91	3994	90	7586	91
5311	4	9	3694	94	4566	103	8260	99
5364	4	9	3377	86	3906	88	7283	87
BLM_1019	4	9	3329	85	3822	86	7151	85
NRG_8301	4	9	3394	86	3666	83	7059	84
AC CARIBOU	5	9	3752	95	4322	97	8075	97
188PF11	4	9	3858	98	4267	96	8125	97
188PF12	4	9	3441	87	3997	90	7439	89
83CF042	4	9	3429	87	3814	86	7243	87
89-03-06	4	9	3556	90	3826	86	7382	88
SED = 0.4		0	311	-	383	-	675	-
* CHECK CULTIVAR								
** SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT								

CROP: ALFALFA/LUCERNE (<i>Medicago</i> species) SEEDING YEAR: 1990				LOCATION: SOUTH PEACE PRODUCTION YEAR: 1992			
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1 (27th June)		CUT 2 (10th Sept)		ANNUAL TOTAL	
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
ANIK	9	2132	124	878	106	3010	118
BEAVER(*)	9	1724	100	832	100	2555	100
PEACE	9	1740	101	686	82	2426	95
RAMBLER	9	1821	106	803	97	2624	103
5262	9	2217	129	969	117	3187	125
5311	9	1821	106	759	91	2579	101
5364	8	2099	122	910	109	3009	118
BLM_1019	9	1630	95	890	107	2520	99
NRG_8301	9	1489	86	776	93	2265	89
AC CARIBOU	9	2142	124	920	111	3063	120
188PF11	9	1888	110	853	103	2741	107
188PF12	9	1667	97	781	94	2447	96
83CF042	9	1609	93	786	95	2395	94
89-03-06	9	1580	92	665	80	2245	88
SED =	0.4	368	-	111	-	405	-

* CHECK CULTIVAR
 ** SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

CROP: ALFALFA/LUCERNE (<i>Medicago</i> species) SEEDING YEAR: 1990				LOCATION: SOUTH PEACE PRODUCTION YEAR: 2-YEAR MEAN (1991 AND 1992)			
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1		CUT 2		ANNUAL TOTAL	
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
ANIK	9	2855	101	2568	98	5423	99
BEAVER(*)	9	2828	100	2633	100	5461	100
PEACE	9	2630	93	2478	94	5108	94
RAMBLER	9	2845	101	2539	96	5384	99
5262	9	2905	103	2482	94	5386	99
5311	9	2758	97	2662	101	5420	99
5364	9	2738	97	2408	91	5146	94
BLM_1019	9	2480	88	2356	89	4835	89
NRG_8301	9	2441	86	2221	84	4662	85
AC CARIBOU	9	2947	104	2621	100	5569	102
188PF11	9	2873	102	2560	97	5433	99
188PF12	9	2554	90	2389	91	4943	91
83CF042	9	2519	89	2300	87	4819	88
89-03-06	9	2568	91	2245	85	4814	88
SED =	0.2	241	-	199	-	393	-

* CHECK CULTIVAR
** SEE APPENDIX I FOR IDENTIFICATION OF SEED MAINTAINER OR AGENT

CROP: SAINFOIN (<i>Onobrychis viciifolia</i> Scop.)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1990				PRODUCTION YEAR: 1991			
CULTIVAR (**)	ESTABLISHMENT RATING (0-5 WITH 5=GOOD)	WINTER SURVIVAL RATING	CUT 1 (26th June) kg/ha (% check)		CUT 2 () kg/ha (% check)		ANNUAL TOTAL kg/ha (% check)
MELROSE (*)	5	9	3330	100	0	-	3330 100
NOVA	5	9	3215	97	0	-	3215 97
BSAN_01	4	9	3113	93	0	-	3113 93
BSAN_02	4	9	2256	68	0	-	2256 68
BSAN_03	4	9	2694	81	0	-	2694 81
BSAN_04	3	9	2781	84	0	-	2781 84
SED =	0.6	0	523	-	0	-	523 -

CROP: SAINFOIN (<i>Onobrychis viciifolia</i> Scop.)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1990				PRODUCTION YEAR: 1992			
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1 (23rd June) kg/ha (% check)		CUT 2 (10th Sept) kg/ha (% check)		ANNUAL TOTAL kg/ha (% check)	
MELROSE (*)	9	2847	100	1491	100	4338	100
NOVA	9	2399	84	1239	83	3638	84
BSAN_01	9	2313	81	1193	80	3506	81
BSAN_02	9	1850	65	343	23	2193	51
BSAN_03	9	2415	85	1203	81	3619	83
BSAN_04	9	2115	74	1134	76	3248	75
SED =	0.3	244	-	345	-	485	-

* CHECK CULTIVAR

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

CROP: SAINFOIN (<i>Onobrychis viciifolia</i> Scop.)				LOCATION: SOUTH PEACE			
SEEDING YEAR: 1990				PRODUCTION YEAR: 2-YEAR MEAN (1991 AND 1992)			
CULTIVAR (**)	WINTER SURVIVAL RATING	CUT 1		CUT 2		ANNUAL TOTAL	
		kg/ha	(% check)	kg/ha	(% check)	kg/ha	(% check)
MELROSE (*)	9	3088	100	746	100	3834	100
NOVA	9	2807	91	620	83	3427	89
BSAN_01	9	2713	88	596	80	3309	86
BSAN_02	9	2053	66	171	23	2224	58
BSAN_03	9	2555	83	602	81	3156	82
BSAN_04	9	2448	79	567	76	3015	79
SED =	0.1	289	-	172	-	357	-

* CHECK CULTIVAR

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

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