

Forage Cultivar Trials

Northern Research Group
Canada Agriculture Research Branch
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In cooperation with



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

Publication: NRG 92-22

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 | ssp. <i>rubra</i> | CAN | 15 | 8 |
| Ferota | ssp. <i>trichophylla</i> | CSK | 8 | 8 |
| Herald | ssp. <i>rubra</i> | NLD | 1 | 8 |
| Kong | ssp. <i>rubra</i> | NLD | 1 | 8 |
| Rosanna | ssp. <i>trichophylla</i> | CSK | 8 | 8 |
| Salem | ssp. <i>rubra</i> | USA | 7 | 8 |
| Samanta | ssp. <i>rubra</i> | NLD | 1 | 8 |
| Vista | ssp. <i>rubra</i> | USA | 5 | 8 |
| ERU 764 | ssp. <i>rubra</i> | NLD | 1 | 8 |
| ERG 1143 | ssp. <i>commutata</i> | NLD | 1 | 8 |
| ERG 676-1 | ssp. <i>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.

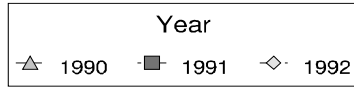
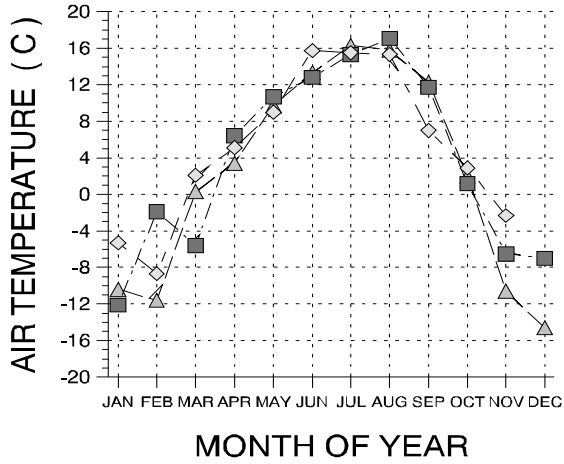
In the *seed* trials, pollination of the legumes was ensured by

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

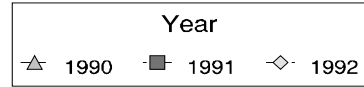
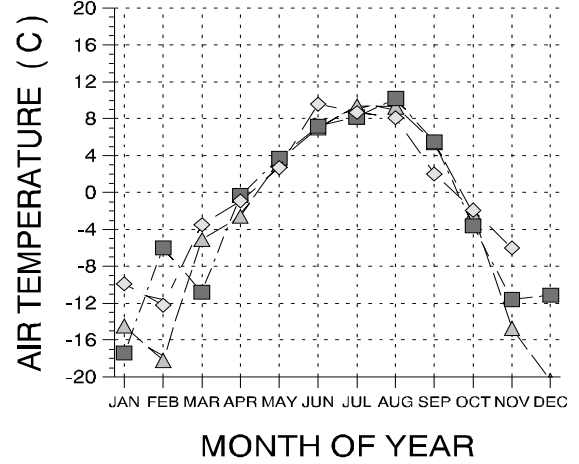
Crop establishment was not good enough to justify the continuation of the six grass trials for herbage production at the *North Peace* site. Harsh environmental conditions killed all the legumes grown for seed and herbage at this same site during winter 1990-91 and, in the following winter, caused the 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.

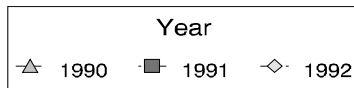
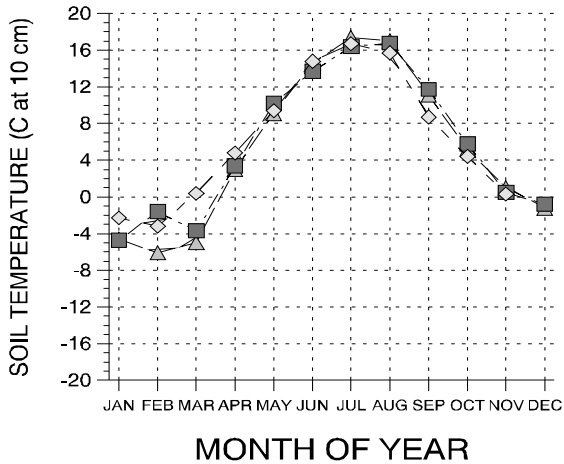
MEAN DAILY AIR TEMPERATURE
BEAVERLODGE RESEARCH STATION



MINIMUM DAILY AIR TEMPERATURE
BEAVERLODGE RESEARCH STATION

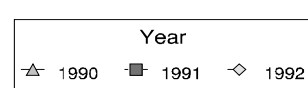
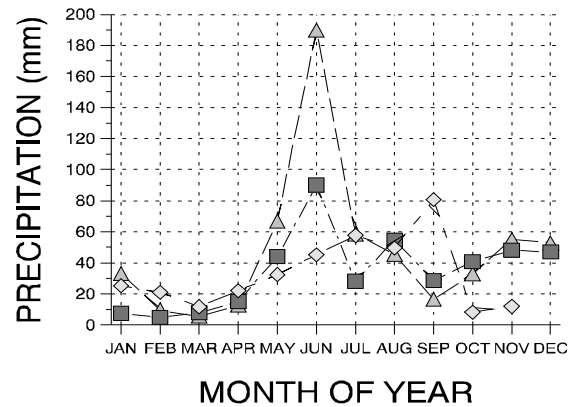


MEAN DAILY SOIL TEMPERATURE
BEAVERLODGE RESEARCH STATION



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 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 1991 | RATING 1992 | MEAN | 1991 | 1992 | MEAN | 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 (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 1991 | RATING 1992 | MEAN | 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 (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 | 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 (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 | 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 (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 | 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 (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 | 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) | 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 |
| 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) | 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 |
| 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 (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 | 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 (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 | 1991 | 1992 | MEAN | 1991 | 1992 | MEAN | 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 (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) | | |
| | | 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 | | | 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 [†] | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 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 DICONTINUED 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 | | | FLOWERING DATE (Day 1=May 1) | | | SEED MATURITY DATE (Day 1=July 1) | | | SEED YIELD(kg/ha) | | | SEED YIELD(% check) | | |
| | | SURVIVAL | RATING | 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 (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 | 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) | | CUT 2 () | | ANNUAL TOTAL | |
| | | | kg/ha | (% check) | kg/ha | (% check) | kg/ha | (% check) |
| ALTA(*) | 5 | 8 | 1256 | 100 | 0 | - | 1256 | 100 |
| HJA_2170 | 5 | 8 | 1775 | 141 | 0 | - | 1775 | 141 |
| SED = | 0 | 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) | | CUT 2 (10th Sept) | | ANNUAL TOTAL | |
| | | kg/ha | (% check) | kg/ha | (% check) | 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 | | CUT 2 | | ANNUAL TOTAL | |
| | | kg/ha | (% check) | kg/ha | (% check) | 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 RATING (0-5 WITH 5=GOOD) | WINTER SURVIVAL RATING | HERBAGE DRY MATTER YIELD | | | | | |
| | | | CUT 1 (28th June) | | CUT 2 () | | ANNUAL TOTAL | |
| | | | 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 | HERBAGE DRY MATTER YIELD | | | | | | |
| | | 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 | HERBAGE DRY MATTER YIELD | | | | | | |
| | | 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) | | HERBAGE DRY MATTER YIELD | | ANNUAL TOTAL | |
| | | | kg/ha | (% check) | CUT 2 () | (% 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) | | HERBAGE DRY MATTER YIELD | | ANNUAL TOTAL | | |
| | | kg/ha | (% check) | CUT 2 () | (% 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 | | HERBAGE DRY MATTER YIELD | | 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 | HERBAGE DRY MATTER YIELD | | | | | |
| | | | CUT 1 (28th June) | | CUT 2 () | | ANNUAL TOTAL | |
| | | | kg/ha | (% check) | kg/ha | (% check) | 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 | HERBAGE DRY MATTER YIELD | | | | | | |
| | | CUT 1 (23rd June) | | CUT 2 (10th Sept) | | ANNUAL TOTAL | | |
| | | kg/ha | (% check) | kg/ha | (% check) | 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 | HERBAGE DRY MATTER YIELD | | | | | | |
| | | CUT 1 | | CUT 2 | | ANNUAL TOTAL | | |
| | | kg/ha | (% check) | kg/ha | (% check) | 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) | | | LOCATION: SOUTH PEACE | | | | | |
|--|--|------------------------------|--------------------------|-----------|-------------------|-----------|--------------|-----------|
| SEEDING YEAR: 1990 | | | PRODUCTION YEAR: 1991 | | | | | |
| CULTIVAR (**) | ESTABLISHMENT RATING (0-5 WITH 5=GOOD) | WINTER SURVIVAL RATING | HERBAGE DRY MATTER YIELD | | | | | |
| | | | CUT 1 (26th June) | | CUT 2 (9th Sept) | | ANNUAL TOTAL | |
| | | | kg/ha | (% check) | 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 species</i>) | | | | LOCATION: SOUTH PEACE | | | |
|---|------------------------------|-------------------|-----------|--------------------------|-----------|--------------|-----------|
| SEEDING YEAR: 1990 | | | | PRODUCTION YEAR: 1992 | | | |
| CULTIVAR (**) | WINTER SURVIVAL RATING | CUT 1 (27th June) | | HERBAGE DRY MATTER YIELD | | ANNUAL TOTAL | |
| | | kg/ha | (% check) | CUT 2 (10th Sept) | (% 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 species</i>) | | | | 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) |
| 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 | HERBAGE DRY MATTER YIELD | | | | | |
| | | | CUT 1 (26th June) | | CUT 2 () | | ANNUAL TOTAL | |
| | | | kg/ha | (% check) | kg/ha | (% check) | 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 | HERBAGE DRY MATTER YIELD | | | | | | |
| | | CUT 1 (23rd June) | | CUT 2 (10th Sept) | | ANNUAL TOTAL | | |
| | | kg/ha | (% check) | kg/ha | (% check) | 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 | HERBAGE DRY MATTER YIELD | | | | ANNUAL TOTAL | |
| | | CUT 1 | | CUT 2 | | kg/ha | (% check) |
| | | 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 |