WESTERN CANADA GLABROUS CANARY SEED COOPERATIVE REGISTRATION TEST

February 2010

SUBMITTED TO:

THE PRAIRIE RECOMMENDING COMMITTEE FOR PULSE AND SPECIAL CROPS (PRCPSC):

Proposer:

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Canary seed (*Phalaris canariensis*) is currently included in the list of crop species requiring cultivar registration by the Canadian Food Inspection Agency (CFIA).

Requirements for entry into the Glabrous Canary Seed Cooperative Registration Test:

A minimum of two station years of agronomic supporting data from replicated trials conducted in the canary seed growing region of western Canada needs to be provided to support test entry. Pubescent canary seed lines will not be tested.

March 15th: Last date for sponsors to submit a glabrous canary seed entry for testing. Provide the name of the entry, name of sponsor, name of breeding institute to the Test Coordinator.

Seed requirement per entry: minimum of 1,000 grams of untreated seed with a minimum viability of 85%.

Glabrous Canary Seed Cooperative Registration Test Procedures:

A minimum of 12 trials (station-years) over three years will be established, with a minimum of two per year. Three years of testing will be required due to the potentially higher failure rate of field trials for this crop. The trials will be conducted in Saskatchewan in regions where the crop is grown commercially.

A minimum of four of the trials will be conducted by third-party cooperators.

Proposed sites (2010): Swift Current, Scott, Saskatoon Kernen Crop Research Farm, Saskatoon Seed Farm Early, Saskatoon Seed Farm Late. These sites cover the black, dark brown and brown soil zones. The Kernen and Seed Farms differ in soil type.

For 2010: A three-replicate 5x5 Lattice Design will be used for testing 25 entries. The glabrous cultivars CDC Maria, CDC Togo and CDC Bastia will be used as checks.

Seeding rate: 250 seeds per m2. The seed will be untreated.

Plot size: As per cooperator plot equipment.

Fertilizer application: basis soil test. Generally recommendations for spring wheat are a good guideline. Surplus nitrogen will result in excess straw production and poor seed set.

Weed control: standard herbicide and rates for the crop species.

Harvesting: adjust combine cylinder speed to reduce dehulling to 4% yet thresh seed out of the panicles.

Sample processing: remove chaff with a grain blower prior to determining grain yield per plot.

Data collection:

1. Days to heading of the panicle (50% of the shoots in a plot are headed).
2. Plant height prior to harvest (cm).
3. Lodging (1 to 9 scale) where differential is observed.
4. Seed yield in grams/plot and/or kg/ha
5. Provide a 900 gram composite (300 grams x 3 reps) to the coordinator for each entry in shipping-quality bags. The composite will be used to determine test weight and kernel weights.

Data Analysis:

Trials with a Coefficient of Variation (CV) of less than 15% for grain yield will be retained for candidate cultivar submission. Data from trials with a Coefficient of Variation (CV) of 15 to 20% may be considered if the genotypic effects are significant (P=0.05). Canaryseed trials tend to have CV's that are often twice as high as those for spring wheat. The cut-off CV for spring wheat is 15%, hence the greater allowance for canary seed.

Quality Evaluation: Nil

Disease Evaluation:

If differential leaf mottle (causal agent *Septoria triseti*) reactions are observed in the trial the plots should be rated using an appropriate scale. Contact the Test Coordinator or Provincial Pathologist for guidance.

Inspection of Coop trials:

The Glabrous Canary Seed Cooperative Registration Test trials are open for inspection by entry sponsors, PRCPSC members, and CFIA staff. Concerns arising from inspections are to be communicated to the trial cooperator and coordinator prior to harvest of the site.

Submission of data for support of registration:

The test coordinator will provide an annual written test report to entry sponsors by January 31st. This deadline will allow sponsors enough time to assemble their candidate cultivar support document seven days in advance of the PRSPSC meetings schedule for the latter part of February.

Acceptance of supplementary data will be at the discretion of the PRSPSC.

The principle of merit is used by the members of the PRCPSC in their decision regarding the support of a candidate cultivar for registration. The candidate cultivar must demonstrate merit when compared to the check cultivars. A candidate will be deemed to have merit when, considering all traits including agronomic performance, disease reaction and end-use suitability. The over-all performance will be equal to, or better than, the check cultivars with which the candidate cultivar has been compared during the three years of testing. It is recognized that certain criteria are important for certain production regions or end-uses and that minor deficiencies in certain traits may be outweighed by advantages in others. Once a candidate cultivar has been supported for registration, both the sponsor and the secretary of the PRCPSC shall submit the data summaries, along with copies of letters of support from the PRCPSC to the Canadian Food Inspection Agency – Variety Registration Office, Agriculture and Agri-Food Canada, Ottawa.

Payment:

Nil if the total number of entries per sponsor is two or less in any given year. For 3 to 8 entries a sponsor has, in lieu of payment, to run a test in an area the crop is adapted to in Western Canada. For every increment of 5 entries after that an extra test-site has to be run by the Sponsor. The maximum number of entries per Sponsor is to be negotiated with the Test Coordinator.

Glabrous Canary Seed Cooperative Registration Test Coordinator (as of March 2007)

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Seeds to be delivered to:

The test coordinator

Timelines for data and report transfer:

Due date for agronomic data and seed samples to be provided to the coordinator: October 20th.
Draft test report to entry sponsors for culling purposes: November 15th.
Final test report to entry sponsors: January 31st.

CODE OF ETHICS FOR PLANT BREEDERS AND CO-OPERATORS CONDUCTING CULTIVAR REGISTRATION TRIALS IN CANADA

The mutual interests of all engaged in cultivar development and evaluation are served by a climate which engenders the greatest freedom of communication and exchange of breeding material, while at the same time providing adequate safeguards to the originator of any material.

It is the desire of all breeding institutions to receive credit for their discoveries and to recognize the discoveries of other institutions, both privately and publicly funded. For this reason, it is recommended that breeders, institutions, and companies conducting cultivar trials for registration purposes in Canada subscribe to the following code of ethics:

A) GENERAL

In case of conflict between this code and any provincial of federal legislation such as plant breeders' rights, the legislation would prevail.

B) WRITTEN PERMISSION NOT REQUIRED

Material registered and/or commercially available as a cultivar in any country, may be used without permission of the breeder, as parental material for making crosses or for induction of mutations, for the purpose of creating other cultivars.

C) WRITTEN PERMISSION REQUIRED

1) Material not registered and/or commercially available as a cultivar in any country may not be used as parental material in a breeding program with the written permission of the breeder.
2) When the repeated use of a cultivar is required for the production of seed of another cultivar, the written permission of the breeder must be obtained. This does not preclude the use of a registered cultivar as a recurrent parent in a backcross-breeding program.
3) Selection within a normally self-pollinated cultivar for the purposes of creating a new cultivar may only be done with the written permission of the breeder.
4) The isolation of parental lines that are present as mixtures in hybrids and any use of them may only be made with the written permission of the breeder.
5) Material not registered and/or commercially available as a cultivar in any country may not be distributed for purposes other than registration tests without the written permission of the breeder.
6) Seed multiplication of any unregistered cultivar, for purposes other than for the production of seed stocks for registered trials, may only be made with the written permission of the breeder.

Material registered and/or commercially available as a cultivar in any country may be used without the permission of the breeder, as parental material for making crosses or for induction of mutations, for the purpose of creating other cultivars.