

Procedures for Evaluation and Recommendation for Registration of Cultivars of Field Pea for Western Canada

2010

In order for a field pea cultivar to be registered by the Canadian Food Inspection Agency (CFIA) of Agriculture and Agri-Food Canada, a recommendation of support for registration must be obtained from the Prairie Recommending Committee for Pulse and Special Crops (PRCPSC). To obtain that recommendation the candidate cultivar must be evaluated and meet standards in the Field Pea Co-operative Registration Tests for a minimum of two years. In order to be evaluated in these trials the sponsor of the candidate cultivar must obtain permission to enter the candidate cultivar into those trials.

Requirements for entry into the Field Pea Cooperative Test:

All entries except the designated check varieties for powdery mildew must be resistant to powdery mildew. The following information must be provided to the test coordinator: name of entry, name of sponsor, name of breeding institution, cotyledon colour, the maturity of the candidate cultivar relative to a current check cultivar (to assist in grouping candidate cultivar by maturity if the test is subdivided into more than one sub-test), and the year in the coop test. The maximum size of sub-tests in the Field Pea Co-operative Test is 36 entries including checks. The maximum number of sub-tests is three. If the number of entries is over-subscribed, sponsors will be asked to reduce their list of entries based on the following criteria, in the following order:

- a) Late to declare intention to enter test (deadline is February 15 of each year);
- b) Late to deliver seed to test coordinator (deadline is March 15 of each year);
- c) Insufficient seed delivered or treated seed delivered;
- d) Breeding institutions with most entries will be asked to reduce their list.

The amount of seed required is 35,000 germinating seeds with no seed treatment.

Field Pea Cooperative Registration Test Procedures

A single test is used to evaluate food and feed peas. Ten sites will receive funding. Additional co-operators who want to grow the test without funding may do so at the discretion of the coordinator. Data obtained from these non-paid sites will be incorporated into the report in the same manner as paid sites. In general, only one test grown at a given location should be reported. For sites abandoned before harvest, test co-operators voluntarily declare percent of work completed at that time and payment will be prorated on that basis and surplus funds will be distributed to cooperators growing voluntary sites.

Two years of testing are required. A third year of testing may be conducted at the expense of the sponsor. Candidate cultivars can be withdrawn at the beginning of any test year at the discretion of the sponsor. The tests are arranged in a randomized complete block or lattice design with three replicates.

Agronomic data collected includes % plant stand, leaf type, vine length, pre-harvest lodging

score, days to maturity and seed yield. Co-operators are requested to collect all of this data. Maximum acceptable coefficient of variation (cv) for seed yield is 15. Minimum acceptable trial site mean yield is 1500 kg/ha. Sites with cv for seed yield greater than 15 may be accepted if the F-test for yield is significant. Data from the irrigated site(s) will be included in the overall trial mean summary.

Disease data collected includes: mycosphaerella blight measured at an inoculated and irrigated site in Morden, MB; powdery mildew measured under natural conditions in Morden, MB; Fusarium wilt measured at a site in Morden, MB where soil is infested with the wilt pathogen.

Quality data collected includes:

- a) On all entries: cotyledon and seed coat color, seed weight, seed shape at a minimum of six locations; and protein content, seed breakage at a minimum three locations per year.
- b) On green cotyledon entries: green color bleaching score and green color intensity score at a minimum of six locations.
- c) Cooking quality is an optional test at the discretion of the variety sponsor. The technology for the cooking quality test is yet to be developed.

Check cultivars are determined annually by the PRCPSC. Entries are compared to the same set of checks for all years of Cooperative Testing. Checks are replaced when a better performing cultivar is registered in that class. All tests are managed and harvested according to standard and sound agronomic and scientific practices as appropriate for each test site. The coordinator, all cooperators, and the PRCPSC will strictly adhere to the professional code of ethics as developed by the PRCPSC.

Inspection of coop trials

The cooperative trials are open for inspection by variety sponsors, PRCPSC members, and CFIA staff. If concerns are detected they should be communicated to the cooperator and the test coordinator.

Submission of data for support for registration:

The test coordinator will provide a standardized data package for all sponsors of final year entries in the test. This package must be distributed to all members of the PRCPSC, for arrival at least one week prior to the annual meetings of the PRSPSC. The data submitted may also include other pertinent supplementary data available. The PRCPSC will judge the acceptability of the supplementary data.

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 and other registered cultivars. A candidate has merit when, considering all traits including agronomic performance, disease reaction and end-use suitability, the overall performance is equal to or better than the check cultivars with which the candidate has been compared to during the two years of testing. It is recognized that certain criteria are important for certain regions or market classes and that minor deficiencies in certain parameters

may be outweighed by advantages in others.

A candidate cultivar may be supported for registration based on its performance in a particular region of Canada and need not excel across all test locations.

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.

Fees established by the coordinator, together with cooperators will be charged for the inclusion of all entries into the Cooperative Test. This fee will be ratified annually by the PRCPSC. The coordinator of the Field Pea Cooperative Registration Test is required to collect and distribute fees according to the coop trial guidelines on behalf of the PRCPSC.

APPENDIX (as of March 2010)

A. Field Pea Cooperative Test Coordinator

Dr. Dengjin Bing
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B. Check Cultivars

2010 checks for 1st year entries: Cutlass and CDC Golden for yellow peas. CDC Striker and Cooper for green peas.

2010 checks for 2nd year entries:

Cutlass and CDC Golden for yellow peas. CDC Striker and Cooper for green peas.

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C. Paid sites in 2010

Site	Effective growing degree days	Precipitation minus potential evapotranspiration
Brandon, MB	1400	250
Morden, MB	1525	225
Indian Head, SK	1350	300
Melfort, SK	1325	250
Saskatoon, SK	1400	325
Swift Current, SK.	-	-
Scott, SK	1325	300
Lacombe, AB	1225	200
Barrhead, AB	1175	175
Fort St. John, BC	900	200

Note: The number of sites per province approximately reflects the area in field pea production in each province. To facilitate year-to-year comparisons at individual sites, it is recommended that, if possible, these sites remain constant over the years.

D. Volunteer sites in 2010

Site	Effective growing degree days	Precipitation minus potential evapotranspiration
Outlook, SK (irrigated)	1450	350
Namao, AB *		
Vegreville		

E. Fees (\$Cdn/entry/year) for 2010

Component	Fee
Test coordination, analysis, reporting	375
Agronomic	975
Pathology	100
Quality	150
Cooking (optional)	100
Total	1700

E. Summary of Deadlines:

- Due date for intention to enter the Field Pea Co-operative Test: **February 13, 2010**
- Due date for seed delivery to coordinator: **March 13, 2010**

Seeds to be delivered to:**Al Sloan****AAFC Morden Reserch Station****Unit 100-101, Route 100****Morden, MB R6M 1Y5****Tel : 204-822-7262****Fax : 204-822-7207****Email : asloan@agr.gc.ca**

- Amount of seed required: 35,000 germinating seeds; no seed treatment.
- Due date for fee payment May 1. Make cheque payable to “Manitoba Pulse Growers Association” and mail it to test coordinator.

-Due date for agronomic data and seed sub-samples provided by co-operators to coordinator: September 30, 2010. Preliminary yield data will be distributed by the coordinator to sponsors by October 12, 2008. Disease evaluation report will be delivered to the coordinator by December 1, 2010.

- Due date for complete Co-operative Test report: January 15, 2010

**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 or 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.