Procedures for Evaluation and Recommendation for Registration of Cultivars of Field Pea for Western Canada 2014

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 Pulse and Special Crops (PRCPSC). To obtain that recommendation the candidate cultivar must be evaluated in the Field Pea Co-operative Registration Test (Pea CO-OP Test) for a minimum of two years. In order to be evaluated in these trials the sponsor of the candidate cultivar must obtain permission of the test coordinator to enter the candidate cultivar into those trials.

Requirements for entry into the Field Pea Cooperative Test

The Pea CO-OP Tests consists of two types of tests, Regular Pea CO-OP Test (PCYTA and PCYTB (Pea Coop Yield Test)) and Short Season Pea CO-OP Yield Test (PCYTC). 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), specific type of test, i.e. Regular or Short, in which each entry will be tested, the year in the coop test, i.e. the 1st year or 2nd year Pea CO-OP Test, and whether the cooking test is required.

The maximum size of sub-tests in the Pea CO-OP Test is 36 entries including checks.

The amount of seed required is 40,000 germinating seeds with no seed treatment.

Field Pea Cooperative Registration Test Procedures

Ten sites will receive funding for PCYTA, PCYTB, and PCYTC, and one site (Fort St. John, BC) will receive funding for PCYTC. Additional co-operators who want to grow the test without funding may do so at the discretion of the coordinator. Data obtained from non-paid sites will be incorporated into the report in the same manner as paid sites. For sites abandoned before harvest, the test co-operators and the test coordinator will work out the 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 these data. Maximum acceptable coefficient of variation (c.v) for seed yield is 15. Minimum acceptable trial site mean yield is 1500 kg/ha.

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. Additional disease evaluation can be conducted at other locations by a plant pathologist, and the test results will be integrated with the data from Morden, MB.

Quality data collected includes:

a) On all entries: cotyledon and seed coat color, seed weight, seed shape at a minimum of eight locations; and protein content at a minimum four 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 Mattson cooking, and the cooking test is conducted at the Crop Development Centre, University of Saskatchewan.

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, and grown on a wide scale commercially.

All tests are managed and harvested according to standard and sound agronomic and scientific practices as appropriate for each test site.

For PCYTC, all plots will be desiccated and then harvested when the designated check variety is mature. The maturity of any immature entries at this time should be estimated in reference to the designated check variety. In order to facilitate the operations of applying desiccants and harvesting, sufficient space should be given between the PCYTA, PCYTB and PCYTC.

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 site 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 will also be distributed to all members of the PRCPSC at least one week prior to the annual meetings of the PRSPSC. The data submitted by variety sponsors 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 relevant check(s). 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 PRCPSC will be charged for the inclusion of entries into the Pea CO-OP 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.

**A. Field Pea Cooperative Test Coordinator**

Dr. Tom Warkentin  
Crop Development Centre  
University of Saskatchewan  
51 Campus Drive  
Saskatoon, Sk. S7N 5A8  
Tel: 306-966-2371  
Fax: 306-966-5015  
email: tom.warkentin@usask.ca
B. Check Cultivars

PCYTA, PCYTB:
2014 checks for 1st year entries:
  Yellow pea: Agassiz and CDC Golden
  Green pea: CDC Striker and Cooper

2014 checks for 2nd year entries:
  Yellow pea: Agassiz and CDC Golden
  Green pea: CDC Striker and Cooper

PCYTC:
2014 checks for 1st year entries:
  Yellow Pea: Agassiz and Peace River. Agassiz is the standard of
  PCYTC. When Agassiz is ready for desiccation, all plots of PCYTC should
  be desiccated.
  Green pea: CDC Striker and Cooper

C. Paid sites in 2014

Manitoba:
  Brandon, MB (PCYTA, B, C)

Saskatchewan:
  Indian Head, SK (PCYTA, B, C)
  Melfort, SK (PCYTA, B, C)
  Limerick, SK (PCYTA, B, C)
  Saskatoon, SK (PCYTA, B, C)
  Scott, SK (PCYTA, B, C)
  Swift Current, SK (PCYTA, B, C)

Alberta
  Barrhead, AB (PCYTA, B, C)
  Lacombe, AB (PCYTA, B, C)
  Brooks or Bow Island (PCYTA, B, C)

British Columbia
  Fort St. John, BC (PCYTC only)

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 2014

Yorkton, SK
St. Albert, AB
Vegreville, AB
E. Fees ($ Cdn/entry/year) for 2014

<table>
<thead>
<tr>
<th>Component</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test coordination, analysis, reporting</td>
<td>$395.00</td>
</tr>
<tr>
<td>Agronomic</td>
<td>$1,050.00 *</td>
</tr>
<tr>
<td>Pathology</td>
<td>$105.00</td>
</tr>
<tr>
<td>Quality</td>
<td>$160.00</td>
</tr>
<tr>
<td>Cooking (optional)</td>
<td>$105.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,815.00</strong></td>
</tr>
</tbody>
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* The $1,015.00 will be divided by the total number of plots at all test sites, and distributed to each test site based on the total number of plots grown at any particular site. Plots of check varieties are not paid.

E. Summary of Deadlines:

Due date for intention to enter the Field Pea Co-operative Test: **February 15, 2014**
Due date for seed delivery to coordinator: **March 15, 2014**

Seeds to be delivered to:
Jaret Horner  
Plant Sciences Dept.  
University of Saskatchewan  
Saskatoon, Sk. S7N 5A8  
Tel: 306-966-1216  
Fax: 306-975-0456  
Email: jaret.horner@usask.ca

Amount of seed required: 40,000 germinating seeds; no seed treatment.

**Due date for fee payment: May 1, 2014.** An invoice will be sent to each variety sponsor. Make cheque payable to “University of Saskatchewan” and mail it to the test coordinator.

**Due date for agronomic data and composite seed samples provided by co-operators to coordinator: September 30, 2014.** Preliminary yield data will be distributed by the coordinator to sponsors by **October 12, 2014.** Disease evaluation report will be delivered to the coordinator by **December 1, 2014.**

**Due date for complete Co-operative Test report: January 31, 2015**
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.