

OPERATING PROCEDURES
OF THE
ONTARIO PULSE CROP COMMITTEE
FOR THE PERFORMANCE TESTING OF DRY BEANS

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Affective: February 2024

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1.0 INTRODUCTION

This document outlines the performance testing protocol and data evaluation process for the Ontario Pulse Crop Committee (OPCC). OPCC is recognized as a Recommending Committee by the Variety Registration Office (VRO) of the Canadian Food Inspection Agency (CFIA) for dry edible beans, faba beans, lentils and dry field peas in Ontario. The OPCC run trials to evaluate yield and quality of various market classes of dry edible beans (*Phaseolus vulgaris*) including white (a.k.a. navy or white pea), black, kidney, cranberry, small red, and pinto beans to inform recommendations for registration. The Operating Procedures of the OPCC for the Assessment of Candidate Varieties is available on GoBeans.ca or by contacting the Chair or Secretary.

The OPCC also coordinate and run dry edible bean performance trials for varieties according to the procedures outlined herein. These activities are conducted by the Variety Sub-Committee of the OPCC. The purpose of these trials is to provide public data on performance of dry bean varieties at various locations in Ontario. This data provides valuable information for primary producers and others in the dry bean industry. Performance trial data is published annually on **GoBeans.ca**.

2.0 ONTARIO PULSE CROP COMMITTEE

2.1 MANDATE AND ROLE

The key mandate of the OPCC is:

- To establish the criteria for evaluating the merit of candidate varieties
- To establish test protocols for generating trial data on candidate variety merit and outline these protocols in a manual, named the Variety Trial Methods and Testing Procedures
- To evaluate data collected from trials to determine if a candidate variety has merit, as a part of the eligibility requirements for variety registration

Additional objectives include:

- To establish test protocols for generating performance data of registered dry bean varieties and share the resulting data publicly.
- To act as a forum for exchange of information relevant to the development of improved varieties of pulses for Ontario and eastern Canada.
- As a crop specific stakeholder group, to provide expert input to federal and provincial agencies regarding proposed or existing legislation and regulations governing pulse breeding and variety production.

2.2 MEMBERSHIP

The Chair, Secretary and Treasurer of OPCC are elected by voting members at the Annual Meeting. They serve three-year terms. They must be members of the organizations which comprise the membership of the OPCC.

Members of OPCC are public and private sector organizations that are part of the pulse value chain in Ontario. The members of OPCC are listed in Appendix A.

2.3 MEETINGS

The OPCC meets twice per year. The Annual Meeting is held in February, and the Trial Tour & Summer Meeting is held in August. The Chair or Secretary can be contacted to obtain meetings dates or be added to the email list for upcoming meetings.

The Variety Sub-committee and the Main Committee convene at the Annual Meeting, at which data from trials is discussed, testing procedures are reviewed, and reports are received from the member organizations. A research discussion is usually hosted in conjunction with the Annual Meeting to review recent research results and discuss research direction and emerging issues.

The Trial Tour & Summer Meeting includes the inspection field trials. Interested farmers, industry and extension personnel are welcome to attend the Trial Tour & Summer Meeting. In addition to the tour, seasonal details, research findings and research priorities are discussed. Member organizations use the meeting as a way of sharing information about dry bean production and research which can be acted upon within their individual research and communication programs.

3.0 TESTING OF VARIETIES

Data on variety performance is collected from public field trials by OPCC Trial Coordinators. The trial management and data collection methods follow OPCC approved standard procedures outlined in Appendix E: Variety Trial Methods and Testing Procedures, which are reviewed annually. Field trials are conducted annually for market classes of *Phaseolus vulgaris* including white beans, cranberry and kidney beans and other minor market classes.

3.1 TRIAL COORDINATORS

Trial Coordinators are appointed by OPCC to manage public trial details including, but not limited to, accepting variety entries, treating and distributing seed, coordinating trial site cooperators, setting field trial designs, accepting and analysing data, etc.

The Seed **Coordinator** for public trials is:

Ms. Lyndsay Schram
 Department of Plant Agriculture, Crop Science Building
 University of Guelph
 Guelph ON N1G 2W1
 Phone: 519-824-4120 ext. 58339 (Lyndsay)
 Email: lschram@uoguelph.ca

The **Entry Form Coordinator** for public trials is:

Ms. Emily Morneau
 AAFC-Harrow RDC
 2585 County Rd 20,
 Harrow ON NOR 1G0
 Phone: 519-325-8279
 Email: Emily.Morneau@agr.gc.ca

3.2 ENTRIES INTO TRIALS

To enter varieties into the performance trials, entry forms must be completed and submitted to the appropriate trial coordinator (Part 3.1) **by April 15th of the year of testing**. The entry forms can be found in the appendices:

- Appendix B: Entry Form for White Beans
- Appendix C: Entry Form for Cranberry, Kidney and Minor Market Class Beans

Descriptive information about the variety must be included on the entry form, including bean type, days to maturity, 100 seed weight and disease reaction. Any "special or unusual" characteristic that would have a bearing on testing procedures should be reported. The testing system will be adapted, wherever feasible, to accommodate "special" attributes.

If a variety is derived from a plant with a novel trait (PNT), documentation must accompany the entry forms. The sponsor must confirm that food, feed and environmental safety approvals are in place and that the PNT has "unconfined release status" or the equivalent (e.g., an exemption letter from the CFIA Plant Biosafety Office).

No screening trial data is currently required prior to entry into the OPCC public trials. Organizations that enter varieties into the trials must be the breeder/owner or have written permission from the breeder/owner and must have marketing rights in Canada.

3.3 ENTRY FEES FOR TRIALS

The entry fees for each variety are as follows:

- white beans - \$400
- cranberry and kidney beans - \$275
- minor market class beans - \$150

Fees are payable to the Ontario Pulse Crop Committee in Canadian funds by cheque only. Payment must be submitted to the treasurer by **April 15 in the year of testing**. Please include a copy of the entry form(s) with the payment.

OPCC Treasurer:

Paul Cornwell
 Hensall District Co-op
 1 Davidson Drive,
 Hensall ON N0M 1X0
 Phone: 519-262-3002 ext 317
 FAX: 519-262-2317
 Email: pcornwell@hdc.on.ca

3.4 SEED FOR TRIALS

Seed for each candidate variety must be sent to the appropriate coordinator (named in Part 3.1) and received, along with the entry form, **by April 15**.

For white beans, nineteen thousand (19,000) viable seeds of each entry are required. For cranberry, kidney and minor market class beans, nine thousand (9,000) viable seeds are required.

Seed should be sent untreated. The Coordinator will treat all received seed with Cruiser Maxx Bean plus Dynasty. If the seed is received treated with other products, it will be retreated with Cruiser Maxx Bean plus Dynasty. If the seed cannot be treated by the Coordinator prior to shipping to site cooperators, the responsibility to treat the seed prior to planting rests with the site cooperator. Under no circumstances will untreated seed be planted in OPCC public trials.

A germination rate of 85% will be assumed, unless otherwise stated by the seed supplier. The seeding rate will be adjusted to simulate a seed lot with a minimum of 85% germination if requested by the seed supplier. The onus is on the seed supplier to submit seed with an adequate minimum germination. It is strongly recommended that the seed supplier perform a standardized warm germination test on the seed using the seed treatment Cruiser Maxx Bean plus Dynasty, prior to submitting the seed to the Trial Coordinator. No adjustments will be made to trials to account for poor germination or poor seedling vigour due to a reaction between an entry and the seed treatment.

The committee encourages the use of disease-free, western US grown seed from Idaho or other locations west of the Great Continental Divide. The use of disease-free seed protects the trials from the devastating effects of common bacterial blight and other problematic diseases.

3.5 SECURITY OF ENTRIES

It is understood that breeding lines and non-released varieties received from private or public sector plant breeders for variety registration purposes are proprietary property and should be handled with this in mind. Under no circumstances will seed submitted for these trials be redistributed in any manner other than for the purpose of conducting registration trials and will not be used without express permission by the breeder or Canadian breeder agent.

3.6 TRIAL LOCATIONS

Public trial locations and the respective site cooperators who manage them are listed in Appendix D. Trials are inspected by OPCC and sponsors during the Trial Tour & Summer Meeting (see Part 2.3). Interested industry and extension personnel are welcome to attend this inspection tour.

3.7 AGRONOMIC METHODS AND DATA COLLECTION

The agronomic methods, trial design and data collection details that apply to all public and private trials are described in Appendix E: OPCC Variety Trial Methods and Testing Procedures. Agronomic methods generally follow the recommendations in OMAFRA Publication 811, Agronomy Guide for Field Crops.

All relevant agronomic data will be collected, including but not limited to: plant type (e.g. bush, short vine), days to maturity, harvest moisture, seed yield adjusted to 18% moisture, 100 seed weight, general (visual) seed quality, reaction to diseases (CBB, anthracnose and BCMV) and other pest problems as appropriate.

3.8 ANALYSIS OF DATA

Raw data from OPCC public trials is submitted to Trial Coordinators by November 15 of the testing year. The trial coordinators analyze and summarize the data, and distribute to the chairman of the Variety Sub-Committee in advance of the February meeting. The Ontario Dry Bean Variety Trials Report is published as soon as possible on GoBeans.ca.

The OPCC does not guarantee that any test will be considered valid for publication. Trials are valid if deemed visually acceptable by the committee, have a minimum of three replications analyzed, and if the coefficient of variation for yield is 15 % or less for white beans and 18% or less for cranberry, kidney and minor market class beans. Factors beyond the control of the OPCC and the cooperator may significantly influence the quality of trials.

APPENDIX A: OPCC Executive and Voting Members

CHAIR:

Meghan Moran, Edible Bean Specialist
 OMAFRA
 63 Lorne Ave E, Suite 2B
 Stratford ON N5A 6S4
 Phone: 519-546-1725
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 Hensall District Co-op
 1 Davidson Drive
 Hensall ON N0M 1X0
 Phone: 519-262-3002 ext 317
 FAX: 519-262-2317
pcornwell@hdc.on.ca

VOTING MEMBERS:

	Organization	Representative	Renewal Date
1	AAFC Harrow – Breeding	Dr. Jamie Larsen - Research Scientist	Feb 2025
2	AAFC Harrow – Pathology	Dr. Owen Wally - Research Scientist	Feb 2024
3	U of Guelph– Agronomy	Chris Gillard - Associate Professor	Feb 2024
4	U of Guelph– Breeding	Dr. K. Peter Pauls - Professor	Feb 2024
5	OMAFRA – Edible Bean Specialist	Meghan Moran	Feb 2024
6	OSGA	Rueben Stone	Feb 2024
7	CSGA	Carl Bolton	Feb 2024
8	Ontario Bean Growers	Tyler Vollmershausen	Feb 2024
9	Ontario Bean Growers	Jamie Payton	Feb 2024
10	OABA	Paul Cornwell – Hensall District Coop	Feb 2024
11	Seeds Canada	Willie Vanderpol - SeCan	Feb 2024
12	Food Processor	Steve Innes - Bonduelle	Feb 2026
13	OCCAA (vacant)		Feb 2024
14	OSCIA	Phil Oegema	Feb 2025

Seed Coordinator for public trials:

Ms. Lyndsay Schram
 Department of Plant Agriculture
 Crop Science Building
 University of Guelph
 Guelph ON N1G 2W1
 Phone: 519-824-4120 ext. 58339
 Email: lschram@uoguelph.ca

Entry Form Coordinator for public trials:

Ms. Emily Morneau
 AAFC-Harrow RDC
 2585 County Rd 20,
 Harrow ON NOR 1G0
 519-325-8279
Emily.Morneau@agr.gc.ca

**APPENDIX B: Entry Form for White Beans
PERFORMANCE TRIALS**

Breeder Name: _____ Institution: _____

Official Canadian Sponsor (if different from above): _____ Phone & Email: _____

Entry #	Entry Name	Year Tested (1 st , 2 nd , 3 rd)	Days to Maturity	Plant Type ¹	Seed Size (g/100)	CBB Rating 0-5	BCMV R or S		Anthracnose R or S			Fees (\$400)
							R1	R15	R17	R23	R73	
1												\$
2												\$
3												\$
4												\$
5												\$
Total												\$

¹ Plant Type: 1 = determinate bush, 2a = indeterminate, short vine, 2b = indeterminate, long vine

Registration Testing Locations: 6 sites including St. Thomas, Auburn, Woodstock, Elora, Winchester and Exeter, ON.

Provide 19,000 seeds for each candidate variety along with this form by April 15th.

Complete a second form if there are greater than 5 entries.

**APPENDIX G: Entry Form for Cranberry, Kidney and Minor Market Class Beans
PERFORMANCE TRIALS**

Breeder Name: _____ Institution: _____

Official Canadian Sponsor (if different from above): _____ Phone & Email: _____

Entry #	Entry Name	Market Class	Year Tested (1 st , 2 nd , 3 rd)	Days to Maturity	Plant Type ¹	Seed Size (g/100)	BCMV		Anthracnose			Fees Cran&Kidney \$275 Minor classes \$150
							R or S R1	R or S R15	R or S R17	R or S R23	R or S R73	
1												\$
2												\$
3												\$
4												\$
5												\$
Total												\$

¹Plant Type: 1 = determinate bush, 2a = indeterminate, short vine, 2b = indeterminate, long vine

Provide 9,000 seeds for each candidate variety along with this form by April 15th.

Complete a second form if there are greater than 5 entries.

Registration Testing Locations: 6 sites including St. Thomas, Auburn, Woodstock, Elora, Winchester and Exeter, ON.

APPENDIX D: Trial Locations

Location	Corn Heat Units	Site Cooperator	Market Classes
Elora	2800	University of Guelph - Breeding Program	White Cranberry & Kidney
Winchester	2800	University of Guelph – Winchester Station	White Minor Market Classes
Auburn	2850	University of Guelph- Ridgetown	White
Exeter	3050	University of Guelph- Ridgetown	White Cranberry & Kidney Minor Market Classes
Woodstock	3100	University of Guelph - Breeding Program	White Cranberry & Kidney
St. Thomas	3250	AAFC Harrow RDC	White Cranberry & Kidney Minor Market Classes

Minor Market Classes generally includes black, small red and pinto.

APPENDIX E: Variety Trial Methods and Testing Procedures

Attached as separate document.