OPERATING PROCEDURES OF THE ONTARIO CEREAL CROPS COMMITTEE

FOR THE ASSESSMENT OF CANDIDATE VARIETIES

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1.0 INTRODUCTION

This document outlines the pre-registration testing system protocol and evaluation process for The Ontario Cereal Crops Committee (OCCC) which is recognized as a Recommending Committee by the Variety Registration Office (VRO) of the Canadian Food Inspection Agency (CFIA). The OCCC evaluates candidate varieties of wheat, oats, barley, spelt, triticale, rye, and buckwheat for merit as a part of pre-registration requirements and makes recommendations for registration to the VRO for Ontario province of Canada. The procedures for entering a variety for testing are documented and reviewed annually by the OCCC, and are available to the public, through the OCCC website (cereals.gocrops.ca) or upon request to the Secretary of the committee.

As required by the *Seeds Regulations* paragraphs **65.1** (1) (e) and (2) (c), each Recommending Committee shall function transparently and deal with varieties in a fair and consistent manner.

1.1 Legislation and Authority

The Seeds Act is the legislative authority for the Seeds Regulations. In section 65.1 of the Seeds Regulations (Appendix I) there is a provision for the Minister of Agriculture and Agri-Food to approve crop-specific variety registration recommending committees. The purpose of each recommending committee is to establish and administer protocols for testing varieties of crop kinds listed in Parts I (e.g. wheat, oats, barley, triticale, rye and buckwheat) and II of Schedule III of the Seeds Regulations, to determine the merit of varieties of crop kinds listed in Part I and, subsequently, to make registration recommendations to the Registrar, VRO. In practice, the Minister's authority to approve each RC is delegated to the Registrar (currently the National Manager, Seed Section, CFIA).

These committees are integral to the variety registration system in Canada and serve to provide expertise and guidance to the Registrar.

1.2 Role of the Variety Registration Office

The VRO reviews and approves each committee's operating procedures document annually. Any changes to this document require approval by the committee members and subsequent approval by the VRO. The VRO issues an annual approval letter, signed by the Registrar on behalf of the Minister to each variety recommending committee in Canada. This letter recognizes the committee as the sole authority in that region to provide variety registration recommendations to the VRO for the year.

The VRO has regulatory oversight of the recommending committees to ensure that the committees are functioning transparently and that varieties are dealt with in a fair and consistent manner, in accordance with the approved committee operating procedures and in compliance with the *Seeds Regulations*. The VRO provides guidance on the requirements of the *Seeds Act* and the *Seeds Regulations* to all the recommending committees as required. The committees provide their expertise and advice to the VRO, and this is considered by the Registrar in rendering a decision on variety registrations. The VRO (the Registrar) is also the 'court of last resort' for stakeholders taking issue with the compliance of the recommending committees with the operating procedures, or the *Seeds Regulations*, the first step being to contact the committee itself with the grievance.

The list of all current, recognized recommending committees can be found on the following CFIA

website at:

http://www.inspection.gc.ca/plants/variety-registration/registration-procedures/recommending-committees/eng/1359958262947/1359958370983

2.0 THE ONTARIO CEREAL CROPS COMMITTEE (OCCC)

2.1 Mandate, Objectives, Roles and Responsibilities

The mandate of the Ontario Cereal Crops Committee is:

- to determine merit¹ criteria to be used in evaluating candidate varieties (as defined in the *Seeds Regulations*, Appendix 2),
- to establish practical and science-based test protocols,
- to develop a written procedures manual, and
- to evaluate trial data to determine the merit of candidate varieties of crop kinds for which they are recognized.

The OCCC has no registration recommending authority outside of Ontario province of Canada for which it is recognized.

The objective of the OCCC is to recommend for registration, based on merit and in accordance with the approved committee operating procedures, candidate varieties to the VRO for all types of wheat, barley, oat, spelt, triticale, rye, and buckwheat.

The roles of the Ontario Cereal Crops Committee (OCCC) are to:

- Act as the recommending committee for cereal variety registration in Ontario. As a CFIA recognized recommending committee, the OCCC's tasks include:
 - Understanding and following the Seeds Act and CFIA guidelines regarding registration of cereal varieties.
 - Set variety registration protocols and minimum standards for support of registration including agronomic performance, quality, disease reaction, and check varieties.
 - o Evaluate sponsor generated and supplied data to determine adherence to protocols
 - o Advise CFIA on merit-based candidate variety recommendations;
 - To 'support' candidate for registration in Ontario
 - To 'do not support' candidate for registration in Ontario

2.2 Membership

The OCCC is comprised of voting members from organizations in the public and private sectors with an interest in cereal production and utilization. (See also Appendix 3.) The voting representatives are named by the respective organization and recognized by the committee. The term of membership for a

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¹ "merit" means, with respect to a variety, that the variety is equal or superior to appropriate reference varieties with regard to any single characteristic or combination of characteristics that renders the variety beneficial for a particular use in a specific area of Canada

voting member can be renewed upon a simple majority vote of the OCCC.

The Chair and Vice-Chair of the OCCC are elected by the voting members at the Annual Meeting held each January. The Chair and Vice-Chair must be members of one of the organizations which comprise the membership of the OCCC. The Treasurer and Secretary may be either elected or hired positions.

OCCC Executive (non-voting members, 2-year terms)

- Chair
- Past Chair
- Vice Chair
- Secretary
- Treasurer
- Performance Trial Coordinator

OCCC Voting Members (one vote each)

- Agriculture and Agri-Food Canada
- Seeds Canada
- Grain Farmers of Ontario
- Ontario Agri Business Association
- Canadian National Millers' Association
- Ontario Ministry of Agriculture, Food and Agribusiness
- Ontario Seed Growers' Association
- Ontario Soil and Crop Improvement Association
- Ontario Certified Crop Advisors Association
- University of Guelph

Ex-officio Non-Voting Member

- Canadian Food Inspection Agency
- Canadian Grain Commission
- Chair, Atlantic Recommending Committee for Cereal Crops
- Chair, Quebec Recommending Committee for Cereal

OCCC Coordinators (non-voting, 2-year terms)

- Performance Trial Coordinator
- Disease Coordinator(s)
- Winter Wheat, Triticale, and Spelt Registration Coordinator
- Spring Wheat, Triticale, and Spelt Registration Coordinator
- Spring Barley Registration Coordinator
- Winter Barley Registration Coordinator
- Oat Registration Coordinator
- Data Coordinator(s)

OCCC Subcommittee Chairs (non-voting, 2-year term)

- Quality Subcommittee Chair
- Fusarium Subcommittee Chair

OCCC has three committees (see also Appendix 3)

- Quality Subcommittee
- Fusarium Subcommittee
- Appeals Committee (the executive)
- Confidentiality Committee

Eligibility for Membership

Additional members that represent a sector of the value chain or area of expertise not currently represented on the OCCC may be added to the committee via a simple majority vote,

An organization may apply for membership on the OCCC by submitting a written request to the Secretary of the OCCC, outlining the area of expertise/interest of the organization, why it believes that area of interest is not currently represented on the OCCC and why it believes that it is the organization best suited to representing that area of interest.

2.3 Meetings

The OCCC regularly meets in January, August, and October. Other meetings may be held as required and may be conducted by conference call or via internet/email. In the absence of the Chair, the Vice-Chair shall preside.

Principle Meeting topics:

January: consider registration support requests from sponsors; review production topics and policy

or procedural matters; receive reports from member organizations

August: review and discuss winter cereal trial data and protocols for the upcoming year review and discuss spring cereal trial data and protocols for the upcoming year

Other topics related to the cereal industry may be discussed at any OCCC meeting when necessary

All interested parties are welcome to attend and participate in meetings of the OCCC at the discretion of the meeting chair.

A \$20.00 fee to attend OCCC meetings may be charged to cover costs.

2.4 Voting Procedures

A minimum of fifty percent of the voting Committee membership must be in attendance to constitute a quorum. Only designated voting committee members may vote. In the absence of a member organization's named representative, another member of that organization may be granted voting privileges for that meeting. Over fifty percent of the voting members present must vote in the affirmative for a motion to be carried. In the event of a tie, the motion will be considered to be defeated. A secret ballot may be requested by any member for any motion, with approval of a majority of the members present. The Committee has adopted Sturgis' Rules of Parliamentary Procedures.

2.5 Voting Options

There are only three possible voting options for committee members:

- 1) To **support** (the motion),
- 2) To **object** to (the motion) or, rarely,
- 3) To abstain from voting.

Abstaining is only appropriate if there is a real or perceived conflict of interest. A lack of suitable data is not a valid reason for abstaining from voting on variety recommendations.

2.6 Waiving of Rules

The OCCC may in its wisdom choose to set aside the existing rules for merit assessment for specific variety where the overall merit of the variety is being considered. A simple majority vote is required to suspend or waive rules.

Applicants can request that the committee set aside the rules to consider the merit of a variety that otherwise has failed to meet the standard in one or more required characteristics. The OCCC may take the vote on a variety-by-variety basis or they may choose to lump all such varieties together and take a single vote for the group. For this to proceed, a simple majority vote must be held to set aside the rules. The committee will then hear the applicant's request (a presentation of the attributes of the variety and why it should be considered) followed by a registration recommendation vote based on a simple majority. For example, a new and valuable technology has been introduced in an otherwise partially deficient variety and the committee is being asked to make a decision on the new, valuable attributes not yet captured in the definition of merit for that crop kind. In this example, the proponent may be requesting interim registration or a full registration. As another example, if the minimum data set or minimum merit performance are lacking due to extenuating circumstances, the committee may choose to take this into account.

2.7 Conflict of interest (with respect to voting on the committee)

If a variety proponent believes that a conflict of interest is responsible for their variety not being recommended by the committee, their recourse is to file an appeal with the committee and present their case.

3.0 REGISTRATION TRIAL PROCEDURES

3.1 Cultivar Evaluation Procedures

Cultivar evaluation trials may be conducted by either public or private research facilities. All candidate cultivars for registration are to be tested under an approved standard procedure for field crop production and data collection as set by the OCCC (see document OCCC Trial Methods and Procedures, cereals.gocrops.ca). These procedures are reviewed annually. Failure to comply with OCCC procedures may result in the exclusion of data from consideration for support of registration.

3.2 Crop Coordinators

Registration Coordinators are appointed by the OCCC. Coordinators aid the committee in setting merit criteria for respective species (e.g. merit trait standards and testing protocol). Crop coordinators check and report on data submissions received from variety sponsors. They report on registration requests and determine if all requirements for registration as set forth in the "operating procedures document" have been met (including disease, quality, and agronomy). Coordinators present a list of variety registration support requests to the OCCC for voting at the January meeting. For the list of crop coordinators, refer

to Appendix 3.

3.3 Testing Sites

For Registration Trials, sponsors are responsible for site locations, subject to OCCC approval. There must be at least 20 km between sites in any one growing area, except where significant differences in growing environment are demonstrated (e.g. extreme differences in soil type or disease pressure). At least, one third of the registration data must come from "independent sites" (i.e. trials not managed by the sponsor) for conventional (non-restrictive) registration support.

All grain harvested in registration tests by test co-operators conducting registration trials for themselves or others must be retained until December 1 of the current year, and preferably until the next year's crop is sown.

3.4 Inspection of Trials

For registration tests, sponsors must inform OCCC crop species coordinators of the location and other appropriate information of sponsor-run trials by May 31. Inspection of registration trials will take place for probationary growers only and only for a period of three years. Inspections will be done by an OCCC appointed inspection team which is to be composed of at least three persons, of whom at least two-thirds must approve acceptability of the test. Each test site for the probationary grower will be inspected as soon after heading as possible to confirm that each test is being conducted in an acceptable manner and is acceptable for uniformity of stand, pests, fertility, and other agronomic characteristics.

Probationary growers must provide detailed maps and directions showing test location, along with a detailed sketch of the location itself, showing where the test is located within the field. A randomization plan must also be provided. A sign clearly visible from the road must be posted. If the inspectors cannot find the test in a reasonable period of time or cannot reach it, the test will not be inspected.

3.5 Registration Categories

The committee has three primary registration options to consider when recommending a variety:

- (1) National registration (non restrictive)
- (2) Interim registration (restrictive)
- (3) Contract registration (restrictive)

Based on the result of the trials, the committee will provide recommendations to the CFIA as follows:

- That they 'support' or 'do not support' candidate varieties for registration
- That they 'object' or 'do not object' to the National registration of a variety: Some varieties of certain crop kinds (e.g., wheat) may be desirable in one region but could be deemed to be a threat to crop production in other regions. In this case, the VRO consults recommending committees other than the committee that supported the variety to see if they object or do not object to the National registration of the variety being recommended.

3.5.1 National registration (non-restrictive)

Candidate varieties which have merit, as determined by the committee, will be recommended for registration. By default, all variety recommendations from a recommending committee are for National registration. After the committee's recommendation and during the variety registration process, other regional committees that exist for that same crop kind will be contacted to see if they have any objection

to the National registration of the variety. An objection by another RC (same crop, different region) can only be based on the candidate variety being assessed as a potential harm to a given crop sector in a given region of Canada (e.g., due to disease susceptibility or to significantly inferior end use characteristics). As a result, a restricted National registration (a regionally restricted registration) may be applied by the Registrar (e.g., a PRCWRT recommended wheat variety being restricted from being grown in Quebec by the Atelier des Céréals, Quebec's cereal RC, on the basis of Fusarium susceptibility).

3.5.2 Interim registration (restrictive)

The committee may consider a recommendation for Interim registration in situations where, after a minimum of one year of testing, the data indicates that a candidate has sufficient merit that it may be eligible for registration. This provision is intended to be used in situations such as:

- (a) where a variety proponent brings forward an innovative variety with (a) valuable characteristic(s) not necessarily captured in the merit assessment, viewed as being of benefit to the crop sector and worth bringing to the market quickly. It may be slightly deficient in one or more merit characteristics but its attributes outweigh its deficiencies. Normally such a variety would be considered for interim registration and concurrent (continued) testing for the purposes of full registration;
- (b) where a variety demonstrates outstanding merit after the one year of testing. The committee has the option, if they deem it appropriate, of considering the variety for interim registration and further, concurrent testing for the purposes of full registration; and
- (c) where a variety is brought forward that is deficient in one or more merit criteria, but the proponent has evidence (presented to the committee) of commercial interest in an identity preserved (IP) production program between the developer and an end user (this can be a tool to allow a variety to establish a niche market in a closed loop system).

Interim registrations are typically recommended for three years initially and would normally involve a condition of generating new data to be brought back to the committee during that time frame in order to support either a request for recommendation of National registration or a request for extension of the Interim registration up to a total maximum of 5 years.

The registrant has the option of coming back to the committee and making a request for an extension of Interim registration for an additional one or two years but the total cannot not exceed five years. They do this by submitting the full data package to the committee including data collected since registration. Interim registrations expire after their designated term.

Reference: 68. (2) (a), Seed Regulations

- (2) The Registrar shall make the registration of a variety subject to the following terms and conditions, where applicable:
- (a) in the case of a variety of a species, kind or type of crop that is listed in Part I or II of Schedule III, if a minimum of one year of testing demonstrates that the variety may be eligible for registration but that further testing is required before a final decision can be rendered, the registration shall be

limited to an initial period of not more than three years that shall be extended on written request by the applicant if eligibility for registration continues to be demonstrated, but under no circumstances shall the total duration of the registration exceed five years;

3.5.3 Contract registration (restrictive)

Contract registration is available for candidate varieties where biochemical or biophysical characteristics distinguish them from the majority of registered varieties of the same kind or species. Further, it must be shown that these characteristics may cause harm toward varieties registered for traditional commodity markets. For example, high erucic acid rapeseed although valuable, is a threat to the integrity of canola production. Another example is canola quality mustard as a threat to the integrity of mustard production. To qualify for Contract registration, the owner/sponsor of the variety must demonstrate the possibility of industry harm if granted an unrestricted registration. Contract registration is only a possibility for varieties that may cause harm based on agronomic performance, disease reaction or end-use quality, not based on socio-economic factors. The determination of whether a variety has the potential to cause harm is a scientific process where it is determined whether the variety has the potential to have an adverse effect on the identity of other registered varieties of that crop kind or if the variety or progeny thereof may be detrimental to human or animal health and safety of the environment. As a general rule, Contract registration is not to be used as a substitute for traditional forms of registration (National or Interim) in situations where the committee has objected to the registration of the candidate variety based on deficiency in merit. However, the committee may suggest that the candidate be considered for Contract registration where there is rationale to do so.

Reference: 68. (2) (c) (i to iv) of the Seed Regulations

- (c) where the biochemical or biophysical characteristics of a variety distinguish it from the majority of registered varieties of the same kind or species and it may have an adverse effect on the identity of those registered varieties, the registrant shall
 - (i) establish and maintain a quality control system for the management of potentially adverse effects of the variety, including management responsibility, contract review, product identification and traceability, inspection, testing, control of nonconforming product, corrective and preventive actions, records and training of personnel,
 - (ii) describe the quality control system in a document and submit the document and any subsequent amendments to that document to the Registrar for review and approval,
 - (iii) implement the quality control system, and
 - (iv) agree in writing, for the purpose of verifying compliance with subparagraph (iii), to provide the Registrar with information relating to the distribution, use and disposition of any seed of the variety or any progeny thereof.

3.6 Support Requirements

To exhibit merit, a variety must be equal to or better than designated check variety(ies) for the identified agronomic, disease or quality traits. (See Appendix 10 for the list of current checks.)

All foreign varieties and breeding lines must be tested under their original designations or breeder's

code.

Also see Section 4.0 – Registration Support Protocol

3.6.1 Support for "Plant With Novel Traits" Varieties

A PNT (Plant with Novel Trait) must be approved for unconfined release before being planted in registration trials and before support for registration can be considered.

When a request is made for OCCC support for registration of a variety carrying a PNT, the sponsor must inform the OCCC at the time of request for support that the variety is a PNT and also reveal the modified trait to the Committee. All other requirements for registration support must be met as outlined below.

- 3.6.2 Data Requirements For Registration Support of Candidate Cultivars of Winter Wheat, Spring Wheat, Oats, Barley National (Non-Restrictive) (see below for Spelt, Buckwheat, Triticale, Rye or Durum)
 - a) **Agronomy and disease**: Cultivar sponsors must provide the OCCC with evidence that their candidate cultivar(s) is/are adapted to the growing conditions that normally prevail in the intended areas of Ontario. Evidence under this category is to be obtained from plots grown in Ontario (*see note below) and includes:

•	yield	(10 station yrs, minimum crop 2 years, 4 rep winter
		trials and 3 rep spring trials)
•	number of days to heading	(minimum 2 station-years)
•	1000 kernel weight	(minimum 2 station-years)
•	weight per volume	(minimum 2 station-years)
•	lodging resistance	(minimum 2 station-years)
•	winter survival	(for winter cultivars; minimum 2 station-years)
•	disease data for specific crops	(see Section 3.10) and Appendix 6 & 7) Fusarium below.

Current check varieties are listed in Appendix 10.

* NOTE: Data from Canadian sites immediately adjacent to Ontario may be accepted by the OCCC on an individual basis. They must meet all OCCC requirements. A minimum of 8 station-years in Ontario and two from such outside tests will be acceptable for registration purposes.

Reaction to Fusarium for wheat

For registration purposes, a minimum of 4 station-years of inoculated test data from 2 crop years are required for both winter and spring wheat. The level of infection of the variety representing the S/HS check must be moderate to severe for the data to be considered valid. (See Appendix 6 & 7 for specific wheat support requirements).

b) **Quality**: Candidate cultivar(s) of winter wheat and spring wheat must fit into the quality requirements of the cereal industry in Ontario. Data should be provided from a minimum of

six station-years planted over two years with a minimum of two station-years per year. The OCCC uses the Quality Subcommittee Guidelines (Appendix 8) as the template to define:

- 1) the category to which a line belongs,
- 2) the checks pertinent to the category,
- 3) the quality traits that have to be monitored and the performance in relation to the checks.

The Quality Subcommittee annually reviews the quality data of candidate wheat varieties and advises the OCCC of its assessment of their quality in relation to the check cultivars. (See Appendix 8).

Quality is not a merit consideration for support of registration by the OCCC for crops other than wheat. Recommended quality targets for oats are listed in Appendix 8 solely for the guidance of variety sponsors.

3.6.3 Data Requirement for Registration Support of Candidate <u>Spelt</u> Cultivars - National (Non-Restrictive)

Cultivar sponsors must provide the OCCC with evidence that their candidate spelt cultivar(s) is/are adapted to the growing conditions that normally prevail in the intended areas of Ontario.

Evidence under this category is to be obtained from plots grown in Ontario and includes:

- yield (4 station years, minimum 2 crop years)
- report all agronomic data collected including: number of days to heading, 1000 kernel weight, weight per volume, lodging resistance, winter survival (where applicable) and disease data.

All data may be generated by sponsor.

Tests (checks and candidate cultivars) with C.V.s for yield greater than 16% in a four-replicate test may not be included in the means for yield. Even if yields are not used in the mean, other data must be presented. A test shall consist of OCCC designated checks (Appendix 10) and any number of candidate cultivars, with at least four replications planted. All tests need not contain the same candidates.

Reaction to Fusarium for spelt:

Inoculated test data from a minimum of 4 station-years of inoculated test data from 2 crop years are required. The level of infection of the variety representing the S/HS check must be moderate to severe for the data to be considered valid.

The level of resistance of the candidate cultivar to FHB, based on both visual assessment of symptoms, and deoxynivalenol (DON) must be equal to or better than the worst of the MS check(s). (Appendix 7)

Fusarium inoculum used in evaluating Ontario cultivars must be a mixture of isolates representative in pathogenicity of the pathogen populations occurring in Ontario as shown by reaction of designated inoculation check(s). All fusarium data must be reported.

3.6.4 Data Requirement for Registration Support of Candidate <u>Buckwheat</u> Cultivars - National (Non- Restrictive)

Cultivar sponsors must provide the OCCC with evidence that their candidate buckwheat cultivar(s) is/are adapted to the growing conditions that normally prevail in the intended areas of Ontario. Evidence under this category is to be obtained from plots grown in Ontario and includes:

- yield (4 station years, minimum 2 years; see Section 4.0)
- report all agronomic data collected, to include: number of days to flowering and/or maturity, 1000 seed weight, weight per volume, lodging resistance, disease data. (flowering defined as 3 flowers visible on 75% of plants; maturity defined as 70% brown seed)

Conventional registration of buckwheat (non-restrictive):

- 1) Merit testing arithmetically compared to check variety as environmental index only.
- 2) Minimum of four station-years of data
- 3) Minimum of two years testing, at least two tests in any one year, if only two years of data are presented.
- 4) All data may be generated by sponsor.
- 5) Variety AC Manisoba to be used as comparative check variety for yield.

Data from all tests must be presented in summary form for all traits measured. All the replication data for all traits measured must be made available to the OCCC upon request.

Tests (checks and candidate cultivars) with C.V.'s for yield greater than 16% in a four-replicate test may not be included in the means for yield. Even if yields are not used in the mean, other data must be presented. A test shall consist of OCCC designated checks (see Appendix 10) and any number of candidate cultivars, with at least four replications planted. All tests need not contain the same candidates.

3.6.5 Data Requirement for Registration Support of Candidate <u>Triticale</u> Cultivars (Spring and Winter) – National (Non-Restrictive)

Cultivar sponsors must provide the OCCC with evidence that their candidate triticale cultivar(s) is/are adapted to the growing conditions that normally prevail in the intended areas of Ontario. Evidence under this category is to be obtained from plots grown in Ontario and includes:

- 1) Merit testing yield (minimum 4 station years, minimum 2 tests per crop year; arithmetically compared to check cultivar(s) as environmental index only; (see Section 4.0).
- 2) Report all agronomic data collected including: number of days to heading, 1000 kernel weight, weight per volume, lodging resistance, winter survival (if applicable) and disease data
- 3) All data may be generated by sponsor.
- 4) For winter triticale cultivars, the soft winter wheat check cultivars will be used as comparative check cultivars for yield until a registered winter triticale cultivar is designated as a check by the OCCC. For spring triticale cultivars, the spring wheat check cultivars will be used until a registered spring triticale cultivar is designated as a check by the OCCC.

Tests (checks and candidate cultivars) with C.V.s greater than 16% in a four-replicate test may not be included in the means for yield. Even if yields are not used in the mean, other data must be presented. A test shall consist of OCCC designated checks and any number of candidate cultivars, with at least four replications planted. All tests need not contain the same candidates.

<u>Reaction to Fusarium for Triticale</u>: inoculated test data from a minimum of 4 station-years of inoculated test data from 2 crop years are required. For registration purposes, candidate triticale cultivars must be compared with at least the following spring or winter wheat check cultivars:

- one check from S/HS (susceptible to highly susceptible) category,
- one check from MS (moderately susceptible) category and
- one from MR (moderately resistant) category.

For the data to be considered valid, the S/HS check variety must have a moderate to severe level of infection. Representative checks for each category are provided in Appendix 6 & 7.

The level of resistance of the candidate cultivar to FHB, based on both visual assessment of symptoms, and deoxynivalenol (DON) must be equal to or better than the worst of the MS check(s).

Fusarium inoculum used in evaluating Ontario cultivars must be a mixture of isolates representative in pathogenicity of the pathogen populations occurring in Ontario as shown by reaction of designated inoculation check(s) (as per Disease Coordinator). All fusarium data must be reported.

<u>Reaction to Ergot for Triticale</u>: For registration purposes, ergot counts should be done on candidate lines, only if present and presented on a scale of 0-9. The level of ergot infection must be equal to or less than that of the checks.

3.6.6 Data Requirement for Registration Support of Candidate <u>Durum</u> (Spring and Winter) Cultivars - National (Non-Restrictive)

Cultivar sponsors must provide the OCCC with evidence that their candidate durum cultivar(s) is/are adapted to the growing conditions that normally prevail in the intended areas of Ontario. Evidence under this category is to be obtained from plots grown in Ontario and includes:

- 1) Merit testing yield (minimum 4 station years, minimum 2 tests per crop year; Report all agronomic data collected including: number of days to heading, 1000 kernel weight, weight per volume, lodging resistance, winter survival (as appropriate) and disease data.
- 2) All data may be generated by sponsor.
- 3) Letter from miller requesting a pilot run for milling.

Tests (checks and candidate cultivars) with C.V.s greater than 16% in a four-replicate test may not be included in the means for yield. Even if yields are not used in the mean, other data must be presented. A test shall consist of OCCC designated checks (see Appendix 10) and any number of candidate cultivars, with at least four replications planted. All tests need not contain the same candidates.

<u>Reaction to Fusarium for durum wheat</u>: inoculated test data is required from a minimum of 4 station-years of inoculated test data from 2 crop years minimum 3 reps per test).

Winter Durum: For registration purposes, candidate winter durum wheat cultivars must be compared with at least the following winter wheat checks:

• one check from S/HS (susceptible to highly susceptible) category,

- one check from MS (moderately susceptible) category and
- one check from MR (moderately resistant) category.

The variety representing the S/HS check must have a moderate to severe level of infection. Representative checks for each category are listed in Appendix 7.

The level of resistance of the winter durum candidate cultivar to FHB, based on both visual assessment of symptoms, and deoxynivalenol (DON) must be equal to or better than the worst of the MS check(s).

Spring Durum: For registration purposes, candidate spring durum wheat cultivars must be compared with at least:

- one wheat check from S/HS (susceptible to highly susceptible) category,
- one wheat check from MS (moderately susceptible) category and
- one wheat check from MR (moderately resistant) category.

Representative checks for each category are listed in Appendix 6.

The level of resistance of the spring durum candidate cultivar to FHB, based on both visual assessment of symptoms, and deoxynivalenol (DON) must be equal to or better than Hallmark.

Fusarium inoculum used in evaluating Ontario cultivars must be a mixture of isolates representative in pathogenicity of the pathogen populations occurring in Ontario as shown by reaction of designated inoculation check(s). All fusarium data must be reported.

3.6.7 Data Requirement for Registration Support of Candidate Rye Cultivars (Spring and Winter) – National (Non-Restrictive)

Cultivar sponsors must provide the OCCC with evidence that their candidate rye cultivar(s) is/are adapted to the growing conditions that normally prevail in the intended areas of Ontario. Evidence under this category is to be obtained from plots grown in Ontario and includes:

- 1) Merit testing yield (minimum 4 station years from 2 crop years, minimum 2 tests per year;
- 2) Report all agronomic data collected including: number of days to heading, 1000 kernel weight, weight per volume, lodging resistance, winter survival (where applicable) and disease data.
- 3) All data may be generated by sponsor.

Tests (checks and candidate cultivars) with C.V.s greater than 16% in a four-replicate test may not be included in the means for yield. Even if yields are not used in the mean, other data must be presented. A test shall consist of OCCC designated checks and any number of candidate cultivars, with at least four replications planted. All tests need not contain the same candidates.

Reaction to Fusarium for Rye: inoculated test data from a minimum of 4 station-years of inoculated test data from 2 crop years (minimum 3 reps per test) are required. For registration purposes, candidate rye cultivars must be compared with at least the following winter or spring wheat check cultivars:

- one check from S/HS (susceptible to highly susceptible) category,
- one check from MS (moderately susceptible) category and

• one check from MR (moderately resistant) category.

For the data to be considered valid, the S/HS check variety should have a moderate to severe level of infection. Representative checks for each category are provided in Appendix 6 & 7.

The level of resistance of the candidate cultivar to FHB, based on both visual assessment of symptoms, and deoxynivalenol (DON) must be equal to or better than the worst MS check(s).

Fusarium inoculum used in evaluating Ontario cultivars must be mixture of isolates representative in pathogenicity of the pathogen populations occurring in Ontario as shown by reaction of designated inoculation check(s) (as per Disease Coordinator). All fusarium data must be reported.

3.6.8 Data Requirement for Registration Support of Candidate <u>Winter Barley Cultivars</u> – National (Non-Restrictive)

Cultivar sponsors must provide the OCCC with evidence that their candidate winter barley cultivar(s) is/are adapted to the growing conditions that normally prevail in the intended areas of Ontario. Evidence under this category is to be obtained from plots grown in Ontario and includes:

- 1) Merit testing winter survival (minimum 4 station years, minimum 2 tests per crop year)
- 2) Report all agronomic data collected including; number of days to heading, 1000 kernel weight, weight per volume, lodging resistance, yield and disease data.
- 3) All data may be generated by sponsor.

Tests (checks and candidate cultivars) with C.V.s greater than 16% in a four-replicate test may not be included in the means for yield. Even if yields are not used in the mean, other data must be presented. A test shall consist of OCCC designated checks (see Appendix 10) and any number of candidate cultivars, with at least four replications planted. All tests need not contain the same candidates.

3.7 Security of Unregistered Cultivars

All persons and institutions conducting agronomic, disease and quality trials on behalf of the OCCC agree to abide by the "Code of Ethics for Plant Breeders and Co-operators Conducting Cultivar Evaluation Trials in Canada" as detailed in Appendix 5).

3.8 Seed Requirements for Registration Tests

Seed of all candidate cultivars is to be provided untreated unless agreed upon by sponsors and indicated by the species trial coordinator. Decisions to treat seed and seed treatments to use are made year-by-year and differ for each crop kind. All varieties in a trial must be either treated or untreated. Where seed is treated it should be done so in accordance with best practices and in full observance of all manufacturers' recommendations. Treated seed must be labelled to indicate the treatment used.

3.9 Check Cultivars

Check cultivars should be of a least Certified #1 seed standard and be provided by the sponsor, at no cost, from the same seed lot to all co-operators.

Check cultivars are reviewed annually and are selected from the best varieties commercially available in Ontario. (See Appendix 10) Some varieties may be checks only for special features or agronomic traits. The checks against which a candidate variety is compared may change during the testing life of the registration candidate. (See Section 4.3a)

3.10 Agronomic Methods and Data Collection

The crop production methods of the test should generally follow those for the crop as recommended in the OMAFA Publication 811, Agronomy Guide for Field Crops, except as specified in the document "OCCC Trial Methods and Procedures" (cereals.gocrops.ca).

Special tests may be run in parallel to the main sponsor registration tests for testing cultivars in specialized regimes (e.g. Intensive Cereal Management).

Data collection should be done by generally accepted practices except as specified in the document "OCCC Trial Methods and Procedures". Disease data should be collected when diseases are present. All disease data must be presented.

The harvested area per replication shall consist of at least 2 rows, each at least 2.5 metres long with a maximum of 30 centimetres between rows.

3.11 Analysis of Data

All yield data should be subjected to statistical analysis. Normally, tests are not rejected on the basis of coefficients of variation (C.V.'s) alone. A C.V. greater than 16% for a four-replicate test (for checks and candidates) or its equivalent for tests with fewer replications is to be considered with caution on the use of the data. All test data (reps) must be available to the OCCC (see Section 4.0).

3.12 Submission of Data

Sponsor-generated data for non-restrictive registration purposes must be sent to the appropriate species coordinator(s) of the OCCC no later than two weeks prior to the January meeting date. Data from all tests must be presented in summary form for all traits measured. All the replication data for all traits measured must be made available to the OCCC upon request.

If there are problems with submissions (protocol or merit), coordinators will advise sponsors who must have their final requests to all OCCC and Quality subcommittee members at least one week prior to the January meeting date (see section 4.0 for support request protocol and dates for all registration categories - conventional non-restrictive, and contract restrictive). Submissions for support received after the above deadlines will not be considered, unless the committee agrees to waive the deadline in response to a request from the sponsor. Role of coordinators can also be found in sections 4.0.

4.0 REGISTRATION SUPPORT PROTOCOL

4.1 Voting Procedures

Candidate cultivars that meet protocol and merit requirements will be voted on in a block or slate by

a show of hands. Species Coordinators review the agronomic performance of candidate varieties, while Quality and Disease Coordinators report on the acceptability of candidate varieties from his/her perspective. Those that meet most registration requirements but are flagged with a weakness(es) that in the Committee's judgement may adversely impact Ontario agriculture may also be pulled out of their respective block or slate and voted on separately. Any member may have a candidate removed from a block for separate consideration. Cultivars that fail to meet the merit requirements will be removed from the block and considered and voted upon separately. Voting will be by secret ballot.

The sponsor of a cultivar, if a voting member, may vote on a motion supporting the registration of that cultivar.

The OCCC will advise CFIA-VRO of the Committee decision "to support" or "to object to" the registration of the cultivar.

A motion: "to support" indicates that the cultivar is judged to be of benefit to Ontario agriculture based on Ontario generated data.

"to object to" is only used when there is a potential for harm to a market. Documentation must be provided to sponsor and VRO (e.g. disease epidemic potential).

4.2 Duration of Committee Support

Once a variety is supported by OCCC, the sponsoring individual or organization may apply to CFIA for registration. CFIA requirements to successfully register a variety can be found at http://www.inspection.gc.ca/active/netapp/regvar/regvar_lookupe.aspx

Submission of registration to CFIA may be deferred until January 20, two (2) years after support from OCCC. After this date, committee support for the variety expires. The sponsor can request an extension to registration support to complete the application process to CFIA, if desired.

4.3 Requirements for National Registration (Non-Restrictive):

- a) Merit testing the average relative yield² in t/ha across all trials of the candidate variety must be arithmetically equal to (2 significant figures), or better than, the mean of the relative yields of the agronomic checks designated for yield. A candidate with lower yield may be acceptable if it is superior in some other significant characteristic so that it would fill a need not being met by existing registered cultivars.
- b) Minimum of two years testing, with at least two tests in any one year, if only two years of data are presented.
- c) Minimum of ten station-years planted, with a minimum of eight station-years of yield data, allowing for two test failures.
- d) At least one-third of the tests planted, calculated to the nearest test, must come from independent sources. However, if for any reason beyond the control of the sponsor, the data from independent tests are unusable, (e.g. winterkill, or excessive C.V.), the "independent source" requirement for the candidate cultivar(s) shall be deemed to have been met.

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² Relative yield is calculated by dividing the yield of a candidate line or check by the mean yield of the currently designated yield checks in each trial.

- e) Data from all valid tests must be presented in summary form for all traits measured. All the replication data for all traits measured must be made available to the OCCC upon request.
- f) Tests (checks and candidate cultivars) with C.V.'s for yield greater than 16% in a four-replicate test may not be included in the means for yield. When yields are not used in the mean, data for all other traits must be presented. A test shall consist of OCCC designated checks and any number of candidate cultivars, with at least four replications planted. All tests need not contain the same candidates.
- g) Sponsor responsibility supplying all merit data to the OCCC for registration support, including quality and disease data where applicable, organization of tests and site inspections. Sponsors must submit support requests to species coordinators at least two weeks prior to the January meetings and to OCCC voting members, and the Quality subcommittee, at least one week prior to the January meeting. Proof of ownership (or marketing rights) must be made available to the OCCC if the candidate cultivar was not bred by the sponsor.
- h) OCCC responsibility designation of agronomic, disease and quality check cultivars and site inspectors, approval of test protocol, designation of number of quality determinations needed for quality support and voting on support requests.
- i) Agronomy, quality and disease protocol and merit requirements are outlined in section 3.6 above for traditional registration support.

4.4 Requirements for Contract Registration (Restrictive):

(Also see Section 3.5)

Contract registration is used to allow the orderly and legal sale, in Ontario, of cereal varieties with market related uniqueness, where the biochemical or biophysical characteristics of candidates distinguish them from the majority of registered varieties of the same kind or species <u>AND</u> where they would have adverse affects on the identity of those registered varieties. Sponsors may wish to use this category to register candidates that would pose harm to the marketplace if pursued in a non-restrictive manner. Parts c), d) and e) of the support request below may be achieved in a confidential manner* as described in section f).

- a) Identification and ownership: Sponsor must provide species, name or experimental number and proof of ownership or market rights if sponsor is not original breeder.
- b) Agronomic merit: Sponsor must provide data from four station-years of yield trials from a minimum of two years. All tests can be sponsor derived. Tests must include appropriate checks and although comparative yields must be reported, no set yield level need be reached. All comparative data for measured traits must be reported.
- c) Uniqueness: Sponsor must state market related uniqueness.
- d) Market or end use: Sponsor must identify end user and show proof of end user's acceptance and intention to purchase seed or grain produced under contract. This demonstrates end user merit.
- e) Harm:
 - i. Sponsor must show harm that candidate would cause if registered in a non-restrictive manner.
 - ii. Sponsor must demonstrate a closed system of production and marketing to be followed that includes:
 - 1. Material sent to end user
 - 2. Material in excess of end user's requirements
 - 3. Material below end user's requirements

- 4. Material retained for seed but in excess of requirements iii Sponsor must provide Fusarium data for wheat (as per Section 3.6 and Appendix 6 or 7)
- f) * Confidentiality protocol: Uniqueness, market or end use and harm sections (other than Fusarium data) of a contract registration request may be pursued in a confidential manner with the Confidentiality Subcommittee. Decisions will be made by consensus. Refer to Appendix 3 for the structure of the Confidentiality Committee.
- g) Request support dates: If confidentiality is requested, the sponsor must notify the chair and secretary of the OCCC at least three weeks prior to the January meetings. The Confidentiality Subcommittee will be organized and ready to accept the confidential sections at least two weeks prior to the January meetings by which time the sponsor must supply the required information. The OCCC voting members must receive the public part of the documentation at least one week prior to the January meeting as per sponsor responsibility in 4.2.

NOTE: The variety registration office may have additional requirements to fulfill before contract registration is granted. Please consult VRO "Procedures for the Registration of Crop Varieties in Canada" at the following web address http://www.inspection.gc.ca/english/plaveg/variet/proced/procede.shtml

4.5 Interim Registration

"Interim Registration" is defined as a registration for an initial three-year period, unless less time is requested. Renewals of interim registration (one year) are permitted to a maximum of 5 years. Interim registration may be used for all registration categories. (Also See Section 3.5)

4.6 CFIA requests to the OCCC for decisions on regional restrictions for the region of Ontario -regarding cereal varieties which were recommended by other CFIA recognized recommending committees

The Committee shall respond to the CFIA as to whether or not they have an objection to the national registration of a given cereal variety. The committee has the option of objecting thereby placing a regional restriction on the national registration of a variety. Cereal varieties considered are of the following crop kinds: winter wheat, spring wheat, durum wheat, rye, spelt and triticale. In order for the candidate cultivar to receive a "do not object" vote, it must not be harmful to crop production in Ontario typically on the basis of either disease reaction. They must meet the OCCC Fusarium Head Blight and deoxynivalenol (DON) requirements as outlined in Section 3.6 or Appendix 6 or 7. Sponsors may enter candidate cultivars exclusively in the OCCC Inoculated FHB trials via the cereals.gocrops.ca website for the required station years (to a maximum of 6 entries) for the purpose of regional extension requests. If the committee deems that there is potential for harm to Ontario's cereal industry, OCCC will notify VRO, CFIA that the OCCC "objects" to the national registration. The review of a cereal variety's merit will be completed by the species' coordinator, Disease Coordinator, and the Secretary.

5.0 APPEALS

5.1 OCCC Appeals Procedure

A sponsor whose cultivar has been rejected by the committee may appeal the decision to the Appeals Subcommittee for reconsideration. Contract and Special Consideration Registration Request Supports pursued in a confidential manner may be appealed in a similar manner. Refer to Appendix 3 for structure of the Appeals Committee.

Successful appeals will be referred back to the full committee for re-consideration.

Appeals may be based on:

- 1. an error of consequence was made in the data that was submitted.
- 2. additional information is available
- 3. the accepted procedure in reviewing the data was not followed.
- 4. there are any other justifications for an appeal as accepted by the Committee.

5.2 Conflict Resolution

In the event that a stakeholder identifies a situation where the OCCC has failed to live up to the spirit or the letter of the MOPs guidance document, they have recourse to present the issue with a detailed explanation to the Chief, VRO or the Registrar. The VRO has oversight in this area and the Registrar with delegated authority from the Minister of Agriculture and Agri-Food will address any shortcomings, oversight or failure to act in accordance with the MOPs directly with the OCCC in question. The purpose will be to bring the committee into compliance as soon as possible and to correct any wrongs that may have been committed.

One of the roles of the VRO is to monitor OCCC meetings and avoid this type of situation from the beginning. If the VRO observes actions or governance out of compliance with the letter and spirit of the MOPs, the office will work directly with the committee to find a solution to bring the committee back into compliance in a timely manner.

Appendix 1: Authority provided under section 65.1 in the Seeds Regulations

RECOMMENDING COMMITTEES

- 65.1 (1) The Minister shall approve, for Canada or a region of Canada, a committee to establish and administer protocols for testing the varieties of a species, kind or type of crop listed in Part I of Schedule III, to determine the merit of the varieties and to make recommendations respecting their registration if
 - (a) the members of the committee have the knowledge and expertise required to establish and administer testing protocols for varieties of that species, kind or type of crop;
 - (b) the members of the committee have the knowledge and expertise required to determine the merit of the varieties of that species, kind or type of crop;
 - (c) the testing protocols established by the committee are appropriate for that species, kind or type of crop, are practical and are based on scientific principles;
 - (d) the procedures established by the committee for determining the merit of varieties of that species, kind or type of crop are appropriate for that purpose and are based on scientific principles;
 - (e) the operating procedures established by the committee will ensure that its functioning is transparent and that varieties are dealt with in a fair and consistent manner; and
 - (f) no other committee is approved as a recommending committee for that species, kind or type of crop for Canada or the region.
- (2) The Minister shall approve, for Canada or a region of Canada, a committee to establish and administer protocols for testing the varieties of a species, kind or type of crop listed in Part II of Schedule III and to make recommendations respecting their registration if
 - (a) the members of the committee have the knowledge and expertise required to establish and administer testing protocols for varieties of that species, kind or type of crop;
 - (b) the testing protocols established by the committee are appropriate for that species, kind or type of crop, are practical and are based on scientific principles;
 - (c) the operating procedures established by the committee will ensure that its functioning is transparent and that varieties are dealt with in a fair and consistent manner; and
 - (d) no other committee is approved as a recommending committee for that species, kind or type of crop for Canada or the region.
- (3) In carrying out its functions, a recommending committee must apply the testing protocols it has established, act in accordance with its operating procedures and, in the case of a committee approved under subsection (1), apply the procedures it has established to determine the merit of varieties.
- (4) For the purposes of subsections 67(1) and 67.1(1), the recommendation of a recommending committee must be based on the following:

- (a) in the case of a species, kind or type of crop that is listed in Part I of Schedule III, the results of testing the variety in accordance with the relevant testing protocols and a determination of whether the variety has merit; and
- (b) in the case of a species, kind or type of crop that is listed in Part II of Schedule III, the results of testing the variety in accordance with the relevant testing protocols.

SOR/2009-186, s. 2.

Appendix 2: Eligibility Requirements for Variety Registration

- 67.1 (1) A variety of a species, kind or type of crop that is listed in Part I of Schedule III is eligible for registration if
 - (a) the variety has merit;
 - (b) the variety has been tested in accordance with the testing protocols of a recommending committee;
 - (c) the recommending committee has made a recommendation respecting registration of the variety;
 - (d) the variety or its progeny is not detrimental to human or animal health and safety or the environment when grown and used as intended;
 - (e) the representative reference sample of the variety does not contain off-types or impurities in excess of the Association's standards for varietal purity;
 - (f) the variety meets the standards for varietal purity established by the Association or these Regulations for a variety of that species, kind or type;
 - (g) the variety is distinguishable from all other varieties that were or currently are registered in Canada;
 - (h) the variety name is not a registered trademark in respect of the variety;
 - (i) the variety name is not likely to mislead a purchaser with respect to the composition, genetic origin or utility of the variety;
 - (j) the variety name is not likely to be confused with the name of a variety that was or currently is registered;
 - (k) the variety name is not likely to offend the public;
 - (*l*) no false statement or falsified document and no misleading or incorrect information have been submitted in support of the application for registration; and
 - (m) the information provided to the Registrar is sufficient to enable the variety to be evaluated.
 - (2) A variety of a species, kind or type of crop that is listed in Part II of Schedule III is eligible for registration if the requirements for eligibility set out in paragraphs (1) (b) to (m) are met.
 - (3) A variety of a species, kind or type of crop that is listed in Part III of Schedule III is eligible for registration if the requirements for eligibility set out in paragraphs (1) (d) to (m) are met.

APPENDIX 3: STRUCTURE OF THE OCCC

ORGANIZATION			INDIVIDUAL	CONTACT	
<u>0</u>	CCC	Executive (no	n-voting members)		
Chair OMA		AFA	Joanna Follings	joanna.follings@ontario.ca	
Past Chair	GFO		Matthew Czerwinski	mczerwinski@gfo.ca	
Vice Chair	AAF	C	Dr. Andrew Burt	andrew.burt@agr.gc.ca	
Secretary	U of	G	Melinda Drummond	drummond@uoguelph.ca	
Treasurer			Peter Johnson	peter.johnson@bell.net	
	C &	M Seeds	Ellen Sparry (alt. signature)	esparry@redwheat.com	
Performance Trial Coordinator	C &	M Seeds	Ellen Sparry	esparry@redwheat.com	
<u>0</u>	CCC	Voting Memb	ers (in no particular order	•)	
Agriculture and Agri-Food Canada		AAFC	Dr. Andrew Burt	andrew.burt@agr.gc.ca	
Seeds Canada			Ellen Sparry	esparry@redwheat.com	
Canadian National Millers' Associa	ition	CNMA	Peter Worfolk	peter.worfolk@ardentmills.com	
Ontario Ministry of Agriculture, Food and Rural Affairs		OMAFA	Joanna Follings	joanna.follings@ontario.ca	
Ontario Certified Crop Advisors Association		OCCAA	Don McLean	dmclean@growmark.com	
Ontario Soil and Crop Improvement Association		OSCIA	Andy van Niekirk	avanniekerk@ontariosoilcrop.org	
Ontario Seed Growers' Association	l	OSGA	Quentin Martin	quentin@cribit.com	
Grain Farmers of Ontario		GFO	Gus Ternoey	gus@dashwheelfarms.ca	
Ontario Agri Business Association		OABA	Sarah Kiar	skiar@snobelenfarms.com	
University of Guelph		U of G	Dr. Helen Booker	hbooker@uoguelph.ca	
Ex-officio (non-voting			g member)		
Canadian Food Inspection Agency CFIA		CFIA	Heather Ryan	heather.ryan@canada.ca	
Canadian Grain Commission CGC		CGC	Dr. Bin Xiao Fu	binxiao.fu@grainscanada.gc.ca	
Chair, Atlantic Recommending Committee for Cereal Crops AR		ARCCC	Dan MacEachern	dan.maceachern@agr.gc.ca	
Chair, Quebec Recommending Committee for Cereal		QRCC	Mylène Desautels	mylene.desautels@synagri.ca	

ORGANIZATION INDIVIDUA	L CONTACT
------------------------	-----------

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Spring Wheat Registration	Ellen Sparry	esparry@redwheat.com
Spring Barley Registration	Dr. Raja Khanal	rkhanal@uoguelph.ca
Winter Barley Registration	Phil Bailey	pbailey@secan.com
Oat Registration	Dr. Weikai Yan	weikai.yan@agr.gc.ca

Other OCCC Roles

Data Coordinator	Jonathan Brinkman	jbrinkma@uoguelph.ca
Data Coordinator – Winter Barley	Ian DeSchiffart	ideschif@uoguelph.ca
OCCC Webmaster	Dale Anderson	dale@datahome.ca

OCCC Appeals Committee

The Appeals Subcommittee consists of the executive members of the OCCC.

OCCC Confidentiality Committee

The Confidentiality Subcommittee is elected by the OCCC and is comprised of 3 members who do not have potential conflicts of interest and are willing to sign confidentiality agreements. Decisions will be made by consensus.

APPENDIX 4: ROLES AND RESPONSIBILITIES

Roles	Responsibilities
Ontario Cereal Crop Committee	Approval of Protocols and Procedures
Registration Crop Coordinators	 Recommend standards for respective species for registration support protocols Evaluate sponsor generated data for adherence to OCCC registration support requirements and prepare report of candidate lines Coordinate sponsor driven orthogonal tests and provide entry lists to cooperating site operators
Registration Disease Coordinators	 Recommend standards for respective species for registration support protocols Evaluate sponsor generated data for adherence to OCCC registration support requirements and prepare report of candidate lines
Quality Committee	 Assesses candidate cultivar(s) to ensure that they fit into the quality requirements of the cereal industry in Ontario. Operates according to the Operating Procedures of the Quality Subcommittee of the OCCC (Appendix 9)
Fusarium Committee	 Explore and review Fusarium head blight field nursery methodologies and maintain guidance regarding acceptable protocols. Determine appropriate thresholds for registration support including minimum levels of infection and appropriate susceptibility checks.

APPENDIX 5

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

The mutual interests of all engaged in cultivar development and evaluation are served by the climate which engenders the greatest freedom of communication and exchange of breeding material, while at the same time providing adequate safeguards to the breeder 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, test co-operators, institutions and companies conducting cultivar trials 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 legislation, 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 the 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 only 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 back cross 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 seed stocks for registration trials, may only be made with the written permission of the breeder.

APPENDIX 6:

Requirements Regarding Fusarium Head Blight for OCCC Registration Support of Spring Wheat, Durum, Rye and Triticale Varieties in Ontario

- 1. FHB data must be presented from a minimum of 4 station-years of inoculated tests from 2 crop years, 3-4 replicates per station-year.
- 2. At least one check from S/HS (susceptible to highly susceptible) and one check from either MS (intermediate to moderately susceptible) or R/MR (resistant to moderately resistant) categories needs to be included. The level of infection of the variety representing the S/HS check must be moderate to severe. Representative checks for each category are provided in Table 1. *Checks must be approved by the Ontario Cereal Crop Committee*.
- 3. The level of resistance of the candidate cultivar to FHB, based on both visual assessment of symptoms, and deoxynivalenol (DON) must be equal to or better than the worst MS check(s).

Candidate cultivars that do not meet or have not been demonstrated to meet the above three requirements would be considered to possess a potential harm to Ontario's wheat industry.

Representative checks for each category are provided in Table 1.

Table 1. The three categories of FHB resistance in spring wheat and representative cultivars/lines

Category	Preferred Check Cultivars	Acceptable Alternate Check Cultivars
R/MR	AAC Synox, Ventry	
MS	AAC Scotia, Fuzion	Nass
S/HS	Wilkin, Raven	

APPENDIX 7:

Requirements Regarding Fusarium Head Blight for OCCC Registration Support of Winter Varieties of Wheat, Durum, Triticale, Spelt and Rye in Ontario

- 1. FHB data must be presented from a minimum of 4 station-years of inoculated tests from 2 crop years, 3-4 replicates per station-year.
- 2. At least one check from S/HS (susceptible to highly susceptible), one check from MS (moderately susceptible) and one from MR (moderately resistant) categories needs to be included. The level of infection of the variety representing the S/HS check must be moderate to severe. *Checks must be approved by the Ontario Cereal Crop Committee*.
- 3. The level of resistance of the candidate cultivar to Fusarium, based on both visual assessment of FHB symptoms and deoxynivalenol (DON) level must equal to or better than the worst of the MS checks.

Candidate cultivars that do not meet or have not been demonstrated to meet the above requirements would be considered to possess a potential to harm Ontario's wheat industry.

Representative checks for each category are provided in Table 2.

Table 2. The three categories of FHB resistance in winter wheat and representative cultivars/lines

CATEGORY	REPRESENTATIVE CHECK CULTIVARS
	Soft Winter Wheat, Hard Red Winter Wheat, Hard White Winter Wheat, Winter Triticale, Winter Rye, Winter Spelt and Winter Durum
MR	25R74, B700SRW
MS	PRO81, 25R61
HS/S	25R40, 25W38

APPENDIX 8: OCCC Quality Guidelines for Registration Support (January 2026)

1. WHEAT – Guidelines are based on grade #1 wheat

<u>Sample Submission for Quality assessment</u>: A 3 kilogram sample of each of the registration candidates (composite of all reps) along with a 3 kilogram sample of each check cultivar must be sent each year for quality analysis. A bulk sample over replications of each candidate and checks from all tests over at least a two year period must be used for quality determinations. For wheat, quality determinations are performed on all samples. The <u>Ottawa Research and Development Centre (ORDC) Quality Lab, Ottawa</u> is currently performing quality evaluations for wheat. Refer to Appendix 11 for deadlines of sample shipments to the Quality Lab. Other quality labs <u>may</u> be utilized <u>if approved</u> by the OCCC.

A. Ontario Soft Winter Wheat

		Excellent	Improvement	Acceptable	Flag	Poor
Check:	Appendix 10					
	_	,				
Grain:	Test Weight, kg/hl		> (\overline{X}_{ck} - 1.5)	$\overline{X}_{ck} \pm 1.5$	$< (\overline{X}_{ck} - 1.5) \& $ $\geq (\overline{X}_{ck} - 3.0)$	< (X _{ck} - 3.0)
	Kernel Hardness			≥ (\(\overline{X}_{ck} - 5 \)	$< (\overline{X}_{ck} - 5) \&$ $\geq (\overline{X}_{ck} - 10)$	< (X _{ck} - 10)
	Grain Protein %	> (X _{ck} + 1.5)	$ > (\overline{X}_{ck} + 1.0) \& $ $ \leq (\overline{X}_{ck} + 1.5) $	$\overline{X}_{ck} \pm 1.0$	$< (\overline{X}_{ck} - 1.0) \& $ $\ge (\overline{X}_{ck} - 1.5)$	< (X _{ck} - 1.5)
	Falling Number, sec	> (\overline{X}_{ck} + 80)	$ > (\overline{X}_{ck} + 40) \& $ $ \leq (\overline{X}_{ck} + 80) $	$\overline{X}_{ck} \pm 40$	$< (\overline{X}_{ck} - 40) \& $ $\geq (\overline{X}_{ck} - 80)$	< (X _{ck} - 80)
Milling (Flour):	Yield, % of grain ("as is" & "ash corrected")	> (\overline{X}_{ck} + 1.5)	$ > (\overline{X}_{ck} + 0.5) \& $ $ \le (\overline{X}_{ck} + 1.5) $	$\overline{X}_{ck} \pm 0.5$	$< (\overline{X}_{ck} - 0.5) \& $ $\ge (\overline{X}_{ck} - 1.5)$	< (X _{ck} - 1.5)
	Flour Ash	< (\overline{X}_{ck} - 0.04)	$< (\overline{X}_{ck} - 0.02) \&$ $\ge (\overline{X}_{ck} - 0.04)$	$\overline{X}_{ck} \pm 0.02$	$> (\overline{X}_{ck} + 0.02) \& $ $\leq (\overline{X}_{ck} + 0.04)$	> (\overline{X}_{ck} + 0.04)
	Flour Protein	> (\overline{X}_{ck} + 1.5)	> $(\overline{X}_{ck} + 1.0) \&$ $\leq (\overline{X}_{ck} + 1.5)$	$\overline{X}_{ck} \pm 1.0$	$< (\overline{X}_{ck} - 1.0) \& $ $\ge (\overline{X}_{ck} - 1.5)$	< (\overline{X}_{ck} - 1.5)
	Protein Difference			$\leq (\overline{X}_{ck} + 0.4)$	> (\overline{X}_{ck} + 0.4)	
Cookie	Spread cm	> (\overline{X}_{ck} + 0.5)	$ > (\overline{X}_{ck} + 0.25) \& $ $ \le (\overline{X}_{ck} + 0.5) $	$\overline{X}_{ck} \pm 0.25$	$< (\overline{X}_{ck} - 0.25) \& $ $\geq (\overline{X}_{ck} - 0.5)$	< (X _{ck} - 0.5)
	W/T cm	> (X _{ck} + 1.0)	$ > (\overline{X}_{ck} + 0.75) \& $ $ \le (\overline{X}_{ck} + 1.0) $	$\overline{X}_{ck} \pm 0.75$	$< (\overline{X}_{ck} - 0.75) \&$ $\geq (\overline{X}_{ck} - 1.0)$	< (X _{ck} - 1.0)
	1					
Alveogram	Pressure (P) mm H20	> (X _{ck} + 20)	$ > (\overline{X}_{ck} + 15) \& $ $ \leq (\overline{X}_{ck} + 20) $	$\geq (\overline{X}_{ck} - 10) \& $ $\leq (\overline{X}_{ck} + 15)$	$< (\overline{X}_{ck} - 10) \&$ $\geq (\overline{X}_{ck} - 15)$	< (X _{ck} - 15)
	Length	$> (\overline{X}_{ck} + 50)$	> (X̄ _{ck} + 30) &	$\overline{X}_{ck} \pm 30$	< (X̄ _{ck} - 30) &	$<$ (\overline{X}_{ck} - 50)

			$\leq (\overline{X}_{ck} + 50)$		≥ (X̄ _{ck} - 50)	
	P/L Ratio	> (\overline{X}_{ck} + 0.2)	> $(\overline{X}_{ck} + 0.1) \&$ $\leq (\overline{X}_{ck} + 0.2)$	$\overline{X}_{ck} \pm 0.1$	$< (\overline{X}_{ck} - 0.1) \&$ $\geq (\overline{X}_{ck} - 0.2)$	< (X̄ _{ck} - 0.2)
	Energy (W), 10E-4J	> (X _{ck} + 50)	$ > (\overline{X}_{ck} + 25) \& $ $ \le (\overline{X}_{ck} + 50) $	$\geq (\overline{X}_{ck} - 10) \& $ $\leq (\overline{X}_{ck} + 25)$	$< (\overline{X}_{ck} - 10) \&$ $\geq (\overline{X}_{ck} - 20)$	< (X _{ck} - 20)
SRC	Lactic Acid	> (\overline{X}_{ck} + 20)	$ > (\overline{X}_{ck} + 15) \& $ $ \leq (\overline{X}_{ck} + 20) $	$\geq (\overline{X}_{ck} - 5) \&$ $\leq (\overline{X}_{ck} + 15)$	$< (\overline{X}_{ck} - 5) \&$ $\ge (\overline{X}_{ck} - 10)$	< (\overline{\zeta}_{ck} - 10)
	Water	> (\overline{X}_{ck} + 5)	$ > (\overline{X}_{ck} + 3) \& $ $ \le (\overline{X}_{ck} + 5) $	$\overline{X}_{ck} \pm 3$	$< (\overline{X}_{ck} - 3) \&$ $\geq (\overline{X}_{ck} - 5)$	< (\overline{X}_{ck} - 5)

 $[\]overline{X}_{ck}$ = mean of checks

B. Ontario Hard Red Winter Wheat

	_	Excellent	Improvement	Acceptabl e	Flag	Poor
Check:	Appendix 10					
Grain:	Test Weight, kg/hl		> (\overline{X}_{ck} + 1.5)	X _{ck} ± 1.5	$< (\overline{X}_{ck} - 1.5) \& \ge (\overline{X}_{ck} - 3.0)$	< (X _{ck} - 3.0)
	Kernel Hardness			$\leq (\overline{X}_{ck} + 5)$	$ > (\overline{X}_{ck} + 5) \& $ $ \leq (\overline{X}_{ck} + 10) $	> (X _{ck} + 10)
	Falling Number, sec	> (\overline{X}_{ck} + 80)	$ > (\overline{X}_{ck} + 40) \& $ $ \leq (\overline{X}_{ck} + 80) $	$\overline{X}_{ck} \pm 40$, or >300	$< (\overline{X}_{ck} - 20) \& $ $\geq (\overline{X}_{ck} - 60)$	< (\overline{X}_{ck} - 60)
	Grain Protein %	> (X _{ck} + 1.0)	$ > (\overline{X}_{ck} + 0.5) \& $ $ \le (\overline{X}_{ck} + 1.0) $	X̄ _{ck} ± 0.5	$< (\overline{X}_{ck} - 0.5) \& $ $\ge (\overline{X}_{ck} - 1.0)$	< (X _{ck} - 1.0)
	_					
Milling (Flour):	Flour Protein	> (\overline{X}_{ck} + 1.0)	$> (\overline{X}_{ck} + 0.5) \&$ $\leq (\overline{X}_{ck} + 1.0)$	$\overline{X}_{ck} \pm 0.5$	$< (\overline{X}_{ck} - 0.5) \&$ $\geq (\overline{X}_{ck} - 1.0)$	< (X _{ck} - 1.0)
	Protein Difference			≤ (X̄ _{ck} + 0.4)	> (\overline{X}_{ck} + 0.4)	
	Yield, % of grain ("as is" & "ash corrected")	> (\overline{X}_{ck} + 1.7)	> $(\overline{X}_{ck} + 0.8) \&$ $\leq (\overline{X}_{ck} + 1.7)$	$\overline{X}_{ck} \pm 0.8$	$< (\overline{X}_{ck} - 0.8) \& $ $\ge (\overline{X}_{ck} - 1.7)$	< (X _{ck} - 1.7)
	Flour Ash	< (\overline{X}_{ck} - 0.04)	$< (\overline{X}_{ck} - 0.02) \& $ $\ge (\overline{X}_{ck} - 0.04)$	$\overline{X}_{ck} \pm 0.02$	$ > (\overline{X}_{ck} + 0.02) \& $ $ \le (\overline{X}_{ck} + 0.04) $	> (\overline{X}_{ck} + 0.04)
	Starch Damage	< (\overline{X}_{ck} + 2)	$< (\overline{X}_{ck} + 1) \&$ $\ge (\overline{X}_{ck} + 2)$	$\overline{X}_{ck} \pm 1$	$ > (\overline{X}_{ck} - 1) \& $ $ \leq (\overline{X}_{ck} - 2) $	> (X _{ck} - 2)
_						

Farinograph	Absorption	> (\overline{X}_{ck} + 2)	$> (\overline{X}_{ck} + 1) \&$ $\leq (\overline{X}_{ck} + 2)$	$\overline{X}_{ck} \pm 1$	$< (\overline{X}_{ck} - 1) \&$ $\geq (\overline{X}_{ck} - 2)$	< (\overline{X}_{ck} - 2)
	Peak	> (\overline{X}_{ck} + 2)	$ > (\overline{X}_{ck} + 1) \& $ $ \le (\overline{X}_{ck} + 2) $	$\overline{X}_{ck} \pm 1$	$< (\overline{X}_{ck} - 1) \&$ $\geq (\overline{X}_{ck} - 2)$	< (\overline{X}_{ck} - 2)
	Stability	> (\overline{X}_{ck} + 2)	$> (\overline{X}_{ck} + 1) \&$ $\leq (\overline{X}_{ck} + 2)$	$\overline{X}_{ck} \pm 1$	$< (\overline{X}_{ck} - 1) \&$ $\geq (\overline{X}_{ck} - 2)$	< (\overline{X}_{ck} - 2)
	MTI	< (\overline{X}_{ck} - 10)	$< (\overline{X}_{ck} - 5) \&$ $\geq (\overline{X}_{ck} - 10)$	$\leq (\overline{X}_{ck} + 10) \& \\ \geq (\overline{X}_{ck} - 5)$	$> (\overline{X}_{ck} + 10) \& $ $\leq (\overline{X}_{ck} + 20)$	> (\overline{X}_{ck} + 20)
Bake	Loaf volume	> (\overline{X}_{ck} + 100)	$ > (\overline{X}_{ck} + 50) \& $ $ \le (\overline{X}_{ck} + 100) $	X̄ _{ck} ± 50	< $(\overline{X}_{ck}$ - 50) & ≥ $(\overline{X}_{ck}$ - 100)	< (X _{ck} - 100)

 $[\]overline{X}_{ck} = mean \ of \ checks$

C. Ontario Hard Red Spring Wheat

		Excellent	Improvement	Acceptable	Flag	Poor
Check:	Appendix 10					
Grain:	Test Weight, kg/hl		> (\overline{X}_{ck} + 1.5)	$\overline{X}_{ck} \pm 1.5$	$< (\overline{X}_{ck} - 1.5) \& \ge (\overline{X}_{ck} - 3.0)$	< (X̄ _{ck} - 3.0)
	Kernel Hardness			≤ (\(\overline{X}_{ck} + 5 \)	$ > (\overline{X}_{ck} + 5) \& $ $ \le (\overline{X}_{ck} + 10) $	> (\overline{X}_{ck} + 10)
	Falling Number, sec	> (\overline{X}_{ck} + 80)	$ > (\overline{X}_{ck} + 40) \& $ $ \leq (\overline{X}_{ck} + 80) $	$\overline{X}_{ck} \pm 40$	$< (\overline{X}_{ck} - 40) \& $ $\geq (\overline{X}_{ck} - 80)$	< (\overline{X}_{ck} - 80)
	Grain Protein %	> (\overline{X}_{ck} + 2)	$ > (\overline{X}_{ck} + 1) \& $ $ \leq (\overline{X}_{ck} + 2) $	$\overline{X}_{ck} \pm 1$	$< (\overline{X}_{ck} - 1) \&$ $\geq (\overline{X}_{ck} - 2)$	< (\overline{X}_{ck} - 2)
	_					
Milling (Flour):	Flour Protein	> (\overline{X}_{ck} + 2)	$ > (\overline{X}_{ck} + 1) \& $ $ \leq (\overline{X}_{ck} + 2) $	$\overline{X}_{ck} \pm 1$	$< (\overline{X}_{ck} - 1) \&$ $\geq (\overline{X}_{ck} - 2)$	< (\overline{X}_{ck} - 2)
	Protein Difference			$\leq (\overline{X}_{ck} + 0.4)$	$> (\overline{X}_{ck} + 0.4)$	
	Yield, % of grain ("as is" & "ash corrected")	> (\overline{X}_{ck} + 1.7)	> $(\overline{X}_{ck} + 0.8) \&$ $\leq (\overline{X}_{ck} + 1.7)$	$\overline{X}_{ck} \pm 0.8$	$< (\overline{X}_{ck} - 0.8) \&$ $\geq (\overline{X}_{ck} - 1.7)$	< (X _{ck} - 1.7)
	Flour Ash	< (\overline{X}_{ck} - 0.04)	$< (\overline{X}_{ck} - 0.02) \&$ $\ge (\overline{X}_{ck} - 0.04)$	\(\overline{X}_{ck} ± 0.02 \)	$> (\overline{X}_{ck} + 0.02) \&$ $\leq (\overline{X}_{ck} + 0.04)$	> (X _{ck} + 0.04)
	Starch Damage	< (X _{ck} - 2)	$< (\overline{X}_{ck} - 1) \&$ $\ge (\overline{X}_{ck} - 2)$	$\overline{X}_{ck} \pm 1$	$ > (\overline{X}_{ck} + 1) \& $ $ \le (\overline{X}_{ck} + 2) $	> (X _{ck} + 2)
	•					

Farinograph	Absorption	> (\overline{X}_{ck} + 3)	$ > (\overline{X}_{ck} + 1) \& $ $ \leq (\overline{X}_{ck} + 3) $	$\geq (\overline{X}_{ck} - 1.5) \&$ $\leq (\overline{X}_{ck} + 1.0)$	$< (\overline{X}_{ck} - 1.5) \&$ $\geq (\overline{X}_{ck} - 2.5)$	< (X _{ck} - 2.5)
	Peak	> (\overline{X}_{ck} + 4)	$ > (\overline{X}_{ck} + 2.5) \& $ $ \leq (\overline{X}_{ck} + 4) $	$\overline{X}_{ck} \pm 2.5$	$< (\overline{X}_{ck} - 2.5) \&$ $\geq (\overline{X}_{ck} - 4)$	< (\overline{X}_{ck} - 4)
	Stability	> (\overline{X}_{ck} + 2)	$> \overline{X}_{ck} \& \\ \leq (\overline{X}_{ck} + 2)$	\geq (ck _{min} -1.5) & $\leq \overline{X}_{ck}$	< (ck _{min} - 1.5) & ≥ (ck _{min} - 3)	< (ck _{min} - 3)
	MTI	< (\overline{X}_{ck} - 10)	$< (\overline{X}_{ck} - 5) \&$ $\geq (\overline{X}_{ck} - 10)$	$\leq (\overline{X}_{ck} + 10) \&$ $\geq (\overline{X}_{ck} - 5)$	$ > (\overline{X}_{ck} + 10) \& $ $ \le (\overline{X}_{ck} + 20) $	> (X _{ck} + 20)
Bake	Loaf volume	> (\overline{X}_{ck} + 100)	> $(\overline{X}_{ck} + 50) \&$ $\leq (\overline{X}_{ck} + 100)$	X̄ _{ck} ± 50	$< (\overline{X}_{ck} - 50) \&$ $\geq (\overline{X}_{ck} - 100)$	< (X̄ _{ck} - 100)

 \overline{X} ck = mean of checks; ckmin = the lowest check

D. DURUM: Ontario Durum Wheat (CESAD, CEWAD) - Letter of acceptance from end user

E. OATS

(Quality is not a merit requirement for support of registration for oats)

A. HULLED/COVERED

CHECK:	AAC Reid, AAC Nicolas	
	Plumpness	Minimum 50% plump (% by weight over a
		6/64" x 3/4" slotted screen)
OAT	Test Weight	38 lb/ W bu or 42.5 lb/A bu (53 kg/hL, 245
GRAIN		g/0.5 L) or equivalent to/ greater than check
(with hull)		varieties
	Groat %	equal to or greater than quality check, target
		73% or higher
	Thin oats	10% maximum through a 5/64" x 3/4" slotted
		screen lab precision grader
	Kernel Weight	Minimum 30 g / 1000 kernels
MILLING:	Ease of dehulling	Hull moderately easy to remove
	Breakage during processing	Equal to or better than check varieties
	Milling yield	160 pounds maximum to make 100 pounds of finished product
GROAT:	Flavor	Clean characteristic oat flavour
	Color	White to cream
	Protein	13% minimum (as is N x 6.25) or equivalent to
		check varieties (higher protein content
		preferred)
:	Groat oil %	7.5 maximum (as is). Lower values are
		desirable for milling purposes
	Beta-Glucan*	4% minimum (D.B.)
	Total Dietary fibre**	10% minimum (D.B.)

F. HULLESS/NAKED

CHECK:	Navaro	
GROAT:	Plumpness	Equal to or better than quality check
	Kernel Weight	For Milling purposes, kernel weight should be similar to groat weight of hulled varieties
	Oil	Equal to or better than quality check
	Protein	Equal to or better than quality check
	Test weight	Equal to or better than quality check
	Hull %	Equal to or better than quality check

^{*} testing should be completed by Quaker Oats or other Lab using Quaker protocol
** oat as now defined by Health Canada 2010 Web Posting 'Oat Products and Blood Cholesterol Lowering'

APPENDIX 9: Operating Procedures of the Quality Subcommittee of the OCCC

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1.0 Introduction

Purpose: To (1) establish and update, as necessary, grain, milling, and flour quality parameters and ranges for Ontario Cereal Crops Committee (OCCC) crops that will ensure suitable quality for the Ontario cereal industry, (2) assess the quality of candidate cultivar(s) relative to the established quality parameters, (3) annually advise the OCCC main committee on the quality suitability of candidate cultivar(s) for variety registration, and to (4) advise the OCCC Main Committee on suitable quality testing services for candidate wheat varieties.

Authority: The Quality Subcommittee acts as an advisory committee to the OCCC Main Committee.

2.0 Quality Subcommittee

2.1 Meetings

Quality subcommittee meets regularly in January prior to the OCCC Main Committee meeting. Other meetings may be held as required and may be conducted in-person or virtually. A minimum of fifty percent of the voting Subcommittee membership must be in attendance to constitute quorum. Only designated voting Subcommittee members may vote. Over fifty percent of the voting members present must vote in the affirmative for a motion to be carried. In the event of a tie, the motion will be considered to be defeated.

Interested non-voting parties are welcome to attend as an observer and participate in the meeting of the Quality Subcommittee at the discretion of the meeting Chair/Secretary.

The Committee has adopted Sturgis' Rules of Parliamentary Procedures.

Business of the meeting may include;

- · Review the quality data of candidate wheat varieties relative to established quality check cultivars.
- · Conduct a vote for each cultivar seeking registration support as to whether its quality profile 'meets' or 'does not meet' the established Subcommittee quality parameters for a given class. The results of voting are then provided to the OCCC Main Committee for consideration in making variety registration recommendations.
- · Review the quality check varieties used in cultivar trials to ensure that they are continuing to meet the needs of their class.

- · Review the quality guideline parameters to ensure that they are continuing to meet the needs of their class.
- · Review and revise Subcommittee procedures, as needed.

2.2 Executive Roles

Executive positions shall be voted in for a fixed term (2 years) which may be renewed by vote amongst the voting membership at the annual subcommittee meeting. In absence of the Chair, the Vice-Chair shall preside.

- · Chair
- Vice Chair

The Secretary position is established by the OCCC Main Committee.

2.3 Requirements for Acceptance as a New Voting Member of the Quality Subcommittee:

An individual can request to join, or may be invited to join based on their qualifications that are known to be of value to the activities of the Quality Subcommittee. Any candidate member should understand the basics of grain quality and have the ability to make decisions based on this quality or the ability for the quality of a variety to cause harm in the market.

The candidate member should be a participant in the Ontario wheat value chain (e.g., producer representative, processor or end user, seed sector representative, government/scientist), but should not be a varietal sponsor unless acting on behalf of another relevant organization.

Final acceptance of a new voting member is subject to: (1) the individual attending one Quality Subcommittee cultivar review meeting as an observer, and (2) a vote for acceptance by the current Quality Subcommittee members at the start of the following review meeting.

Subject to the Subcommittee's discretion, the observer requirement may be waived via Subcommittee member vote:

- 1. for a known quality expert with direct industry experience relating grain and/or flour characteristics performance, who meets the other requirements for acceptance, or
- 2. for a stand-in replacement of a current absent member who is the sole representative of a value chain component present at the meeting (e.g., producer representative, processor or end user, government/scientist) and who is qualified to provide the perspective of that part of the value chain.

2.4 Expiration or Rescinding of Voting Privileges:

An individual's membership shall be reviewed if they cease to be a representative of the organization with which their membership is associated or if they have missed two consecutive annual meetings. If the individual wishes to maintain membership on the Quality committee, it should be subject to a new vote of Subcommittee members.

3.0 Cultivar Evaluation Procedures

For each cultivar presented, each voting member will cast a secret ballot. There is no appeals process for votes. The voting results will be presented to the OCCC Main Committee.

· Vote options: "to support [the motion]/object [to the motion]/abstain"

· Where Falling Number (FN) is in part or whole, the cause for an objection to the motion to support, this will be indicated on the ballot. Should a cultivar fail to achieve 80% support in a vote due to FN, the line will be not be reviewed by the Main Committee.

No more than two members representing the same organization are eligible to vote during any given meeting of the Quality Subcommittee. A voting member may abstain from voting if there is a real or perceived conflict of interest. A lack of suitable data is not a valid reason for abstaining from voting on a candidate variety's quality suitability.

[Quality OP] Appendix 1: Quality Subcommittee Executive & Voting Members

OCCC Quality Subcommittee Executive Members				
Chair	Peter Worfolk	peter.worfolk@ardentmills.com		
Vice Chair	Meili Hao	meili.hao@adm.com		
Secretary	Melinda Drummond	drummond@uoguelph.ca		

Individual	Organization	Contact
Quality Voting M	lembers	
Luke Hazlett	Tradition Fine Foods	luke.hazlett@tradition.ca
Peter Worfolk	Ardent Mills	peter.worfolk@ardentmills.com
Craig Martin	Cribit Seeds	craig@cribit.com
Ellen Sparry	Seeds Canada	esparry@redwheat.com
Bin Xiao Fu	GRL Winnipeg	binxiao.fu@grainscanada.gc.ca
Josh Cowan	GFO	joshcowan@gfo.ca
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Santangelo		
Matthew	GFO	mczerwinski@gfo.ca
Czerwinski		
Jamshid	Griffith Foods	jrahimi@griffithfoods.com
Rahimi		
Evan Thomas	CGC	evan.thomas@grainscanada.gc.ca
Mehri	ORDC, AAFC	mehri.hadinezhad@agr.gc.ca
Hadinezhad		
Joanna	OMAFA	joanna.follings@ontario.ca
Follings		
Meili Hao	ADM	meili.hao@adm.com
Sunny	P&H	smathew@phmilling.com
Mathew		
Elaine	Cereals Canada	esopiwnyk@cerealscanada.ca
Sopiwnyk		
Jim Driessens	Richardson International Ltd	james.driessens@richardson.ca
Dana	GFO	ddickerson@gfo.ca
Dickerson		

[Quality OP] Appendix 2: OCCC Quality Guidelines for Registration Support

For current Quality parameter guidelines, refer to the "Operating Procedures of the Ontario Cereal Crop Committee for Assessment of Candidate Varieties," Appendix 8: OCCC Quality Guidelines for

Registration Support (January 2026).

[Quality OP] Appendix 3: OCCC Quality Check Cultivars as of January 2025

For current Quality check cultivars, refer to the "Operating Procedures of the Ontario Cereal Crop Committee for Assessment of Candidate Varieties," Appendix 10: OCCC Designated Check Cultivars as of August 2025.

APPENDIX 10: OCCC Designated Check Cultivars as of August 2025

	Agronomy & Disease	Quality	Fusarium (inoc)
Oat: covered	AAC Reid	Vitality	
	AAC Nicolas	Oscar	
Oat: hulless	Navaro	Navaro	
Barley: 2-row	Bornholm		
covered	AAC Synergy		
Barley: 6-row	HY 621-6R		
covered	AAC Vitality		
Barley: 2-row hulless	AAC Starbuck		
Barley: 6-row hulless	AAC Azimuth		
Barley: winter	SU Ruzena (2-row)		
	Visuel (6-row)		
	Branson (SRW – winter		
	survival)		
Wheat: HRS	Ventry	Ventry	See Appendix 6
	Raven	Raven	
Spring Triticale	Ventry	N. A.	See Appendix 6
	Raven (HRS)		
Wheat: spring durum	Ventry	letter of acceptance	See Appendix 6
	Raven (HRS)	from end-user	
Wheat: winter durum	PRO 81	letter of acceptance	See Appendix 7
	Adrianus	from end-user	
Wheat: SWW/SRW		SWW: Ava	See Appendix 7
	Blaze	SRW:	
	OAC Constellation	OAC Constellation	
		Blaze	
Wheat: HRW	PRO 81	Adrianus	See Appendix 7
(Medium and Strong)	Adrianus	PRO 81	
Winter Triticale	Blaze		See Appendix 7
Spelt	Blaze		See Appendix 7
Winter Rye -	Hazlet		See Appendix 7
Conventional			
Winter Rye - Hybrid	Inspirator		See Appendix 7
Buckwheat	AC Manisoba		

APPENDIX 11: DEADLINE DATES

Registration Deadlines:

1. **Site Inspection Requests:** For registration tests, sponsors must notify crop coordinators of trials by May 31 for all crops.

2. Data Submission

- a. Quality Coordinator must send applicable data to the sponsors three weeks prior to the January meeting.
- b: Disease Coordinator must send fusarium inoculation data to sponsors before the August meeting for fall cereals; for spring cereals at least three weeks before January meetings.
- b. Sponsor generated data for <u>unrestricted registration</u> requests must be sent to appropriate species coordinators two weeks prior to the January meeting date and to the OCCC members one week prior to the January meeting date.
- c. Sponsors asking for confidentiality for <u>restricted registration requests</u> must advise the chair and secretary of the Variety Subcommittee at least three weeks prior to the January meetings, then proceed as per (b) above.
- 3. **Data Submission to Out-of-Province Crop Committees:** Data should be sent one week prior to their meetings for registration support. Contact the OCCC secretary for names and addresses.
- 4. **Quality Samples to AAFC, ORDC Lab**Soft Winter September 20; Hard Winter September 25; Spring Cereals October 15

5. **Meeting Dates for Registration**

 Winter Cereals - Usually held in the last week of August - early September to designate checks for registration tests and in January to vote on candidate cultivars.

Spring Cereals - Held in January to designate checks and vote on candidate cultivars.

Actual Meeting Dates

Consult Minutes or Agendas of the OCCC or cereals.gocrops.ca