

**2010 GUIDELINES
FOR TESTING SOYBEANS
FOR SUPPORT FOR REGISTRATION
AND PERFORMANCE OF
ONTARIO SOYBEAN CULTIVARS**

***Ontario Soybean Public Trials:
Ontario Conventional and Food Grade Soybean Trial***

Ontario Glyphosate Soybean Trial

Ontario Soybean Private Trials

And

Manitoba - West Heat Unit Zone Public Soybean Trials

**Provided through the
ONTARIO OIL AND PROTEIN SEED CROP COMMITTEE**

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These guidelines involve the implementation of decisions made in meetings of the Ontario Oil and Protein Seed Crop Committee (OOPSCC) over a number of years.

If any errors or omissions are noted, they should be brought to the attention of the soybean data coordinator.

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1. Introduction

The Ontario Soybean Trials (OST) are conducted as a combination of public and private trials conducted by research institutions in Ontario through the Ontario Oil and Protein Seed Crop Committee (OOPSCC). The purpose of the Ontario Soybean Trials is to obtain agronomic, pest, disease, and quality information from Oilseed varieties for use in supporting the registration of new soybean varieties and in preparing a performance report of varieties. Soybeans used for food such as Food Grade varieties are included in the trials for industry information only.

The OST are divided into two separate sets of trials; the Ontario Conventional and Food Grade Soybean Trials (**OCFGST**) and the Ontario Glyphosate Soybean Trials (**OGST**), each grown at the same locations.

To be eligible for support for registration entries will require a minimum of two valid Ontario tests in one year in a combination of private and/or public trials. OOPSCC will support for registration only those varieties which have high enough seed yield, in conjunction with other characteristics, that will be of a benefit, and not bring harm to the industry. It is permissible to enter the same variety in more than one area, provided the appropriate fees are paid for each area. Because specific quality attributes (ability to be made into high quality natto, tofu, or miso, etc) are highly valued in the soy food industry, Food Grade soybeans which possess these attributes are exempt from registration requirements prior to sale in Canada. When submitting a Food Grade entry for inclusion in the OCFGST, sponsors must indicate that it is a Food Grade Entry and indicate its distinctive attributes.

OOPSCC conducts performance testing of entries that require support for registration, registered, or exempt from registration for a fee. Entries may only be entered in the Ontario Soybean Trials through a Canadian sponsor. After a minimum of 2 years of public testing by OOPSCC, the performance of registered and exempted varieties is published in a brochure format entitled 2010 Report, Ontario Soybean Variety Trials and on the OOPSCC web site, www.GoSoy.ca which are available in December.

2. Membership

The Ontario Oil and Protein Seed Crop Committee (OOPSCC) is comprised of individuals from the following public and private soybean groups:

- Canadian Grain Commission (CGC)
- Canadian Seed Trade Association (CSTA)
- Certified Crop Advisor (CCA)
- Commercial Plant Breeders (CPB of CSTA)
- Kemptville campus of the University of Guelph (KCUG)
- Ontario Agricultural College, University of Guelph (OAC)
- Ontario Oilseed Crushers' Association (OOCA)
- Ontario Seed Growers Association (OSGA)
- Ontario Soil and Crop Improvement Association (OSCIA)
- Ontario Soybean Growers (OSG)
- Plant Industry Branch - OMAFRA
- Research Centre, Harrow - Agriculture & Agri-Food Canada (GPCRC)
- Research Centre, Ottawa - Agriculture & Agri-Food Canada (ECORC)
- Ridgetown campus of the University of Guelph (RCUG)
- Variety Registration Office - Canadian Food Inspection Agency (VRO)

OOPSCC Committee embodies two committees

- i) Planning and Assessment Committee (research)
- ii) Variety Sub-Committee

3. Meetings

Annual meetings of the Variety Subcommittee and the full OOPSCC are held during the latter part of January to discuss trial results, to make decisions regarding support for registration of eligible candidate lines, and to discuss changes or modifications to the testing program. Individuals who are not members of OOPSCC but are interested in the proceedings of these meetings may attend as observers with the permission of the OOPSCC Main Committee or Variety Subcommittee Chair, Dr. Istvan Rajcan and Mr. Albert Tenuta, respectively.

An annual Ontario Soybean Tour of public test sites is held in September, another meeting is held in June to review and discuss OOPSCC research priorities. Other meetings may be called as necessary. A quorum is defined as **50%** of the membership of OOPSCC or its subcommittees. Voting is conducted by show of hands unless a secret ballot is requested. All members will vote on all motions unless a conflict of interest is declared.

4. Entry of Lines in Public Trials

4.1 Trial Sites and Co-ordinators

Trial sites for OST in 2010 are given in Table 1.

Manitoba - West Heat Unit Zone - Beginning in 2010, OOPSCC will create a Manitoba - West Heat Unit Zone. The trials in this zone are carried out by MPGA and Manitoba Agriculture, Food and Rural Initiatives (MAFRI). OOPSCC will accept data from this zone that meets the standards of the OOPSCC 2010 Testing Guidelines. Sponsors wishing to arrange trials in the Manitoba - West Heat Unit Zone concerning time-lines, entry applications, fees, testing procedures, test locations and reporting of results are to contact the West HUZ coordinator, Mr. Bruce Brolley. (see contact information below).

TABLE 1. Trial Sites and Co-operators for Ontario Soybean Tests – 2010

Heat Unit Zone	Location	Co-operator	Heat Units Available*	Row Width (cm)	Rows per plot
2400	Dundalk	OAC	2400	35	4
	Renfrew	ECORC	2500	40	4
	Elora	OAC	2550	35	4
	Listowel	Rossoya Test. Inc.	2500	35	4
2600	Elora	OAC	2550	35	4
	Brussels	UG-RC	2600	35	4
	Ottawa	ECORC	2750	40	4
	Winchester	KCAT	2825	35	4
2800	Woodstock	OAC	2700	35	4
	Exeter	UG-RC	2800	35	4
	Winchester	KCAT	2825	35	4
	St. Pauls	OAC	2900	35	4
3100	Talbotville(loam)	Rossoya Test. Inc.	2900	35	4
	Dutton (clay)	UG-RC	3000	43	5
	Inwood (clay)	UG-RC	3050	43	5
	Ridgetown(loam)	UG-RC	3250	43	5
3400	Chatham (loam)	UG-RC	3300	43	5
	Merlin (clay)	UG-RC	3300	43	5
	Woodslee (clay)	GPCRC	3400	46	5
	Malden (loam)	GPCRC	3500	46	5

*Crop heat units

Co-ordinators for Individual Test Areas are as follows:

Heat Unit Zone (HUZ) Name and Address

Manitoba - WEST

Bruce Brolley
Manitoba Agriculture Food and Rural Initiatives
Box 1149, Carman MB R0G 0J0
bbrolley@gov.mb.ca
brucebrolley@cici.mb.ca
(204) 745-5667 office
(204) 745-0044 cell

2400 Dr. Elroy Cober,
Eastern Cereals & Oilseeds
Research Centre (ECORC),
960 Carling Ave, Bldg # 110
Agriculture & Agri-Food Canada
Ottawa, Ontario KIA OC6
Elroy.cober@agr.gc.ca

2600 Mr. Ron Guillemette,
Eastern Cereals & Oilseeds
Research Centre (ECORC),
960 Carling Ave, Bldg # 110
Agriculture & Agri-Food Canada
Ottawa, Ontario KIA OC6
Ron.guillemette@agr.gc.ca

2800 Dr. Istvan Rajcan
Department of Plant Agriculture (OAC)
Crop Science Bldg
University of Guelph
50 Stone Road East
Guelph, Ontario N1G 2W1
irajcan@uoguelph.ca

3100 Dr. Gary Ablett,
Ridgetown campus of the University of Guelph
Ridgetown, Ontario N0P 2C0
GABLETT@ridgetownc.uoguelph.ca

3400 Mr. Tom Welacky
Greenhouse & Processing Crops
Research Centre, (GPCRC)
Agriculture & Agri-Food Canada
Harrow, Ontario N0R 1G0
tom.welacky@agr.gc.ca

Food Grade Soybeans - the data co-ordinator is Dr. V. Poysa – vaino.poysa@agr.gc.ca

4.2 Criteria for Acceptance of Entries

i) Canadian Sponsor

Entries may only be entered in the OST through a Canadian sponsor located at a Canadian address. A Canadian sponsor will be an individual or organization involved in agricultural endeavour in Canada, either public or private.

ii) Seed Requirement

Entries with de-regulated traits that have stewardship requirements or special handling requirements will not be eligible for entry into public trials.

Entries are tested in one or more of the five Heat Unit Zones (HUZ) shown above. 14,000 viable seeds are required for 3100 and 3400 HUZ; 15,000 seed for the 2600; 15,000 seed for 2400 HUZ and 16,000 seed for the 2800 HUZ's.

The white mold test will only be available in the 3400 HUZ in 2010. If sponsors place an entry in the white mold tests then an additional 1000 seed/entry/HUZ will be required. Entry in the white mold test is voluntary and there is an additional cost of \$25 per entry.

A portion of the seed submitted will be stored for possible testing of genetic identity.

Seed from the United States must be cleared through Canada Customs. Companies must have import permit numbers for seed being imported or seed will be sent back from customs. Canadian representatives are requested to clear the seed through customs themselves. Also, please ensure that the proper affidavits accompany the seed. These will include:

- (a) a Certificate of Origin and
- (b) a Phytosanitary Certificate.

Seed entries for each zone must be bagged separately by the sponsor when submitted.

(iii) Number of Entries

For any one zone, no more than ten (10) entries for the OCFGST and no more than ten (10) entries for the OGST will be accepted from any one sponsor in 2010. Lines should have at least one station year of Ontario yield trials before entry into the Ontario soybean trials.

(iv) Germination Requirement

A germination of 85% will be assumed unless information to the contrary is provided by the source supplying the seed.

Treated seed will not be accepted and will immediately be discarded.

Only untreated seed will be used for these trials.

(v) Information for Entry Forms

Entry forms will be available on the OOPSCC web site (www.GoSoy.ca) and in spreadsheet format in 2010 and will be sent to sponsors with e-mail addresses.

Information for each HUZ Trial Entry list can be referenced on the web site home page menu at any time.

If an entry is made under a name or number different from that used previously, both names or numbers must be listed as well as trial year, at the time that the entry application is made. Please indicate if an entry is a backcross-derived strain of a variety recommended in Ontario.

Documentation of SCN resistance is to be provided with SCN-resistant entries with entry applications.

Entry Forms must include descriptive information on flower colour, pubescence colour and hilum colour. For second year entries, any Phytophthora resistance (Rps) genes known to be present in a line should be identified. Information in the "Exname" column is hidden except for Coordinator reference.

When submitting a Food Grade entry for inclusion in the OCFGST, sponsors must indicate that it is a Food Grade entry and indicate its distinctive attributes. **Sponsors should include the CSGA Certificate of Eligibility for Certification number on the entry forms; food grade entries lacking this number will be entered as (FER) food grade entries submitted for performance, testing and charged the higher fee.**

(vi) Blends and Brands

Blends of soybean varieties will not be accepted in the Ontario Soybean Trials. Only pure-line material which will potentially enhance the choice of cultivars for Ontario growers will be acceptable.

Some U.S. companies market soybeans as Brands, which may not be the same variety each year. Such brands are not eligible for registration in Canada. Canadian representatives should ensure that entries are varieties rather than brands.

(vii) Non-GMO entries in OCFGST

All entries in the Ontario Conventional and Food Grade Soybean Trial must be non-GMO.

(viii) Deadline for Entries and Seed Submission

Entry forms completed on the web site (www.GoSoy.ca) will automatically be forwarded to the appropriate coordinators and entry lists.

Entry forms for registration and performance evaluation for each zone should be **completed by April 3, 2010.**

Soybean seed for the 3100 and 3400 zones should be sent by April 10, 2010 to Dr. Gary Ablett.

Soybean seed for the 2800 zone should be sent by April 10, 2010 to Dr. Istvan Rajcan.

Soybean seed for the 2600 zone should be sent by April 10, 2010 to Mr. Ron Guillemette.

Soybean seed for the 2400 zone should be sent by April 10, 2010 to Dr. Elroy Cober.

Manitoba - West HUZ Entry forms Entries for the West heat unit zone will be submitted using the Manitoba Pulse Growers Soybean Trial entry form - <http://www.gov.mb.ca/agriculture/crops/index.html> or the Manitoba Pulse Growers Association Research page, www.manitobapulse.ca/research.html.

4.3 (i) Security of Entries

Seed of entries will be used only for the indicated trial purposes. Seed and/or pollen will not be used for breeding purposes by the trial co-operators, nor will they be given out to unauthorized individuals, except under conditions specified by the Sponsoring company, institution or individual. If individual companies/institutions have further restrictions on their genetic material, they are to notify the Soybean Coordinator in writing before the submission deadline. Cooperators conducting trials will be requested to sign an agreement stating they will abide by the above regulations.

(ii) Canadian Food Grade Database

Seed of non-GMO Food Type and dual purpose soybean varieties from the Conventional and Food Grade trials which are registered or have a CSGA Certificate of Eligibility for Certification number will be analyzed for compositional quality for inclusion in a public Canadian Food Type Database on the Canadian International Grains Institute website (www.cigi.ca). The proposal was supported by the majority of sponsors. Only the varieties of those sponsors who have consented to have their varieties included will be on this website. If your organization wishes to have your varieties included for the 2010 crop year, please be sure to indicate this when completing your entry form.

4.4 Entry Fees

In 2007 fees were reviewed and modified by vote of the OOPSCC members.

Fee adjustments were as follow:

1. \$550 (from \$520) for registration testing and unregistered variety performance (ER and SNR) testing in each HU zone.
2. The fees for registered varieties (R, SR and MV) will remain at \$460 but with \$300 paid by the sponsor and \$160 in services provided by the institutions in each HU zone.

For Food Grade

1. \$580 (from \$550) for Food Grade entries submitted for performance testing (FER) in each HU zone.
2. The fees for Food Grade Entries with a Certificate of Eligibility for Certification number (FG) will remain at \$600 but with \$400 paid by the sponsor and \$200 in services provided by the institutions in each HU zone.

The Ontario Oil and Protein Seed Crop Committee will send invoices to sponsors in July, 2010 for payment of their entries based on the following fee schedule plus the Goods and Services Tax (GST). Applicable fees are as follows:

<u>Code</u>	
R	Cultivars registered in Canada by March 22, 2010 - \$460 cost (\$300 fee to be paid by sponsor and \$160 of services provided by testing institution; for 2400 - 3400 HUZ tests.

- SR Cultivars submitted for registration by March 22, 2010 - \$460 cost (\$300 fee to be paid by sponsor and \$160 of services provided by testing institution; for 2400 - 3400 HUZ tests. Verification of submission from Variety Registration Office to be provided by sponsor to Soybean Coordinator at time of application.
- SNR Cultivars supported in January, 2010 but not submitted for registration by March 22, 2010 - \$550 to be paid by sponsor for 2400 - 3400 HU zones.
- ER Entries submitted for merit testing limited to 12 entries per sponsor for each 2400, 2600, 2800, 3100 and 3400 Heat Unit Zone - \$550 to be paid by sponsor.
- FER Performance Food Type Entries - Food type cultivars fees will be \$580 for Food Type soybean entries submitted for performance testing (FER) in the 2400 - 3400 HU zone.
- FG Food Type Entries with a Certificate of Eligibility for Certification number from the Canadian Seed Growers' Association - \$600 cost (\$400 fee to be paid by sponsor and \$200 of services provided by testing institution); for 2400 - 3400 HU zone tests.

The higher fees for FER and FG entries cover the costs of additional data gathered on sucrose and total free sugar content, hydrolysable carbohydrate content, seed quality, and water uptake of Food Grade Entries.

Entry in the voluntary White Mold Test costs an additional \$25.

5. PRIVATE Tests

The Ontario Soybean Private Tests are conducted at various locations in Ontario by various co-operators, most of whom are involved with companies or institutions that are developing improved varieties of soybeans. Private tests used for agronomic cultivar evaluations will have no limit on number of entries or locations. In 3100 and 3400 CHU zones, it is recommended that sponsors include separate clay and loam test locations.

Private tests can be grown with a minimum of 2 replications per location and there must be a minimum of 6 replications of data over all locations in order to be acceptable as registration support data.

Individual checks for private trials may be picked by the sponsor but these checks must be registered varieties which are in the public performance test and from the same maturity zone. Each private trial must have a minimum of 3 checks and checks must be distinctly identified by the sponsor for inspection in the planting plans and field plots. Checks may be selected from the list of registered varieties posted in Table 1 of the March 22nd, 2010 OSVT publication GoSoy.ca web site.

Private test checks chosen for comparisons can be within the range of +4 to -4 days of the maturity mean of the candidate variety. The checks must then average to within + or -2 days of the candidate maturity mean for registration support. All checks that are within + or - 2 days of the candidate maturity mean planted in the private test(s) must be included in the registration summary report.

Sponsors are responsible for acquiring and cost of checks that they choose to include in their Private Tests.

Each Private Test co-operator must submit web site form, " Private Tests" by August 16, 2010 to the appropriate Heat Unit Zone Coordinator. Private Test entry forms will be available on the web site.

Private Trials that are not entered by posted submission date will not be accepted by the Variety committee for review and acceptance.

The co-operator that conducts a PRIVATE test will be solely responsible for the test regardless of how many other sponsors have entries in the test. The co-operator conducting the Private test will be responsible for supplying the planting plans and test location to the respective HUZ Coordinator (by August 16, 2010). Zone coordinators will choose Private Tests for inspection no later than September 20, 2010. Private trials conducted by a private company for another private company can be inspected by the company conducting the trial for validation of the trial for recommendation purposes after notifying the appropriate HUZ coordinator. Inspectors are asked to fill out the Inspection Checklist (Annex 3) and keep on file for reference. A co-operator may conduct a PRIVATE test in whole or part for another sponsor.

All Private Test locations/sponsor must be reported on the web site form. Web site form will be used by OOPSCC for invoicing the co-operator applicant for a processing fee of fifty dollars (\$50 plus GST) per Heat Unit Zone. Sponsors may have any number of tests per Heat Unit Zone. A test on the Web site private form is known as a Private test location which has a minimum of 2 replications.

6. Check Varieties

When comparisons are made to determine the suitability of an entry for registration, the "Check entry" system is used. OOPSCC reserves the right to determine the appropriate check(s) to be used in making comparisons for each test year at the January meeting.

Check varieties used to determine eligibility for support for registration will be registered varieties currently in performance testing in Ontario and adapted to the Heat Unit Zone appropriate to each entry. **Beginning in 2010, check varieties for the 2400 Heat Unit Zone area may be chosen from 2400 HUZ conventional, glyphosate tolerant and Food Type varieties excluding Natto type varieties.**

Beginning in 2005, the check varieties will be all registered varieties within +/- 2.0 days of maturity of the candidate for Registration Summaries with 100% public data. Registered varieties will be those listed as registered soybean varieties printed in the 2010 Ontario Soybean Variety Report, Table1.

For 3-yr comparisons the 2010 checks will be used for the 2010 data and the equivalent 2009 checks will be used for the 2009 data and the equivalent 2008 checks will be used for the 2008 data. For 2-yr comparisons the 2010 checks will be used for the 2010 data and the equivalent 2009 checks will be used for the 2009 data. For 1-yr comparisons the 2010 checks will be used.

7. Public Trials

7.1 Trial Management

The Ontario Soybean Public Trials are conducted across Ontario by co-operators at various research facilities, and farm locations. For the 2400, 2600, 2800, 3100, and 3400 HUZs four Public Registration/Performance tests per maturity zone will be grown each year for each of the OCFGST and OGST. Entries will be categorized as performance entries (registered varieties or supported for registration by March 22, 2010, moving, and Food Grade entries) and registration entries (all other entries).

Lines should have at least one station year of Ontario yield tests before entering into the public OST. Any sponsor can have a maximum of 20 entries in each HUZ of public OST test, which could include up to 12 registration entries.

Tests are managed using accepted agronomic practices and the utmost care is taken to ensure successful tests. OOPSCC, however, does not guarantee that any test will be considered acceptable for registration purposes since factors out of the control of OOPSCC such as weather extremes, etc. may influence the outcome of tests. Fees for invalid tests deemed to be the result of miss-management will be returned. Fees for invalid tests which, in the opinion of OOPSCC, were caused by events beyond the control of the test co-operator, will not be returned.

Herbicide Management. The OST public trials are divided into 2 separate trials, the OCFGST and the OGST, based on herbicide management. The OCFGST, with only standard (glyphosate susceptible) non-GMO varieties will be grown using standard management methods and recommended herbicides (non-glyphosate herbicides) and the OGST will have transgenic varieties only, using standard management methods and glyphosate herbicides applied according to label recommended rates and plant growth stages.

Maturity of Candidates. OOPSCC does not want to extend the maturity (on the late side) of the entries in the tables in the annual Ontario Soybean Variety Trial Report. The coordinator will identify anomalies each year in the HUZ tables to indicate the preferred late cultivars in each table.

Prior to entry of a line in a HUZ trial, **the sponsor** should have Ontario maturity test data which would support that the entry would mature no later than the preferred late cultivars in the intended HUZ Table in which it is to be entered. Where entries in a trial are sufficiently late, that it/they would impair the timely harvest of the trial, the test cooperator will have the discretion to handle the entry as needed. After analysis of data from the first year in the trial, if an entry is later than any entry in the published corresponding HUZ table, then the coordinator will contact and alert the sponsor that the entry might be in the wrong HU zone trial. If the sponsor re-enters the late cultivar in that trial and it is later than any other registered entry in the HUZ table, at the coordinator's discretion, the data would not be published.

7.2 Data Collection, Analysis, and Distribution

All Public tests shall have a minimum of three (3) replications/location with entries randomized in an experimental design suitable for the number of entries. All Private tests shall have minimum of 6 replications of data over all locations in order to be acceptable for inspection and registration review.

Data for yield, maturity, plant height, lodging, flower, pubescence and hilum colour, oil and protein content, and grams per 100 seeds will be collected in all Public tests. For Food Grade Entries in the OCFGST, data will also be collected on sucrose and total free sugar content, hydrolysable carbohydrate content, seed quality, and water uptake. This information will be made available to the cooperating sponsor. Other variables such as height of podding, seed quality and disease or pest incidence may be recorded in some tests.

Data for yield, days to maturity, and % oil and protein content must be collected in each Public test. Other traits may be recorded.

Yield should be reported as kg/ha at 13% moisture. Maturity should be recorded as days from planting to the date when 95% of the pods have ripened. Delayed leaf drop and green stems are not considered when assigning maturity. Oil and protein are reported on a dry matter basis and are obtained with an NIR whole-grain analyser.

7.3 Evaluation of Special Attributes

(i) Phytophthora. All public test entries will be tested at Woodslee by personnel of the Greenhouse and Processing Crops Research Centre of Agriculture & Agri-Food Canada for field tolerance to prevalent races of root rot caused by *Phytophthora sojae*. Field tolerance will be determined by the percentage of plants killed by the disease in the field. Entries that are only in Private tests are not tested. Race specific resistance is not determined; this information should be supplied by the sponsor if

available. Companies or institutions that wish to have a variety/line identified as having specific gene resistance to phytophthora in the Ontario Soybean Variety Test Reports should indicate the specific resistance gene(s) on the entry form for public tests.

(ii) White Mold Testing. Sponsors may submit varieties for testing for white mold (*Sclerotinia sclerotiorum*) on a voluntary basis on entry forms for each test entry. Testing will be carried out in the 3400 HUZ only in 2010 in test plots that are artificially inoculated with white mold. Fees are \$25.00 per entry and are listed on the entry fee invoices. Year end results are reported to participating sponsors.

(iii) Soybean Cyst Nematode. Sponsors that have entries with SCN resistance will submit those entries for testing in the SCN Performance Test of the Cooperative Development of SCN Resistance Variety tests. Entry information, fees and seed requirements are outlined in the annual SCN guidelines.

7.4 Inspection of Tests and Valid Tests

Public Tests will be inspected by members of OOPSCC. Inspections will be made by representatives of institutions other than those conducting the test. Inspection is generally done during the Soybean Tour. Problems with individual tests should be reported at the meeting in conjunction with the tour, and in writing to the Soybean Coordinator and the HUZ Coordinator. White mold tests will be inspected by OOPSCC representatives of institutions other than those conducting the test.

Each co-operator conducting Private tests shall inform each appropriate HUZ Co-ordinator of the tests in their area by July 12th. Each HUZ Co-ordinator will decide which private tests shall be inspected, with a minimum of 25% of the private tests being inspected each year. Private tests will be inspected prior to harvest by individuals approved by the Ontario Oil and Protein Seed Crop Committee. The inspector will provide an inspection report to the test cooperator with a copy to the HUZ Coordinator.

All Public and Private test locations must have a coefficient of variation (CV) of less than 15% for seed yield to be considered valid. Test data for each test location must be analysed using sound scientific statistical techniques.

8. Registration

8.1 Support for Registration

Support for registration will be reviewed by OOPSCC, at the January meetings, based on recommendations of five HUZ Co-ordinators. Registration support requests must come from a Canadian company or institution.

Data summaries for registration support based on any private test data will be generated by the sponsor using a standard format, as defined by **Annex 1: "Registration Summary Format"**. All summaries which include any private data will be generated by the sponsor of that entry.

Check variety names and means over locations will be presented on the registration summary. All Public and Private Registration Summaries will list data for **check variety means only** which includes data for yield, days to maturity, % Oil, % Protein and Total % Oil and Protein. In addition, Registration Summaries must include: number of test years, number of tests, number of Private tests and total full test years, flower, pubescence and hilum colours, location, year and % CV for each test location as described in attached **Annex 1 -Registration Summary Format example**.

Documentation must be submitted by sponsors to OOPSCC to confirm claims such as SCN resistance and Phytophthora resistance when support for registration is requested.

Successful entries, considered for registration, will be supported for full registration if they have a yield equivalent to or greater than 100% of the appropriate checks.

Manitoba - West Heat Unit Zone - Data summaries for registration support based on West zone data will be generated by the sponsor using a standard format, as defined by Annex 1: “Registration Summary Format”.

(i) Number of Tests Required

An entry must be tested for a minimum of 2 valid tests in Ontario in one year to be eligible for support for registration by OOPSCC. All valid Public and Private tests will be used in making comparisons. In order to be acceptable for inspection and registration support a Private valid test must have a total of 6 replications from 2 or 3 private test locations.

(ii) Maturity Checks

Individual checks for private trials may be picked by the sponsor but these checks must be registered varieties in the public performance test (see Section 6 - Check Varieties) and from the same maturity zone.

For Private trials: all check varieties planted in a specific private test that are chosen for comparisons must be within the range of +4 to -4 days of the maturity mean of the candidate variety. The checks must then average to within + or -2 days of the candidate maturity mean for registration support. All checks that **result in a mean maturity** within + or - 2 days of the candidate maturity mean planted in the private test(s) must be included in the registration summary report.

For public trials: beginning in **2005, all registered varieties within plus or minus 2.0 days** of the test candidate entry will be chosen as the checks.

Maturity may be adjusted by regression where necessary but entries should be either no more than two days earlier in maturity than the earliest check in an area or no more than two days later in maturity than the latest check in an area. Exceptions to this regulation will be entries earlier than the earliest check in the 2400 Zone or later than the latest check in the 3400 Zone. In the case of entries earlier or later than the checks, yield of the nearest check will be adjusted using the regression slope for all cultivars on the appropriate performance list.

(iii) Yield and Quality Standards

OOPSCC will support soybean lines for full registration after 1 year of testing, provided the following requirements are met:

- a) An entry must be evaluated in a minimum of 2 valid Ontario tests.
- b) An entry must be at least equal in yield to the arithmetic mean of all check cultivars closest in average maturity to the entry under consideration, ie: the yield of the candidate entry be at least 100% of the check cultivar(s) after rounding.
- c) An entry must be within 2.0% (i.e. 20g/kg) of the average (oil+protein) of all check cultivars in the test.

(iv) Special Consideration - Phytophthora-resistance

Special consideration may be given to entries that are *Phytophthora*-resistant, back-cross derived lines of varieties recommended in Ontario; an entry must have a minimum of three back-crosses in addition to the original cross; it must be tested for at least one year, with a minimum of 2 valid Committee tests during that period, to be eligible for support for registration and recommendation by the Committee. In order to be supported by the Committee an entry must have the attributes of the recurrent variety: yield (i.e. at least 98.5%), lodging tolerance, plant height, seed size, oil and protein content.

(v) Special Consideration - High protein

If an entry has higher protein content, special consideration may be given. Within this category only, beginning at 2% higher protein than the mean of the checks, for each 1% increase in protein content there will be an allowance for a 2% decrease in yield, compared to the appropriate checks. For example,

a line with 3% higher protein content will be supported with a yield greater than 98% of the appropriate checks.

(vi) Special Consideration - Soybean Cyst Nematode Resistance

Candidate entries being considered for support must yield equal to 100% of SCN checks or 96% of conventional checks and must meet the oil + protein standard. An annual review of yield standards will occur with the goal being that yield should approach 100% of the check(s). Documentation must be submitted by the sponsor to confirm SCN resistance at the time of entry application.

(vii) Special consideration - Transgenic plants

Transgenic entries will be supported for registration if they are equal to similar transgenic checks and must meet oil + protein standards. Transgenic entries will be supported for registration if they are equal to 100% yield of the conventional checks and must meet oil + protein standards if the test is not split into standard and transgenic tests.

(viii) Special consideration – Low Linolenic Acid varieties

Special consideration will be given to Low linolenic varieties containing 3% or less Linolenic seed oil. Low linolenic varieties will be supported if yield was 95% or higher than the appropriate check varieties in the test within the maturity range as described above.

8.2 Registration Options

Once an entry is supported by OOPSCC for registration, the sponsoring individual or organization may apply for registration from the:

Canadian Food Inspection Agency
2 Constellation Crescent
Ottawa, ON K1A 0Y9
Phone: (613) 225-2342 Fax: (613) 228-4552

The applicant must be a Canadian resident. A sponsor may decline to proceed with registration immediately on the basis of a lack of seed supplies but Pedigreed Seed does not have to be available at the time of registration. Submission for registration may be deferred until March 15th, 3 years after support from OOPSCC.

8.3 OOPSCC Appeals Procedure

Should a dispute arise regarding the interpretation of the guidelines or of the data by OOPSCC, the registration support decisions may be challenged by the sponsor. Notice of Appeal must be received within 10 days of receipt of registration support decisions. An Appeal Committee will be formed within 10 days of notifying the OOPSCC Secretary of an Appeal. The Appeal Committee will consist of:

- one individual appointed by OOPSCC
- one individual appointed by the plaintiff
- one individual acceptable to both parties.

The written decision of the Appeal Committee will be final. The losing party in the Appeal will pay the expenses of the 3rd individual (i.e. the individual acceptable to OOPSCC and the plaintiff).

9. Performance Testing and Reporting

OOPSCC information on variety performance and important dates will be available on the www.GoSoy.ca web site. Information will be posted as soon as it is available.

Any entry which has received support for registration and performance reporting, for which there are 2 years of data, and which is registered by Canadian Food Inspection Agency, by November 20, or varieties that are exempted from registration but have obtained CSGA certification by November 20, will be included in Table 1, of the Ontario Soybean Variety Test brochure and web site.

Table 1 will be posted on the web site for sponsors assigned a password and ID code and e-mailed to sponsors on the last week of October.

Maturity will be listed as days to maturity averaged over two years (rounded off) in each HUZ table.

Table 1 varieties will be sequenced by using days to maturity to one decimal point for listing the varieties from early to late.

Varieties will be grouped by or within 50 CHU group increments. New varieties will be grouped based on a minimum of 2 years of assessment and will be based on a comparison to similar variety maturities that were previously tested. The two or three year averages for days to maturity will be used to assign the variety to a HU grouping. The variety will not change HU grouping until it exceeds the previous assigned grouping by more than + or - 50 HU's. Evaluation of changes to a variety HU grouping will be the responsibility of the sponsor.

Seed availability concerns will be indicated in the brochure as not available or limited supply, at the request of the seed company.

Entering varieties into performance tests is voluntary by the sponsors; a fee is required which varies depending on whether an entry is registered (or submitted for registration by March 22), or varieties exempted from registration, or are Food Grade entries.

All data and variety information should be submitted by November 23, in order to be included in the Ontario Soybean Variety Trials Report. Publication editing will be carried out the following seven days in order to meet the publication deadline of December 1, 2010.

Varieties moving from one HUZ table to another **require a minimum of two years of public performance test data in the HUZ to which it is entering.**

10. OOPSCC Soybean Database and Preparation of Summaries

OOPSCC has a custom web-based Data Management System (DMS) for maintaining a database of Public test results and for computing registration and performance summaries. Each entry designation is assigned a unique numerical code in the program. For the computer to read a data set from a test, the matching designation for each entry must be in the computer and the data file.

Each spring all soybean cultivars and supported candidate lines to be tested are entered by the sponsors into the database to establish the entry lists for each Public area test.

Each year locations for all Public tests are checked against those in the system and any new ones are entered.

The OOPSCC DMS uses a standard routine for calculating registration summaries for each sponsor. Each coordinator has the same standards which are set through the software.

Data for registration based solely on **Private Test Data** will be sponsor driven summaries using a standard format as defined in the attached **Annex 1: Registration Summary Format**. **Sponsors are asked to provide Registration Summaries with all information as outlined in Annex 1.**

The computerized procedure for preparing registration summaries by the OOPSCC DMS, as presently

set by OOPSCC is as follows:

Maturity Range for Checks. All checks that are within 2.0 days earlier or later than the candidate are used for the test period.

Maturity Limit for Comparisons. The OOPSCC DMS is set to “accept” a comparison if the maturity mean of the checks in the summary is within either 2.0 day earlier or 2.0 day later than the candidate.

Computing the Comparisons.

The OOPSCC DMS picks the checks closest in maturity (to a tenth of a day) and summarizes the means. Comparisons are carried out as described in Section 6.

If the maturity of the candidate in this comparison is within the maturity limit, the OOPSCC DMS accepts and prepares a registration summary.

If the candidate mean is outside the maturity limit, the OOPSCC DMS picks the (appropriate checks as outlined in Section 8.1), closest checks and summarizes those. If the mean of the candidate is within the maturity limit, the OOPSCC DMS prepares a summary as illustrated in **Annex 1: Registration Summary Format**. Otherwise it tries the two closest checks following the same procedure; if it does not give a good maturity fit then the one closest check comparison is run.

Default. If there are no checks within the maturity range, or no comparisons within the maturity limit, the OOPSCC DMS prepares a default summary using the check that is closest in maturity.

Entries in the Manitoba - West Heat Unit Zone and Private Tests which are not entered in any Public tests will not be entered into the OOPSCC DMS.

11. Transgenic Soybeans

If environmental release of a transgenic trait is not permitted, then transgenic soybean entries can be grown in private tests that meet government regulations for restricted testing of transgenic traits and the current OOPSCC guidelines will apply for private tests.

Annex 1: Registration Summary Format

(Sponsor Name) Registration Summary - 2010				Candidate:	Geebean	
				flower:W	pubes:T	hilum:BL
			SUPPORT	YES	NO	Defer
Data suggests:	<u>Yes</u>	<u>100.2%</u>	<u>of check yield</u>			
Total years: 1		Total tests: 4			Total Private: 0	
Total full Test years: 1						
Means:	Days to	Yield	%	%	Total	*Phytop.
	mat.	kg/ha	Protein	Oil	O+P	Rt. Rot
Geebean	<u>107.0</u>	<u>3353.2</u>	<u>39.9</u>	<u>22.6</u>	<u>62.5</u>	
Checks	<u>107.8</u>	<u>3346.0</u>	<u>39.4</u>	<u>22.7</u>	<u>62.1</u>	
Average of checks from all test locations						
	Days to	Yield	%	%	Total	
2010 Check Entries	mat.	kg/ha	Protein	Oil	O+P	
<u>S 19-90</u>	<u>102.6</u>	<u>3065</u>	<u>39.3</u>	<u>22.5</u>	<u>61.8</u>	
<u>RCAT LEGACY</u>	<u>103.3</u>	<u>3245</u>	<u>39.6</u>	<u>23.3</u>	<u>62.9</u>	
<u>IA1008</u>	<u>104.6</u>	<u>3229</u>	<u>38.1</u>	<u>22.5</u>	<u>60.6</u>	
<u>S 24-12</u>	<u>106.2</u>	<u>3359</u>	<u>39.6</u>	<u>22.7</u>	<u>62.3</u>	
<u>OAC KENT</u>	<u>106.7</u>	<u>3474</u>	<u>39.9</u>	<u>23.7</u>	<u>63.6</u>	
<u>CHATHAM</u>	<u>106.8</u>	<u>3393</u>	<u>37.4</u>	<u>23.2</u>	<u>60.6</u>	
<u>S25-D3</u>	<u>107.1</u>	<u>3316</u>	<u>41.3</u>	<u>21.7</u>	<u>63.0</u>	
<u>92B13</u>	<u>107.5</u>	<u>3077</u>	<u>39.4</u>	<u>22.5</u>	<u>61.9</u>	
<u>RCAT DOVER</u>	<u>107.6</u>	<u>3463</u>	<u>38.5</u>	<u>22.9</u>	<u>61.4</u>	
<u>S24-L2</u>	<u>107.6</u>	<u>3496</u>	<u>39.2</u>	<u>22.2</u>	<u>61.4</u>	
<u>J-251</u>	<u>108.2</u>	<u>3313</u>	<u>40.6</u>	<u>22.5</u>	<u>63.1</u>	
<u>LODA</u>	<u>108.4</u>	<u>3437</u>	<u>38.2</u>	<u>23.8</u>	<u>62.0</u>	
<u>S25-H5</u>	<u>108.4</u>	<u>3233</u>	<u>40.6</u>	<u>22.0</u>	<u>62.6</u>	
<u>STARBURST</u>	<u>108.5</u>	<u>3413</u>	<u>38.5</u>	<u>22.3</u>	<u>60.8</u>	
<u>92B38</u>	<u>108.6</u>	<u>3274</u>	<u>39.6</u>	<u>23.0</u>	<u>62.6</u>	
<u>PS 94 SCN</u>	<u>108.8</u>	<u>3203</u>	<u>41.1</u>	<u>21.9</u>	<u>63.0</u>	
<u>S24-K4</u>	<u>109.0</u>	<u>3393</u>	<u>37.8</u>	<u>23.8</u>	<u>61.6</u>	
Average of checks	107.8	3346.0	39.4	22.7	62.1	
<u>A2553</u>	<u>109.8</u>	<u>3487</u>	<u>37.7</u>	<u>24.1</u>	<u>61.8</u>	
<u>RCAT COLUMBUS</u>	<u>109.9</u>	<u>3308</u>	<u>39.8</u>	<u>22.7</u>	<u>62.5</u>	
<u>RR RENWICK</u>	<u>110.2</u>	<u>3252</u>	<u>39.5</u>	<u>23.6</u>	<u>63.1</u>	
<u>92B62</u>	<u>110.5</u>	<u>2989</u>	<u>43.1</u>	<u>20.6</u>	<u>63.7</u>	
<u>RR REVENGE</u>	<u>110.5</u>	<u>3137</u>	<u>40.0</u>	<u>22.2</u>	<u>62.2</u>	
<u>AV2261</u>	<u>110.6</u>	<u>3488</u>	<u>38.1</u>	<u>23.3</u>	<u>61.4</u>	
<u>DKB26-52</u>	<u>110.8</u>	<u>3261</u>	<u>39.1</u>	<u>23.0</u>	<u>62.1</u>	
<u>ISG 2686</u>	<u>110.9</u>	<u>3465</u>	<u>38.6</u>	<u>23.4</u>	<u>62.0</u>	
<u>RCAT STAPLES</u>	<u>111.0</u>	<u>3499</u>	<u>38.4</u>	<u>22.8</u>	<u>61.2</u>	
<u>92B61</u>	<u>111.4</u>	<u>3405</u>	<u>41.0</u>	<u>21.7</u>	<u>62.7</u>	
<u>AV 1289</u>	<u>111.6</u>	<u>3416</u>	<u>39.8</u>	<u>23.5</u>	<u>63.3</u>	
<u>NEMECYS 26R</u>	<u>111.7</u>	<u>3095</u>	<u>42.7</u>	<u>21.9</u>	<u>64.6</u>	
<u>92B84</u>	<u>112.0</u>	<u>3068</u>	<u>40.2</u>	<u>23.4</u>	<u>63.6</u>	
<u>92B91</u>	<u>112.1</u>	<u>3121</u>	<u>36.2</u>	<u>24.1</u>	<u>60.3</u>	
<u>PS 95</u>	<u>112.1</u>	<u>3409</u>	<u>39.2</u>	<u>23.8</u>	<u>63.0</u>	
<u>9305</u>	<u>112.9</u>	<u>3365</u>	<u>39.5</u>	<u>22.7</u>	<u>62.2</u>	

<u>S30-Y8</u>	<u>113.0</u>	<u>3494</u>	<u>39.6</u>	<u>22.8</u>	<u>62.4</u>
<u>3201R</u>	<u>113.4</u>	<u>2946</u>	<u>39.7</u>	<u>22.5</u>	<u>62.2</u>
<u>S29-C9</u>	<u>113.8</u>	<u>3394</u>	<u>38.4</u>	<u>22.5</u>	<u>60.9</u>
<u>93B01</u>	<u>114.3</u>	<u>3105</u>	<u>39.3</u>	<u>23.0</u>	<u>62.3</u>
<u>93B09</u>	<u>115.1</u>	<u>3166</u>	<u>39.6</u>	<u>23.5</u>	<u>63.1</u>
<u>Test Data Sources:</u>	<u>Year</u>	<u>#reps</u>	<u>CV %</u>		
<u>Woodslee</u>	<u>2010</u>	<u>3</u>	<u>8.2</u>		
<u>Tilbury</u>	<u>2010</u>	<u>4</u>	<u>7.5</u>		
<u>Chatham</u>	<u>2010</u>	<u>4</u>	<u>6.5</u>		
<u>Malden</u>	<u>2010</u>	<u>4</u>	<u>5.6</u>		
* Phytop. Rt. Rot is optional.					

Annex 2: Timeline of Events:

Timeline of OOPSCC Events 2010

Mar 19	<u>Final date for accepting varieties registered by CFIA, Variety Registration Office or varieties that are exempted from registration but have obtained CSGA certification in order to be included in revised 2010 Variety Test Report and ViPP program on GoSoy.ca web site.</u>
<input type="checkbox"/> Mar 22	Revised 2010 Variety Report and ViPP data posted on web site.
<input type="checkbox"/> Apr 2	Final date to submit Entry list to coordinators (Internet)
<input type="checkbox"/> Apr 2	Final date to submit SCN Entry lists to coordinators (Internet)
<input type="checkbox"/> Apr 9	Test entry seed to be delivered to seed distributors, Fischer, Rajcan and Guillemette
<input type="checkbox"/> Jun 24	Research Meeting at AAFC Ottawa at 9:00 am. Agenda to be emailed and posted on www.GoSoy.ca.
<input type="checkbox"/> Jul 6	Invoices for soybean entries to be mailed and emailed to all sponsors
<input type="checkbox"/> Aug 10	Final date to submit Private Test Entry (Internet), maps and field plans for inspection
<input type="checkbox"/> Aug 17	Invoices for Private Tests to be mailed and emailed to all sponsors
<input type="checkbox"/> Sep 13-25	Self Guided Soybean Tour. Tour will be self guided format with plot maps and labelled plots in 1st rep available at each test site. Google map locations will be provided in advance on Sponsor Homepages.
<input type="checkbox"/> Sep 18	Final date for inspection of all Private Test sites
<input type="checkbox"/> Oct 16	Draft of Table 1 variety list posted on web site
<input type="checkbox"/> Nov 2	Final version of Table 1 variety list posted on web site home pages
<input type="checkbox"/> Nov 9	Final Submission by HUZ Coordinators of all public test data for draft Variety Report
<input type="checkbox"/> Nov 20	<u>Final date for accepting varieties registered by CFIA, Variety Registration Office or varieties that are exempted from registration but have obtained CSGA certification in order to be included in Tables 1-7, of the 2011 Variety Test Report.</u>
<input type="checkbox"/> Nov 23	Draft copy of Tables 1-6 to be posted on Sponsors Home Page on web site for review
<input type="checkbox"/> Nov 27	Final submission of 2011 Variety Report to publisher by SDC
<input type="checkbox"/> Nov 27	HUZ Coordinators send public test data summaries to SDC for posting on web site
<input type="checkbox"/> Dec 31	Final submission of all 2010 Registration Summaries by sponsors to HUZ Coordinators, and from HUZ Coordinator to sponsors
<input type="checkbox"/> Jan 20-21	OOPSCC Annual Meeting in London Four Points Sheraton: VSC meeting 1:00 pm on Jan 20; main committee 8:30 am on Jan 21, 2011.

Annex 3: Inspection Checklist of OOPSCC Soybean Cultivar Trials

Company: _____

Location: _____

Heat Zone: _____

This form must be completed and signed by the trial inspector.

1. Detailed county map showing location of field and plot locations were made available.

a) Randomization plot plan and individual plots identified. _____

b) Plot labels easily recognized and check varieities clearly identified in all replications.

2. Row lengths vary less than 5% across all test plots. _____

3. Row widths are uniform across all test plots. _____

4. If signs of stress, is it uniform within test plots with no gradients in the field. _____

5. Plant populations are same as in the Agronomy Guide, Publication 811. _____

6. Plant distribution within plots have uniform plant spacing with no gaps. _____

7. Trial has minimum of one border row on each side. _____

8. Disease or insect pest damage presence. _____

9. Note additional comments on plot conditions and variables that may impact test.

I certify that I have personally inspected this trial and in my opinion will
(Please circle -) **Pass** , **Not Pass**, _____ inspection.

Signed: _____ Date: _____

(Inspector)