International
Oat Nursery

QION OPERATING PROCEDURES

Executive Committee

The QION Executive Committee (EC) is the governance body of the QION and makes decisions regarding participation in the QION and operating Procedures for the nursery. A Technical Advisory Board comprised of all current QION participants will be consulted by the EC as needed.

The EC membership for 2015 is:

Chair:	Stephen Harrison Louisiana State University Baton Rouge, LA. USA sharrison@agcenter.lsu.edu	**Breeding Counsel:**	Ali Babar University of Florida Gainesville, FL. USA mababar@ufl.edu
Treasurer:	Gabe Gusmini PepsiCo, USA Minneapolis, MN. USA Gabe.Gusmini@pepsico.com	**Breeding Counsel:**	Aaron Beattie University of Saskatchewan Saskatoon. CANADA aaron.beattie@usask.ca
Genomics Counsel:	Kathy Klos USDA-ARS Aberdeen, ID. USA Kathy.Klos@ARS.USDA.GOV	**Breeding Counsel:**	Luiz Federizzi Univers. Federal Rio Grande do Sul Porto Alegre, BRAZIL 00002898@ufrgs.br

Quaker International Oat Nursery Development and Constitution

The QION is put together each year by the Nursery Coordinator (QION Chair) using germplasm contributions from QION cooperators. All seed for the QION is produced at a USDA-ARS facility in Aberdeen, ID to facilitate uniformity of seed source and compliance with phytosanitary requirements for international shipments. The QION is distributed to over 20 breeding programs each year and contains two components: 1) Advanced Pure Lines and 2) Segregating Populations.

Advanced Pure Lines (APLs). Each year the QION contains about 100 APLs that have been fully developed and tested by the originating breeder. APLs are protected under terms of the Oat Workers Code of Ethics and remain Intellectual Property of the originating breeder / organization. The primary purpose of these lines is to serve as parents for crossing to develop segregating populations from which varieties can be selected. Although selection, testing, and direct release as varieties of pure lines is not the primary purpose, it does sometimes occur. APLs included in the QION are governed by the Oat Workers Code of Ethics (attached) and any variety release must include permission of the originating breeder.

Each QION participant is expected to contribute APLs to the nursery within their ability. These APLs should have diverse parentage and be of value as germplasm for crossing by other nursery participants. They may be selected from crosses made between entries in prior QION's or they may be elite locally-adapted lines with high levels of disease resistance, yield, quality, and other traits of interest. Pedigrees and other information of value should accompany each line. New APL submissions should be made to the QION Chair on a regular and recurring basis (every two to three years as new APLs of interest are developed). The Chair will request new APL submissions at the time a notification is sent out for shipment of the current QION (February – March). Each cooperator is asked email the Chair to communicate available APLs and respond to the query for receipt of the new QION. The Chair will ship Import Permit Stickers and IP information to the cooperator as needed. The cooperator should then ship 10 grams of each new APL to the Chair. Seed must be received by April 30 in order to be planted in the Idaho nursery for inclusion in the following QION.

Segregating Populations (SPs): About 150 F2 to F4 SPs are included in each QION. The SPs are intended to be used as a selection population for development of locally adapted varieties. Cooperators are free to select within the SPs and develop and release new varieties from them with no Intellectual p[property of financial obligations to the originator of the populations. We do ask that cooperating breeders notify the Chair of all releases developed from QION SPs so that we can continue to document the contributions of the QION to global oat improvement.

These SPs are intended to supplement the germplasm base for variety development available to each QION cooperator. Because of the parental composition, the population should contain desirable genes for multiple traits. A given population may be suitable for selection and variety development in some countries but not others. For example, a population that produces good lines for Argentina may not have genotypes that head late enough to be suitable for Chile. Likewise, populations with a parent from New Zealand may be well-suited to Chile, but may not be at all adapted to Brazil or Louisiana. It is intended that participants select and purify lines for local variety development from suitable populations.

The parents of these crosses are chosen to combine essential traits such as disease resistance, adaptation, and milling, or other end use, quality. These SPs have traditionally come from crosses made by the LSU and Florida breeding programs. This is a strain on the resources of these programs and probably restricts the germplasm base of the SPs more than necessary. It is our goal to receive about 50% of the SPs each year from other breeders. **As is done for the APLs, each breeder should submit a few SPs on a regular and recurring basis.** This can be done by sending the coordinator 5 – 10 F1 seed or 10 grams of F2 seed. These will be grown and increased in the Idaho nursery for inclusion in the QION the following year.

POLICY FOR UTILIZATION OF OAT GERMPLASM IN THE QUAKER OAT NURSERY

In recent years, world-wide attention has focused on two issues of critical importance to plant breeders and geneticists: (1) germplasm collection and use, and (2) breeders' rights. Plant patents, plant variety protection, and breeders' rights now, more than ever before, (a) influence germplasm exchange among plant breeders, and (b) determine the legally-permitted use of one person's breeding stocks or selections by another worker. The unauthorized use of another person's germplasm is morally and, in many cases, legally improper. The challenge is to acknowledge and comply with the rights afforded the breeder while fostering germplasm exchange among workers. Exchange of materials proceeds much more openly if the participants know that their collaborators have agreed to an accepted code of ethical behavior.

In 2000, members attending the International Oat Conference in ratified an **INTERNATIONAL OAT WORKERS CODE OF ETHICS FOR OAT GERMPLASM EXCHANGE.** The incentive for developing a code of ethics for oat germplasm exchange arose from the concern that breeding selections entered in regional performance trials by many different breeders should be used in ethical and legally-proper ways. This same understanding and agreed-upon behavior will also foster exchange of germplasm directly between two workers for use as breeding stocks.

Cooperators must be aware that, each cooperator -- in order to receive a set of the Quaker Nursery seed -- are asked to sign two documents: The QION Nursery Bylaws and the INTERNATIONAL OAT WORKERS CODE OF ETHICS FOR OAT GERMPLASM EXCHANGE thereby agreeing to follow all policies set forth in the code. Please return a signed copy by mail or a scanned signed copy by email to:

Dr. Stephen A. Harrison
School of Plant, Soil, & Envtl Sciences
104 MB Sturgis Hall
Baton Rouge, LA 70803 USA

Email: sharrison@agctr.lsu.edu

If one of these has been returned in previous years, it will not be necessary to do it again.

This "Code" will encourage the continued exchange of oat germplasm by recognizing the property rights afforded developers/owners of germplasm materials and by codifying the obligations of persons receiving unreleased oat germplasm.

PROCEDURE FOR RELEASE OF A QUAKER NURSERY PURE LINE AS A LOCAL CULTIVAR

The purpose of including pure lines in the Quaker Nursery is three-fold: 1) to evaluate the lines for potential use as parents in combination with local cultivars and advanced test selections, 2) to evaluate line performance for potential release as a cultivar, and 3) to obtain phenotypic data (disease scores, quality, etc.) to support genotypic data. If you desire to release an APL, where it has been determined that a particular line has had a superior performance and would make a worthy contribution as a cultivar; the following procedure should be followed:

(1) Write to the Chair indicating your desire to release a specific line in your country or region. Provide performance data for the line and for currently grown cultivars for comparison.

(2) The Chair will forward the release request and the performance data to the breeder or current program leader at the station where the pure line originated.

(3) The developer (owner) of the line will then make the final release decision, including any restrictions on country to country distribution of the seed.

(4) The developer (owner) of the line will inform the Chair of the release decision. Upon concurrence by all members of the Executive Committee, the Cahir will inform the applicant of the release decision.

(5) If a royalty/research fee/licensing fee is associated with the distribution, production, or sale of a cultivar that originated as a Quaker Nursery pure line, a fund-sharing agreement must be negotiated with the owner of the original pure line.

(6) An individual entry in the Quaker Nursery pure-line series may contain one or more variants that differ from the base population in one or more traits, e.g., plant height, maturity, kernel color, reaction to disease, etc. In accordance with the OAT WORKERS CODE OF ETHICS FOR GERMPLASM EXCHANGE, written permission must be obtained from the owner before such a variant or any other plant is selected from a line or cultivar. If such a variant is selected, performance tested, and found worthy of release, permission to release must be obtained by following the same five steps outlined above.

PROCEDURE FOR RELEASE OF A CULTIVAR DERIVED FROM A SELECTION OUT OF A QUAKER NURSERY SEGREGATING POPULATION

The owner of a cultivar derived from a selection out of a Quaker Nursery F2, F3 or F4 segregating population is the recipient breeder, Experimental Station, or Government Agency, depending upon Station, State (Provincial), or National policies. The providers of the segregating populations have surrendered all claims of ownership.

DISSEMINATION OF PERFORMANCE DATA AND INTENT TO RELEASE
The Quaker Team requests that it be kept informed of the performance of promising test selections and of seed increase and cultivar release plans. In South America, this could be conveniently done during the annual visit of the Quaker Team.

ACKNOWLEDGMENT OF SOURCE OF GERMPLASM
If Quaker Nursery germplasm is a component of the pedigree of a cultivar to be released, acknowledgment of the Quaker Nursery as a source of germplasm in release documents and publicity would be appropriate and appreciated.

International Oat Nursery

International Oat Worker's Code of Ethics For Oat Germplasm Exchange

As approved by the members of the 6th International Oat Conference, 13/11/2000 in New Zealand.

In past decades, oat workers worldwide have generously shared their oat germplasm with colleagues to enhance oat breeding and research. However, plant variety protection and patent mechanisms focus attention on property rights afforded developers/owners of germplasm materials. The purpose of this code is to encourage the continued exchange of oat germplasm by recognizing these rights and by codifying the obligations of persons receiving unreleased oat germplasm. I, therefore, agree to support the following principles:

- Owners, as well as originating breeders, stations, or companies have property rights to unreleased oat germplasm such as pure lines, early generation lines or populations, bulk populations, breeding stocks, or genetic stocks. These rights are not waived with the distribution of seeds or plants of any of these unreleased materials. In this context "released" materials include named cultivars or breeding or genetic stocks described in an official statement of release.
- The owner/breeder, in distributing seeds of plant materials of unreleased oat germplasm, grants permission for their use (1) in trials under the recipient's control, and (2) as parents for making crosses for use in basic research or for selection leading to the development of cultivars. **Use of unreleased germplasm for which written approval from the owner/breeder is required include:** selecting from the stock; induction of mutations; insertion of recombinant DNA; production of somaclones; use in backcrosses for addition of a gene(s) controlling a specific trait; testing at outlying locations; use as parents in commercial F1 hybrids or as components in synthetic or multiline cultivars; or seed increases and release as a cultivar.
- The recipient of unreleased seeds of plant material shall make no secondary distribution of the germplasm without the permission of the owner/breeder.
- The recipient of unreleased materials shall take precautions to prevent unauthorized transfer or theft of seed of these materials from field nurseries or seed inventories.
- The owner/breeder of unreleased oat germplasm stocks may waive, in writing, any of the above restrictions or may impose additional restrictions.
- Retention and use of the germplasm accompanying this statement indicates your agreement with the policies set forth in the statement.

I agree to follow the policies set forth in the INTERNATIONAL OAT WORKER'S CODE OF ETHICS FOR OAT GERMPLASM EXCHANGE:

____

Name (Printed) Signature Date

____

Title Institution/Station/Company

____

Address

Return signed copy or scanned signed copy to: Stephen A Harrison
LSU School of Plant, Envtl & Soil Sciences 104 M.B. Sturgis Hall Baton Rouge, LA 70803-2110 Phone: 225-578-1308 Cell: 225-281-9446 FAX: 225-578-1403 email: sharrison@agctr.lsu.edu