



Oatglobal.org

Oat Global and associated projects

Nick Tinker,
and the Oat Global Strategy Team



**Oat
Global**

Drivers: January 2014 (at founding)

1. The oat R&D community is too small to afford isolation or regionality.
2. Many challenges in oat production and processing are global, and transferability of knowledge across geographies is key to success.
3. Advanced technologies are too complex or expensive for one group to develop and adopt them all in isolation.
4. Scientific expertise must be continually evaluated, rejuvenated, and expanded. This is best done through community-wide consultation (and possibly, coordinated funding).
5. This is the era of “big data” and “global connectivity”: open data, and shared platforms for knowledge management and data analysis are critical.



**Oat
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Vision

- The oat community deserves cohesive strategies and unifying platforms to transform biological science and technology to production and processing for the benefit of the global oat value chain.
- Oat Global shall be a strategy forum driven by the leaders of the oat public and private community.
 - Across agencies, institutions, and corporations.
 - Across national boundaries.
 - For all oat types and segments.
 - Operating exclusively in the pre- (or non-) competitive space.
- Oat Global shall provide a unifying platform for open knowledge, open data, strategy, and resource sharing.



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Organization

Strategy Committee

- Sets strategic directions for the oat R&D community
- Helps align strategies across organizations
- Solicits developments of proposals in “gap” areas
- Evaluates spontaneous proposals
- Helps connect good ideas to funding
- Advocates for public/private partnership
- Provides oversight to Project Teams
- May provide administrative infrastructure to projects through one or more partnering organizations

Ad-hoc Project Teams

- Created upon need to execute funded initiatives or to connect initiatives across organizations
- Self-directed and establish their own governance structure
- Accountable for delivery of their project objectives and for open and transparent communication
- Report to the Strategy Committee



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Strategy Committee: Principles

- Any “oat worker” able to represent a significant stakeholder domain, and willing to catalyze activities of the GLOBAL oat R&D community may join, regardless of their organizational affiliation, professional degree, or career phase.
- Those who join shall commit to be active participants and to operate in the best interest of the community as a whole.
- Participants shall self-fund their participation, and ensure that their role complies with policies and regulations of their own organization.
- Committee roles will be appointed on an annual basis by majority vote within the committee itself.



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Strategy Committee: Membership

- **Gabe Gusmini (PepsiCo - NAMA)**
 - **Oat Global Chairman**
- Ben Boroughs (NAMA)
 - Oat Global Treasurer
- Catherine Howarth (Aberystwyth Univ.)
 - Oat Global Secretary
 - European Research Community Liaison
- Luiz Federizzi (UFRGS)
 - Latin American Research Community Liaison
- Nick Tinker (AAFC)
 - Canadian Research Community Liaison
- Pamela Zwer (SARDI)
 - Australasian Research Community Liaison
- Michele Marcotte (AAFC)
- Jack Okamuro (USDA-ARS)
- Jose' Costa (USDA-ARS)
- Wade Hainstock, Jim Dyck (POGA)
- Bruce Roskens (Grain Millers)
- Bill Tracy (University of Wisconsin)
- Greg Cuomo (University of Minnesota)
- Kenneth Grafton (North Dakota State Univ.)
- Daniel Scholl (South Dakota State Univ.)

We invite others to join!



Oat
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Projects



T3/Oat Database



Public Oat Genotyping Initiative (POGI)



Oat Rust Initiative



Oat Newsletter



Oat Genome

Oat Global
Projects

Facilitation,
liaison

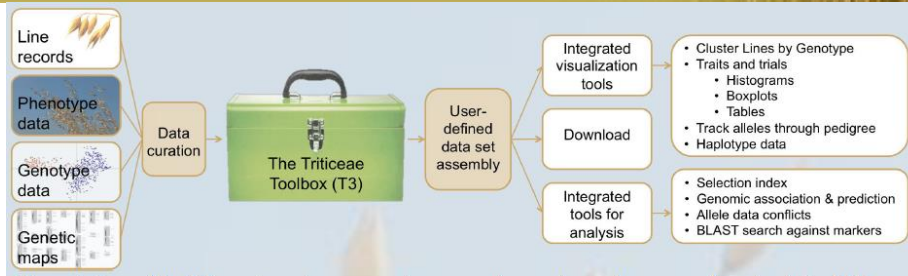
T3/Oat: Integrating public genotyping efforts and historical research

Clare Saied¹, David Matthews², Clay Birkett², Calvin Lietzow², James Clohessy¹, Shiaoman Chao³, Nicholas Tinker⁴, Jean-Luc Jannink^{*2}

¹Cornell University, Ithaca NY, USA; ²USDA-ARS, Ithaca NY, USA; ³USDA-ARS, Fargo ND, USA; ⁴Agriculture and Agri-Food Canada, Ottawa ON.

*JeanLuc.Jannink@ars.usda.gov

triticeaetoolbox.org/oat/



- Public database of germplasm, phenotypes, genotypes, and maps
- Led by Jean-Luc Jannink and the T3 team from TCAP
- Full time oat curator Clare Saied (will help you get data in or out!)

T3/Oat: Integrating public genotyping efforts and historical research

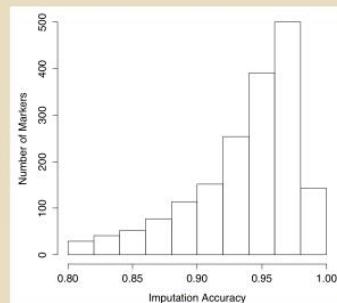
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The Public Oat Genotyping Initiative

The Public Oat Genotyping Initiative (POGI) is an ongoing project to carry out high-density genotyping of oat breeding lines submitted by public sector breeding programs. Fourteen North American breeding programs submitted a total of 1,427 lines to the 2015 project. Library construction and sequencing was carried out in USDA-ARS Fargo. The Haplotag pipeline, developed by Tinker *et al.* (2016), was used for GBS SNP calling. Pedigree information and genotype data from the 2015 POGI are now publicly available through T3/Oat.



- 14 public North American breeding programs
- 2015: 1427 breeding lines
- GBS data called with Haplotag (> 241,000 SNPs)
- See poster for evaluation of SNP loci and genomic predictions



- Central repository for biological data in small grains (inc. oat)
 - Relational database; many data types
- Long-term funding by USDA – ARS
- GrainGenes staff are active in research communities:
 - Collaborations and hosting infrastructure
 - Oat Newsletter; Oat Global; T3/Oat; Plant and Animal Genome
 - Oat curator, collaborator, newsletter developer: Gerard Lazo



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Oat Rust Initiative (ORI):
z.umn.edu/oatrustinitiative

Getting started – the Oat Rust Forum (2015)

- Partnership with **Stakman-Borlaug Center (SBC) for Sustainable Plant Health at U. of Minnesota** with sponsorship from **North American Millers' Association (NAMA) and PepsiCo**
- 30+ scientists and research leaders attended and recommended a coordinated initiative
- Roadmap for the initiative was created.



**Oat
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Oat Rust Initiative (ORI):
z.umn.edu/oatrustinitiative

- PepsiCo, General Mills, Grain Millers, Richardson Milling, U. Minnesota, and NAMA --- funded Board of Directors, and hiring of SBC to lead.
- The Oat Rust Initiative (ORI) started in 2016 with a second forum
 - focused on creation of project teams and charters (see below):
 - Teams, if funded, will execute research within the ORI framework.
- Targeting US federal funding as well as other government, academic, and private entities in Canada and other countries.

Teams and charters:

Data & Knowledge Management	Phenotyping
Pathogen Genomics	Novel Genetic Technologies
Epidemiology	Gene Release/Use Strategy
Isolate Collections	Integrated Pest Management & Agronomic
Breeding Enablement	Practices/Extension/Education

the  **Oat** Newsletter.

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Oatnews.org

See Charlene Wight's Poster!

Vol. 53, 2016 Reports

Vol. 52, 2015 Reports

Vol. 51, 2014 Reports

Oat Newsletter Archives

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Vol. 53

These are updated throughout the year):

- Saied, C. *et al.*
Number 8. T3/Oat status update, May 2016.
- Yimer, B.A. and K. Esvelt Klos.
Number 7. PCR-Based High-resolution Melt Markers for Pc genes/QTL. Part I: SNPs linked to QCr.cdl11-13A, QPc.crc-14D, Pc58a, and Pc91.
- Saied, C. *et al.*
Number 6. T3/Oat status update, April 2016.
- Saied, C. *et al.*
Number 5. T3/Oat status update, March 2016.
- Montilla-Bascón, G. *et al.*
Number 4. Free polyamine and polyamine regulation during pre-penetration and penetration resistance events in oat against crown rust (*Puccinia coronata* f. sp. *avenae*).

the Oat Newsletter.

oatnews.org

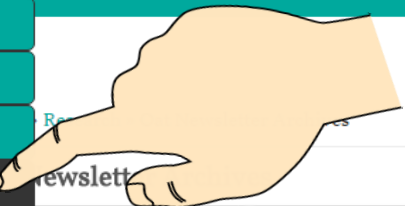
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Oat Newsletter Archives



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OAT NEWSLETTER
Volume 49
October 2003
 Edited by [Dr. David L. B. Hall](#), USDA-ARS Small Grains and Forage Cereals Research Unit, Aberdeen, Idaho, USA
 We would like to thank Dr. A. V. Kishor for his assistance in putting Volume 49 of the Oat Newsletter on the internet and for his contribution to the editorial board.
 Please refer to content of each page prior to citing literature in the Oat Newsletter.

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CONTRIBUTORS

Volume 49: 2003

OAT NEWSLETTER
Volume 50
October 2006
 Edited by [David L. B. Hall](#), Department of Agronomy, Iowa State University, Ames, Iowa, USA
 Please refer to the content of the author's table of contents for more information.

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[RUSSIA](#)
[Slovak Small Grains Collection Activities](#)

Volume 50: 2006

OAT NEWSLETTER
Volume 45
August 1999
 Edited by [James Chung](#), Cornal Research Center, Agriculture & Ag-Food Canada, Winnipeg
 Special thanks to Dr. David Matthews for assistance in getting this issue of the Oat Newsletter on the internet. We would like to thank the following contributors:

Volume 45: 1999

OAT NEWSLETTER
Volume 46
August 2000
 Edited by [James Chung](#), Cornal Research Center, Agriculture & Ag-Food Canada, Winnipeg

Volume 46: 2000

OAT NEWSLETTER
Volume 47
August 2001

Volume 47: 2001

American Oat Workers

Intl. Oat Conferences

Other Meetings

International Oat Conferences/Hosts



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International Oat Conferences/Hosts

The next IOC meeting will be held 11-15 July, 2016, in St. Petersburg, Russia. Details can be found in the [International Oat Conferences/Hosts](#) section.

Previous International Oat Conferences/Hosts:

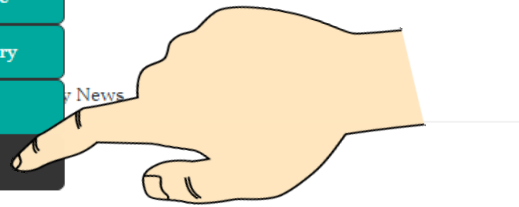
- [2012 Beijing, China \(CAAS\)](#)
- [2008 Minneapolis, MN, USA \(UMN\)](#)
- [2004 Helsinki, Finland \(MTT Agrifood Research Finland\)](#)
- [2000 Christchurch, New Zealand \(New Zealand Institute for Crop & Food Research Limited\)](#)
- [1996 Saskatoon, SK, Canada \(CDC, U. Saskatchewan\)](#)
- [1992 Adelaide, Australia](#)
- [1988 Lund, Sweden](#)
- [1985 Aberystwyth, UK \(University College of Wales\)](#)
- [1982 State College, PA, USA \(Penn State\)](#)

Oat News Hall Of Fame

Oat News Image Gallery

Oat Recipes

Community News



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Community News

27 May, 2016

- [Plan for a New Food Revolution - Vern Burrows](#)
- [Postdoc funding opportunities, Aberystwyth University, UK - Catherine Howarth](#)

16 December, 2015

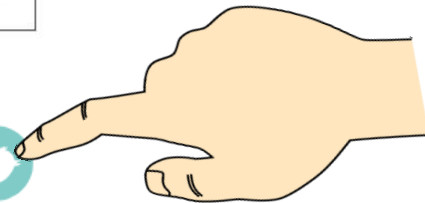
- [An Open Letter from Chris Green, Oat Innovations: Oats 2020 Tailpiece](#)
- [Door decorating contest at the Ottawa Research and Development Centre, AAFC](#)
- [Agriculture and Agri-Food Canada research centres get new names](#)

12 November, 2015

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@OatNewsletter Tweets

Tweets by @OatNewsletter

@Ballykilcavan

Gluten free oats for @GlanbiaAgri are standing well but ripening slowly. Doesn't look like a July harvest this year.



4h

Latest Forum Topics:

Oatnews Website improvements
What oat adversities do you commonly encounter?

Upcoming Events

- 10th International Oat Conference, St. Petersburg, Russia.
07/11/2016 to 07/15/2016
- Growing the Grass Classification: Celebration of Derek Clayton's 90th Birthday and Discussion about the Future of GrassBase, London, UK
07/18/2016 to 07/19/2016
- IHARF Crop management field day, Indian Head, Saskatchewan
07/19/2016
- 20th Eucarpia General Congress, Zurich, Switzerland
08/29/2016 to 09/01/2016



Oat Newsletter

@OatNewsletter

The official Twitter account of the Oat Newsletter, serving the oat research community around the world. Tweets by Charlene Wight, Oat Newsletter editor.

oatnews.org

Joined August 2014

TWEETS
4,742

FOLLOWING
364

FOLLOWERS
467

LIKES
216

Tweets

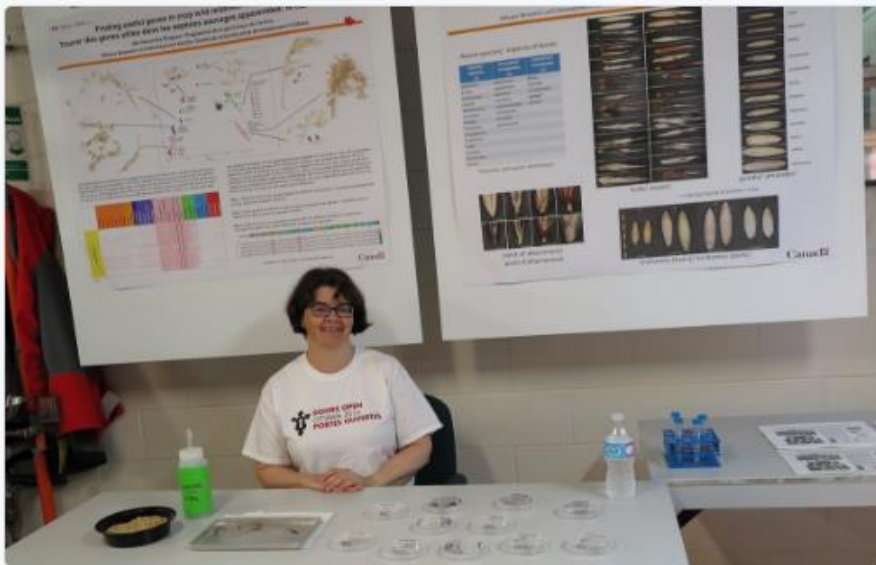
Tweets & replies

Media



Oat Newsletter @OatNewsletter - Jun 5

This is me talking about genomics and #oat #cropwildrelatives at ORDC, @AAFC_Canada during #DoorsOpenOttawa today!





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Questions ?

	Oat Global	Oatglobal.org
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	Public Oat Genotyping	
	GrainGenes	http://wheat.pw.usda.gov/GG3/
Poster	Oat Newsletter + Twitter	Oatnews.org
Poster		
	Oat Rust	z.umn.edu/oatrustinitiative