DGGW inaugurates new seed systems initiative in Nepal

On January 23, the DGGW launched its Seed Systems for Nepal initiative. The main event of the launch was the inauguration of a new seed processing facility, attended by 200 farmers selected to be the first to access the equipment. Once the unit is at full operating capacity, it is expected to serve more than 2000 farmers in the region. High-quality seed is an essential component of productivity and income for farmers.

"We are working closely with farmers in Nepal and partnering with the Agriculture and Forestry University, or AFU, on quality seed production, processing and distribution," said Maricelis Acevedo, associate director of science for the Delivering Genetic Gain in Wheat (DGGW) project at Cornell, who is helping spearhead the initiative. "The 200 farmers will form the basis of the new seed 'village' that is being developed to help produce quality seed in Nepal. This is a unique seed initiative within the DGGW where we are really working directly with farmers."

Learn more about the Seed Systems Initiative on the BGRI blog.

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Reports from BGRI partners issue cautions against new threats from wheat rust diseases

Scientists have issued warnings to wheat growers after a report identified the proliferation of highly virulent fungal wheat diseases, including two new races of yellow rust - one in Europe and North Africa, the other taking hold in East Africa and Central Asia - and a new race of stem rust emerging in Europe.

Samples from heavily infected fields of commercial durum wheat in Sicily in May 2016 were sent to the Global Rust Reference Centre (GRRC), Aarhus University for race analysis. Photo credit: Dr Biagio Randazzo

The Global Rust Reference Center (GRRC) hosted by Aarhus University in Denmark, including the International Maize and Wheat Improvement Center (CIMMYT) and the International Center for Agricultural Research in the Dry Areas (ICARDA), were BGRI partners instrumental in identifying the new races of yellow and stem rust.

Key researchers involved in this effort, as named on the RustTracker page, were Dr Biagio Randazzo (Ciminna, Sicily), Dr Mehran Patpour, Prof. Mogens Hovmøller and Jens Grønbech Hansen (GRRC, Aarhus University, Denmark), Marcel Meyer and Prof. Chris Gilligan (Cambridge University, UK), Dr Matthew Hort, Sarah Millington and Dr Laura Burgin (UK Met Office), Dr Diane Saunders & Dr Brande Wulff (JIC, UK), Dr Yue Jin (USDA-ARS, CDL), Dr Kumarse Nazari (ICARDA), Dr Fazil Dusunceli (FAO) and Dr Dave Hodson (CIMMYT).

For more information about the new races of wheat rust:

- CIMMYT: Scientist cautions against new threats from wheat rust diseases
- BGRI Blog: Sounding the Alarm: more wheat rusts incoming
- FAO: Spread of damaging wheat rust continues: new races found in Europe, Africa, Central Asia
International experts train scientists to fight deadly wheat disease in South Asia

A surveillance workshop held February 4-16, 2017 in Bangladesh focused on wheat blast, a devastating fungal disease that appeared in South Asia for the first time in 2016. Wheat researchers from BARI, Cornell University, the International Maize and Wheat Improvement Center (CIMMYT), Kansas State University (KSU), and the Bangladesh Agricultural University (BAU) trained 40 top wheat pathologists, breeders, and agronomists from Bangladesh, India and Nepal on methods to recognize, monitor, and control wheat blast.

"Wheat blast is a particularly dangerous disease," explained Maricelis Acevedo, associate director for science for the Delivering Genetic Gain in Wheat (DGGW) project at Cornell, who helped coordinate the workshop. "It is so effective at reducing yield because it can attack the plant at the spike where wheat grain will develop. At that point, it is difficult to treat, so the key is early detection in the field."

Read more about the wheat blast training at the BGRI blog.

Women in Triticum (WIT) Highlights

Philomin Juliana, 2015 WIT Early Career Award winner, is currently a post-doctorate fellow with Dr. Ravi Singh, at the International Maize and Wheat Improvement Center (CIMMYT), in Mexico. Since February 1, 2017, her work has focused on identifying cost-effective strategies that can accurately predict grain yield prior to testing at the F4:F5 stage and implementing the best prediction based selection strategy in the breeding pipeline.

"Wheat genomics' complexities have always fascinated me, and inspired a persevering enthusiasm to tackle this challenging crop. Improvement in wheat can benefit millions of smallholder farmers around the world, and that opportunity for improvement motivates me to search for innovative strategies to address the challenges in wheat breeding."

Read more about Philomin's research at the BGRI blog.

Caixia Lan, 2011 WIT Early Career Award winner, works
Caixia Lan, 2011 Women in Triticum (WIT) Early Career Award winner. With CIMMYT’s Global Wheat Program to identify and map adult-plant resistance genes to different races of rust (leaf, stripe, and stem) in bread and durum wheat and transfer them into new varieties that help secure farmer’s production.

As new races of rust emerge and old ones continue to spread, Lan said, research identifying durable and multiple rust resistant genes and breeding them into crops is of high importance.

Read more about Caixia’s work with CIMMYT at the CIMMYT blog.

2017 WIT Winners to Be Announced

The 2017 Women in Triticum (WIT) Early Career and Mentor Award winners will be officially announced at the CIMMYT Visitor’s Week in Obregon and will be featured in the March BGRI newsletter.

Career and Educational Opportunities

Barilla Center for Food & Nutrition YES! Research Grant Deadline 28 June 2017
The BCFN is accepting research proposals for a 20,000€ research grant applied to a one-year investigation. Young PhD and postdoc researchers from any background and nationality are invited to submit a research project to improve the sustainability of the food system. Grants can be applied for as individuals or as teams.


Post-Doctoral Fellow - Wheat Rust Pathologist/Breeder
Nairobi, Kenya

Wheat Statistical Geneticist and Molecular Breeding Specialist
Zhengzhou, Henan province, China

Upcoming Events

Rust Workshop held in conjunction with the 29th Fungal Genetics Conference
14 March 2017
Asilomar Conference Grounds in Pacific Grove, CA, USA
For more information, contact Sebastien Duplessis.

29th Fungal Genetics Conference
14-19 March 2017
Asilomar Conference Grounds in Pacific Grove, CA, USA
http://www.genetics-gsa.org/fungal/2017/

Soft Skills at the Punjab Agricultural University in India
A soft skills workshop in scientific communication; from publishing to choosing a career path.

2nd Agriculture and Climate Change conference
26-28 March 2017
Sitges, Spain
http://www.agricultureandclimatechange.com/

13th International Wheat Genetics Symposium (IWGS)
23-28 April 2017
Tulln, Austria
http://iwgs2017.boku.ac.at/

IWGS satellite meeting: Updates and discussions on recent stem rust epidemics in Europe and Eastern Africa
24 April 2017
Tulln, Austria
A group of rust experts will discuss the recent European and African stem rust epidemics, pathogen races causing these epidemics, and the availability of resistant germplasm in European and North American wheat.

ICARDA 40th Anniversary Celebration
3 May 2017
Rabat, Morocco
http://www.cgiar.org/special-events/2017/05/03/icarda-40th-anniversary-celebration/

Research Updates

Comparative Analysis Highlights Variable Genome Content of Wheat Rusts and Divergence of the Mating Loci
Christina A. Cuomo, Guus Bakkeren, Hala Badr Khalil, Vinay Panwar, David Joly, Rob Linning, Sharadha Sakthikumar, Xiao Song, Xian Adiconis, Lin Fan, Jonathan M. Goldberg, Joshua Z. Levin, Sarah Young, Qiandong Zeng, Yehoshua Anikster, Myron Bruce, Meinan Wang, Chuntao Yin, Brent McCallum, Les J. Szabo, Scot Hulbert, Xiaming Chen, John P. Fellers
LINK

Association mapping of leaf rust resistance loci in a spring wheat core collection
M. Kathryn Turner, James A. Kolmer, Michael O. Pumphrey, Peter Bulli, Shiaoman Chao, James A. Anderson
LINK

Identification and Validation of SNP Markers Linked to the Stripe Rust Resistance Gene Yr5 in Wheat
Yukiko Naruoka, Kaori Ando, Peter Bulli, Kebede T. Muleta, Sheri Rynearson and Michael O. Pumphrey
LINK

Contribute to BGRI Newsletter & Social Media
#actuallivingscientist is trending on Twitter
We are encouraging BGRI scientists to post a tweet about themselves and their work so people can get a sense of who they are and what they do. Include #actuallivingscientist in your social media posts and tag our Twitter account, @globalrust so we can feature you!

via: https://twitter.com/kumarsatish227/status/830281120285597696

Newsletter Items
If you have any news of interest to the BGRI community, please contact us and we will try to include it in subsequent BGRI newsletters. Events, opportunities, photos, and new publications are especially welcome.

Click Here to Contact the BGRI