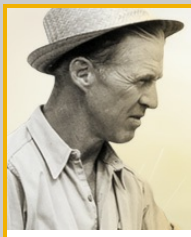

BGRI Borlaug Global Rust Initiative

April 2017

Revolutionizing wheat phenotyping with drones

José Manuel Mendoza Reyes, with the physiology group at CIMMYT, calibrates a drone for small plot survey. This data could be used to enhance predictions about wheat line performance. Photo: Cally Arthur

Low-flying eyes in the sky are collecting data for better predictions.

In a new program supported in part by the Delivering Genetic Gain in Wheat (DGGW) project, the USAID Feed the Future Innovation Lab at Kansas State University (KSU), and the US Department of Agriculture's National Institute of Food and Agriculture (USDA-NIFA), analysis of promising wheat lines may soon be enhanced by a system that predicts the potential of a plant by identifying qualities impossible to see from the ground.

Drones, or unmanned aerial systems (UAVs), can be thought of as programmable, mechanical hummingbirds. Since drones have become less expensive and more controllable for low altitude flying in recent years, they are the ideal tool for agricultural surveys. Suchismita Mondal, a plant breeder with CIMMYT, is now working in collaboration with KSU scientists led by Jesse Poland to develop a better solution for prediction modeling using phenotypic information on large yield trial plots.

Read more about research using drones for agricultural surveying on the BGRI blog.

IN THIS ISSUE

Coffman receives the Yaqui Award from CIMMYT

L to R: Rollie Sears, Sanjaya Rajaram, and Ronnie Coffman receive the Yaqui Award at CIMMYT for major contributions to wheat improvement during their careers.

Ronnie Coffman, international professor of plant breeding and genetics and director of International Programs in CALS, was named a recipient of the Yaqui Indian award during the ceremonies at CIMMYT's visitor week.

Coffman received the award in honor of the major contributions he has made in enabling others to develop better wheat varieties. The international professor of plant breeding and genetics and director of International Programs in CALS was awarded the statue of a Yaqui Indian performing the famous "Danza del Vanado," or "Deer Dance."

"I am thrilled," said Coffman. "The Yaqui is the most central ceremonial figure in Yaqui tradition. I started my career as a plant breeder at CIMMYT, working with Dr. Norman Borlaug, so this means a great deal to me."

Read more about the Yaqui Award at the BGRI blog.

#WheatIsScience: Celebrating global wheat research

Baidya Nath Mahto, from the Nepal Agricultural Research Council (NARC) (right side, in vest with hands outstretched), standing with Dhruba Thapa and women farmers from Nepal, addresses SAARC workshop participants in the field.

Photo Credit: Vijay Paranjape

In celebration of Earth Day on April 22, and in support of the global effort of the March for Science to highlight the need for more support of research around the world, the BGRI ran the #WheatIsScience social media campaign this April. Taking inspiration from Norman Borlaug's last words, we asked scientists of the BGRI community to show us how they were 'taking it to the farmer.'

We received over 40 pictures of wheat researchers around the world, including Pakistan, Morocco, Bangladesh, Catalonia, Nepal, Iraq, Syria, Kenya, South Africa, Turkey, Tanzania, Australia, and the USA. Whether they were working on contributing to food security, improved varieties, stress tolerance or pathogen identification, it showed that wheat research is a truly global and collaborative field with an impact on many lives.

View the full gallery of #WheatIsScience photos on the BGRI Facebook page.

Please continue to send us your stories and photos. **Learn more about how to participate on the BGRI site.**

How can farmers better respond to climate change with access to data and analytics?

For Earth Day, April 22, the BGRI also released a video interview with Bram Govaerts, Latin America Regional Representative for CIMMYT, speaking about the relationship between agriculture, climate

change, and big data.

Bram Govaerts, Latin America Regional Representative of CIMMYT.

While we cannot control or predict extreme weather events associated with the changing climate, we can control how we respond to those challenges. Govaerts argues that if we don't make an effort to ensure that all farmers have access to up-to-date climate information and analytics, we risk widening the gap between the farmers who have access and those who don't. If smallholder farmers have access to these tools they can make more informed on-farm decisions in the face of an increasingly erratic climate.

Watch the video on climate change, access to data, and analytics on the BGRI YouTube Channel.

Gender-responsive Cereal Grains Breeding course registration

The application for the ***Gender-responsive Cereal Grains Breeding*** course is now open, offered by Gender-Responsive Researchers Equipped for Agricultural Transformation (GREAT).
GREAT courses have a focus on sub-Saharan Africa (SSA) and are offered to multi-disciplinary project teams. It offers applied gender training for agricultural researchers, including tailored skills development in gender-responsiveness for the design, implementation, evaluation, and communication stages of agricultural research projects.

Applications close on June 9th, 2017.

Learn more at the BGRI blog.

Women in Triticum Spotlight: Yukiko Naruoka

Yukiko Naruoka, a 2012 Women in Triticum (WIT) Early Career Awardee, now works as wheat breeder with Syngenta. She develops parental lines for hybrid wheat and test hybrids for Northern Plains in the US.

"Hybrid wheat has tremendous potential to increase wheat production and yield stability," Naruoka says. "I hope my work will contribute to regional and global yield increase and stability across environments, and therefore help small farmers struggling with marginal environments. My home country of Japan relies on imported wheat for more than 80% of its needs. I believe hybrid wheat may provide a stable supply to my country as well as other countries currently depending on overseas exports."

Read more about Yukiko Naruoka on the BGRI blog.

Yukiko Naruoka, 2012 WIT Early Career Awardee

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.
https://www.barillacfn.com/en/bcfnyes2017/

2018 Women in Triticum Early Career Awards *Deadline 30 October 2017*
Nominate women working in wheat in the early stages of their career (scientists ranging from advanced undergraduates to recent PhD graduates and post-doctoral fellows) for the WIT Early Career Award. Recipients will be invited to the annual BGRI technical wokshop and provide professional development opportunities.
http://www.globalrust.org/awards/award-wit

2018 Women in Triticum Mentor Awards *Deadline 30 October 2017*
Nominate outstanding mentors (male and female) of women working in triticum and its nearest relatives for the WIT Mentor award. The winner will receive an honorarium and the opportunity to organize a session in the subsequent year's BGRI technical workshop.
http://www.globalrust.org/awards/award-wit-mentor

Upcoming Events

Genomic Selection in Plant Breeding Online Course
12-15 June 2017 | *Offered online. Deadline 15 May 2017*
http://www.ucd.ie/agfood/eventsoutreach/genomicselectioninplantbreeding/

8th International Triticeae Symposium 2017
12-16 June 2017 | *Wernigerode, Germany*
http://www.ipk-gatersleben.de/meetings/8th-international-triticeae-symposium-2017/

American Phytopathological Society Meeting: Changing Landscapes of Plant Pathology
05-09 August 2017 | *San Antonio, Texas, USA*
http://www.apsnet.org/meet

Research Updates

Discovery and characterization of two new stem rust resistance genes in *Aegilops sharonensis*.
[LINK]

Genetic analysis and molecular mapping of resistance to *Puccinia striiformis* f. sp. *pseudo-hordei* in common wheat
[LINK]

Highly predictive SNP markers for efficient selection of the wheat leaf rust resistance gene *Lr16*
[LINK]

Farmers' perceptions on improved bread wheat varieties and formal seed supply in Ethiopia
[LINK]

Divergent and convergent modes of interaction between wheat and *Puccinia graminis* f. sp. *tritici* isolates revealed by the comparative gene co-expression network and genome analyses.
[LINK]

Contribute to the BGRI Newsletter and Social Media

If you have any news of interest to the BGRI community, please reach out to us and we will try to include it in subsequent BGRI newsletters. We also publish and share stories on our Twitter and Facebook accounts. You may use **@globalrust** to tag any contributions.

Events, opportunities, photos, and new publications are especially welcome.

Contact BGRI newsletter editor Samantha Hautea or the BGRI.

VISIT OUR WEBSITE

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