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July 2020

BGRI Video Outlines "12 Years of Wheat Research and Variety Adoption: The Impact of the DRRW and DGGW"

"BGRI has focused on delivering rust-resistant varieties of wheat to the farmers around the world who depend on agriculture and wheat production for their livelihoods," says Ronnie Coffman, vice chair of the BGRI, in a new video. "We have been especially dedicated to small-holder farmers in wheat-producing countries in Africa and Asia - men and women who do not always have the access to new technologies, like improved seed, that they need."

Coffman provides an overview of the BGRI's involvement in global wheat improvement work, focusing on the impact of the two wheat research projects coordinated by Cornell University over the last 12 years - the Durable Rust Resistance in Wheat (DRRW) and Delivering Genetic Gain in Wheat (DGGW).

This work brought together farmers and scientists from more than 25 countries to solve critical challenges to wheat production including stem rust race Ug99 and its variants.

This presentation was recorded as part of the BGRI's "Take it to the Farmer" Online Event on June 25, 2020.

Link to Video

Wheat research partners kick off new breeding project at CIMMYT

Wheat fields at the Campo Experimental Norman E. Borlaug (CENEB) near Ciudad Obregón in Sonora, Mexico. CREDIT: M.Ellis/CIMMYT

An ambitious new crop breeding project led by the International Maize and Wheat Improvement Center (CIMMYT) brings together partners in the global science community and in national agricultural research and extension systems to accelerate the development of higher-yielding varieties of maize and wheat - two of the world's most important staple crops.

The new project, Accelerating Genetic Gains in Maize and Wheat for Improved Livelihoods, or AGG, will specifically focus on supporting smallholder farmers in low- and middle-income countries.

AGG is funded by the Bill & Melinda Gates Foundation, the U.K. Department for International Development (DFID) and the U.S. Agency for International Development (USAID).

The wheat component of AGG builds on breeding and variety adoption work that has its roots with Norman Borlaug's Nobel Prize winning work developing high yielding and disease resistance dwarf wheat more than 50 years ago. It also builds on the Durable Rust Resistance in Wheat (DRRW) and Delivering Genetic Gain in Wheat (DGGW) projects, the 12-year global wheat improvement efforts led by Cornell University, which end this year.

The wheat component of AGG will serve more than 30 million wheat farming households in Bangladesh, Ethiopia, India, Kenya, Nepal and Pakistan.

Read more here.

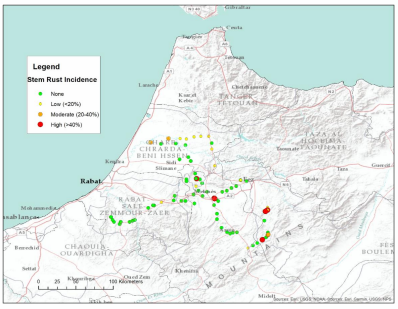
CIMMYT launches AGG newsletter

CIMMYT is launching a new quarterly newsletter for the Accelerating Genetic Gains in Maize and Wheat project. The BGRI encourages all to sign up to keep track of the latest news from AGG.

Link to the inaugural quarterly AGG News here.

Sign up for the new AGG newsletter here.

Stem and yellow rust put Morocco at risk



Stem rust incidence in the northern part of Morocco during the 2019-2020 cropping season.

Stem rust and yellow rust seen on bread wheat in farmers' fields near INRA Annoceur Experimental Stations.

Simultaneous infection of SR and YR on bread wheat near Annoceur.

The threat posed by stem rust to wheat production in Morocco is imminent, according to surveillance experts Abdelhamid Ramdani, Kumarse Nazari and Dave Hodson.

The surveillance experts from INRA, ICARDA and CIMMYT, respectively, observed stem rust on a quarter of bread and durum wheat fields in a survey conducted March-June 2020.

Moreover, yellow rust, which used to occur on a limited basis in wheat growing areas in Morocco, has become the most common disease in almost all wheat growing areas, inducing substantial yield losses.

Almost all commercial bread wheat cultivars are becoming susceptible to yellow rust because of the emergence of new virulent races that are leading to the breakdown of resistance, the authors observe.

Read the entire report here.

In the News

Scientists track plant diseases riding across globe with dust.
A multidisciplinary, Cornell-led team of scientists has been selected for a $750,000 NASA grant to combine expertise in remote sensing, climate and earth system computer modeling, plant pathology and genomics to better understand how plant pathogens that travel the globe with dust particles put crops at risk, especially in places where people

struggle to eat.
By Krishna Ramanujan for the Cornell Chronicle. July 20, 2020.

Get used to growing fructans, they're better for growers and consumers.
A new, hardier more nutritious wheat that combines enhanced nutritional values along with increased resilience, developed by Cornell University, contains higher levels of a naturally occurring carbohydrate called fructans. By Ron Lyseng for The Western Producer, July 9, 2020.

Historic wheat research station poised to host cutting-edge research
The Toluca station will become CIMMYT's new testing site for rapid generation advancement and speed breeding in wheat.
By Alison Doody for CIMMYT. July 30, 2020.

IGI Researchers Awarded $3.2 Million to Address Wheat Crop Diseases. The Foundation for Food and Agriculture Research awarded a $900,000 Seeding Solutions grant to IGI researchers to address devastating disease epidemics through advanced gene-editing technologies, with matching funds from 2Blades Foundation and IGI.
IGI press release. August 5, 2020.

Recent Publications

Genome-wide mapping and allelic fingerprinting provide insights into the genetics of resistance to wheat stripe rust in India, Kenya and Mexico.
Philomin Juliana, Ravi Prakash Singh, Julio Huerta-Espino, Sridhar Bhavani, Mandeep S. Randhawa, Uttam Kumar, Arun Kumar Joshiu, Pradeep Kumar Bhati, Hector Educardo Villasenor Mir, Chandra Nath Mishra, Gyanendra Pratap Singh. Nature Scientific Reports. 2 July 2020.

Opportunity

Cornell Assistantship for Horticulture in Africa.
Cornell announces a doctoral assistantship in the Graduate Field of Horticulture to a student from sub-Saharan Africa. Course work will be completed at Cornell while dissertation research will be conducted primarily in Africa under the supervision of a local thesis advisor. Applications are due by September 15, 2020.

Learn more about this exciting opportunity

Contribute to the BGRI newsletter and social media

If you have any news of interest to the BGRI community, please send us a message and we will try to include it in subsequent BGRI newsletters! We also publish and share stories on our Twitter and Facebook accounts. Use **@globalrust** to tag any contributions.

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

Contact BGRI newsletter editor Linda McCandless or the BGRI.

VISIT OUR WEBSITE

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