Borlaug Global Rust Initiative

The Borlaug Global Rust Initiative (BGRI) is a global community of over 750 wheat and rust scientists, with the overarching objective of systematically reducing the world’s vulnerability to stem, yellow, and leaf rusts of wheat. Initiated in 2005 under the leadership of Norman E. Borlaug for the purposes of advocacy and coordination, the BGRI aims to create a sustainable international system to contain the threat of wheat rusts and facilitate enhancements in wheat productivity. The Durable Rust Resistance in Wheat (DRRW) project has served as the secretariat of the BGRI since 2008.

Permanent members of BGRI’s executive committee are Jeanie Borlaug Laube (chair) and a representative from Cornell University (vice chair), CIMMYT, ICAR, ICARDA, and UN-FAO. Rotating members represent national research organizations in Australia, Canada, China, Denmark, Ethiopia, Egypt, Iran, Kenya, Pakistan, United States, and Turkey.

“If we fail to contain Ug99, it could bring calamity to tens of millions of farmers and hundreds of millions of consumers. We know what to do and how to do it. All we need are the financial resources, scientific cooperation and political will to contain this threat to world food security.”

Norman E. Borlaug, Nobel Laureate and Father of the “Green Revolution”

Learn More

To learn more about the BGRI or to become a member, please visit the BGRI website at globalrust.org, or contact Ronnie Coffman, vice chairman of the BGRI, at bgri@cornell.edu.
Durable Rust Resistance in Wheat Project

Through international collaboration, scientists involved in the Durable Rust Resistance in Wheat (DRRW) project seek to mitigate the threat to global food security posed by stem rust, a feared and dangerous disease that threatens world wheat production.

Based at Cornell University, the DRRW is supported by a network of global partners, a $40 million grant from the Bill & Melinda Gates Foundation (BMGF), and the U.K. Department for International Development (DFID).

First discovered in Uganda in 1998, Ug99 is a race of stem (black) rust (*Puccinia graminis*) that is virulent on more than 90% of the world’s wheat. Ug99 and its variants have now spread to Kenya, Ethiopia, South Africa, Yemen, and Iran, threatening wheat-growing regions of the Middle East, Africa, Central Asia, India, and Bangladesh—areas of the world where up to 40% of food calories are provided by wheat.

Plant breeders and pathologists working on DRRW Phase I (2008-2011) have been successful in pathogen surveillance, breeding stem rust resistant wheats, and distributing them for testing and evaluation to more than 125 sites in 40 countries.

Scientists working on DRRW Phase II (2011-2016) will continue to mitigate the threat of Ug99 with farmers in affected regions through coordinated surveillance activities, breeding initiatives, gene stewardship, seed multiplication, gender equity projects, and capacity building. Their goal is to replace susceptible varieties of wheat with new varieties, created by accelerated plant breeding, that are higher yielding and durably resistant to wheat rusts. These new varieties will allow farmers in developing countries to better meet the rapidly growing demand for food—an estimated 50% production increase in wheat alone is needed by 2020.

“Our goals are to combat the threat of emerging wheat rust diseases, develop improved wheat varieties that protect resource-poor farmers in vulnerable regions, foster global awareness of Ug99, and track the spread of the wheat rust pathogens.”

**W. Ronnie Coffman, Director, International Programs, College of Agriculture and Life Sciences, 255 Emerson Hall, Cornell University, Ithaca, NY 14853**

Research Partners

The DRRW is a collaboration of 23 leading universities and research institutes throughout the world that represent all aspects of wheat rust research, including variety development and dissemination. Key research partners include the Ethiopian Institute of Agricultural Research (EIAR), the Kenya Agricultural Research Institute (KARI), the International Maize and Wheat Improvement Center (CIMMYT) in Mexico, the International Center for Agricultural Research in Dry Areas (ICARDA) in Syria, and the Indian Council of Agricultural Research (ICAR). The Food and Agriculture Organization of the United Nations (UN-FAO) and advanced research laboratories in Denmark, Canada, China, Australia, South Africa, and the United States are also project collaborators.

Cornell University Professor W. Ronnie Coffman leads the consortium of global research efforts.

Learn More

To learn more about the Durable Rust Resistance in Wheat project, please visit wheatrust.cornell.edu, or send an email to bgri@cornell.edu.