PRESS RELEASE

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International Scientists and Policymakers Gather to Tackle Endemic Disease Threatening Global Wheat Production and Food Security

Izmir, Turkey, April 28, 2014.

In an urgent response to the endemic threat that wheat stripe rust now poses to global wheat production, a partnership of leading international agricultural research centers, national research institutions, and policy makers from rust-affected countries meets this week in Izmir, Turkey (April 28-May 1), to review the most recent science innovations, mobilize a global strategy, and initiate action on the ground to combat future rust epidemics.

Recent reports from the Intergovernmental Panel on Climate Change have confirmed the dire effect of climate change on crop yields, and the management of crop disease is likely to be one of the key paths to global food security in the years to come. Changes in climate patterns give rise to new and more virulent strains of crop diseases and pests, causing outbreaks in existing and new locations.

Wheat stripe rust is flourishing in new areas due to changing weather patterns driven by the shift toward higher temperatures and increasingly variable and intense rainfall. Aggressive new strains of stripe rust disease have decimated wheat crops, notably in 2010 when an epidemic destroyed some 400,000 hectares in Ethiopia and caused losses of up to 80 percent in some parts of the Middle East and North Africa. In 2013, the disease struck again, seriously affecting wheat harvests from Central and West Asia to North and East Africa, the 'bread baskets' of the world. In Morocco, for instance, stripe rust was widespread and covered 40 percent of surveyed fields.

Producers must now contend with two highly aggressive strains of stripe rust that have emerged in recent years and broken down a key resistance gene – Yr27 – which is used in the breeding of many now susceptible wheat varieties across Asia and Africa. The wheat varieties containing Yr27 are currently planted on more than 15-20 million hectares across Central and West Asia and North and East Africa.

A science-policy dialogue between researchers and national governments is critical to build international collaboration and initiate national action plans capable of tackling the disease and averting major yield losses. The 2nd International Wheat Stripe Rust Symposium will review the latest science, practices, and policy options to improve the management of wheat stripe rust globally: improving surveillance and information exchange; enhancing preparedness so countries can rapidly deliver appropriate seeds and

fungicides; building the capacity and skills of officials, extension services and farmers; and strengthening crop research to sustain the development of new rust-resistant varieties.

Organized by the Turkish Ministry of Food, Agriculture, and Livestock (Gıda, Tarım ve Hayvancılık Bakanlığı) and the International Center for Agricultural Research in the Dry Areas (ICARDA), with support from the Borlaug Global Rust Initiative (BGRI), the International Maize and Wheat Improvement Center (CIMMYT), the CGIAR Research Program on Wheat, and the Food and Agriculture Organization of the United Nations (FAO), the event will draw some 200 participants from more than 25 countries.

“In recent years, enhanced emphasis has been given to collaboration and coordination among research institutes involved in the fight against rust diseases,” says Prof. Masum Burak, Director General of the General Directorate of Agricultural Research and Policies, within Turkey’s Ministry for Food, Agriculture, and Livestock. “Strategic national and international research partnerships are strengthening resistance to the disease: establishing monitoring and surveillance systems, identifying resistant cultivars, and breeding rust-resistant varieties. Turkey is a key contributor to these efforts, hosting important international facilities such as the International Winter Wheat Improvement Programme and the Regional Cereal Rust Research Center.”

“Wheat Stripe Rust affects the livelihoods of millions of poor wheat farmers every year, and in addition to the serious implications for global food security, the disease is capable of causing crop losses that amount to hundreds of millions of dollars,” says Dr. Mahmoud Solh, ICARDA’s Director General. “A joint partnership of scientists and countries is imperative to stay ahead of climate change and avert future food crises. While the knowledge is there, more global investment is needed to develop durable stripe rust resistance and prepare farmers in developing countries who will be worse hit by wheat stripe rust.”

The potential for future stripe rust risks to food security is real, especially in low-income countries where farmers have limited access to resistant seeds and fungicides. Limited funding and ineffective surveillance and coordination between countries and regions create a scenario that could spell disaster for farming communities and wheat-producers worldwide. A core issue for planners and policy makers is that stripe rust transcends borders as its tiny spores can quickly blow from one area to another.

“ICARDA’s global coordination role on the yellow rust issues is key to monitoring and controlling this devastating disease,” said Ronnie Coffman, vice-chair of the Borlaug Global Rust Initiative (BGRI), and director of International Programs at Cornell University. “We must develop more varieties with durable resistance for yellow rust, stem rust and leaf rust, and farmers must adopt them. The government of Turkey has made key investments in wheat research by supporting new rust screening facilities in Ankara and Izmir. It will take the global cooperation of scientists at ICARDA, CIMMYT, the BGRI, FAO and national agricultural research centers throughout Africa and Central Asia to minimize wheat rust threats for smallholder farmers."

The 2nd International Wheat Stripe Rust Symposium is being held to coincide with the planned upgrade of the Regional Cereal Rust Research Center, established in Izmir in 2012 as the focal point for regional cooperation on monitoring systems and strengthening the capacity of national agricultural research systems to breed crops for stripe rust resistance. Well positioned within the ‘wheat belt’ countries that stretch across North Africa and Central and West Asia, the Center will help to sustain production in a region that contributes 25 percent of global wheat yields.

Notes to editors:

About ICARDA:

The International Center for Agricultural Research in the Dry Areas (ICARDA) is the global agricultural research center working with countries in the world's dry areas, supporting them for the sustainable productivity of their agricultural production systems; increased income for smallholder farmers living on dry lands and in fragile ecosystems; and nutrition and national food security strategies. With partners in more than 40 countries, ICARDA produces science based-solutions that include new crop varieties (barley, wheat, durum wheat, lentil, faba bean, kabuli chickpea, pasture and forage legumes); improved practices for farming and natural resources management; socio-economic and policy options to support countries to improve their food security. ICARDA works closely with national agricultural research programs and other partners worldwide – in Central Asia, South Asia, West Asia, North Africa, and sub-Saharan Africa. www.icarda.org

About CIMMYT:

The International Maize and Wheat Improvement Center (CIMMYT) is the world's premier center for research, development, and training in maize and wheat and in farming systems for those two essential food crops. From its headquarters in Mexico and locations throughout the developing world, the Center works with partners worldwide to improve food security and livelihoods by sustainably increasing the productivity of maize and wheat cropping systems.

About the Borlaug Global Rust Initiative (BGRI):

The Borlaug Global Rust Initiative (BGRI), founded in 2005 by the late Dr. N.E. Borlaug, systematically reduces the world's vulnerability to stem, yellow, and leaf rusts of wheat. The BGRI facilitates the evolution of a sustainable international system to contain the threat of wheat rusts and enhances the productivity required to withstand future threats to the global wheat supply. www.globalrust.org

About the CGIAR Research Program on Wheat

The CGIAR Research Program on Wheat (WHEAT) is an international collaboration to raise the productivity of wheat farming systems, address the global threat of wheat diseases, and help wheat farmers in developing countries grow their crops in hotter conditions with less water and less fertilizer.

About the Aegean Agricultural Research Institute:

The Aegean Agricultural Research Institute (AARI) hosts of the Regional Cereal Rust Research Center, a partnership between the Turkish Ministry of Food, Agriculture and Livestock and ICARDA, recently created in Izmir. AARI ensures the conservation and use of genetic resources and aims to be an internationally recognized research institute by producing solutions to national and global agricultural and natural problems, primarily at regional level; carrying out projects in collaboration with country-region organizations and research institutes; reporting the results by educational- extensional activities and scientific publications at national and international level and consulting applications at application stage; carrying out projects especially on plant genetic resources, developing cultivars with high yield, high quality and resistance to biotic and abiotic stress conditions.