

CGIAR Roundup

Update from the CGIAR Fund Office, February 2014

Research initiatives and discoveries

As part of the CGIAR Research Program (CRP) on Integrated Systems for the Humid Tropics ([Humidtropics](#)), the International Potato Center (CIP) is [evaluating heat-tolerant potato clones](#) to determine which are the most suitable for hot and wet climates.

As part of the CRP on Rice ([GRiSP](#)), the International Rice Research Institute ([IRRI](#)) launched the [Transforming Rice Breeding Efficiency \(TRB\) Project](#), which will use modern tools and approaches to accelerate irrigated rice breeding and enhance genetic gains.

As part of the CRP on Roots, Tubers and Bananas, the International Institute of Tropical Agriculture ([IITA](#)), [Bioversity International](#) and CIRAD are partnering to develop [containment and control techniques for Banana Bunchy Top Disease \(BBTD\)](#), a devastating virus that has been rapidly spreading across Africa.

The International Crops Research Institute for the Semi-Arid Tropics ([ICRISAT](#)), lead Center of the [CRP on Grain Legumes](#), has discovered [40 germplasm lines of chickpea](#) with resistance to extreme conditions such as drought, heat and salinity— the latest findings from a 14-year effort to breed better crops for the poor.

Building on previous research, CGIAR's International Livestock Research Institute (ILRI) and its partners launched a project to develop a [new vaccine against East Coast fever](#), a disease that's devastating cattle herds in sub-Saharan Africa. A drug and vaccine to treat and prevent East Coast fever currently exist, but major shortcomings limit their use, access and effectiveness.

Tools and technology

The CGIAR Research Program on Policies, Institutions and Markets ([PIM](#)), the International Food Policy Research Institute ([IFPRI](#)) and IFAD released [Arab Spatial 2.0](#), an open-access and interactive online tool that will enhance research and policy-making with food security and development-related information in the Arab world at national, subnational and pixel levels.

[Nutrient Expert®](#), a fertilizer toolkit developed by the International Maize and Wheat Improvement Center ([CIMMYT](#)) and International Plant Nutrition Institute, won a "best innovation" award, in part for its use in the [CRP on Climate Change, Agriculture and Food Security's](#) (CAAFS) [Climate Smart Villages](#) project in India.

As part of [PIM](#), the [AgriTech Toolbox](#) models the impacts of 10 technologies on farm yields, food prices, natural resource use, hunger, malnutrition, land use and global trade, including precision and no-till agriculture, drip irrigation, and drought and heat tolerance, and nitrogen-use efficiency, among others.

The [Sri Lanka Water Resources Information System](#) developed by CGIAR's International Water Management Institute ([IWMI](#)) is a first-of-its-kind online tool that provides facts, figures and maps on water availability, use and quality to help scientists and policy-makers monitor water resource dynamics.

CGIAR's [Generation Challenge Program](#) released the free [Breeding Management System 2.0](#), a comprehensive suite of interconnected informatics tools that provide 90% of all the functionalities breeders need in their day-to-day operations, including queries for phenotypic and/or genotypic datasets.

Results and impact

Developed jointly by CGIAR's International Center for Agricultural Research in the Dry Areas (ICARDA), Morocco and South Asia, the [innovative practice of growing lentils between rice growing seasons](#) is increasing incomes, diversifying diets and enriching soils. In India, farmers who are growing improved lentil varieties in five states have increased yields by up to 60%, providing \$2 million in extra income.

CGIAR's International Food Policy Research Institute ([IFPRI](#)) and its partners analyzed water-poverty linkages, climate change impacts, irrigation, and basin-wide water trading to identify ways of enhancing allocation. The [results and insights will inform Chinese irrigation policy](#) going forward.

In 2013, IRRI and its partners [released 44 new rice varieties](#) (including salt-tolerant varieties in the Philippines, flood-tolerant varieties in South Asia, and six new varieties in sub-Saharan Africa), enabling farmers to produce more rice with declining resources. Read about [Impact of Rice Research in Africa](#).

In Central Africa, [market access and value-addition interventions doubled farmers' returns](#), thanks to innovation platforms introduced by CGIAR's Sub-Saharan Africa Challenge Program. A shift from the sale of raw bananas to processed ones greatly increased the marginal rate of return, and in the case of potatoes, the tonnage marketed rose by up to 15 MTs in less than one year, while prices went up by 10%.

In response to an outbreak of a destructive fungal disease CGIAR's CIMMYT partnered with the Bhutanese National Maize Program to develop [new disease-resistant varieties that yielded 10% more](#) than other highland varieties, protecting the harvests and livelihoods of farmers.

Publications, videos and other resources

The [CGIAR Research Program on Water, Land and Ecosystems](#) released three videos that illustrate key aspects of the program and highlight work in the Paramo region of Northern Peru and the Chinyanja Triangle in Southern Africa.

The CRP on Climate Change, Agriculture and Food Security's ([CCAFS](#)) new "[Big Facts](#)" bring together the latest facts and data on climate change, agriculture and food security and features over 100 infographics that can be downloaded, shared and used in reports and presentations.

As part of the [CRP on Forests, Trees and Agroforestry](#), a study by the Center for International Forestry Research ([CIFOR](#)) found that children living in areas surrounded by forest cover consume more fruits and vegetables and have more diverse diets, showing that [forests play a key role in food and nutrition security](#).

A recent study by the International Center for Agricultural Research in the Dry Areas ([ICARDA](#)), "[Soil conservation and water harvesting to improve community livelihoods and fight land degradation in the mountains of Syria](#)," outlines an applicable model for conservation strategies in mountainous, arid regions.

In a new book, [Food Security in a World of Natural Resource Scarcity: The Role of Agricultural Technologies](#), IFPRI uses a first-of-its-kind data model to identify a range of agricultural technologies and practices that could increase global crop yields by as much as 67% and cut food prices nearly in half by 2050.

News and events

[HarvestPlus](#), part of the CGIAR Research Program on Agriculture for Nutrition and Health ([A4NH](#)), and World Vision [launched a partnership](#) at the World Economic Forum in Davos to disseminate nutrient-rich crops to poor farming communities with greater speed and scale in an effort to combat malnutrition.

As part of [the CRP on Rice](#), the [Africa Rice Center is hosting a Science Week](#) in Benin, at which nearly 250 international and national research and development partners from the public and private sectors will discuss effective collaboration for large-scale development impact in Africa.

The International Center for Tropical Agriculture ([CIAT](#)) is working with Colombia's Ministry of Agriculture and Rural Development to identify vulnerabilities to climate change and strategies for adaptation. As part of the [CRP on Climate Change, Agriculture and Food Security](#), CIAT is [working with the Inter-American Development Bank to scale up research efforts](#) and expand them across Latin America and the Caribbean.

In mid-February, CGIAR's World Agroforestry Centre ([ICRAF](#)) organized the [World Congress on Agroforestry](#) in New Delhi, India, in collaboration with the Indian Council of Agricultural Research, Indian Society of Agroforestry and Global Initiatives to accelerate the impacts of agroforestry, build people's livelihoods, increase the vitality of the landscape and drive the adoption of large-scale innovations.

The International Food Policy Research Institute (IFPRI) and its 2020 Vision Initiative, along with partners, are organizing an international conference on "[Building Resilience for Food and Nutrition Security](#)" to be held on May 15-17, in Addis Ababa, Ethiopia.

ICRISAT and the Forum for Agricultural Research in Africa recently launched the [first ever full-fledged agribusiness incubator in West Africa](#), recognizing that public-private partnerships are vital to replicating and scaling-up the benefits of science-based solutions and interventions for millions of smallholder farmers.