Highlight 2: Evidence Published on the Impact of Biofortification to End “Hidden Hunger”

Biofortification efforts and results were in the limelight in 2017 with multiple publications—ranging from conference proceedings to peer-reviewed papers to special journal issues—reaching a worldwide audience. Together these publications tell a larger story: biofortification can and does play a significant role in development strategies aimed at combating micronutrient deficiencies and ending “hidden hunger.”

A dedicated issue of the *Annals of the New York Academy of Sciences*, titled “Staple Crops Biofortified with Vitamins and Minerals: Considerations for a Public Health Strategy,” takes a comprehensive look at biofortification. The special issue followed a 2016 consultation on the topic convened by the World Health Organization (WHO) and the Food and Agriculture Organization of the United Nations (FAO), in collaboration with the Sackler Institute for Nutrition Science, where HarvestPlus researchers and collaborators presented a synthesis of the latest evidence on crop development, adoption, consumption, and health and nutrition impacts. The special issue builds on the evidence and ethical and regulatory issues discussed during the consultation. It included papers written by HarvestPlus researchers and collaborators examining a range of issues, from developing a global regulatory framework for biofortification to metabolic engineering to factors affecting availability, production, and consumption of biofortified crops.

The *African Journal of Food, Agriculture, Nutrition and Development* also devoted a special issue to biofortification in 2017. Seventeen peer-reviewed articles, 15 authored or coauthored by HarvestPlus researchers, examine the evidence on biofortification in Africa and beyond along with lessons learned from the development, delivery, and promotion of biofortified crops and foods throughout Africa. In addition, a review of biofortification evidence was published in *Global Food Security*, and a seminal paper on the role of agriculture and biofortification in the UN Decade of Action on Nutrition was published in *UNSCN News 42: A Spotlight on the Nutrition Decade*.

Publications such as these let readers examine the full scope of issues and potential related to biofortification, which is essential for developing national, regional, and global strategies for fighting micronutrient deficiencies. Of equal importance are opportunities to learn about the scientific results and findings of nutritional efficacy trials. A 2017 *Journal of Nutrition* article, for example, presented the results of iron bean trials in Rwanda: iron-deficient female university students showed a significant increase in hemoglobin, ferritin, and total body iron after consuming biofortified beans for four and a half months. Iron beans were also found to have a profound effect on cognition: iron-deficient women who ate biofortified beans experienced improved memory and ability to pay attention, key skills for optimal performance at school and work. A 2017 review in *Current Opinion in Biotechnology* shared these results along with similarly positive results from efficacy trials involving adolescent boys and girls in India. These reviews of current evidence on the nutritional impact of iron-biofortified staple crops reinforce the findings of earlier research and offer a roadmap for policy makers constructing strategies to end hidden hunger.