

Philippines Government Approves *GR2E Golden Rice* for Direct Use as Food and Feed or for Processing

Golden Rice was developed by scientists to address Vitamin A deficiency among millions of children and pregnant women globally. In December 2019, Philippines government approved *GR2E Golden Rice* for direct use as food and feed or for processing (FFP) after rigorous biosafety assessments. The Philippine Department of Agriculture-Bureau of Plant Industry has found that Golden Rice is as safe as conventional rice and the Department of Agriculture-Philippine Rice Research Institute (DA-PhilRice) and International Rice Research Institute (IRRI) has provided biosafety permit of the Golden Rice. With β -carotene content of Golden Rice, Philippines Government aims at providing 30 to 50% of the estimated average requirement of vitamin A among young children and pregnant women.



Golden Rice to Address the Deficiency of Vitamin among Women and Children

Dr. John de Leon, Executive Director of DA-PhilRice has welcomed the decision of FFP approval of Golden Rice. He said that, “With FFP approval, we have bought forward a very accessible solution to the country’s problem on Vitamin A deficiency that has affected many of pre-school children and pregnant women.” Earlier the Philippines government has bought in various public health interventions such as oral supplementation, complementary feeding, and

nutrition education to address Vitamin A deficiency (VAD) among children. Despite all efforts, unfortunately the VAD increased from 15.2% in 2008 to 20.4% in 2013.

Dr. Matthew Morrell, the Director General IRRI, expressed his pleasure over partnering with PhilRice to develop this nutrition-sensitive agricultural solution to address hidden hunger. He said that, the core agenda of IRRI is to tailor global solutions to local needs. The IRRI caters to needs of essential micronutrients through staple foods like rice, and offers a sustainable and complementary approach to address the micronutrient deficiency.

The Philippines has long recognized the potential of biotechnology to address the food and nutrition security, environmental safety, as well as improve the livelihoods of farmers. The FFP approval like initiative is the crucial milestone in development and introduction of Golden Rice. Now, the DA-PhilRice and IRRI will proceed with sensory evaluations and finally answer the question that many Filipinos have been asking, i.e., what does Golden Rice taste like?

Furthermore, the Philippines biosafety regulatory process requires commercial propagation of Golden Rice to make it available in public domain. Philippines have done successful field trials at Muñoz, Nueva Ecija and San Mateo, Isabela in September and October 2019, and has joined group of countries such as Australia, Canada, New Zealand, and the USA to affirm the biosafety of Golden Rice. In 2018, Food Standards of Australia, New Zealand, Health Canada, and the Food and Drug Administration (FDA) of United States have published positive food safety assessments on Golden Rice. A biosafety application has been filed in November 2017 which is currently undergoing review by the Biosafety Core Committee in Bangladesh.

Research from India has shown that 84% of the β -carotene may be lost from Golden Rice after six months of storage, therefore, needs vacuum-packing and refrigeration. High temperature and humidity greatly contributes to the β -carotene degradation, besides cooking of rice also causes a loss of 25% of the β - carotene.

Dr. Bilqeesa Bhat
Project Scientist,
bhat.bilqeesa3000@gmail.com