Tópico
07 Post-cosecha, calidad de grano, nutrición e inocuidad

P07-068

Improvement Agronomic and Nutrition of Rice in Latin America
Borrero C., Jaime; Martinez R., Cesar P.; Loaiza, Katherine; Sanchez, Sory
CIAT

Significant advances were achieved in rice production in Latin America, through the development of improved varieties, their adoption and use of modern practices. Rice is the most important food grain in LAC, not only from the food security perspective but also from the nutrition and health aspect, particularly important in the diets of poor people. The costs of these deficiencies are high and economic and health indicators in LAC are deteriorating. nutrivars rice lines will be Agrosalud's Project contribution to combat malnutrition in LAC.

Recent scientific data indicate that plant breeding is an efficient tool, reliable and cheaper to develop germplasm with higher nutritional value.

Our aim is to increase the content of iron and zinc in milled rice, using conventional breeding methods. Varieties, landraces, and breeding lines are screened for mineral content to identify products that could have immediate utility, as potential varieties or donors. A crossing program is also under way to combine high iron and zinc with high yield potential, tolerance to main biotic and abiotic stresses, and good grain quality. This project is carried out in close partnership with research institutions in Colombia, Bolivia, Cuba, Brazil, Dominican Republic, Nicaragua, and Panamá.

Different activities including evaluation of rice germplasm, GxE trials, crop management, and seed multiplication are carried out.

Our partners are highly motivated and committed to meet Agrosalud goals. Priority is given to releasing nutrivars, seed multiplication and distribution to farmers and in collaboration with our partners and Agrosalud's economist to monitor economic and social impact of the adoption and consumption of biofortified rice. The ultimate goal is contributing to food security, improved nutrition and health and to an eco- efficient rice production in LAC.

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Rice Nutrivars to Improve Nutrition and Health in Bolivia and Cuba
Martinez R., Cesar P.[1]; Borrero C., Jaime[1]; Taboada, Róger[2]; Viruez, Juana[2]; Puldón, Violeta[3]
[1]CIAT; [2]CIAT-Bolivia; [3]IIA

Rice is the most important food grain in LAC, not only from the food security perspective but also from the nutrition and health aspect. Rice is particularly important in the diets of poor people, who make up about 40% of LAC's total population; among the poorest 20% of the population, rice supplies more protein to the diet than any other food source. People living in areas where rice consumption is high are suffering from a number of major nutritional problems, as a result of vitamins and/or minerals naturally present in the rice grain but otherwise removed during the milling process. Women and children are especially susceptible to deficiencies in micronutrients, particularly vitamin A, iron and zinc. The costs of these deficiencies are high and economic and health indicators in LAC are deteriorating. Agrosalud's project contribution to combat malnutrition in LAC, and to eco-efficient rice production.

In Bolivia two rice cultivars, Azucena and Saavedra 27, were identified as superior to local varieties and released by the Ministry of Agriculture. Azucena is recommended for planting under traditional upland conditions by small- resource poor farmers. Saavedra 27 is suited for irrigated-favored upland

conditions. Saavedra 27 showed higher yield potential, good adaptation, tolerance to main diseases and insect pests.

IAcuba 30 is one rice variety released in Cuba with high yield, good grain quality industrial and cooking, this variety has been very productive and social impact in Cuba because it has special significance for the population segment propend to suffering from anemia. Through the grain improvement promote good nutrition.

Therefore, variety released can contribute not only to improve food security but also to improve nutrition and health in Bolivia and Cuba leading the way to a more eco-efficient rice production.

P07-070

Improving Irrigated Rice Populations for High Iron and Zinc in Latin America

Borrero C., Jaime; Martinez R., Cesar P.; Carabali, Silvio James; Sanchez, Sory
CIAT

Was begun in 2007 at CIAT Palmira Experiment Station-Colombia a program to improve rice population for obtaining improved lines with high iron and zinc in white grain that could be evaluated for their potential as new biofortified varieties for farmers Latin America.

In four populations, PCTBF-1, PCTBF-3, PCTBF-6 and PCTBF-8 developed for tropical irrigated conditions in Latin America and with different background, (mega varieties and lines of high iron and zinc from IRRI).

The iron and zinc content was determined by atomic absorption and plants with more than 5 ppm iron and 17 ppm of zinc were selected for recombination.

Preliminary results at the end of the second recurrent selection cycle indicated significant differences in selection response, both within and between populations. Although selection increased the proportion of plants with desirable traits, Statistical analysis is under way to estimate genetic gain among selection cycles

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