

Higher Quality Rice Seed

In conjunction with JICA Japanese experts (Japan International Cooperation Agency), and the Institute of Grain Research, a project has been developed in several provinces with a view to improving the seed of Cuba's leading cereal crop.

By Marta Veloz

Photos: Calixto N. Llanes

Cuba is stepping up small-scale rice growing with the objective of raising its production, together with expanding this specialized state sector. In this process, and since 1996, Cuban government policy has been directed toward what it then called the cultivation of popular rice. According to international data, around four fifths of the world's rice crop is grown using this small-scale method.

Since 2003, Cuba's efforts have received assistance from the Japan International Cooperation Agency (JICA), considered the largest bilateral cooperation aid for developing countries worldwide, working from its office in Havana. The latter's experts, working in tandem with other specialists from the current Institute of Grain Research, have together started a research project centering on sustainable development of rice production in five provinces: Cienfuegos; Villa Clara; Sancti Spiritus; Ciego de Ávila; and Camagüey which, according to Enrique Suárez Crestelo, engineer and Head of the Institute's Genetic Improvement Department, account for around 50 percent of the country's entire crop production and, as such, are a bastion, both in this specialized sector and in the cooperative and farming areas.

During an exchange of experiences between the Cuban and Japanese experts at the headquarters of the aforementioned Institute located in Bauta, Havana Province, it emerged that the study, which concluded in 2006, revealed that one aspect of the cooperative and farming sectors needing improvement was the production of certified seeds suitable to each area, as well as their efficient distribution.

Consequently, it was proposed and approved to enter into a Technical Cooperation Project with the aforementioned Agency. Said project, between March 2008 and November 2010, produced very positive and encouraging results, as well as including a training and instruction course on small-scale rice production over a five-year period, which was taken by some 50 specialists from across the entire country.



Quality seed

Several experts in different fields journeyed throughout the country, three of whom remained here for the duration of the project. These were: Toyozo Tanaka; Masaaki Shiraishi; and Hideharu Sugawara, who were on the verge of returning to their homeland, satisfied with the results obtained from this cooperation work.

The following five varieties were selected during the on-site inspections conducted with farmers: Reforma; Perla de Cuba; INCA LP-5; IACuba 30; and IACuba31 – namely, the five most in demand, owing to the particular conditions and specific requirements of the soil in which they are planted, and, because they cook well.

As Mr. Suárez Crestelo explained, the specialized state sector which encompasses the large rice growers has a system which has produced certified seeds since 1974. This is not the case with the farming and cooperative sectors which are gradually incorporating more small-scale producers, given the government's current policy in this regard.

Using selected genetically pure seeds, the Project —by the end of the year— intends to produce nine tons of certified seeds which will be distributed among 105 leading grain producers who, in turn, will multiply and supply the seeds to private farmers. To the great satisfaction of the experts, the production plan exceeded the expectations by producing over 10 tons.

The expert pointed out that the first two tons, produced in 2009, were distributed among 49 producers, from November that year up to the beginning of 2010. Some of them kept planting the seeds, through the rainy season which stretches through July. In the opinion of experts on both sides, the results of monitoring this crop “have been very encouraging,” given it yielded around 191 tons of quality products, 131 tons of which were sold to small-scale harvesters.

This year saw eight tons produced which will be distributed among the 105 leading producers, who were selected and given proper training.



Japanese and Cuban Experts

Although it easy to quickly summarize the Project's conclusion, achieving its results took several years of hard work and dedication —not exempt from certain material shortages— on the part of the Japanese JICA experts, in collaboration with Cuban specialists from the Ministry of Agriculture (MINAGRI), from the National Association of Small Farmers (ANAP), and particularly from the Grain Research Institute, among other agencies.

The Cuban expert went on to explain that the Grain Research Institute in Cuba, is the country's leadership center for the genetic improvement of new varieties Program, although the latter's path in the Program is shared by the Los Palacios Rice Experiment Station at Pinar del Río, under the auspices of the Ministry for Higher Education. It has been possible to achieve varieties tailored to different ecosystems, crop management conditions and annual sowing seasons which, invariably, respond to dry conditions, flooding conditions, low fertilization, and low temperatures, among others.

“We have stressed the importance of maintaining the genetic purity of the seed to be sown with the seed producers, distributors and rice farmers, given that if it is combined with other varieties which mature at different times, the result will be rice of poor quality,” added the official.

Tanaka and his two colleagues agree on the importance of considering this



principle, as well as the need to eliminate any risk or possibility of mixing with blighted grains so as to thus maintain the high germination percentage mostly achieved under this project “which should help to raise the production of this food in the cooperative sector,” stated the Japanese expert.

“Aspects which still need to be worked on” – he went on – “include controlling the number of shoots each plant puts out, given that owing to the high quality of the soils used for planting this crop, the varieties tend to sprout more than 15, a situation that hinders the process of uniform maturity.”

There are two methods for planting the graminea: the direct method, which consists of scattering the seed by machine or from the air, allowing it to germinate thus; the other method entails transplanting the shoots. The Japanese experts stress the advantage of the second method, given that this only uses 25 kilograms (55 lbs) of seed per



hectare, whereas the first method requires 120 kilograms (264 lbs). The method most commonly employed in Japan, one of the world’s leading rice producers, along with China, India, Vietnam and others, is mechanized-transplanting; although for many years, added Tanaka, this work was usually done manually by the womenfolk.

“In Cuba,” Suárez Crestelo went on to explain, “the two methods are used indistinctly, since there is no transplanting machinery available, nor is there a sufficient workforce available to do the job manually in very large rice fields.”

Continuing to improve the quality, purity and quantity of seed production to expand and boost the rice crop in Cuba –which currently imports 70 percent of its national consumption – remains a priority goal. Subsequently, we can forecast the continuity of this project, in tandem with the JICA, and the procurement of certain equipment used in Japan, but which was not available here at the time. This would enable us to achieve better quantitative and qualitative results. This proposal will be studied.

Valuable food source

After wheat, rice is considered to be the second most highly-consumed food source on the planet, because it is such an important source of energy which, according to the United Nations’ Food and Agriculture Organization (FAO), accounts for around 20 percent of the entire human food-energy intake worldwide.

This century has seen the hike of the highly volatile prices of this grain, and other food staples on the world markets. It is indeed important to increase its production worldwide, particularly in the case of countries that are able to produce such food.

Although the origins of these graminea dates back some 7,000 years to Asia, a region also home to the world’s largest producers and consumers, rice production and consumption gradually spread to other continents, and became a very popular food in the Americas, considered almost mandatory on tables at mealtime. In Cuba, rice growing began around the year 1750, and some writers believe it had achieved greater economic importance by the second half of the 20th century. It could perhaps owe its dominance to having become increasingly popular on Cuban dinner tables as a filling and lasting meal, or maybe because it yields more calories per hectare than other cereal crops, and because it can be harvested several times a year. The point is that rice, by itself or accompanied by the traditional beans or any other food type, including meat, makes for a nutritious and satisfying meal. Rice is here to stay!

City of Havana



JICA IN CUBA

The Japan International Cooperation Agency (JICA) is the only development action group (DAG), from that Asian nation, devoted to promoting social and economic development of the international community. To this end, it has 100 offices spread across the globe, that allow it to carry out its mission (to contribute in the social and economic development of the international community), through cooperation actions in more than 150 nations, including Cuba.

The financial extent of its assistance operations is estimated at 10.3 billion U.S. dollars.

JICA's activities in Cuba date back several decades, ranging from a greater to a lesser degree, in different forms, but mostly entailing the deployment of experts, technical cooperation projects, research studies in certain areas, and the acceptance of scholarship grantees.

Prominent among the aforementioned projects are those involving the agriculture sector, environment, and basic social services, as well as some others.

Several cooperation projects are presently underway, in addition to the one recently concluded aimed at intensifying popular rice-seed production; the farming of sea fish, the development and management of underground water; and solid-waste management in Havana City.