

PHILSURIN leads sugarcane variety improvement project in Southeast Asia

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Filipino sugarcane planters stand to benefit from a US \$2 million regional variety improvement program headed by the Philippine Sugar research Institute Foundation, Inc.

Aimed to improve and sustain market competitiveness by enhancing the productivity and quality of sugarcane, the CFC/ISO/20 Sugarcane Variety Improvement in Southeast Asia and the Pacific was endorsed by the International Sugar Organization in 2000, and is funded by the Common Fund for Commodities. The other participating countries are Indonesia, Malaysia, Thailand, and Bangladesh.

The CFC/ISO/20 project pursues its goals through regionally-coordinated germplasm collection, conservation and evaluation, biotechnology-assisted breeding, as well as the improvement of technical research capabilities at national sugarcane breeding institutions.

"The project is on track, and we will continue to work on it to ensure that all targets are met," said Leon M. Arceo, project manager and PHILSURIN director general.

At a mid-term review meeting in Kuala Lumpur in May 2003, representatives of the five countries reported that the project was moving forward, and that germplasm exchange was efficient and successful. They also reported significant improvement in Research and Development facilities. Moreover, there was an increase in the transfer of sugarcane technology to consortium members.

Philsurin conducted disease indexing from October 1 to September 30, 2003. By the end of January 2004, the variety exchange between member countries was successfully completed.

"At PHILSURIN, there are already 930 existing accessions of sugarcane that were maintained at the Institute of Plant Breeding in UP Los Banos. Some of these accessions came from the exchange of sugarcane varieties among the countries participating in the CFC/ISO/20 project," Arceo said.

Accessions from foreign countries such as Hawaii and Florida were characterized cytologically (according to their cell structure) and morphologically (according to their form and structure).

New introductions of sugarcane varieties from Bangladesh, Malaysia, Indonesia and Thailand were tested and indexed for various diseases such as leaf scald, yellow leaf syndrome, sugarcane mosaic virus, sheath rot and ratoon stunting diseases. Those that showed disease symptoms were destroyed.

"The successful germplasm exchange has enabled the members of the project to acquire new varieties that have high production potential. This will ultimately benefit sugarcane planters in the participating countries," Arceo said.

At the 2003 mid-term review, Y. Bhg. Dr. Ahmad Zamzam bin Mohamed, Deputy Director General of Malaysian Agricultural Research and Development Institute acknowledged that the project is a breakthrough in common understanding among Southeast Asian countries which will eventually result in increased sugarcane productivity in the region.

Another PHILSURIN activity for the CFC/ISO/20 project is the DNA fingerprinting of sugarcane varieties using microsatellite marker which helps the breeders determine which varieties to cross-breed. DNA fingerprinting is the process of comparing the DNA sequence of two living organisms while microsatellite markers indicate the presence of a gene of interest such as resistance for smut or downy mildew.

PHILSURIN is continuously forging partnerships here and abroad to sustain self-sufficiency in sugar.