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Partnership with TTDI to Enhance Cassava Production and Farmer Livelihoods in Thailand

CIAT scientists are developing new cassava varieties that will enable smallholder farmers in Thailand to produce more revenue. A five-year collaboration with Bangkok-based Thai Tapioca Development Institute (TTDI) aims to adapt cassava to growing conditions in Thailand while optimizing its marketability.

Cassava, also referred to as 'tapioca' or the 'poor man's crop,' thrives in poor, sandy soils and has high resistance to pests and diseases. Endemic to Brazil, it is currently grown by some 500 million people in tropical Asia, Africa, and Latin America, where it is used for food and also sold as starch, animal feed, and, recently, bio-ethanol.

In Southeast Asia, cassava is the third most important food crop after rice and maize and its growing industrial importance makes investment in agriculture research even more crucial. Yet, in contrast to rice and maize, cassava is relatively unimportant to global markets and it therefore receives little attention from the scientific community at large. CIAT and TTDI work to fill this research gap by developing and facilitating the adoption of new cassava varieties and agronomic techniques for the benefit of farming communities.

CIAT's recent work with partners in Thailand, the world's second largest producer of cassava and largest exporter of cassava products, has led to a net gain in production in spite of a 40% reduction in cassava-growing area. From 1994 to 2006, average yields increased by 53% (from 14 tons to 21 tons per hectare) in Thailand, where 98% of cassava planted consists of varieties developed from CIAT germplasm. The partnership with TTDI will expand on these successes by combining CIAT's extensive library of genetic resources with TTDI's experience working with farmers to implement research results.

CIAT and TTDI will work together to develop cassava varieties with variable starch qualities in order to better adapt the crop to specific uses and requirements as dictated by environment, market, and nutrition needs. CIAT will provide human resources and technical support to TTDI to develop high-productivity waxy-starch varieties of cassava that are suited to growing conditions in Thailand.

In March 2008, CIAT scientists began crossing the waxy-starch cassava with various Thai varieties in order to integrate the desired traits and produce viable germplasm. Following selection and a second set of crosses, the resulting seeds will be shipped from Colombia to nurseries in Thailand for evaluation in key target environments, selection of the best genotypes, and eventual incorporation into farming communities.

While the Cassava breeder at CIAT headquarters will be responsible for the technical aspects, CIAT and CIAT-Asia will work closely with Thai colleagues for the duration of the project, with yearly meetings held in Bangkok to assess progress. To improve capacity to identify other useful traits in



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cassava, CIAT will offer training to Thai scientists, including faculty and students of Kasetsart University in Bangkok.

By growing highly productive high-starch cassava, farmers will earn more from their harvests and, while food prices continue to rise, increased revenue means more investment into their cassava fields and more food for their families and communities.

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