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Intra-ACP APP Caribbean Action

PLANT GERMPLASM: working towards free movement in the Region



Plantlets getting readied for the field (CARDI)

What does it take for developing countries to build an industry from a mere plant, into ‘a whole set of new agro-industries’ which are vertically integrated and capable of displacing some of the million-dollar food imports? For starters, improved plant varieties, regardless of whether these are obtained from improved seeds, cutlets, tissue culture, or some other form of local or imported vegetative material.

This basic need for improved plant germplasm, or in layman terms, planting material, applies to all crop-based agri-industries whether their products are used for food, feed, fibre, fuel or to fulfil rapidly growing demands of the wellness and cosmetics industry.

Cassava, which has long been treated as the ‘forgotten food’ is perhaps the perfect food crop for the tropics and the commodity that will help build a whole set of new agro-industries in developing countries. This is the conclusion of President of the Caribbean AgriBusiness Association, Vassel Stewart, who is tasked with job of fleshing out a Regional Policy Framework for the Cassava-based industry, under the Caribbean Action of the Intra-ACP Agriculture Policy Project (APP).

This basic need for improved plant germplasm, or in layman terms, planting material, applies to all crop-based agri-industries whether their products are used for food, feed,

fibre, fuel or to fulfil rapidly growing demands of the wellness and cosmetics industry. The desire for improved plant varieties can be seen in the temptation of travellers to ‘sneak-in’ cuttings or some other form of ‘exotic’ plant life into the country. Also for years, Caribbean countries have, and in some instances unknowingly, been importing large quantities of hybrid crop varieties to boost farm productivity and production. These now form an integral part of commercial farming operations.

However, there are risks to agriculture and the environment from the ‘free movement’ of plant material into and across the Region.



Trevorne practicing meristem removal (1) and Aladaine collecting data from salt tolerance trials (2) in the Tissue Culture lab in Fiji (Source: self)

It is the need to minimize these risks that are at the heart of efforts to prevent entry and spread of plant pests and diseases and the ongoing regional dialogue on harmonizing rules governing movement of plant material across the Region. For some time now, the Caribbean Agriculture Research and Development Institute (CARDI), has been creating strategic alliances with centres of excellence around the world, including the Secretariat of the Pacific Community (SPC) in Fiji, which manage improved food crop germplasm. Through the APP, CARDI was able to secure an intensive 8-week training for three Caribbean technicians, namely, Ruthvin Harper (St.Vincent), Trevorne Douglas (Dominica) and Aldaine Gordon (Jamaica), at Secretariat of the Pacific Community (SPC) in Fiji, which started on 5 April 2015.

CARDI has also been strengthening the network of research facilities across the Caribbean to wean, harden and multiply these improved varieties once imported into the Region. Through controlled evaluation and validation trials, the varieties that satisfy yield, suitability and other productivity and economic criteria are distributed to farmers to increase food production. Increasingly, in today's climate change reality, the criteria include high tolerance to temperature extremes, rainfall unpredictability and variability and resistance to a specific list of pests and diseases.

However, the destructive potential of plant pests and diseases to a country and Region's food production systems is so great, that extreme caution is observed even when an established organisation as CARDI seeks to acquire and import improved plant germplasm for productivity research and trials. These efforts are further exacerbated by the disparities in trade protocols and interpretation of existing trade protocols which hampers the capacity for agricultural institutions to effectively access appropriate genetic material from recognised centres and to distribute these varieties throughout the Region.

To this end, under the APP project, CARDI placed priority on work to advance the process of harmonizing protocols for movement of selected plant germplasm across the Region. The objective of this work is to modernize existing rules and regulations concerning trade in plant material for easier movement while, at the same time, maintaining the lowest level of risk with respect to the transfer of plant pests and diseases within the Caribbean. A Technical Report accompanied by protocols for sweet potato, yam, hot pepper, corn, beans and pigeon peas, completed in July 2015, offered a number of general and commodity-specific recommendations for consideration of policy makers. These recommendations will form the basis for discussion when plant health specialists from across the Region and CARDI meet on 7 December, 2015, in Trinidad and Tobago, to review the findings and take decisions on moving forward.

As leader of the applied research and development component under the APP project, CARDI is collaborating with the Caribbean Plant Health Directors' (CPHD) Forum to convene this meeting. The CPHD is supported by the United States Department of Agriculture (USDA) Agricultural and Plant Health Inspection Services (APHIS) International Services (IS). The USDA APHIS IS Office in Trinidad was established in 2007 with the goal of protecting and safeguarding US Agriculture from the introduction and spread of exotic animal and plant pests and diseases. 'Collaborations and Partnerships' is among its top priorities in its efforts to support the Caribbean Region in meeting its sanitary and phytosanitary obligations for international trade. The convergence of objectives between this APP activity to achieve regional harmonization of protocols for movement of plant germplasm and the CPHD Forum auger well for enhancing the ability of CARDI and other agricultural institutions to acquire, multiply and distribute improved plant germplasm, which has the potential to transform farming and food production systems across the Caribbean.

The decisions taken at this meeting will contribute another important step forward in enabling the Region to take advantage of the new level of interest and excitement in the development of

commodity-based agri-industries as part of the regional strategy to expand the revenue base and employment and to reduce the food import bill. Access to high-yielding, climate-smart varieties of food crops is key to realising the goal of growing 'a whole set of new agro-industries' including those locally referred to as 'blue foods', i.e., dasheen, yam, tannia, eddoes, as well as cassava and sweet potato.



Cassava - the focus of climate smart varietal trails under the APP (CARDI)



Tissue Culture Plantlets (Fiji Trainees)

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