

Agenda Item 9.1 Caribbean Regional Diagnostic Network (CRDN) Update¹

Background

Over the past two decades the mounting movement of people and trade has resulted in a surge in worldwide movement and establishment of exotic plant pests and pathogens in the Greater Caribbean Region. Hurricanes and tropical storms in the region also contributed to the long range dispersal of emerging pathogens and pests. New and emerging pest issues are on the rise and the expected gains from increased product trade and tourism will continue to be offset and undermined by damage caused by introduced plant pests and pathogens. The Greater Caribbean does not have in place a regional mechanism to protect against introduced plant pests.

At the 2003 annual meeting of the Caribbean Food Crops Society in Grenada, the Caribbean Invasive Species Working Group (CISWG) was formed and it developed a “Caribbean Regional Invasive Species Intervention Strategy” (CRISIS), as a collective security approach to safeguarding the Greater Caribbean Region. CISWG submitted the CRISIS document to the various governments in the Region and to CARICOM’s Council on Trade and Economic Development (COTED). COTED at its 2005 meeting approved CRISIS and CISWG. COTED requested the development of two region-wide projects. The Working Group combined these two projects into the Caribbean Invasive Species Surveillance and Information Program (CISSIP). This is a multi institutional development project and CISWG consists of representatives of Regional Ministries of Agriculture, CABI, CARDI (Chair), CARICOM Secretariat, CIRAD, FAO, Florida Agricultural & Mechanical University (FAMU), IICA, PAHO, USDA-APHIS, University of Florida, University of Puerto Rico and the University of the West Indies (Klassen et al. 2006)

Caribbean Pest Diagnostic Network (CPDN) [previously known as CRDN (Caribbean Regional Diagnostic Network)] is a major component of the CISSIP proposal. This Network and internet-based lab information management system (LIMS) will provide a coordinated Regional safeguarding mechanism to protect the entire Greater Caribbean from damaging pests and pathogens, and help meet the international sanitary and phytosanitary reporting requirements, which small states have difficulty in meeting. Specifically, the CPDN - when fully functional - will comprise a region-wide network of institutions and government regulatory agencies, which quickly detects, identifies, reports and take timely measures against invasive alien species that have been introduced or are invading the Caribbean’s agricultural and natural resources. The CPDN will create networking opportunities nationally and internationally. CISWG agreed to implement the CPDN component instead of waiting on the availability of funds for executing the much larger CISSIP project. The UF/IFAS has been a major partner in the execution and implementation of the CPDN component and the partners have made some progress to date.

Role of the UF/IFAS

The University of Florida/IFAS is one of the key partners in the organization of the T-Star Invasive Species Symposium at well known Caribbean Food Crop Society (CFCS) Meetings.

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The UF/IFAS is a key member of CISWG and recognized as one of the drivers of the CISSIP as UF/IFAS scientists were the main concept producers and authors of the CISSIP proposal. UF/IFAS is still strongly committed to collaborate in the area of invasive species and emerging pathogens and pests with partners in the Caribbean.

The UF/IFAS is uniquely positioned as an effective partner in this initiative of safeguarding the Region with respect to Invasive Alien Species. Historically and currently, in the area of related research, teaching and extension, UF/IFAS is one of the leading institution in the United States and Internationally. In addition to their related academic departments, UF has the Emerging Pathogens Institute (<http://www.epi.ufl.edu/>). The UF/IFAS is also the hub lab of the SPDN <http://www.sepdn.org/> (a regional network of the NPDN), played the leading role for the implementation of the NPDN first detector training program, and has the only and first Doctor of Plant Medicine Program in United States <http://dpm.ifas.ufl.edu/> . With the collaboration of USDA, FDACS, and UF/IFAS, the plant pest diagnostic capabilities and capacities in Florida are one of the best in United States and the world. We cultivate partnerships to build long lasting research, teaching and extension programs.

Initial Implementation of the CPDN

A functional CPDN requires expert diagnosticians and trained first detectors (inspectors, field consultants, extension personnel, scouts, producers). There is also need for cooperation and strong commitments by administrators of the related organizations. “Where there is a will, there is a way”. People and their knowledge, intentions, decisions and collaboration are the most important parts of the Network. Necessary equipment and chemical supplies are also important to function as diagnostic lab or clinic. Information technology, databases, digital imaging, LIMS, Elluminate, etc, are tools to enhance the Network but these are not required for the implementation of a functional network.

Under the leadership of the CISWG and CARICOM Secretariat with equipment support from USDA-APHIS and training opportunities from University of Florida, and support from CARDI, University of Puerto Rico, IICA, and all CISWG member countries and organizations, CPDN has become active in the following countries: Barbados, Cayman Islands, Dominican Republic, France (Martinique and Guadeloupe), Guyana, Haiti, Jamaica, Trinidad and Tobago and United States [USDA-APHIS, University of Florida IFAS (UF), University of Florida, University of Puerto Rico (UPR), and FAMU].

This is the summary of some accomplishments towards implementation of the CPDN:

- Mainly UF/IFAS collaborators wrote the concept and proposal of the CPDN (CRDN in the CISSIP proposal) into the CISSIP proposal.
- UF/IFAS modified their DDIS to create the Lab Information Management System (LIMS) and distance diagnostic tool for the CPDN. There are English and Spanish versions of the CPDN LIMS.
- Dominican Republic (DR) in collaboration with UPR and UF invested to develop seven pest diagnostic laboratories in the DR and they started to use CPDN LIMS within the DR and with UPR and UF.
- IICA supported Haiti to become a CPDN LIMS user.

- Barbados, Cayman Islands, Guyana, Jamaica, Trinidad and Tobago agreed to receive microscopes and digital cameras from USDA-APHIS to enhance their diagnostic capacity and become user of the CPDN LIMS.
- Martinique and Guadeloupe agreed to use the CPDN LIMS and be a member of the CPDN.
- UF/IFAS provided training to DR and Haiti on plant pest diagnostics and usage of the CPDN LIMS, and
- A diagnostician training is planned (June 12-19, 2010) at UF's Campus in Gainesville, Florida for 13 diagnosticians from 7 countries (Barbados, Cayman Islands, Dominican Republic, Guyana, Haiti, Jamaica, Trinidad and Tobago) (Evans et al. USDA T-Star Project).

Constraints and Future Plan

- In order to operate as a cohesive network, CPDN may need a governing board (or operation committee). UF/IFAS is prepared to provide an interactive video communication system/virtual classroom (Elluminate) and CPDN listserv, free of charge, to provide online communication tools for the CPDN "governing board" and their participating/collaborating institutions.
- A CPDN governing board could concentrate to establish operating procedures and protocols including confidentiality of data and reporting.
- Member countries could enhance the coordination of existing pest diagnostic capacities and capabilities with increased commitment to pest diagnostics within their countries and the CPDN partnership.
- A CPDN governing board could try to secure more funding for the operation of the CPDN as planned in the CISSIP proposal.
- Any significant progress (outcomes and impacts) as a result of the successful implementation of the CPDN will increase the opportunities of funding for the CPDN.

Support Needed from the Caribbean Plant Health Directors - Action Items:

- Consider a mechanism for coordinating the Network – the concept of a "governing board" cognizant that UF IFAS is ready to give support with on-line communication tools and their expertise and leadership in developing cutting edge pest diagnostic capacities and capabilities in United States and internationally.
- Advocate that member countries' enhance their commitment to an effective and timely pest diagnostic system within their countries and take advantage of the CPDN membership.
- Recognize the benefits of the Network with respect to enhancing pest diagnostic capacity and capabilities - quick detection and accurate diagnosis and ID, coordinating efforts to respond to significant plant pest or invasive species issues, sharing experts and diagnostic SOPs, sending confidential digital sample to experts via CPDN LIMS to get early assessment of the situation, participating to training opportunities, networking with national diagnostic labs and international diagnostic networks.