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# CARIBBEAN FOOD CROPS SOCIETY

# 46

**Forty Sixth  
Annual Meeting 2010**

**Boca Chica, Dominican Republic  
Vol. XLVI – Number 2  
T-STAR Invasive Species Symposium**

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OF THE  
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Caribbean Food Crops Society  
46<sup>th</sup> Annual Meeting  
July 11-17, 2010

Hotel Oasis Hamaca  
Boca Chica, Dominican Republic

**“Protected agriculture: a technological option for competitiveness of the Caribbean”**

**“Agricultura bajo ambiente protegido: una opción tecnológica para la competitividad en el Caribe”**

**“Agriculture sous ambiance protégée: une option technologique pour la compétitivité de las Caraïbe”**

**United States Department of Agriculture,  
T-STAR Sponsored Invasive Species Symposium**

**Toward a Collective Safeguarding System for the Greater Caribbean Region:  
Assessing Accomplishments since the first Symposium in Grenada (2003)  
and Coping with Current Threats to the Region**

**Special Symposium Edition  
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**PERSPECTIVE OF FRENCH MINISTRY OF AGRICULTURE ON KEY SHORTCOMINGS IN SAFEGUARDING ARRANGEMENTS: WHAT ARE THEY AND HOW CAN THEY BE REMEDIED?**

*Mr. Jean Iotti, Chef du Service, Service de la Protection des Végétaux, Direction Agriculture Forêt de Martinique, Fort de France, Martinique. E-mail: jean.iotti@agriculture.gouv.fr.*

Thank you, Mr. Chairman, Ladies, and Gentlemen!

The perspective for 2010 concerning Martinique and Guadeloupe is without any hesitation linked to the sudden outbreak of black sigatoka in the close neighboring countries.

The probable appearance of Black Sigatoka (BS) in our country is felt by our banana growers as a real predicted disaster. Until 2009, Grenada was the most northern country of the Windward Islands to be infested by this disease; subsequently, Saint Vincent made known in December 2009, the entry of Black Sigatoka and, thereafter, St Lucia in January 2010. In the Greater Caribbean Region, only Guadeloupe, Dominica, and Martinique from now on can be considered free from black Sigatoka.

Banana is the main crop in terms of land use (10.000 ha), gross domestic product, and employment. Moreover, banana production has links with other agricultural enterprises, like cattle and sugar cane, which are grown more and more on banana fallows. Because cargos go to Europe full of banana bunches and come back full of imported food, we can declare that our agriculture and, more generally, our entire economy are endangered by Black Sigatoka.

The Plant Health Service is naturally on the frontline, but could not bear alone the weight of the surveillance and subsequently the cost of eradication. Therefore, a response involving all stakeholders and partners was necessary.

A first action was to define a specific regulation for an eradication plan of Black Sigatoka. Fortunately, Black Sigatoka is already mentioned in the French regulations as a quarantine pest, involving mandatory control when first detected.

Thus, the second action was to reinforce our boundary control for trade at the European entry points (PEC) at airport and harbor, and above all, for passengers entering Martinique by plane or by boat. This involves strong collaboration with Customs. Because communication is the main tool, new posters, fliers, and banners have been printed and are being distributed for all possible pathways.

The third action was to strengthen the territory surveillance: the technical and organizational framework is allowed by the PANDOeR project which aims since 2007 at monitoring the main invasive species threats in the Region. Several surveillance networks are managed by the Plant Health Service in full collaboration with Customs, growers associations, CIRAD, our research centre, the Plant Health Laboratory of the local Council, and FREDON for an efficient organization built for pest control.

Concerning BS, two surveillance networks have been established since 2007 in Martinique for monitoring possible introductions of the fungus. Samples of plantain and Cavendish are randomly collected on a regular basis in commercial plantations and private orchards, and indexed by PCR for the presence of *Mycosphaerella fijiensis* Morelet.

In 2004, CIRAD established a strong cooperation with the Ministry of Agriculture and growers' organizations of St Lucia, St Vincent, and Dominica about BS. Recently, this collaboration increased by including the Plant Health Service, FWI growers associations, the French official labs, etc. Several events have been organized, such as field visits, meetings, official analyses, and diagnosis of DNA extraction for PCR analysis trainings (EU funding).

In 2010, improvements were made to the system:

- The Plant Protection Service and FREDON led a survey on 20 plantain plots, visiting every two weeks for systematic samplings of leaves with BS symptoms and immediate PCR analysis.
- The Growers Association Network (BANAMART-SICA TG): In the framework of yellow sigatoka monitoring, samplings of leaves with BS symptoms are taken for PCR analysis, 8 plots/week
- A new survey has been conducted by the Plant Health Service of exploring gardens and spontaneous banana trees using road transects as samples (for each transect, a tree count is done and a sampling of doubtful leaves for PCR analysis is taken).

Our present extrapolation gives something like 300,000 to 500,000 private or feral isolated bananas on the island. The target is to visit more than 2,000 banana locations each year and to take around 1,500 suspect samples to be analyzed by PCR.

The budget is close to \$200,000 for the surveillance and \$50,000 for communication. Booklets are systematically given to farmers and garden owners.

The more difficult but essential task has been to prepare an Eradication Plan. One indispensable tool is to get an official laboratory confirmation (we have a local lab: LDA 972, which cooperates with the National Plant Health Laboratory).

The Surveillance and Eradication Strategy is as follows:

- Zoning with GIS
- Destruction by ploughing-out the infested plots
- Deleafing of neighboring banana plots (plant transport limitation)
- Making denser surveys, samplings, analyses (PCR)
- Increasing chemical protection
- Public awareness

These measures have been made mandatory by a local regulation (arrêté préfectoral).

The global organization will be done using a Geographical Information System (GIS), which is built on an accurate mapping of agricultural plots and is updated each year. The GIS has three zones: a focus or infested zone, a security zone (up to 3 km around), and a buffer zone (up to 20 km around). In the focus zone, destruction and strict transport limitations are mandatory; in the security zone, measures include an exhaustive surveillance of banana locations, mandatory deleafing, and transport limitation; in the buffer zone, farmers are firmly asked to perfectly

manage their banana fields. We are presently calculating what teams other means and budget to deploy within each zone, with the private gardens and feral bananas being the main problem.

**In conclusion,** we know that we will detect in the near future an outbreak of Black Sigatoka, but we are diligently working to eradicate it thanks to early detection and good coordination of all available partners and means.

Thank you for your attention!