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Disease Notes

First Report of Black Sigatoka Disease in Banana Caused by *Mycosphaerella fijiensis* on Martinique Island

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Mycosphaerella fijiensis Morelet (anamorph *Pseudocercospora fijiensis* Morelet), the cau agent of black Sigatoka disease of banana, is considered to be the greatest economical threat for export-banana cultivation throughout the world because most cultivars are highly susceptible. The disease has a worldwide distribution throughout the humid trop regions, but was still absent in some Caribbean islands hitherto. In Martinique Island, a intensive survey has been conducted by the plant protection service and the Fédératior Régionale de Défense Contre les Organismes Nuisibles (FREDON) since April 2008 to detect as early as possible any outbreak of infection by *M. fijiensis*. In September 2010, typical symptoms of black Sigatoka were observed in a plantain crop located in Ducos Municipality (14°35.702'N, 60°58.221'W) in the west-central area of the island. Typica early symptoms were 1- to 4-mm long brown streaks on the abaxial leaf surface. The presence of the disease was further confirmed by the in situ observation of microscopic

features of the anamorphic form of the pathogen (3). Typical pale brown, straight or slightly geniculate conidiophores were observed occurring singly or in little groups with any stroma, with a thickened wall at the conidial scars. Conidia were hyaline to pale oli straight or slightly curved, with one to eight septa, and a conspicuous scar at the basal cell. The diagnosis was confirmed by real-time PCR targeting *M. fijiensis*-specific regions within the β-tubulin gene (1). Positive results were consistently obtained with DNA extracted from infected banana tissue samples, and the identity of the amplicon was confirmed by sequencing (Accession No. HQ412771) and comparison with reference sequences deposited on GenBank. After this first finding, the survey was intensified an black Sigatoka symptoms were also observed in several other locations on the island, affecting a large range of susceptible cultivars (Grande Naine, French, and Figue Sucré and in plantations, backyards, and private gardens. The presence of the fungus in the samples was confirmed by PCR analysis of DNA extracted from symptomatic leaves with *M. fijiensis*-specific ITS-based primer pair (2). The pathogen may have been introduced into Martinique by ascospores, from islands where black Sigatoka is present, that were blown by continuous southerly winds over a 2-week period in August 2010 that was immediately followed by heavy rains that favor disease development. To our knowledge this is the first report of *M. fijiensis* on Martinique Island, showing that the disease is st spreading northward in this region of the Caribbean.

References: (1) M. Arzanlou et al. Phytopathology 97:1112, 2007. (2) J. Henderson et Page 59 in: Mycosphaerella Leaf Spot Disease of Bananas: Present Status and Outlook. Jacome et al., eds. International Network for the Improvement of Banana and Plantain (INIBAP), Montpellier, France. 2003. (3) M. F. Zapater et al. Fruits 63:389, 2008.