

CULTIVAR BANANO DE TIPO CAVENDISH DE EXPORTACION SIN CONTROL QUÍMICO DE LA SIGATOKA NEGRA

GROWING CAVENDISH BANANAS WITHOUT CHEMICAL CONTROL OF BLACK LEAF STREAK DISEASE

Claire Guillermet¹, Eric Fouré², Marc Dorel³, Catherine Abadie⁴, Marc Chillet⁵, Thierry Lescot², Luc de Lapeyre de Bellaire²

Black Leaf Streak Disease (BLSD), caused by the fungal pathogen *Mycosphaerella fijiensis*, is the most important foliar disease affecting banana production worldwide, reducing fruit weight and fruit aptitude for conservation. With growing concerns about environmental preservation and stricter legislation, alternatives to chemical control for BLSD are an important challenge, especially in the French West Indies. These new approaches include various agronomical practices that could help reducing disease development, and its impact on bunch weight and fruit conservation. Designing new cropping systems without fungicide control of BLSD implies an integrated strategy and a combination of these practices. To understand better the relationships between leaf spots diseases and fruit conservation, Cavendish bananas were grown in different situations in Cameroon, Guadeloupe and Brazil. These experiments showed that a signal from diseased leaves triggers a direct reduction in banana green life duration, and that this signal might be stopped through the elimination of diseased leaves. Lately, a new prototype of cropping system has been evaluated in ecological conditions unfavorable to BLSD (in Dominican Republic), combining practices that would control disease cycle and the reduction of crop losses. In such conditions, even if bananas were harvested with a very low leaf surface, green life of the fruit proved to be acceptable for export, thanks to an adequate and regular pruning of the infected leaves. This result questions the usual threshold of 4 to 5 leaves required at harvest time for bunches as acceptable for exportation. However, variable losses (10-15%) in fruit weight were observed. This prototype should be now evaluated in epidemiological situations more favorable to disease development. New practices might also be associated in these conditions, like the introduction of biodiversity (mixtures of species) or the use of plant defense stimulators.

¹ CIRAD-Persyst, UPR Systèmes bananes et ananas, Quartier Petit Morne - BP 214 - 97285 Le Lamentin Cedex 2, Martinique (FWI), France, claire.guillermet@cirad.fr

² CIRAD-Persyst, UPR Systèmes bananes et ananas, TA B-26 / PS4, Bd de la Lironde, 34398 Montpellier Cedex 5, France, luc.de_lapeyre@cirad.fr

³ CIRAD-Persyst, UPR Systèmes bananes et ananas, Neufchâteau - Ste Marie - 97130 Capesterre Belle Eau - Guadeloupe (FWI), France

⁴ CIRAD-Bios, UMR BGPI, Station de Neufchâteau, 97130, Capesterre-Belle-Eau, Guadeloupe (FWI), France

⁵ CIRAD-Persyst, UMR QUALISUD, Station de La Bretagne, B.P. 20, 97400 Saint Denis, Reunion Island