

critical for maintaining local and commercial banana production. Spread of Foc is facilitated by trading of symptomless, but infected banana planting material, by movement of machinery with adhering infested soil and even by traditional banana-based packing material. In this work, field banana samples from symptomatic and symptomless banana plants collected in Taiwan and Australia, as well as infested soils from The Philippines were analyzed by using a PCR-based detection tool. Independently of the developmental stage of the sampled banana plants Foc TR4 was detected in symptomatic or symptomless samples as well as in soils from the Philippines by conventional or nested PCR analyses. These results will be used to develop and implement quarantine strategies and support TR4 management.

Characterization of *Musa* germplasm for Resistance to Tropical Race 4 of *Fusarium oxysporum* f. sp. *cubense*

M.A. Dita¹, C. Waalwijk², C. Diaz², A.D'Hont³, N. Yahiaoui³, F. Carreel³, F. Bakry³, M. Souza Jr⁴ and G.H.J. Kema²

¹Bioversity International, Turrialba, Costa Rica/ Embrapa Cassava and Tropical Fruits, Brazil; ²Plant Research International B.V., PO Box 16, 6700 AA Wageningen, The Netherlands; ³CIRAD, UMR AGAP, F-34398 Montpellier, France; ⁴Embrapa Agroenergy, Brasilia, Brazil

Keywords: Panama disease, disease resistance

Tropical race 4 (TR4) of *Fusarium oxysporum* f. sp. *cubense* (Foc) presents a major concern for current banana production worldwide. Two strategies are critical for controlling this pathogen: a) preventing its spread to TR4-free areas and b) identifying resistant banana genotypes. The team has established and validated a reliable and rapid greenhouse bioassay, and used it to characterize TR4 resistance in eight banana genotypes ['Gros Michel' (AAA); 'Silk' (AAB), 'Prat'a (AAB), 'Pahang' (AA, *Musa acuminata* ssp. *malaccensis*), 'CIRAD 930' (AA, DH Pahang), 'Matavi'a (ABB), 'Banksii' (AA) and 'Tuu Gia' (AA)], where 'Grande Naine' (AAA) was used as a susceptible control. All genotypes were highly susceptible, but 'CIRAD 930' and 'Pahang' showed partial resistance, evidenced by highly reduced rhizome discoloration. Subsequently, we evaluated a segregating population of 'Pahang' (N=80) and observed three phenotypic groups a) susceptible, b) moderately resistant and c) resistant. We concluded that the bioassay is a reliable method to screen banana germplasm for TR4 resistance under greenhouse conditions and that 'Pahang' is an important source of resistance to Foc TR4 that should be further explored.