

MANAGEMENT OF FUSARIUM WILT TROPICAL RACE 4 (*Foc* TR4) IN THE PHILIPPINES

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The alarming effect of Fusarium wilt devastation on 'Cavendish' banana in Mindanao, Philippines in 2011 led to the implementation of programs with the concerted effort of the private and public sector. The Bureau of Plant Industry (BPI) and the National Plant Protection Organization (NPPO) of the Philippines issued the administrative order to restrict the movement of infected plant materials from Mindanao. From the national administrative order, different quarantine control strategies were implemented in localities and banana plantations with infested farms. Awareness campaigns were also conducted in major banana growing areas in the country. Different information, education, and communication materials were developed and distributed in strategic areas. This also led to the collaborative research program in 2012 to answer the immediate needs of the industry as follows: a) to determine which Giant 'Cavendish' Tissue Culture Variant (GCTCV) somaclones from Taiwan are suitable replacements of 'Grand Nain' in heavily *Foc*-infested small-scale banana plantations; b) to test the efficacy of commercially-available microbial control agents to manage the disease; and c) to determine the distribution of *Foc* TR4 in local banana cultivars in Mindanao. Research results showed that GCTCV 218, though only moderately resistant, is now being widely planted in *Foc* TR4 infested areas with the application of microbial agents Vesicular-Arbuscular Mycorrhizae (VAM) and *Trichoderma harzianum* which significantly reduced disease incidence. *Foc* TR4 were identified using polymerase chain reaction (PCR) in diseased tissue samples of 'Cavendish' and some local cultivars, *Lakatan* and *Latundan* from provinces in Mindanao. Since 2012 up to 2017, no incidence of *Foc* TR4 have been reported in the other islands of the Philippines. Detection of the disease by PCR is now available in private companies with service laboratories for interested clientele.

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