INDICANTS PROJECT: INNOVATIVE DIAGNOSTICS FOR BANANA PATHOGENS SURVEILLANCE

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Text

The aim of the INDICANTS project is to develop innovative diagnostics for four banana wilt pathogens, including *Fusarium oxysporum* f. sp. *cubense* (Foc) TR4 (Fusarium wilt), *Ralstonia solanacearum* (Moko disease), R. *syzygii* subsp. *celebesensis* (Blood disease), and *Xanthomonas vasicola* pv. *musacearum* (Xanthomonas wilt). The main objectives are to: (I) develop low-cost LAMP (loop-mediated isothermal amplification) assays (II) compare simplified DNA extraction methods for field application; (III) validate the LAMP protocols via inter-laboratory and field tests. LAMP primer sets were designed for the bacterial pathogens, using *in silico* comparative genomic analysis of target and non-target genomes, and showed 100% specificity when tested with a wide range of target and non-target strains. A limit of detection of 10^4 CFU/ml was obtained for the LAMP assays. A simplified DNA extraction method from banana tissue was developed and successfully validated in a banana plantation infested with Foc TR4, using several candidate LAMP primer sets. Ready-to-use diagnostic kits, based on these protocols, are currently being developed by a private company. These point-of-care diagnostic tools will allow rapid identification of the different pathogens in the field for disease management.

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CURRENT STATUS OF PRUNUS NECROTIC RING SPOT VIRUS IN MONTENEGRO

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Text

Prunus necrotic ring spot virus (PNRSV) is one of the most economically important viruses of stone fruit trees. It is distributed on peach and nectarine in Podgorica district but information about its incidence and genetic diversity on other Prunus sp. in other parts of the country is