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INTRODUCTION OF A RAPID CULTURING TECHNIQUE AND MOLECULAR METHODS FOR DETECTION AND RACE IDENTIFICATION FOR *FUSARIUM OXYSPORUM* F.SP. *CUBENSE* (*FOC*) CAUSING THE PANAMA DISEASE OF BANANA

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Banana and plantain (*Musa* spp.) are among the most important fruit crops worldwide. *Fusarium* wilt or panama disease, caused by *Fusarium oxysporum* f. sp. *cubense* (*Foc*) is one of the most serious diseases of banana in Sri Lanka that cause a substantial economic loss. Identification of *Foc* by presently-used culturing methods takes a longer time. Hence, a rapid culturing technique was developed for *Foc* using pseudostem threads of symptomatic plants. A better culture medium for growth of *Foc* was selected using Potato Dextrose Agar (PDA) and Water Agar (WA) media supplemented with 0.025 % chloramphenycole. Based on the diameter of the *Foc* colonies on the PDA media, culturing of fresh pseudostem threads (T3) and dried pseudostem threads at 35 ^{0}C in an oven (T2) were not significantly different at $\alpha = 0.05$. *Foc* colonies appeared within significantly lower number of days in T2 and T3 compared to T1. Colonies appeared in minimum of two days in T2 and T3. In terms of the percentage of contaminants, T1 had 33.33 % contaminants while, T2 and T3 consisted of 0 % contaminants. Hence, culturing of fresh pseudostem threads and oven dried pseudostem threads on PDA medium were best for the rapid culturing of *Foc*.

PCR was identified as the rapid and reliable molecular diagnostic technique for indexing banana planting materials for panama disease. Specific primer pairs Fo-F/Fo-R and Foc-Race1-F/Foc-Race 1-R identified the presence of *F. oxysporum* f. sp. *cubense* and Foc race I, respectively in infected banana planting materials.