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Possible association of Fusarium equiseti and Cylindrocarpon effusum in cocount root (wilt) disease

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Root decay was observed to be a significant visual symptom associated with the coconut root (wilt) disease [1,5,6,7]. The possible association of fungal organisms like *Botryodiplodia theobromae*, *Rhizoctonia solani* and *Rhizoctonia bataticola* were reported with the disease [1,4,5,8]. Derangements of the stelar tissue and the presence of *Cylindrocarpon effusum* and *Fusarium equiseti* in the healthy roots of apparently healthy palms of root (wilt) affected area were later observed[3,9]. Therefore, it was thought warthwhile to study the occurrence of *C. effusum* and *F. equiseti* in the healthy roots of palms of different stages of disease including the roots of apparently healthy palms.

Palms were selected in areas where disease has been prevailing for a long period and where disease is spreading to the healthy tract. Transverse sections of the absorbing region of the root with fungal ramifications were sampled for isolation by adopting the usual laboratory techniques. The percentage occurrence of *F. equiseti* was found to be 25 to 50 in apparently healthy, 33 to 63 in palms of early stage of the disease and 40 to 50 in palms of advanced stage of disease. For *C. effusum*, the range was 50 to 55, 36 to 50 and 0 to 50 respectively in different category of the palms studied.

Pathogenicity of the two fungi was established on the roots of cocount seedlings. Inoculated roots with organisms grown in PDA slants developed rotting at the root tip. Roots which received the inoculum multiplied in garden soil and also mass inoculum grown in sterilized coconut root bits developed internal damage prior to the development of external symptoms within a period of 42 to 45 days. Root sections stained with lacto-phenol-cotton blue clearly brought out fungal remifications. The organisms were reisolated from the same roots. The external symptoms developed on the roots of inoculated seedlings were similar for both the fungi tested. There were black necrotic patches on the mature roots mainly at the region of formation of breathing pores, branching of rootlets and also at the root tip. Majority of the surface feeders were rotten and thus found lesser in number. Observations on the complete root system of the inoculated seedlings indicated 20 per cent root rot in *F. equiseti* inoculated seedlings as against 13.5 per cent in *C. effusum* while there was 5 per cent rotting in the uninoculated check plants.

Cylindrocarpon has been reported from Sri Lanka on coconut with leaf scorch disease[2] and *F. equiseti* as incitant of wilt to Tomato from the Republic of South Africa.

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