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SOME FUNGI ASSOCIATED WITH THE ROOT SYSTEM OF COCONUTS IN THE ROOT (WILT) AFFECTED AREA

EXTENSIVE root damage is an important symptom of coconut root (wilt) disease. Menon and Pandalai[6] reported that the root system of affected palms manifested considerable deterioration quantitatively as well as qualitatively. Most of the rootlets and the main roots dry up from their tips backwards. In portions from tips of actively growing roots Indira and Ramadasan[3] found internal browning of vascular elements sometimes extending into the cortex in the diseased palms and mild internal browning of tissues of apparently healthy palms growing in diseased soil. Histological studies revealed degenerate phloem. Many healthy looking roots from apparently healthy and diseased palms had fungal hyphae (?) in metaxylem (Govindankutty and Vellaichamy[2]). Radha (personal communication) had observed spores of *Cylindrocarpon* sp. in the metaxylem. Results of attempts to isolate the fungi, associated with similar roots, are reported here.

Root tips, six inches in length, having no external damage, were collected from palms free of visual symptoms of disease. Three-inch portion above the root cap was examined for the presence of internal browning. After surface disinfection this was cut aseptically into thin cross sections using razor blade and plated on coconut root extract agar medium. *Monacrosporium bembicodes* (Dreschler) Subram. (IMI 193424), *Graphium* sp. (IMI 193425), *Fusarium equiseti* (Corda) Sacc. (IMI 193426), *Cylindrocarpon effusum* Bugn. (IMI 193427), *Penicillium spiculisporum* Lehman (IMI 193428) and *Penicillium javanicum* van Beyma (IMI 193429) were isolated from the roots which showed internal browning.

Presence of some of these genera in the root (wilt) affected area bears significance. *Fusarium equiseti* is capable of producing tuber rot in cycas (Subramanyam *et al.*[11]). Superimposed on Cucumber Mosaic Virus infected cucumber *F. equiseti* brought about the death of the plant (Nitzany *et al.*[8]). In this context it is worth mentioning that Shanta and Menon[9] attributed the association of a virus in the coconut root (wilt) disease. Subsequent to root infection by *Cylindrocarpon panacis* on ginseng (Matuo and Miyazawa,[5] and *C. tenue* on coffee (Subramanian and Govindarajan[10]), the plants died after exhibiting foliar symptoms. Significantly, the presence of *C. effusum* is reported here. Occurrence of *Radopholus similis* on coconut root (Koshy *et al.*[4]) necessitates investigation on the mode of spread of *C. effusum* apart from its pathogenic potentialities as Booth and Stover[1] suggested dissemination of *C. musae* by the same nematode. *Monacrosporium doedycoides* has nematode attracting substances (Monoson *et al.*[7]) Comparable capabilities of *M. bembicodes* can be explored.

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