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## WILT OF PATCHOULI—A NEW DISEASE CAUSED BY *RHIZOCTONIA SOLANI*

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PATCHOULI (*Pogostemon patchouli* Pellet.) a member of mint family is the source of commercial patchouli oil which finds extensive use in perfumery and cosmetic industries. According to Sarwar and Khan<sup>1</sup>, nematode infestation poses a serious problem in establishing the crop on a commercial basis. Other diseases on this crop are relatively less important. Benneviste<sup>2</sup> has reported a disease of unknown etiology affecting the roots of patchouli plants resulting in the drying of leaves and ultimate withering of plants. Similarly Sarwar and Khan<sup>1</sup> have reported a leaf blight, the causal organism of which has not been identified. Two virus diseases, one by Roland<sup>3</sup> and the other a yellow mosaic by Sastry and Vasantha Kumar<sup>4</sup>, have also been reported affecting patchouli plants. During 1980–81 the patchouli plants grown at the Hessaraghatta farm of the I.I.H.R., Bangalore showed a serious collar rot and wilt disease. The percentage of disease incidence ranged from 15 to 20. The basal portion of the young plants was infected first followed by wilting of the plants and death in about a fortnight. In older plants the leaves showed yellowing while the central shoot and young leaves wilted. The disease was found to advance from the initial infection site of the collar region both upwards to the shoot and downwards to the root causing extensive rotting, the rotten portions becoming almost black in colour.

The pathogen was isolated from infected collar and root regions by single sclerotial and mycelial transfers to PDA and was later purified by hyphal tip culture. On PDA, the young hyphae were hyaline to pale brown about 6–12  $\mu$  in diameter and showed characteristic right angled branching with constriction of septa. The hyphae darkened with age and formed dark brown aggregated sclerotia in about 8–10 days and were



Figure 1. Typical symptoms of patchouli wilt, A. Healthy, B. Infected.

morphologically similar to those observed in the field. Morphology, development and cultural characters of the pathogen indicated its identity to *Rhizoctonia solani* Kühn to which it has been referred (CMI 271152).

Pathogenicity trials were conducted with the fungus grown on 2% sugar-coated sterilized sorghum grains and inoculating the pathogen into sterilized soil in pots. One-month old patchouli plants were transplanted into inoculated pots. Uninoculated controls were also provided. Symptoms of collar rotting and wilting were seen in plants in the inoculated pots one month after transplantation while the plants in the control pots remained healthy (figure 1). The fungus was reisolated from the roots and found to be *Rhizoctonia solani* Kühn. This is the first report of *R. solani* causing collar rot and wilt of patchouli.

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