

PHYTOPHTHORA SYRINGAE CAUSING CROWN AND ROOT ROT DISEASE OF APPLE IN MALAKAND DIVISION, PAKISTAN

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Phytophthora crown and root rot disease of apple is widespread in most apple growing areas of Malakand Division, Pakistan where *Phytophthora cactorum* and *Phytophthora* spp., have been reported from infected plants of apple orchards and nurseries (Jahangir *et al.*, 1995 a,b). During a survey of apple nurseries in Malakand Division in 1996, nursery plants showing symptoms of small, pale-green leaves, sparse foliage and poor terminal growth in summer and reddish leaves in autumn seasons were collected. Soil samples from the hemispheres of the same plants and dead plants were also collected. Small pieces of crown and roots after washing in running tap water and surface sterilization with 1% Sodium hypochlorite solution were transferred on VYS-PCNB agar medium. Extended baiting method using apple seed cotyledons was used for the isolation of *Phytophthora* sp., from the soil (Jeffers & Aldwinckle, 1987). *Phytophthora syringae* was identified on the basis of colony, hyphal morphology and characteristics of sporangia after references to Ribeiro (1978) and Stamp *et al.*, (1990). Pathogenicity of *P. syringae* was also tested by the method of Borecki & Millikan (1969). This is the first report of *P. syringae* causing crown and root rot disease of apple in Malakand Division, Pakistan on exotic root stocks of Malling-Merton-106 and MM-111 recently introduced in the area.

References

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