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Title: OCCURRENCE AND MANAGEMENT OF COLLAR ROT DISEASE OF FRENCHBEAN CAUSED BY *Sclerotium rolfsii* Sacc.

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Abstract: The study included survey and surveillance, symptomatology, isolation and purification of fungus, pathogenicity test, morphological studies, screening and evaluation of bioagents, plant extract, host resistant, effect of organic amendments and integrated management against collar rot. The systematic investigation revealed that frenchbean was found to be infected with *S. rolfsii* at all seven locations surveyed and maximum disease incidence was recorded in RAC farm (16.66 per cent). Morphological studies of the *S. rolfsii* revealed that its growth was fast in culture media. The colony appeared light white and the mycelium was aggregated, loose, dense, cottony and fan shaped in appearance and dispersion. The sclerotial size ranged from 0.62-1.82 mm while weight per sclerotia ranged from 0.3-1.15 mg. The colours were light brown to dark brown. Among non-systemic fungicides, Zineb, Propineb, Mancozeb and Kavach @ 0.1%, 0.2% and 0.3% concentration completely inhibited the growth of the pathogen. Among systemic fungicides, Propiconazole, Vitavax, Hexaconazole and Saff @ 0.025%, 0.05% and 0.1% concentration completely inhibited the growth of the pathogen. Among all the botanicals evaluated against collar rot pathogen in vitro, *Pongamia pinnata* at 10 per cent concentration was found most effective in reducing the mycelia growth followed by *Azadirachta indica*. In monoculture, *Trichoderma harzianum* (R1) and *T. viride* (D) produced 90 and 90 mm colony diameter on PDA medium after 72 hours of inoculation. Rate of mycoparasitism was faster in *Trichoderma harzianum* (D) against collar rot pathogen followed by *T. harzianum* (R1). In dual culture maximum inhibition of mycelial growth (25.66%) was recorded by *T. viride* (D) after 48 hrs while maximum inhibition of mycelial growth (41.69%) was observed in *Trichoderma harzianum* (D) after 72 hrs of inoculation. The only one variety, HAFB-2 showed resistant reaction against collar rot disease incidence with highest green pod yield 56.66 q/ha. Treatment having neem cake + karanj cake @ 5 + 5 q/ha provided 68.84% decrease in disease over control followed by neem cake @ 10 q/ha which gave 59.29% decrease in disease over control. The combination involving soil drenching with Carbendazim @ 0.1per cent plus soil application of FYM enriched with *T. viride* @ 2.5 Kg/ha showed minimum disease incidence (12.66 per cent) and gave highest green pod yield 76.25 q/ha.

Description: OCCURRENCE AND MANAGEMENT OF COLLAR ROT DISEASE OF FRENCHBEAN CAUSED BY *Sclerotium rolfsii* Sacc.

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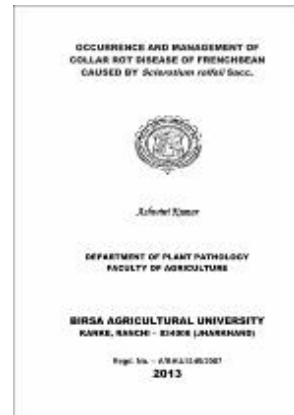
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