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Title: MANAGEMENT OF COLLAR ROT OF ELEPHANT FOOT YAM 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, effect of intercropping, host resistant, effect of organic amendment and integrated management against collar rot. The systematic investigation revealed that elephant foot yam was found to be infected with *S.rolfsii* at all seventeen location surveyed and maximum disease incidence was recorded in research farm of R.A.C (5%). Morphological studies of the *S.rolfsii* revealed that its growth was fast in culture media. The colony appeared light white to white and the mycelium was aggregated, loose, dense, cottony and fan shaped in appearance and dispersion. The sclerotial size ranged from 0.65-1.85 mm while 10 sclerotia weighed 3.3-12.0 mg where as colour were light brown to dark brown. In monoculture, *Trichoderma harzianum* (R1) and T.H (D) produced 90.00 mm colony diameter on PDA medium within 72 hours of inoculation. Rate of Mycoparasitism was faster in *Trichoderma harzianum* (D) against collar rot pathogen followed by *Trichoderma harzianum* (R1). Among all the botanicals evaluated against collar rot pathogen in vitro, Parthenium at 5% was found most effective in reducing the mycelial growth followed by Karanj and Neem. Vitavax, Propiconazole, Hexconazole, Ridomil Mz @ 0.025% completely inhibited the growth of the test pathogen. Mancozeb, Propineb and Zineb @ 0.1% concentration proved to be very effective and they showed complete inhibition of the pathogen. Host plant resistance trial of elephant foot yam against collar rot disease during kharif 2010 & 2011 was carried out in field with 11 varieties. Gajendra, BCA-1 & TRC badama recorded diseases incidence (8.66%, 12.33% & 15.66%) with tuber yield of 64.16t/ha, 55.23t/ha and 49.68t/ha, respectively similar trend was observed in 2011 also. Role of intercrop in the management of collar rot of elephant foot yam was also studied using turmeric and ginger as intercrop. The sole crop had 13.33 % disease severity while it was 6.66% severity in EFY+ Turmeric (1:2) followed by 8.66 % in EFY + Ginger (1:2) combination. Field trial was conducted to determine the efficacy of soil amendments against collar rot of EFY and result revealed that treatment having neem + karanj @ 5+5 q\ha provided 73.91% disease control followed by FYM which gave 65.61% disease control. Different treatment combination were studied for the integrated management of EFY and the results revealed that T8 combination involving soil drenching with vitavax @ 0.2%+ soil application of FYM enriched *Trichoderma hazianum* @ 5q/ha showed minimum disease severity (16.75%) and gave 69.40 per cent disease control and 58.24 t/ha corm yield.

**Description:** MANAGEMENT OF COLLAR ROT OF ELEPHANT FOOT YAM CAUSED BY *Sclerotium rolfsii* Sacc.”

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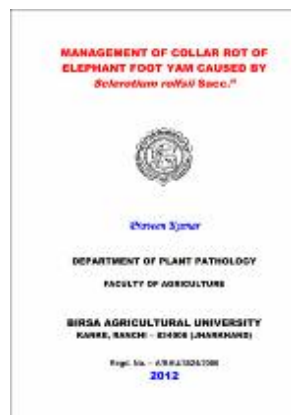
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