D-06

SOME ASPECTS ON THE CONTROL OF *SCLEROTIUM ROLFSII*-THE COLLAR ROT FUNGUS

Niranjani Saverimuttu, B. Sivakadadcham
and K. Theivendirarajah
Dept. of Botany, University of Jaffna

Sclerotium rolfsii Sacc. can at times be a serious pathogen causing collar rot, bulb rot, rhizome rot and damping-off in many crops including onion and chilli.

Studies on biological control of *S. rolfsii* indicated that among the soil-borne fungi, *Trichoderma harzianum* produced antagonistic effects on *S. rolfsii*. Hypal contact and interaction between *T. harzianum* and *S. rolfsii* and hyperparasitism of *T. harzianum* on *S. rolfsii* occurred on PDA.

T. harzianum suppressed germination of sclerotia, prevented mycelial growth and stimulated *S. rolfsii* to from mycelial strands. Culture filtrates of *T. harzianum* inhibited germination and mycelial growth of *S. rolfsii* and the degree of inhibition increased with increase in incubation of *T. harzianum* in liquid culture. Sclerotia of all five isolates failed to germinate in the presence of the antagonist, while conidia of the antagonist germinated on the surface of sclerotia, penetrated the rind and the cortex after eight days and invaded the medullary tissues after one month. By

this time the degraded sclerotia became dark brown, soft and empty and disintegrated upon slight pressure. Resistance of isolates of S. rolfsii to penetration by the antagonist varied in the order III > IV > I > II > V.

Soil inoculain Sand maize meal (SMM) medium of T. harzianum prevented S. rolfsii from causing collar rot infections on chilli plants, at the dosages between 5 g and 40 g per pot.

Agrochemicals containing penta chloro nitro benzene such as terraclor, brassicol and morut proved to be effective in the control of S. rolfsii. These prevented sclerotial germination at 100-500 ppm, suppressed mycelial growth at 10 ppm or more and stimulated sclerotia to germinate eruptively by forming macrostrands and then to undergo degradation at 1000 ppm and above.