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Integrated disease management strategy of *Fusarium oxysporum* f. sp. *sesami* causing Wilt of Sesame

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Biological control of Wilt disease of Sesame caused by *Fusarium oxysporum* f. sp. *sesami* was attempted with the application of antagonistic agents like *Trichoderma harzianum, T.viride, T.reesei, T.lignorum* and *T.hamatum.* The effect of volatile and non-volatile antibiotics of *Trichoderma* on growth inhibition of the wilt pathogen was studied. *T.harzianum* showed maximum growth inhibition (100%) of the pathogen through mycoparasitism.The volatiles produced by the *T. harzianum* showed maximum growth inhibition (76.66%) and the non-volatiles produced by the same agent exhibited its excellent and durable antagonism to the growth of the pathogen (100%) under *in vitro* condition. The degree of inhibition of mycelial growth of the pathogen by different phytoextracts (biocides) such as *Coleus forskohlii, neem, zinger, kulmegh, Catharanthus roseus, Achyranthes aspera* and *Solanum indicum* was studied. Among all the fungicides, Bavistin, a systemic fungicide, observed to be the most efficient one providing highest growth inhibition (100%) at 0.5% concentration. Integrated application of *T. harzianum*, captan and neem extract (1:1:1) showed maximum growth inhibition (82.22%) of test pathogen. This recommends the application of eco-friendly strategy of integrated disease management (IDM) for control of Wilt disease of Sesame.

Key words : Sesame, wilt pathogen, antagonistic agents, biocides, fungicides, integrated disease management