

Impact of habitat manipulation on mycopathogen, *Fusarium semitectum* to control *Scirtothrips dorsalis* and *Polyphagotarsonemus latus* of chilli

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Abstract

Environmental manipulation or conservation is one among several approaches evolved for harnessing the potentiality of entomopathogens in an integrated pest management. Cultural manipulation can permit the pathogen to reproduce more than usual or can preserve or enhance those already present. Among the key pest of chilli thrips, *Scirtothrips dorsalis* Hood (Thripidae: Thysanoptera) and broad mite, *Polyphagotarsonemus latus* [Banks] (Tarsonemoidea: Acari) are reported to cause the leaf curl in the leaves of chilli. *Fusarium semitectum* has infected the thrips and mites. The effectiveness of the mycopathogen, *F. semitectum* is chiefly influenced by the environmental conditions. Enhancing the microclimate the mycopathogen can be able to develop and buildup further. Chilli has been grown as sole crop, however companion crops such as sorghum, cotton, red gram, castor and maize were grown to understand the cropping system effect. Chilli-sorghum, chilli-cotton-chilli and chilli-red gram were the best cropping systems in terms of total chilli yield. The chilli-cotton-chilli cropping system ranked second with respect to benefit-cost ratio of 1:1 where as chilli-sorghum cropping system claimed the highest as 1.125:1. Interestingly, sorghum is not grown as a companion crop with chilli in Karnataka under rain fed conditions, where as chilli-cotton combination is a practice in many places of the state.

Author keywords

Chilli; *Fusarium semitectum*; Habitat manipulation; *Polyphagotarsonemus latus*; *Scirtothrips dorsalis*

Indexed keywords

GEOBASE Subject Index: biocontrol agent; biological control; cotton; environmental conditions; farming system; fungus; herb; integrated pest management; mite; pathogen; thrips

Species Index: Acari; *Fusarium*; *Fusarium incarnatum*; *Gossypium hirsutum*; *Polyphagotarsonemus latus*; *Scirtothrips dorsalis*; Tarsonemoidea; Thripidae; Thysanoptera; *Zea mays*