

Research Paper :

Evaluation of eco-friendly management module in comparison with farmers practices against chilli sucking pests

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SUMMARY

The field trial was conducted at Negamum, Coimbatore district to compare the eco-friendly and farmers practice. Eco-friendly practice includes plant growth promoting Rhizobacteria (PGPR), *Pseudomonas fluorescens* Migula, plant growth regulator, naphthalene acetic acid (NAA), neem oil and their combinations against chilli thrips, *Scirtothrips dorsalis* (Hood), green peach aphid, *Myzus persicae* (Sulzer) and chilli mite, *Polyphagotarsonemus latus* (Banks). The results revealed that application of *P. fluorescens* + NAA + neem oil resulted in effective control of chilli thrips, *Scirtothrips dorsalis* (Hood), green peach aphid, *Myzus persicae* (Sulzer) and chilli mite, *Polyphagotarsonemus latus* (Banks). The eco-friendly plot recorded the yield of 14,937 kg/ha with cost benefit ratio of 3.24 while farmers field recorded the yield of 14,330 kg/ha with cost benefit ratio of 3.64.

Key words :

Myzus persicae,
Naphthalene
Acetic Acid,
neem oil
Polyphagotarso-
nemus latus,
Pseudomonas
fluorescens,
Scirtothrips
dorsalis

Chilli (*Capsicum annuum* L.) is one of the important spice – cum-vegetable crops of high commercial value grown extensively in South India. India is the largest producer of chilli in the world contributing 25 per cent of the world production. The crop is attacked by various pests in all the stages of crop growth. The yield is affected mainly by the sucking pests like chilli thrips, *Scirtothrips dorsalis* (Hood), green peach aphid, *Myzus persicae* (Sulzer) and chilli mite, *Polyphagotarsonemus latus* (Banks), which affect the crop from nursery till harvest. The damage is resulted not only by desapping leading to crinkling and curling of leaves and loss of plant vigour, but also by the transmission of serious diseases like leaf curl and mosaic viruses (Abdul Kareem *et al.*, 1977; Saivaraj *et al.*, 1979).

Complete crinkling of leaves, stunting of the plant occurs in nursery itself due to the sucking pests which results in poor stand of the crop after transplanting and also the vitality of the plant is lost. So, any control measure to the crop starting from the nursery with a much prolonged effect will help the plant to be free from the sucking pests from the early stages onwards and thereby increase the yield of the crop. Farmers rely solely on the chemical insecticides for the management of pests of chilli because of easy adaptability, immediate

and spectacular knockdown effects (Verma, 1989). Despite these credentials, continuous use of chemical insecticides found to be ecologically unsafe and indiscriminate use of insecticides has resulted in accumulation of pesticide residues in fruits, resurgence of secondary pests, mortality of predators and parasitoids and environmental pollution (Mahapatro and Gupta, 1998). There is a little time lag between treatment, harvest and consumption of chilli. The use of persistent insecticides acquires special concern on chilli, because it is a common vegetable cum spice in Indian dietary system. So, the increasing concern for environmental safety and global demand for pesticide residue free food has evoked interest of ecofriendly methods of pest management *viz.*, plant growth promoting Rhizobacteria (*Pseudomonas fluorescens* Migula), plant growth regulator, naphthalene acetic acid (NAA) and the botanicals have been receiving considerable attention of scientific community as important components in integrated pest management.

MATERIALS AND METHODS

Efficacy of eco-friendly pest management module comprising application of *P. fluorescens*, PGR and neem oil in comparison with farmers conventional practices of applying

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