*Research Paper :*

# Effect of Plant growth promoting rhizobacteria (*Pseudomonas fluorescens*), Naphthalene acetic acid and neem oil application on the incidence of sucking pests of chilli (*Capsicum annuum* L.)

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## SUMMARY

**Efficacy of Plant growth promoting rhizobacteria (*P. fluorescens*), Naphthalene acetic acid, neem oil and their combinations against chilli sucking pests like chilli thrip, *Scirtothrips dorsalis* (Hood), green peach aphid, *Myzus persicae* (Sulzer) and chilli mite, *Polyphagotarsonemus latus* (Banks) was studied under field conditions at Theenampalayam village, Coimbatore district, Tamil Nadu during 2005 - 2006. The treatments were evaluated in randomized block design with three replications. The results showed that the application of *P. fluorescens* + NAA + neem oil treated plots recorded significantly lowest population of *M. persicae, S. dorsalis* and *P. latus.* This was at par with phosalone and neem oil treated plots. Untreated check recorded highest population of all the three sucking pests. Plots received with *P. fluorescens* + NAA + neem oil treatment recorded the highest yield 7,529 kg/ha and CBR was 2.49. The phosalone and neem oil treated plots recorded the yield 7,262 kg/ha and 6,770 kg/ha and had CBR ratio of 2.68 and 2.38, respectively. The phosalone treated plot recorded highest CBR ratio 2.68.The untreated check recorded lowest yield (4,125 kg/ha) and lowest CBR (1.60).**

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**Key words** : *Myzus persicae*, Naphthalene acetic acid, Neem oil, *Polyphagotarsonemus latus, Pseudomonas fluorescens, Scirtothrips dorsalis*

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Chilli (*Capsicum annum* 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. Such available 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 result 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 ( Varma, 1989). Despite these credentials, continuous use of chemical insecticides have been 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