

Thrips, *Thrips Parvispinus* (Karny) an Invasive Pest of Chilli in India

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Abstract:

Thrips parvispinus is cosmopolitan pest species and has been all over the world. In india this species was reported in 2015 but infestation occurring in Rabi season 2021-22 in chilli growing areas if Andra Pradesh, Telangana and Karnataka. It is polyphagous species damaging all vegetable and oranaments crops. Use of the proper legislative and proper management strategies for avoiding spread of the invasive pest.

Keywords: Invasive, Polyphagous, Predators, *Thrips parvispinus* (Karny), Thysanoptera,

Introduction:

The genus Thrips is one of the largest genera of the insect order Thysanoptera in the family Thripidae. *Thrips parvispinus* is a cosmopolitan pest species and has been reported from Thailand, Australia, Europe now occur in France, Greece, Hawaii, Mauritius, Reunion, Spain, Tanzania and the Netherlands, besides India. It is polyphagous species and has been reported infesting beans, brinjal, papaya, chilli, pepper, potato, shallot and strawberry. It also injury to oranamentals viz. Anthurium, chrysanthemum, Dahlia, Dipladenia, Gardenia and Ficus. In india, this species was first reported on *Carica papaya* from Bengaluru in 2015.

Infestation of chilli thrips was reported in chilli growing areas of Andra Pradesh, Telangana and Karnataka and caused significant damage during Rabi season 2021-22.

Marks of Identification *Thrips parvispinus* Invasive Chilli Thrips

7 segmented antennae, forewing second vein with complete setae row; lateral third of tergites without closely spaced rows of minute microtrichia.

Common Chilli Thrips *Scirtothrips dorsalis*

8 segmented antennae; forewing second vein with 2 distal setae; lateral third of tergites with closely spaced rows of minute microtrichia.

Nature of Damage *Thrips parvispinus*

Larva mainly sucks the sap from under surface of leaves. Adults mainly colonize on flower and underside of leaves. In severe infestation, cause heavy flower drop and reducing fruit production. Heavy rainfall during infestation is favour the *Thrips parvispinus*.



Scirtothrips dorsalis

Larva and adults sucking sap from the under surface of leaves and developing fruits which causes crinkles of leaves and curl upwards, elongated petiole, flower dropping, stunted growth and scrapping of chilli fruits. Un-irrigated field during dry weather condition is favor the *Scirtothrips dorsalis*.



Management Strategies For Standing Crops

- Use of blue sticky traps @ 25-30 per acre for mass trapping
- Spray of botanical like Neem Seed Kernal Extract (NSKE) 5% or Neem oil 3% @2ml/L, Pongamia oil @3ml/L etc.

- Use of microbial based insecticides like *Beauveria bassiana* @4.00 g or ml/L, *Pseudomonas fluorescens* @20g/L or *Baillus albus* @20g/L Uniformly covering whole plant.
- Use of the predators such as Predatory mite (*Amblyseius swirskii*) and insidious flower bugs (*Orius insidiosus*) etc.
- Use only CIB&RC approved label claim insecticides for thrips.
- After uprooting the infested chilli crop farmer may take up crops like maize/sorghum//any millets or pulses.
- Farmers should use the specific targeted insecticides like as Acetamiprid 20% SP, Fenprothrin 30% EC, Imidacloprid 70% WS, Spinosad 45% SC, Thiamethoxam 30% FS.

For New Crop

- Use of resistant and short duration varieties.
- Application of well decomposed FYM or Compost @ 1t/Ac, enriched with *Metarhizium anisopliae* or *Pseudomonas fluorescens* @2kg/t along with recommended *Bacillus albus* @ 20g/L uniformly covering whole plant.
- Soil application of 200Kg of Neem cake and 500Kg of vermin compost per acre.
- Reducing the pupation of soil, mulching with silver coloured polythene sheet of 25-30 micron thickness.
- Use of Border crops like as maize, sorghum, bajra, fodder crops.
- Use of intercropping with maize, sorghum and cowpea @ 10:3:1.
- Adopting sprinkler irrigation instead of flood irrigation.

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