

COTTON

Cotton is an important commercial crop in India occupying about 8 million ha. and supports 60 million people. Cotton under irrigated conditions is grown in Punjab, Haryana and Rajasthan while it is cultivated in Maharashtra, Karnataka, Andhra Pradesh, Gujarat, Madhya Pradesh and Tamil Nadu mainly under rainfed conditions. This crop is affected by several insect pests, and diseases from sowing to its harvesting. Though this crop occupies only 5% of the total cultivated area of the country, yet over 50% of the total pesticide use is in this crop and it accounts for 40% of the total production cost in cotton. Due to indiscriminate use of pesticides, there have been deleterious effects on environment as well as development of resistance in insect-pests. Therefore, IPM approach in cotton assumes great significance.



Whitefly adults

Irrigated Cotton

Key Pests and Diseases

Cotton jassid (*Amrasca biguttula*), whitefly (*Bemisia tabaci*), spotted bollworm (*Earias insulana* and *E. vittella*), pink bollworm (*Pectinophora gossypiella*), American bollworm (*Helicoverpa armigera*), Tobacco caterpillar (*Spodopoptera litura*) and Cotton Leaf Curl Virus.

IPM Approach

- Adopt sucking pest tolerant and early maturing varieties.
- Treat 1 kg seed with 8g Imidacloprid, thereafter treat this seed with 10 ml Chloropyriphos.
- Maintain plant to plant distance of 30 cm and row to row distance of 75 cm.
- After sowing, put 4-5 Pheromone Traps per hectare, to monitor bollworms and undertake weekly scouting for other pests.
- Along with cotton, sowing of cover crops – one border row of maize/ bajra promotes the entomophagous population.
- To control American bollworm, bioagent *Trichogramma chilonis* @ 1.5 lakh / ha should be released in the fields. Also spray Nuclear Polyhedrosis Virus (*HaNPV*) @ 250 ml/ha (2×10^9 POB/ml) at the flowering and boll formation stages.
- Undertake need based spray of systemic insecticides i.e., Dimethoate (Rogor) or Oxydemeton methyl (Metasystox) @ 750-900 milliliter or Imidacloprid (Confidor) @ 100 milliliter/ha (1-2 sprays during July).



Jassid nymph

Rainfed Conditions

Key Pests and Diseases

Cotton jassid (*Amrasca biguttula*), whitefly (*Bemisia tabaci*), thrips (*Thrips tabaci*), spotted bollworm (*Earias insulana* and *E. vittella*), pink bollworm (*Pectinophora gossypiella*), American bollworm (*Helicoverpa armigera*), and tobacco caterpillar (*Spodopoptera litura*).

IPM Approach

- Treat seed with Imidacloprid and use Bt cotton (MECH - 184) as a resistant cultivar for the management of Bollworms.
- Plant border row of maize + cowpea as a cover crop and one row of setaria as a source of food and perch for birds in between each 10th and 11th row of cotton.
- Release *Trichogramma chilonis* @ 1.5 lakhs/ ha when American bollworm eggs are seen and spray *HaNPV* @ 250 ml/ ha (2×10^9 POB/ml), when the small larvae of American bollworm are seen.
- Spray 5% Neem Seed Kernel Extract for the management of sucking pests and bollworms and repeat *HaNPV* spray @ 250 ml/ha (2×10^9 POB/ml), if required. Also spray Endosulfan 35 EC, if required.

For more details contact:

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