

## **Tobacco caterpillar (*Spodoptera litura*):**

### **Integrated management in the nurseries**

1. Deep plough the nursery area in summer to expose the pupae to hot temperature and natural enemies.
2. Grow castor as ovipositional trap crop around tobacco nursery 10 days before sowing tobacco to attract the moths for egg laying. Collect and destroy egg masses and tiny caterpillars on castor leaves every day.
3. Install pheromone traps @10/ha two weeks after germination of tobacco seed to monitor the buildup of the pest population.
4. Spray 1% neem seed kernel suspension (NSKS) or nuclear polyhedrosis virus (SINPV) @ 250 larval equivalents (LE) or *Bacillus thuringiensis* var. kurstaki (Btk) @ 1 kg/ha.
5. Spray 2 % NSKS or SINPV @ 250 LE or Btk @ 1 kg/ha on 4 week old seedlings.
6. Spray emamectin benzoate 5 SG @ 5 g or lufenuron 5.4 EC @ 16 ml or novoluron 10 EC @10 ml/ 10 litres of water from 5 weeks onwards when the pest reaches economic threshold level i.e., 6 seedlings damaged or 1 third instar larva/m<sup>2</sup> area.
7. Under cyclonic weather conditions, when there is an epidemic of the pest, apply insecticide baits to control grown up larvae. For 1 ha nursery, dissolve 6.25 kg jaggeri in

12.5 litres of water and add emamectin benzoate 250 g or lufenuron 600 ml or novoluron 500 ml. Add 25 kg rice bran to this solution and mix thoroughly. The bait should be preferably applied in the evening.

### **Integrated management in the planted crop**

1. Grow castor as ovipositional trap crop before planting tobacco in the field, collect egg masses and tiny larvae from castor leaves daily and destroy.
2. Install 10 litlure pheromone traps 20 days after planting to monitor the pest.
3. Spray 0.5% NSKS or SINPV @ 250 LE or Btk 1 kg/ha when the infestation of tobacco caterpillar is observed.
4. Spray insecticides recommended for nursery when the infestation is high. Preferably spray hot spots instead of blanket spraying.
5. Under cyclonic weather conditions, when there is an epidemic of the pest, to control



grown up larvae, apply insecticide baits suggested for control of the pest in the nursery. The bait should be applied in the evening.

## **Tobacco stem borer (*Scrobipalpa heliopa*)**

1. In the nursery 30 days after germination spray flubendiamide 480 SC @ 2.5 ml or rynaxypr 18.5 SC 3 ml/ 10 litres of water. Also, spray the seedlings with one of the insecticides 10 days before pulling.
2. Do not use stem borer infested seedlings for planting.
3. Slit the bulbous portion of the seedlings with a sharp needle or knife to kill the larvae inside the stem.
4. When infestation is observed in the planted crop spray with one of the above insecticides 10 and 20 days after planting.
5. Destroy the left over nurseries after pullings are over and remove the stubbles in the field after harvest to prevent carry over of the pest.



### Whitefly (*Bemisia tabaci*) / Leaf curl

1. Remove and destroy alternative hosts around tobacco nurseries and fields.
2. Avoid leaf curl infected tobacco seedlings for transplanting.
3. Remove and destroy leaf curl infected plants if they are less than 2% in transplanted crop.
4. Install yellow sticky traps of 12 x 15 cm size @ 12/ha for monitoring.
5. Spray imidacloprid 200 SL @ 2.5 ml or thiamethoxam 2 g/ 10 litres of water ten days before pulling in the nursery, 2-3 times 10 days after transplanting in the field at an interval of 10 days.



### Tobacco budworm (*Helicoverpa armigera*)

1. Grow marigold around tobacco fields as a trap crop. Collect and destroy the larvae on marigold flowers.
2. Install pheromone traps 10 days after planting to monitor the pest.
3. Hand pick budworm larvae on 30-50 days old crop.

4. Spray Ha NPV @ 250 LE or Btk @ 1 kg/ha when infestation is observed.

5. Spray flubendiamide 480 SC @ 2.5 ml or rynaxypyr 18.5 SC @ 3 ml or novoluron 10 EC @ 10 ml/10 litres of water when 10 % plants are infested in the field.

### Tobacco aphid (*Myzus nicotianae*)

1. If the field contains 2% heavily infested plants, spray imidacloprid 200 SL @ 2.5 ml or thiamethoxam 2 g / 10 litres of water.

2. Ten days after first spray, only aphid infested plants are to be sprayed with one of the above insecticides.

3. Observe one week pre-harvest interval after the pesticide spray to ensure residue free tobacco.



Compiled by

**Dr. U.Sreedhar**, Head,  
Division of Crop Protection

Published by

**Dr. T.G.K. Murthy**, Director  
CTRL, Rajahmundry -533 105

## INSECT PESTS OF TOBACCO: INTEGRATED MANAGEMENT



Tobacco budworm, *Helicoverpa armigera*



CTRI  
ICAR



**CENTRAL TOBACCO RESEARCH INSTITUTE**

(Indian Council of Agricultural Research)

RAJAHMUNDRY -533 105

Andhra Pradesh

December, 2012