



Farmer FIRST Programme

फार्मर फर्स्ट प्रोग्राम

(Agricultural Extension Division)

(कृषि प्रसार विभाग)

Indian Council of Agricultural Research

भारतीय कृषि अनुसंधान परिषद

PESTS OF OKRA AND THEIR MANAGEMENT

severe infestation, leaves get a bronze which is typical “hopper burn” symptom, the margins of the leaf get broken and crumble into pieces when crushed, the leaves dried up and shed and growth of the crop is retarded.

Identification of pest: Nymph is light green, translucent, wingless found between the veins of leaves on the under surface. Adult is green, wedge shaped leafhopper.

Management

Spray any one of the following insecticides (spray fluid 500 l/ha)

- Imidacloprid 200 SL at 100 ml/ha
- Methyl demeton 25 EC 500 ml/ha
- Dimethoate 30 EC 500 ml/ha
- Phosphamidon 40 SL 600 ml/ha.
- NSKE 5%

Aphid: *Aphis gossypii*

Symptoms of damage: Infesting tender shoots and under surface of the leaves, curling and crinkling of leaves; stunted growth, development of black sooty mould due to the excretion of honey dew.

Identification of pest: Nymphs is yellowish or greenish brown found on the undersurface of leaves. Adults are greenish brown, soft bodied and small insects.

Management

- ❖ Monitoring the activities of the alate adult by setting up yellow sticky traps

Spray any one of the following insecticides (500 lit spray fluid/ha)

- ❖ Imidacloprid 200 SL at 100 ml/ha
- ❖ Methyl demeton 25 EC 500 ml/ha
- ❖ Dimethoate 30 EC 500 ml/ha
- ❖ Phosphamidon 40 SL 600 ml/ha.
- ❖ NSKE 5%



Shoot and fruit borer



Fruit borer



Whitefly



Leaf hopper



Cotton aphid



Fruit borer adult

Prepared By:-

P. Mooventhana, R. K. Murali Baskaran, Anil Dixit,
K. C. Sharma, P. N. Sivalingam, A. K. Gupta, Amit Dixit,
Uttam Singh and Kanhaiya Jaiswal

Published By:-

Director
ICAR - National Institute of Biotic Stress Management,
Baronda, Raipur, Chhattisgarh - 493225
Contact - 0771-2225333
Website - www.nibsm.org.in



ICAR - National Institute of Biotic Stress Management
भाकृअनुप - राष्ट्रीय जैविक स्ट्रेस प्रबंधन संस्थान

Baronda, Raipur, Chhattisgarh - 493225, Ph. 0771-2225333

बरोंडा, रायपुर, छत्तीसगढ़ - 493225, फो. 0771-2225333

Website : www.nibsm.org.in



Insect Pests: Shoot and fruit borer, *Earias vittella*, *E. insulana* (Lepidoptera:Crambidae); bhendi fruit borer, *Helicoverpa armigera* (Lepidoptera:Noctuoidea); whitefly, *Bemisia tabaci* (Homoptera:Aleyrodidae); jassids, *Amrasca devastans* (Homoptera:Cicadellidae); aphid, *Aphis gossypii* (Homoptera:Aphididae)

Shoot and fruit borer: *Earias vittella*, *E. insulana*

Symptoms of damage: Terminal shoots wither and droop, shedding of buds and flowers, bore hole in fruits, deformed fruits.

Identification of pest: *E. vittella*: Eggs are sculptured and sky blue in colour. Larva is brownish with white streaks dorsally and pale yellow ventrally. Adult forewing are pale with a wedge shaped green band in the middle. *E. insulana*: Larva is brown with dorsum showing a white median longitudinal streak. Pupa is brown and boat shaped. Adult forewing are uniformly silvery green.

Management

- ❖ Set up pheromone trap @ 12/ha
- ❖ Collection and destruction of affected fruits
- ❖ Release of egg parasitoid, *Trichogramma chilonis* @ 1.0 lakh/ha
- ❖ Release of 1st instar of green lacewing predator, *Chrysoperla carnea* @ 10,000/ha
- ❖ Dust carbaryl 10 % DP @ 25 kg /ha or spray *Bacillus thuringiensis* @ 2 g/lit

Spray any one of the following insecticide

Insecticide	Dose
Azadirachtin 0.03% WSP (300 ppm)	5.0 g/lit
Azadirachtin 5% Neem Extract Concentrate	5.0 ml/10 lit
Emamectin benzoate 5 % SG	3.0 g/10 lit
Phosalone 35 % EC	1.5 ml /lit
Pyridalyl 10 % EC	1.0 ml/lit
Quinalphos 25 % EC	8.0 ml/10 lit

Okra fruit borer: *Helicoverpa armigera*

Symptoms of damage: Feed on the flowers, circular boreholes on fruits, larva thrust only part of their body inside the fruit feed.

Identification of pest: Eggs are spherical in shape and creamy white in colour, laid singly. Larva shows colour variation from greenish to brown. Pupa is brown in colour. Occurs in soil, leaf, and pod. Female adult is brownish yellow stout moth. Male is pale greenish in colour with V shaped markings.

Management

- ❖ Collect and destroy the infested fruits and grown up larvae
- ❖ Grow simultaneously 40 days old American tall marigold and 25 days old tomato seedling at 1:10 rows to attract *Helicoverpa* adults for egg laying.
- ❖ Setup pheromone trap with Helilure @ 12/ha

- ❖ Six releases of *T. chilonis* @ 50,000/ha per week coinciding with flowering time
- ❖ Release *Chrysoperla carnea* at weekly interval @ 50,000 eggs or grubs/ha from 30 DAS
- ❖ Spray HaNPV at 1.5×10^{12} POB/ha along with cotton seed oil 300 g/ha to kill larvae.
- ❖ Spray carbaryl 50 WP 2 g/lit or *B. thuringiensis* 2 g/lit
- ❖ Do not spray insecticides after maturity of fruits.

Whitefly: *Bemisia tabaci*

Symptoms of damage: Chlorotic spots on the leaves which latter coalesce forming irregular yellowing of leaf tissue, severe infestation results in premature defoliation, development of sooty mold, vector of yellow vein mosaic virus

Identification of pest: Nymph is greenish yellow, oval in outline. Adult is minute insects with yellow body covered with a white waxy bloom.

Management

Spray any of the following insecticide: Phosalone 35 EC @ 2.5 l/ha/ quinalphos 25 EC @ 2.0 l/ha/ triazophos 40 EC @ 2.0 l/ha

Jassids: *Amrasca devastans*

Symptoms of damage: Tender leaves become yellow, margin of the leaves start curling downwards and reddening sets in. In the case of