



Farmer FIRST Programme

फार्मर फर्स्ट प्रोग्राम

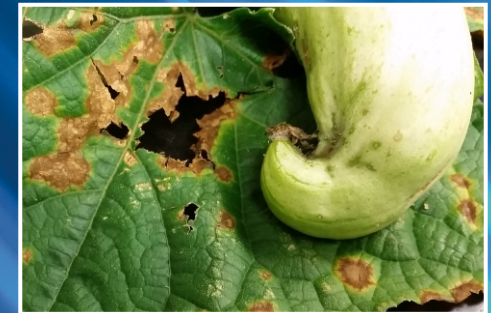
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Indian Council of Agricultural Research

भारतीय कृषि अनुसंधान परिषद

PESTS OF CUCURBIT AND THEIR MANAGEMENT



- ❖ Encourage activity of *Apanteles taragamae*, *A. plusiae*
- ❖ Spray insecticides: Malathion 50 EC @ 500 ml/ha/ dimethoate 30 EC @ 500 ml/ha/ methyl demeton 25 EC @ 500 ml/ha

Pumpkin caterpillar: *Diaphania indica*

Symptoms of damage: Young larva scrapes the chlorophyll content, later on it folds and webs the leaves and feeds within, it also feeds on flowers and bores into developing fruits.

Identification of pest: Eggs are laid singly or in groups on lower surface of leaves. Larva is bright green with a pair of white mid dorsal lines. Pupation takes place inside a cocoon among the leaves. Adult is whitish wings with broad and dark marginal patches. Female is with tuft of orange coloured hairs at anal end.

Management

- ❖ Collect and destroy early stage caterpillars
- ❖ Encourage activity of parasitoid, *Apanteles* spp.
- ❖ Spray insecticides: Malathion 50 EC @ 500 ml/ha or mimethoate 30 EC @ 500 ml/ha or methyl demeton 25 EC @ 500 ml/ha

Leaf miner: *Liriomyza trifolii*

Symptoms of damage: Leaves with serpentine mines; drying and dropping of leaves due to severe infestation.

Identification of pest: Larva is minute orange yellowish apodous maggots, pupates within mines. Adult is pale yellow in colour.

Management

- ❖ Collect and destroy mined leaves
- ❖ Spray NSKE 3%



Snake gourd fruit fly damage



Bitter gourd fruit fly damage



Cucumber fruit fly damage



Pumpkin beetle



Cucurbit stem borer



Snake gourd semilooper



Pumpkin caterpillar



Cucurbit leafminer

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Insect pests: Fruit flies, *Bactrocera cucurbitae* (Diptera:Tephritidae); red pumpkin beetle, *Aulacophora foveicollis*, purple beetle, *A. cincta*, ash beetle, *A. intermedia* (Coleoptera:Chrysomelidae); stem borer or clear winged moth, *Melittia eurytion* (Lepidoptera:Sesiidae); snake gourd semilooper, *Plusia peponis* (Lepidoptera:Noctuoidea); pumpkin caterpillar, *Diaphania indica* (Lepidoptera:Crambidae); leaf miner, *Liriomyza trifolii* (Diptera:Agromyzidae)

Fruit flies: *Bactrocera cucurbitae*; *Bactrocera ciliates*; *B. zonata*

Symptoms of damage: Maggots feed on the pulp of the fruits, oozing of resinous fluid from fruits, distorted and malformed fruits, premature dropping of fruits and also unfit for consumption.

Identification of pest: Eggs are laid singly in clusters on fruits. Larva is dirty white, apodous maggot; pupate in soil

***Bactrocera cucurbitae*:** Hyaline wings with brown and grey spots at the apex .

***Bactrocera ciliates*:** Ferruginous brown body, smaller than *Bactrocera cucurbitae*.

***B. zonata*:** Body yellowish with pale yellow band on 3rd tergite.

Management

- ❖ Collect infested and fallen fruits and burn in deep pits.
- ❖ In endemic areas, change the sowing date as the fly population is low in hot dry conditions and at its peak during rainy season
- ❖ Expose the pupae by ploughing and turning over soil after harvest

- ❖ Use ribbed gourd as trap crop and apply carbaryl 0.15% or malathion 0.1% on congregating adult flies on the undersurface of leaves.
- ❖ Use attractants like citronella oil, eucalyptus oil, vinegar (acetic acid), and lactic acid to trap flies.
- ❖ Use poison baiting in severe infestation
- ❖ Mix methyl eugenol + malathion 50 EC at 1:1 ratio and keep 10 ml of the bait in polythene bags @ 25/ha.
- ❖ Use fly trap
- ❖ Keep 5 g of wet fishmeal in polythene bags (20 x 15 cm) with six holes (3 mm dia)
- ❖ Add 0.1 ml of dichlorvos.
- ❖ Dichlorvos should be added every week and fishmeal to be renewed once in 20 days @ 5 traps/ha.

Pumpkin beetles: Red beetle: *Aulacophora foveicollis*, purple beetle: *A. cincta*, ash beetle: *A. intermedia*

Symptoms of damage: Grubs feeds on the roots, stem and fruits touching the soil; adult feeds on leaf and flowers.

Identification of pest: Freshly hatched larva is dirty white, fully grown is grub creamy yellow in colour.

***Aulacophora foveicollis*:** red in colour

***A. cincta*:** grey in colour having glistening yellow red border

***A. intermedia*:** blue in colour

Management

- ❖ Plough the fields just after harvesting destroy the hibernating adults
- ❖ Collect and destroy adult beetles
- ❖ Spray malathion 50 EC @ 500 ml or

dimethoate 30 EC 500 ml or methyl demeton 25 EC @ 500 ml/ ha

Stem borer or clear winged moth: *Melittia eurytion*

Symptoms of damage: Larva bores into the stem of snake gourd and produces galls

Identification of pest: Larva is white in colour. Pupation takes place in earthen cocoon in the soil. Adult is dark brown moth with transparent wings.

Management

- ❖ Collect and destroy the damaged plant parts with larvae
- ❖ Encourage activity of parasitoid: *Apanteles* spp.
- ❖ Spray insecticides: malathion 50 EC @ 500 ml/ dimethoate 30 EC 500 ml/ methyl demeton 25 EC @ 500 ml/ ha

Snake gourd semilooper: *Plusia peponis*

Symptoms of damage: The caterpillar cuts the edges of leaf lamina, folds it over the leaf and feeds from within leaf roll

Identification of pest: Egg is white spherical, laid singly on tender leaves. Larva is green in colour with longitudinal white stripe, humped last abdominal segments. Pupation takes place inside the leaf fold. Adult is brown moth with shiny brown forewings.

Management

- ❖ Collect and destroy the caterpillars