

Extension Folder No. 4

POLLU BEETLE
of
BLACK PEPPER

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What is 'pollu' beetle ?

The term 'pollu' in Malayalam means hollow. Since the beetles eat away the inner contents of the berries of pepper and make them hollow they are called 'pollu' beetles. The beetles are also known as flea beetles.

Nature of damage

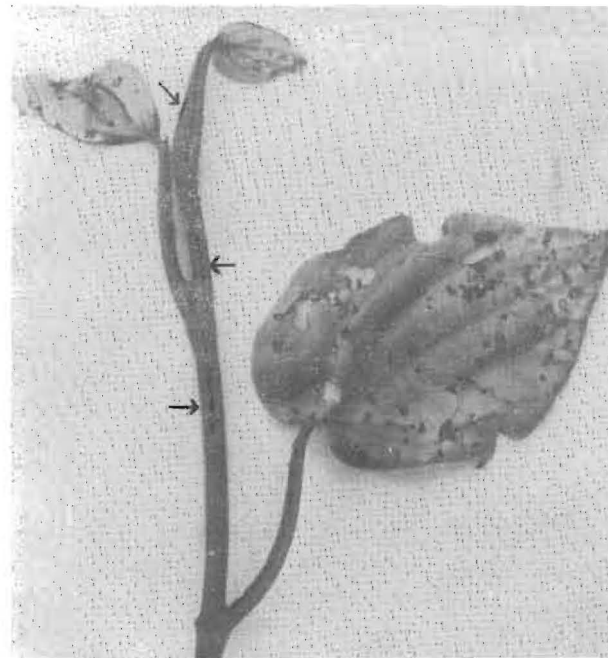
Adults and grub stages of the pest damage growing tips, terminal shoots, tender stem, leaf petioles, spikes and tender berries by feeding and tunnelling.

On leaves

During the flushing season (June – July) adult beetles are seen in large numbers feeding on the tender leaves. The leaf surface is scraped and holes are made. In severe cases of infestation the leaves turn black and drop off. During the off-season (December – May), when tender spikes and flushes are not available on the vine, the beetles scrape and feed on the underside of mature leaves resulting in grey irregular patches on them.

On tender shoots

The beetles feed on the terminal portion of the succulent stem and also on the sheath enveloping the tender vegetative and reproductive tissues. Eggs are also laid on the terminal shoot. The grubs on hatching bore into the tender shoot tips resulting in decay and drying up of infested tissues.



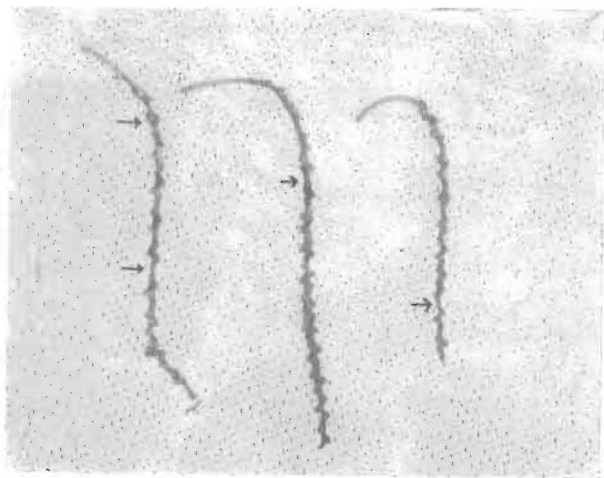
Tender leaves and shoot (marked by arrows)
damaged by adult beetles

On spikes

The beetles scrape and feed on the spikes and the damage is seen in the form of black patches. The beetles lay eggs on the spikes and tunnel into the tissues. Severely infested spikes decay and drop off.

On berries

On berries the beetles lay eggs in small depressions made by them. The grubs bore into the berries, feed on the internal contents and make them



Tender spikes fed (marked by arrows) by adult beetles

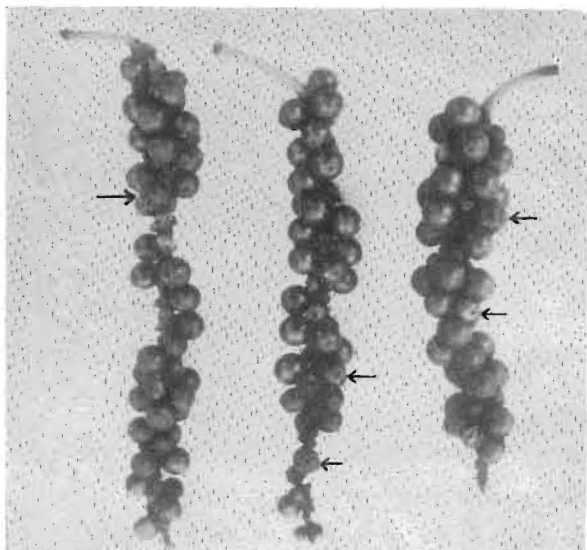
hollow. The attacked berries turn yellow and finally black and crumble when pressed. A single grub eats 3-4 half-mature berries or 20-30 tender berries. Sometimes the grub damages the vascular system of the spike axis while moving from one berry to another. As a result of this the berries distal to the point of damage dry up completely.

Seasonal fluctuation in population

The population is high during the period July-January and low during February-June. The adult beetles are present in the field during the off-season also. They remain on the underside of the leaves in shaded areas of the garden.

Life history

Egg, grub, pupa and adult are the different stages in the life history of the pest. The total life cycle from egg to adult is completed in 39-50 days.



Spikes showing pollu berries (marked by arrows)

The eggs are oval in shape and yellowish in colour when freshly laid. At the time of hatching of the grub the eggs turn brownish yellow. Egg period lasts for 6-8 days. Newly hatched grubs are white. Fully grown grubs are creamish yellow with brownish head and legs. The grub period lasts for 20-32 days. Fully grown grubs drop to the ground and pupate in earthen cocoons. The pupa is cream coloured initially and turns brown later. The pupal period lasts for 6-7 days. The adult is a small shining beetle measuring about 2.5 mm × 1.5 mm in size. Males are slightly smaller than females. The head and thorax are yellowish brown and the abdomen black in colour. The hind pair of legs are stout and well developed which enable them to make powerful jumps. The beetles are generally found on the underside of the leaves in sheltered situations. They jump away quickly when disturbed.

Crop loss

The pest damages about 62 per cent of the tender leaves, 22 per cent of spikes and 32 per cent of berries in certain endemic areas.

How to control the pest

- * *Spray endosulfan (Thiodan) or quinalphos (Ekalux) at 0.05% concentration.*

Preparation of the insecticide

For the preparation of the spray solution, 14 ml of Thiodan (35 EC) or 20 ml of Ekalux (25 EC) is mixed with 10 litres of water.

Time of spraying

The spraying operations have to be undertaken twice in an year; the first during June-July and the second during September-October. The first round coincides with the period of spike initiation and second when the berries are partly mature.

Precautions to be undertaken

- * Spray when there is sufficient gap in the rain.
- * Spray the underside of the leaves also thoroughly.

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