

ENTOMOLOGY BULLETIN NO. 49

Control of cabbage cluster caterpillar in brassicas

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INTRODUCTION

The cabbage cluster caterpillar is the second most important pest of brassicas (plants of the cabbage family) in Papua New Guinea. (The most important is the diamond-back moth which is dealt with in Entomology Bulletin No. 8.)

The young stages of the cabbage cluster caterpillar feed in the hearts of the cabbages and chew, spin webs and spoil the centre leaves with their droppings.

DESCRIPTION AND BIOLOGY

The adult moth is 12 mm long with a light brown body. The forewings are light brown, with irregular brown markings and two conspicuous pale dots ringed with brown on each wing. The hindwings are white with a thin brown border.

The eggs are laid in batches on the underside of leaves and overlay each other like fish scales. They are yellowish green in colour and each batch can contain from 15 to 150 eggs. They hatch in 5 days in the highlands.

The larvae are yellow-green with white stripes and black dots all along the body. The black dots carry long thin hairs. The head is a brownish colour and the next segment behind the head has a black plate on the upper surface.

The larvae go through four distinct stages, changing their skins (moulting) between each one. The young larvae are gregarious (stay together in a group) but older larvae are solitary (feed on their own) and they spin webs on the lower surface of the leaves and in the centre of the plant.

After about 14 days they are mature and they burrow into the soil where they make a spherical (round like a ball) chamber. They then pupate inside this. The pupae are shiny brown and cone shaped and the adult moth emerges after about 14 days.

ECONOMIC IMPORTANCE

The larvae feed in the hearts of the cabbages. Here they chew the leaves and destroy the centre. They also spin webs and spoil the centre of the cabbage with their droppings. Cabbages damaged in this way are unfit to sell or to eat.

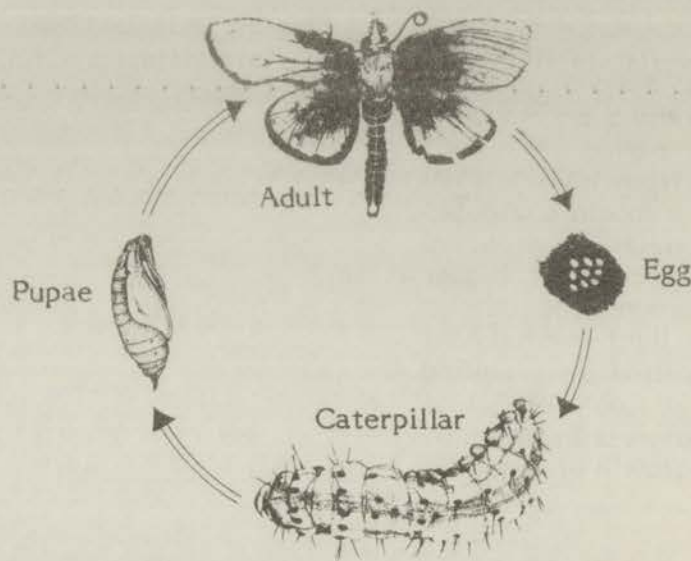


Table 1. Insecticides for the control of the cabbage cluster caterpillar

Common name	Trade name	Concentration to mix	Amount to mix per 10 litres of spray	How often to apply	Waiting period
Acephate	Orthene 75SP	0.05%	6.5 g	Weekly	3 days
Cypermethrin	Cymbush 25EC	0.0025%	1 ml	Weekly	7 days
Deltamethrin	Decis 2.5EC	0.00075%	3 ml	Weekly	3 days
Naled	Dibrom 90EC	0.05%	5.5 ml	Weekly	3 days
Permethrin	Ambush 10	0.00125%	1.25 ml	Weekly	None
Permethrin	Ambush 50	0.00125%	0.25 ml	Weekly	None
Permethrin	Ambush 10	0.005%	5 ml	3 weekly	None
Permethrin	Ambush 50	0.005%	1 ml	3 weekly	None
Pirimiphos-methyl	Actellic 50EC	0.1%	20 ml	Weekly	3 days
Profenofos	Selecron 500EC	0.05%	10 ml	Weekly	14 days
Tetrachlorvinphos	Gardona 50WP	0.05%	10 g	Weekly	3 days

CONTROL

When cabbage cluster caterpillars are on cabbages they are usually associated with diamond-back moths. Fortunately the chemical applied for control of diamond-back moths also control cabbage cluster caterpillars. The recommendations are given in Table 1.

All the insecticides listed in the table should be sprayed onto the plants at high volume (to run-off) making sure that both upper and lower surfaces of the leaves are thoroughly covered. A commercial brand of wetting agent should be added to the spray at the rate recommended on the container.

If you cannot obtain commercial wetting agents, use ordinary washing-up liquid at the rate of 2.5 ml to 10 litres of insecticide mix.

Good hygiene should be practised in all cabbage plantings. Once the heads have been harvested the remains of the plants should be destroyed to prevent the build-up of populations of insect pests.

FURTHER READING

Makita, L.S. (1978/9). The life cycle of the cabbage cluster caterpillar, *Crocidolomia binotalis* Zeller (Lepidoptera: Pyralidae). *Science in New Guinea* 6 (3): 129-135.

Swain, G. (1971). *Agricultural Zoology in Fiji*. H.M.S.O.: London. 424 pp.

FURTHER INFORMATION

For further information on cabbage cluster caterpillars and their control contact your

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