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PESTS OF COCOA - TRUNK LONGICORNS

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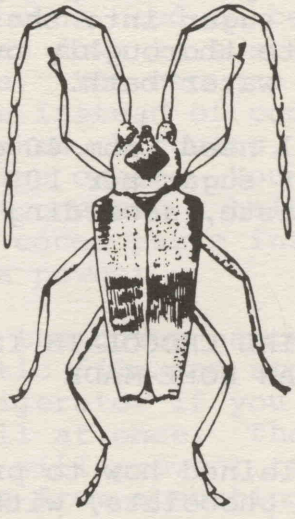
INTRODUCTION

The larvae (grubs) of longicorn beetles can damage cocoa trees. Many species have been recorded attacking cocoa in Papua New Guinea, but only two species, *Glenea aluensis* and *Glenea lefebueri* cause economic damage to cocoa.

Glenea aluensis is found in all the cocoa growing areas of the Papua New Guinea Islands Region, and *Glenea lefebueri* is found on the mainland. Longicorn damage is often worse in overshaded and poorly drained cocoa blocks.

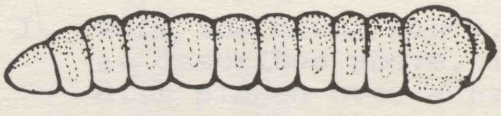


Longicorn adult - about 3 times natural size

DESCRIPTION

Adult longicorns are most easily recognised by their antennae which are as long as their bodies. They are often seen in infested blocks, usually resting on a leaf. The head and thorax are yellow. In the middle of the thorax there is a blue-black spot. The rest of the body is slightly wider than the head and thorax, and is covered by the wing cases which are shiny purple or blue. Longicorns are about 20 mm long.

Longicorn larvae can be whitish to yellow, 24-28 mm long. The head and thorax are round and wider than the rest of the body which consists of 8 segments. The head is dark with large cutting mandibles (teeth).



Longicorn larva - about 2½ times natural size

BIOLOGY

The eggs are laid singly, usually on the bark of the lower part of the trunk, or sometimes on the lower parts of branches.

After hatching, the young larvae eat their way into the bark. The life cycle of these insects is about three months (egg to adult).

ECONOMIC IMPORTANCE

Longicorn larvae cut out channels under the bark of the lower trunk or main branches of cocoa trees. The main branches of clonal trees may be ring-barked as the larvae move under the bark in a horizontal or spiral direction. Longicorn damage and *Pantorhytes* damage look similar but longicorn larvae cut channels around the tree or branch, while *Pantorhytes* larvae make vertical (up and down) channels. A combined attack by several longicorn larvae can kill a tree or branch, or severely weaken it so that it breaks easily in wind or heavy rain. Damage to cocoa trees may be very bad if longicorn infestations are not treated.

Longicorn damage to cocoa trees is easy to see. As longicorn larvae cut their channels they push a mass of fibrous wood chips, in foamy, rust coloured lumps out of air holes. There may also be dark, moist areas on the bark caused by sap coming out of smaller holes.

Longicorn channels are a major point of entry for the fungus which causes bark canker in cocoa. This disease can become very serious in neglected cocoa blocks, or in trees more than 12-15 years old. Many trees can be killed by bark canker.

CONTROL

A 1.5% solution of dichlorvos in 25% white oil is recommended for treating the larval channels of longicorns. Dichlorvos is available as 'Nuvan 50' or 'Vapona 50'.

All the dried wood chips and gum coming out of the channel must first be removed. The bark over the channels should be scrubbed with a stiff brush. DO NOT use a wire brush. Roughening the bark with the brush makes it easier for the insecticide to get into the channels and kill the longicorn larvae. Now the insecticide mixture can be painted onto the channels using a paint brush 2.5 cm wide. It is important that the whole length of the larval channel is painted with the insecticide, otherwise the larva may not be killed.

This treatment should be repeated every 4 weeks until no more living larvae are seen to cause damage to the cocoa. This will take 2-3 treatments. After this, treatment should be repeated when necessary.

You should NOT cut out the larvae. The damage caused when this is done is worse than the damage caused by the longicorn larvae themselves.

Growers with large cocoa blocks should train 2 or 3 labourers to recognise and treat longicorn channels If this work is done with other jobs, such as treating *Pantorhytes* channels, labour time can be saved. The labourers should be given overalls, elbow gloves and rubber boots to wear to protect them from the insecticide.

Only make up small quantities of insecticide, enough to use in one day. The chemical loses its power if it is kept for more than 2 days after it has been mixed with water.

The insecticide is made up by mixing together:

30 ml Nuvan 50
250 ml white oil
10 g Ridomil 25 wp
700 ml water

OR

30 ml Vapona 50 250 ml white oil 10 g Ridomil 25 wp 700 ml water

The Ridomil is included to prevent damage by bark canker in the longicorn larval channels.

If you cannot get any Nuvan or Vapona, you can use fenthion 55% which is available as Lebaycid or Mercaptophos at the same rate as Nuvan.

FURTHER INFORMATION

For further information about longicorn control, contact your nearest D.P.I. entomologist or didiman. Entomologists are based at:

RABAUL
Lowlands Agricultural Experiment Station, P.O. Keravat
E.N.B.P.
Tel: 926251 or 926252

LAE
Bubia Agricultural Research Centre, P.O. Box 73
LAE
Tel: 424933

KIMBE
Dami Oil Palm Research Centre
P.O. Box 165, KIMBE
W.N.B.P.
Tel: 935204

PORT MORESBY
D.P.I., P.O. Box 417,
KONEDOBU
Tel: 214699 Ext. 255

MOUNT HAGEN
Kuk Agricultural Research Station, P.O. Box 339
MOUNT HAGEN
Tel: 551377

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P.O. Box 417, KONEDOBU.

STOP PRESS

A new type of Ridomil will soon replace Ridomil 25 wp. Pleast contact L.A.E.S., Keravat, for the latest information.