

CHECK THE ROOTS OF THE PROBLEM IN RICE

By P.R. Hale,
Formerly, National Rice Advisor, Wewak.

INTRODUCTION

Upland rice in Papua New Guinea can be badly damaged by two unusual insect pests. These are the chinch bug (*Caenoblyssus pilosus*) (Barber) and a mealy bug (Family *Pseudococcidae*). They are not serious pests of rice in other countries.

These insects live underground and attack the roots of the rice plants. They are also found on maize and sorghum but they are not a problem on these crops.

Chinch bugs and mealy bugs have been found on rice in New Ireland, New Britain and the Madang, Morobe and Central Provinces. They are probably present in all lowland grassy areas in Papua New Guinea.

THE INSECTS

Chinch bugs and mealy bugs are both very small. They are only about 3mm long when fully grown. Very young chinch bugs may be as small as a pin head.

Young chinch bugs are red with black markings and the adults are black with silver wings.

By the time a chinch bug has grown into an adult, the plant it was feeding on is usually dead. The bug then flies away to lay its eggs near another healthy plant. Because of this, the adults which are black with silver wings, are not often seen on damaged plants.

Chinch bugs live in the soil and feed on wild grasses. When rice is planted nearby, they move into the rice fields to feed on the rice plants. They prefer seedlings and young plants to old plants. The chinch bugs suck the moisture out of the rice roots which makes the plants look as if they are dying of drought.

Mealy bugs are off-white to pink in colour. They don't usually move about by themselves but are carried to the rice plant by ants.

Ants look after mealy bugs because the bugs produce a sweet juice which the ants like. In some ways, this is the same as farmers keeping cows to get the milk. During the day it is possible to see

Present address: Box 5144, Snomass Village, CO 81615, U.S.A.

the ants crawling around the base of the seedlings and young rice plants.

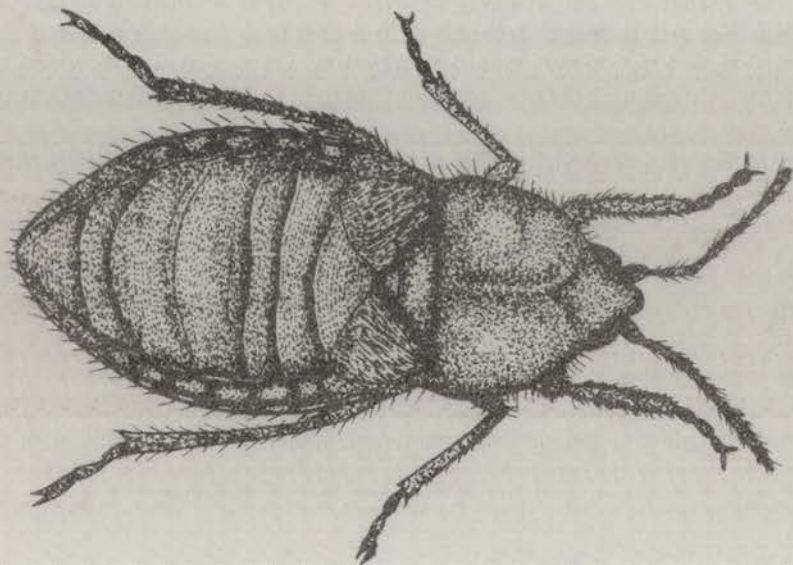
Like the chinch bugs the mealy bugs suck moisture and nutrients from the roots. This causes the leaves to dry and turn brown. Usually the youngest leaves and the youngest tillers are the first to die. When the plants die the ants carry the mealy bugs to new plants nearby.

To find out if unhealthy plants are being attacked by chinch bugs or mealy bugs some of the sick plants must be pulled up by the roots. If these insects are causing the trouble, it will then be easy to see them.

There will probably not be any bugs on the roots of dying or dead plants, but other plants nearby should be checked to see if the bugs have moved to them.

CONTROL

Chinch bugs and the ants that look after the mealy bugs can both be killed by lindane (gamma-BHC), but it is not easy to get the insecticide to the insects since they live underground most of the time. Rice gardens made in the bush are less likely to be attacked than those made in grassy areas. The insects do not attack flooded rice because they would drown in the water.



A chinch bug (C. pilosus)