

A New Design of Trap for Collecting the Palm Weevil, *Rhynchophorus Palmarum* (L)¹

S. MAHARAJ²

The normal method used for collecting the palm weevil, *Rhynchophorus palmarum* (L) in Trinidad and other West Indian islands is by trapping with lengths of coconut stem which are split longitudinally and laid on the ground with the split surface downwards. Weevils, attracted by the fermentation of the tissues, congregate beneath the logs. Although this method is effective it has many disadvantages. Large scale trapping involves a great deal of labour and the destruction of many young trees. Where red-ring disease is very prevalent infected trees can be used as traps but collections are less on diseased than on healthy tissue (MAHARAJ, 1961). Weevils visiting infected tissue may pick up red-ring nematodes and spread the infection. This can be prevented by dusting the logs with 5 per cent BHC but such treatment is precluded if weevils are needed for experiment. Even healthy tissue is not completely satisfactory since eggs laid in it by the weevils can develop to maturity and give rise to a new generation (MAHARAJ, 1964). Destruction of the logs to prevent this demands yet more labour. The present paper describes a new design of trap which obviates, or at least reduces, the disadvantages already mentioned.

A trap using an attractant has to satisfy two mutually conflicting requirements. It must be sufficiently open for the odour of the attractant to diffuse out readily, yet weevils entering must not be able to crawl or fly away. Crawling can be prevented if the trap is made with vertical aluminium sides which are smeared with a high melting-point grease. Preventing them from flying away is more difficult. The use of covers and baffles slows down diffusion of the attractant. Replacement of baffles by screens is ineffective since weevils encountering these screens in flight cling to them and are then able to climb around and escape. The problem was finally solved by fitting the traps with wires spaced on each side and extending to a narrow strip in the centre of the roof.

The final design is shown in Figure I. The base consists of a galvanized metal tray the bottom of which has a number of holes for drainage. The trap itself sits in this tray and consists of two end pieces 25 cm high tapering to 5 cm at the top. The sides are 10 cm high and bent inwards to fit the taper in the ends. A roof 60 cm x 30 cm prevents the entrance of rain. Over the apertures at the side are stretched lengths of 18 gauge galvanized wire 2.5 cm apart. The sides and ends of the trap are of polished aluminium which are greased when in use. The bait, consisting of a piece of coconut tissue 44 cm long, 14 cm wide and 10 cm thick,

1. The use of this trap for the control of *Rhynchophorus ferrugineus* F., is now being recommended by the C. R. I. in its Advisory Leaflet No. 37.

²Trinidad and Tobago Coconut Research Ltd., Trinidad, W.I.

is placed in the tray and the trap is set over it. Weevils attracted to the bait enter the trap. The greased aluminium sides prevent their escape by crawling. Weevils seeking to escape by flying collide with the wires and fall back into the tray.

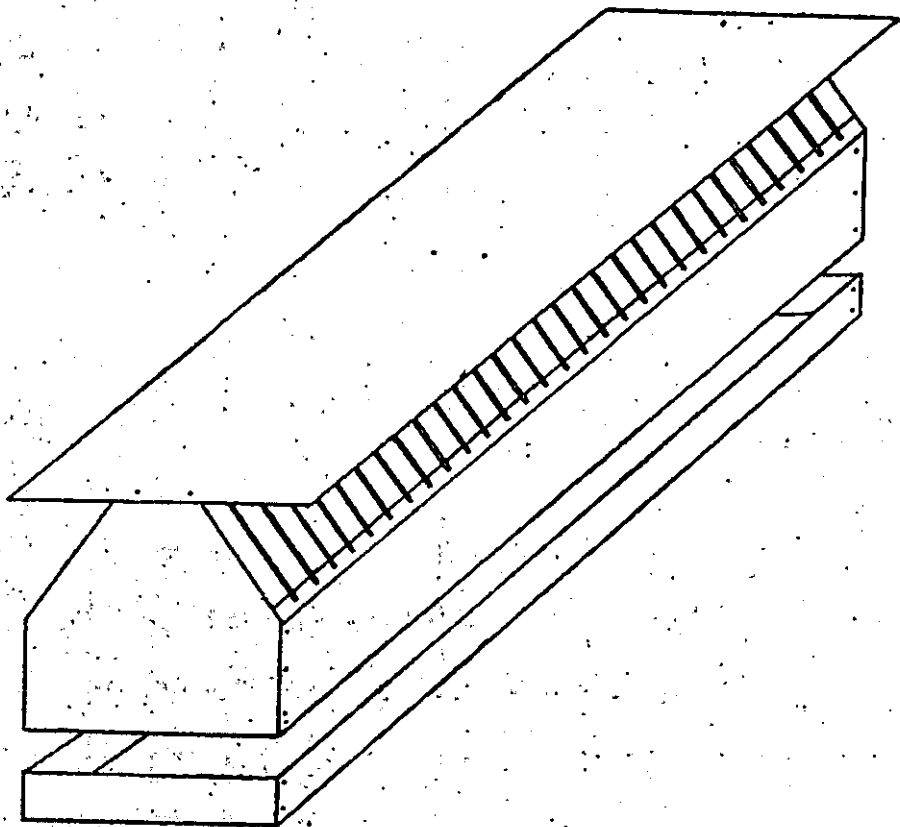


Figure 1

Tests were carried out in which five metal traps were set out, each about ten feet from a corresponding long trap. Daily collections over a period of 17 weeks resulted in 628 weevils being caught from the traps and 381 from the logs. The proximity of the logs might have increased the attractiveness of the area to weevils and the increased collections from the traps might simply be a reflection of their better retention. A further test was therefore set up in which three traps were set out with logs ten feet away and three others without. 136 weevils were collected from the traps near logs and only 84 from the logs; 103 weevils were collected in the isolated metal traps.

In another test six traps and six logs were set out independently. Observations made over a period of four weeks, resulted in a total of 77 weevils from the traps and 32 from the logs. Daily collections of weevils were made over six weeks on three traps and three logs arranged randomly, and a total of 238 weevils were collected by the metal traps and 84 on the logs.

These data show that the use of these traps results in increased catches of weevils as compared with log traps. Their use reduces labour demands to about one third of those needed for long trapping. The economy in coconut tissue is even greater and only 20 per cent as much tissue is needed. Furthermore if diseased tissue is taken, only the uninfected regions need be used so that even if a weevil did escape, the chances of it spreading infection are very much reduced.

ACKNOWLEDGEMENT

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REFERENCES

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