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A SIMPLE DEVICE FOR ANT-PROOFING OF EXPERIMENTAL HUTS USED FOR FIELD EVALUATION OF INSECTICIDES

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Experimental huts designed to control the ingress and egress of mosquitos have been widely used for studies on their behaviour inside houses and for investigations on the effect of insecticidal residues in treated houses on naturally-entering mosquitos. This technique was established by Muirhead-Thomson (1947) and proved to give very valuable information. However, in some localities such studies have been badly impaired by ants, which entered the experimental huts and removed dead or trapped mosquitos from the floor or the traps before they could be collected.

In regions where ants are a serious problem it is indispensable to make the huts ant-proof. Several designs have been used to prevent ants from entering the huts. Most of them were based on a concrete channel permanently filled with water and encircling the huts outside. The channels were built either separate or on a platform of concrete on which the hut was raised (Davidson, 1953; Burnett, 1957; de Zulueta et al., 1961). Apart from the difficulties in construction of such devices in remote tropical areas and with unskilled local labour, it was found that the ants burrowed under the water channel and climbed up the walls of the hut or entered through cracks which appeared in the concrete after some time, due to unstable subsoil.

To overcome such difficulties experimental huts have been made ant-proof by raising them off the ground on legs standing in water containers (Rapley, 1961). However, such construction seems undesirable because it reflects quite unnatural

conditions, which may considerably influence the results obtained. The micro-climate in such huts and the humidity in the walls, which are known to exert a marked influence on the behaviour of mosquitos and the effect of insecticides inside houses, are supposed to vary widely from that of an ordinary hut with mud walls built on the ground.

For ant-proofing of experimental huts the use of plastic foil is proposed here. A strip of plastic, about 2 m wide is laid around the hut and the two ends are glued together. The strip is dug in vertically up to half its width. The part extending above the ground is bent down towards the hut into a moat of about 25 cm width and 20 cm depth (Figure 1) and filled with water. This water keeps the plastic in position, but when very stiff material is used, it may be necessary also to put some stones in the channel. In order to have an uninterrupted band of water in the entire length of the channel, the latter has to be properly levelled. However, this can be done easily by shifting the soil. No skilled workmen are necessary for the construction of the moat.

So far, our own experience in the use of plastic foil for water management is limited to temperate climates. Ditches and ponds made of plastic foil have held water, which freezes during the winter months, for more than five years up to the present day. It seems reasonable to expect a good performance by this material under tropical conditions also.

Plastic foil is commercially available in strips up to 12 m wide and in different colours. So-called "elephant skin" is very tough and particularly suitable for this purpose. At present a role of 50 m of plastic foil 2 m wide and 0.2 mm thick costs DM 120 ($ 30).

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