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Coconut Research Institute

LEAFLET NO. 29

MAMMALIAN PESTS OF COCONUT (RATS, BANDICOOTS, PORCUPINES AND BATS)

1. CONTROL OF RATS

Nature of Damage

Rats attack bearing coconut palms and seedlings. In bearing palms they gnaw into nuts and feed on the meat and nut water. Nuts in all stages of development are prone to attack, tender nuts being more susceptible.

They are also known to damage unopened inflorescences. Certain varieties, such as *Nawasi*, appear to be more susceptible to attack by rats than others.

In seedlings, cavities are formed at the base of the pseudostem as rats feed on the tender bud region and "apple" of seed-nuts. Seedlings generally succumb to attack.

Prevention of damage to coconut palms in bearing—Palm banding

Banding of coconut palms is effective only when a few palms have to be protected. A smooth metal band of aluminium or galvanised zinc, about 12 inches broad, is fixed round the trunk of each palm. The metal band can be either tied to the trunk with wire or nailed. When tiying the sheet, the wire should not be wound up spirally from bottom to top as rats could then get a foothold on the wire. For the correct procedure see Figure 1. In either case no space should be left between the trunk of the palm and the metal sheet. The metal bands may be fixed about quarter to half way up the palm.

An inverted cone may also be used (see Figure 2). However the metal band is cheaper and appears to be equally effective.

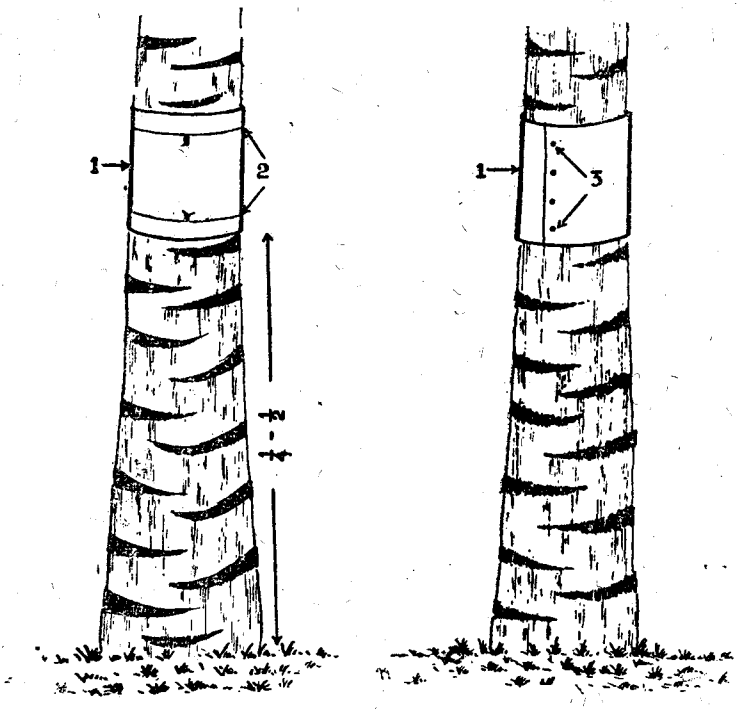

Figure 1

1. Aluminium or Galvanized Zinc Sheet 12" broad,
2. Tied with wire in this manner
3. Nails

The leaves of banded palms should not come in contact with the leaves of other palms as rats can then move from palm to palm along the leaves. It is necessary to "isolate"" banded palms by cutting the tips of leaves that touch leaves of other palms. Prior to banding, crowns of palms should be cleared of rats and their nests.

It should be noted that this method of control only prevents rats from damaging nuts. It does not kill rats and they will move on to unprotected coconut palms or find alternate food.

This method of control is effective in preventing rats from attacking palms if:

(*a*) the bands are properly fixed and maintained in good repair.

(*b*) rats are prevented from gaining access to the banded palms *via* leaves of other palms, building etc.

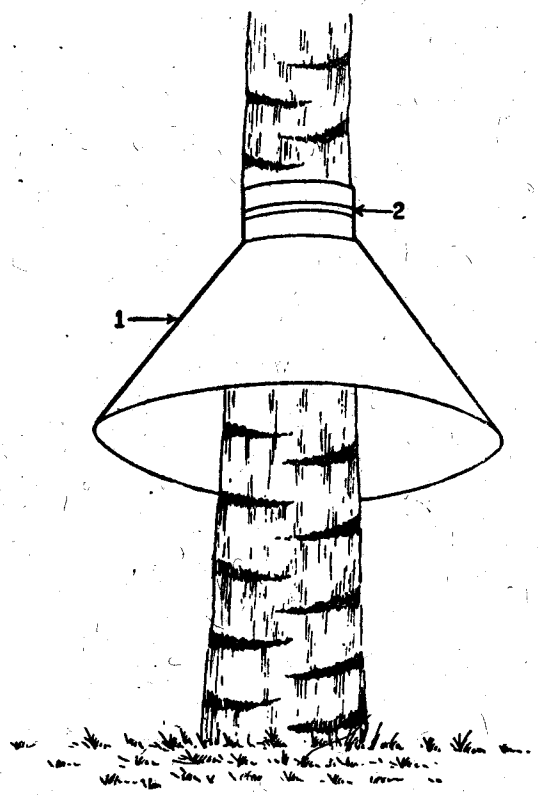

Figure 2

1. Cone
2. Band to hold Cone in place

Chemical Control

The most effective and cheapest poisons to control rats appear to be those based on WARFARIN. (A list of firms which market rat-poisons are given below)

Warfarin should be mixed with a bait that is readily acceptable to rats such as fresh cereals, manioc, groundnut, copra, partly burnt coconut kernal etc. One part of poison (rodenticide) may be mixed with about 20 parts of bait. It is important to see that there is an adequate supply of bait. Bait may be left on the ground about every fifty feet, in the infested area.

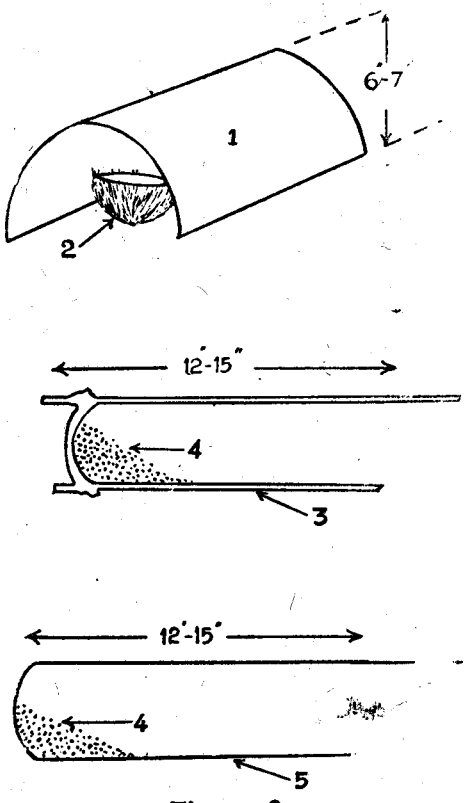

Figure 3

1. Metal Cover,
2. Bait Container (bottom of a tin, Coconut Shell etc,)
3. Bamboo bait Container
4. Bait
5. Bait Container made of 2" diameter pipe.

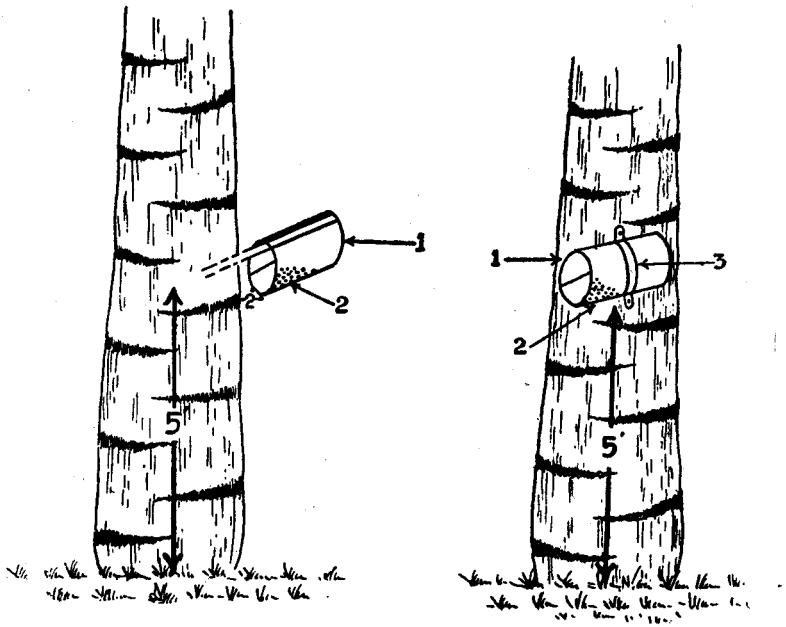

Figure 4

1. Tin
2. Bait
3. Wire to hold tin

It is necessary to place the bait alone (without poison) in the field at first. In his manner, "pre-baiting" should be carried out for about two or three days to determine whether the bait is acceptable to rats. If the bait is not acceptable, another bait should be used.

If bait is left in the open it will become mouldy during wet weather; then it will not attract rats. It is therefore necessary to place the bait in a container and provide some sort of shelter over it (See Figure 3). Mouldy baits should be renewed. Bait may also be placed on the trunks of palms as shown in Figure 4.

It should be noted that rats which have fed on rat poisons go in search of water; it is therefore advisable to cover water tanks, wells etc. to prevent rats from getting in.

Baiting should not be done continuously in the same area. The field should be free of bait for short periods as rats tend to avoid bait containing poisons, kept on for long periods.

Rat traps

Traps may also be used to control small populations of rats in places where it is dangerous to keep rat poisons.

Estate sanitation and destruction of breeding grounds

Rats prefer to live under a heavy weed cover, in husk and rubbish heaps, among fallen fronds rotting stumps etc. It is therefore necessary to regularly control weeds in coconut plantations and to maintain a high degree of estate sanitation.

Damage to seedlings in nurseries

Poisoned baits can be used in nurseries. It is necessary to control weeds in nurseries as rat damage is greater in nurseries which have a heavy weed growth.

Damage to transplanted seedlings

Seedlings transplanted in the field are also susceptible to attack by rats and may be controlled by baiting.

2. CONTROL OF BANDICOOTS

Damage done by bandicoots to seedlings is similar to rat damage. A method of control is to prevent them from breeding in coconut lands by maintaining estate sanitation. Baiting may also be carried out.

3. CONTROL OF PORCUPINES

In young plantations near jungles, porcupines can be pests on seedlings and young palms. They attack the plant by feeding on the tender portions of the "Stem"; attacked plants may succumb to damage.

Porcupine damage may be reduced by protecting seedlings with fences of wire mesh around the base. It is also possible to apply a mammalian repellent 'ARBINOL' (available at M/s A. Baur & Co., Colombo.) on the seedlings. Shooting may reduce the population of porcupines.

4. CONTROL OF BATS

Sometimes bats feed on tender coconuts. They roost on large trees in colonies, and visit coconut palms at night. In certain localities, palms may be regularly visited by bats.

A method of control that may be suggested is to shoot them. Lighting of crackers may scare them and prevent revisits even for a short period. Roosting places of bats may also be eliminated.

FIRMS MARKETING RODENTICIDES

The following firms have informed us that they market rodenticides: (Not in any order of preference).

1. Chemical Industries (Colombo) Ltd.,
   Hemas Building, Bristol Street, Colombo 1.
2. Colombo Apothecaries Co. Ltd., Prince Street, Colombo 1
3. Harrisons & Crossfield Ltd., Prince Street, Colombo 1.
4. Haychem Limited, 400 Dean's Road, Colombo 10.
5. Mackwoods Limited, 38, D. R. Wijewardena Mawatha Colombo.

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