

RAT DESTRUCTION*

AS is well known rats may become a very serious pest on coconut plantations, particularly on small islands where there is very little other food and practically no water. On large land masses damage to coconuts by rats is usually less frequent, and when it does occur is more often than not due to drought.

Various methods of destroying rats are in vogue in different parts of the world, the main ones being trapping and poisoning, but Indians are very partial to hunting with dogs.

TRAPPING

Fuch's steel rat traps are a very satisfactory type and are fairly economical in use. In some countries the natives are skilled in the construction of traps of the deadfall type and the use of these is encouraged.

Baits for traps require to be carefully chosen and frequently changed, if one kind does not prove attractive another should be tried. Rats are intelligent animals and soon learn to associate danger with certain smells. On estates pieces of coconut, either alone or dipped in coconut oil, unhusked grain and fish refuse have been found satisfactory baits. It is also recorded that small pieces of tapioca root or of sweet potato are attractive.

The baits should be handled as little as possible, and traps in which rats have been killed should be cleaned before further use. It is believed by some people that traps dipped in coconut oil before use will catch more rats than traps which have not been dipped. In any case it is advisable to touch traps as little as possible and to take precautions such as rubbing the hands in earth before setting the traps.

South (1931) in an article on rat destruction suggests that estates should be divided into areas of workable size and traps set in two or three areas on one night and in different areas on the next night, the work being so arranged that traps are set in each area once in seven to ten days.

POISONS

The commonest poisons used are probably sodium arsenite and barium carbonate, but compounds of phosphorus are also used.

An arsenical poison, which the writer has seen used with very satisfactory results, was composed as follows:

Sodium arsenite	...	...	1 part by volume
Rice polishings	...	...	4 parts ,, ,,
Dried fish or prawn	...	...	1 part ,, ,,

Sufficient coconut oil is added to form a stiff paste, and if desired a little water can also be added.

* By H. T. Pagden, Senior Entomologist, the British Solomon Islands Protectorate. Agricultural Gazette, Vol. 2, No. 3, July, 1934.

The whole is thoroughly mixed and rolled into small balls, using wooden "hands" to avoid imparting human smell to the poison bait. Sometimes the hands are rubbed with aniseed oil before preparing the bait. This oil adds to the attractiveness of the bait.

An equally effective poison can be made with barium carbonate, which has the advantage that it is less dangerous to human beings. The formula is as follows:

Barium carbonate	...	...	2 parts by volume
Rice polishings	...	...	4 ,, ,, ,,
Dried fish or prawn	...	...	1 part ,, ,,

Coconut oil is added as with the bait given above. Sometimes palm oil is substituted for coconut oil.

Poison baits made with barium carbonate should be used at once as this salt does not act as a preservative whereas sodium arsenite does.

Barium carbonate causes the rats to become thirsty so that the dead ones are usually found near water.

It has been found experimentally in the field that poison made with a trace of aniseed oil is considerably more attractive than poison without this ingredient.

Bacterial cultures, sold under the name of "Virus" are not generally suitable for use in the tropics as they are affected by the temperature and must be kept in cool storage. These viruses are stated to be harmless to man but they are not always as innocuous as supposed, furthermore not all the rats which eat a bait containing these substances are killed and those which escape may become immune and give rise to immune offspring.

GENERAL

Any measures against rats must be sustained; sporadic efforts are useless. The writer has seen dire results in cases where the rats have been so reduced in numbers that it has been decided to curtail operations, the rat population rapidly returning to its previous figure. Locally it is impossible to say what may happen on small more or less isolated islands of only a few acres area, it is conceivable that it may be possible completely to clear these of rats and to keep them clear at small expense.