RAT CONTROL IN ANDROTH

By

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Coconut is the major crop in the Union Territory of Laccadive, Minicoy and Amindivi Islands. It occupies almost the entire cultivable area of 2,753 hectares out of the total geographical area of 2,800 hectares. The trees are thickly planted and there is little scope for growing other crops on a large scale. The yield of coconuts per tree is about 40–50 nuts per year.

Rats and coconut beetles (Oryctes rhinoceros) are the two major pests of coconuts in this Union Territory. Of these, rat is the most destructive one. It causes heavy damages to the extent of about 20–25 per cent of the total production. Rats damage the coconuts by boring into the tender nuts. They drink the sweet water inside. The damaged nuts drop down from the trees a few days later. One can see large numbers of rat-eaten nuts lying on the ground under the tree. Rats also drink 'macra' (sweet toddy) collected from the tree for making palm jaggery. At times the inflorescence itself is damaged.

The thickly planted coconut trees with the usual spacing of five to six metres help the rats to move from tree to tree without the necessity of coming down for a considerable period of time. They also build nests on tree tops and breed there. At nights they come down and damage household articles and provisions.

Rat hunts, baiting with zinc phosphide, banding, fumigation and trapping were the measures undertaken by the administration till recently for controlling the rat menace. However, these could not achieve appreciable results. Zinc phosphide was not very successful because rats developed bait shyness quickly when it was used. The peculiar nature of the rat which has become arboreal in character and the apathy shown by the islanders were two of the major factors against the successful implementation of rat control programme.

However, schemes for eradicating rat menace were once again put into effect using warfarin blocks, because warfarin does not bring in bait shyness among rats.

Androth island was selected for the programme. Before starting the campaign some trials were conducted on the efficiency of warfarin blocks. For this purpose 4 plots, each plot having 30 coconut trees, were selected. Following are the plots.

Plot 1 — Pandaram
Plot 2 — Pallikeel
Plot 3 — Puthyannal Keecheri
Plot 4 — Puthyannal Chammachery.

The plots were visited frequently and the number of fallen nuts due to the rat damage were recorded and added up every month.

The counting was taken up from August 1970 and continued till January 1971. The results are tabulated below showing the details of rat-damaged nuts fallen before placing the warfarin blocks in each plot.

Month	Plot 1	Plot 2	Plot 3	Plot 4
August 1970	36	75	61	25
September ,,	28	56	48	25
October ,,	35	38	39	44
November ,,	16	23	46	28
December ,,	36	62	62	48
January 1971	2	45	35	11
Total	153	299	291	181

Grand total: 924.

By January end, warfarin blocks were prepared and placed on tree tops. The material was prepared as follows:

Five hundred grams of wheat bran, 90 grams of brown sugar and 60 grams of warfarin were mixed

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well and kept separately. Then 350 grams of paraffin wax was placed in a shallow open pan and heated over a slow fire. When paraffin wax just melted in the vessel it was removed from fire and the mixture of wheat bran, brown sugar and warfarin were poured into it and stirred well The material was spread out in an open pan, cut into small pieces each piece weighing about 50 grams. When the material cooled and solidified, it was stored; and kept, later on tree tops. Warfarin decomposes at high temperature and hence paraffin alone first melted over a slow fire.

Frequent visits to the plots and recording of rat-damaged fallen nuts was continued from February to July. The results, after placing the warfarin blocks on tree tops, are tabulated below:

Month	Plot 1	Plot 2	Plot 3	Plot 4
February	2	25	13	13
March	Nil	8	4	12
April	Nil	Nil	4	Nil
May	1	Nil	Nil	Nil
June	Nil	Nil	2	Nil
July	1	2	1	2
Total	4	35	24	27

Grand total: 90.

The results show a very high reduction in rat damage. The total number of fallen nuts recorded in six months before placing warfarin blocks was 924 and after warfarin treatment it was only 90. Thus the use of warfarin has brought about a reduction of 91·3 per cent in rat damage.

Encouraged by these results, warfarin blocks were placed on coconut tree tops on a large scale engaging about 20 climbers per day in Androth 1970-71. Side by side warfarin was placed in all the homestead gardens also. The results were spectacular. Rat damage to coconuts became very slow. The production and export of copra from the island increased from 244·24 tonnes in 1969-70 to 320·71 tonnes in 1970-71. Only 22,000 trees out of an estimated 50,000 bearing trees could be covered during the period.

Lack of regular supply of paraffin wax hampered large scale placing of warfarin blocks. Paraffin wax prevents the bait material getting washed off or blown away by the rain or blown off by winds during the monsoon period.

While placing the warfarin blocks on trees, the climbers filled the leaf axils with BHC. BHC 10 per cent mixed with three times its bulk of sand was used. This brought down the damage to coconuts by the beetles.