

The Red Hairy Caterpillar — (*Amsacta Albistriga* W.) and its Field - Scale Control

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Introduction : This is a very serious pest of dry crops and its occurrence is more or less an annual feature in most of the red sandy loam tracts of the south. A full-grown specimen measures about 2" in length and is reddish brown in colour, with numerous hairs on its body. The caterpillars are polyphagous in habits, as they feed freely on almost any green vegetation, but among cultivated crops, they are particularly destructive to groundnut and cumbu. They feed freely also on ragi, cowpea, castor, cholam, cotton etc. The pest generally occurs in its millions in definite broods and moves from field to field in a particular direction. In the case of groundnut, the damage is something terrific, since the entire foliage and flowers are grazed away, leaving the fields bare with the stems and the midribs of the leaves. The yield from such infested fields is reduced practically to nothing. The season of incidence of the pest may vary from tract to tract, as it is influenced, to large extent by the local rainfall and the agricultural practices as well.

Life History : The full-grown caterpillars seek shady spots under trees and hedges, sandy corners, etc., shortly after a heavy downpour, burrow about 6" into the soil and pupate. The pupae remain as such under the soil and begin to transform themselves into adults, with the receipt of the first showers during the next season. Such developed specimens await inside their pupal case and emerge as adults, exactly on the third day, late in the evening, after the next sharp rain. The emergences occur in definite broods, corresponding with those of the caterpillars which had gone down to pupate during the previous season. The adults pair almost immediately and oviposit the same night. The eggs are laid in cream-coloured masses, almost anywhere, but when there are standing crops, the lower side of the leaves is preferred. The egg-laying capacity of a female is about 800 eggs. Tiny caterpillars, dark in colour, hatch out in 3 to 4 days. They feed gregariously on the lower side of the leaves scraping the surface for the next 4 or 5 days. The presence of these groups is readily indicated by the mottled colour of the leaves. These

larvae attain a length of about $\frac{3}{4}$ " and develop an ashy brown colour in about 10 days and slowly spread to the plants nearby. The next phase is more destructive as the worms develop a voracious appetite and begin to disperse in large numbers. They assume a reddish colour as they grow and the active feeding continues for about another 15 days. The full-grown specimens await the next sharp shower, after which they burrow into the soil and pupate. The life cycle is thus repeated annually. The caterpillars are incapable of borrowing into the dry soil, and as such, failure of the rains at the critical stage, may often result in the wholesale annihilation of the worms. Hence the rainfall at this stage may help to determine the intensity of attack during the next season.

Control Measures : (Previous work) (i) *Mechanical* : The methods advocated during the earlier days consisted of a thorough hand-picking and destruction of moths, as they emerge from the soil, later on the egg-masses and the groups of the young caterpillars and finally of the grown up caterpillars. Their migration to the next field was prevented by digging trenches across the direction of their progress and a prompt destruction of the specimens collected there. A systematic digging out and collection of pupae also was attempted.

(ii) *Insecticidal methods* : Exploratory trials with BHC, DDT, & Toxaphene formulations indicated the usefulness of BHC 10% dust against the young caterpillars in the gregarious stage; Toxaphene 20% dust against the half-grown specimens and BHC 50% WP spray at 0.1% strength and Folidol 1 in 1000 against the full-grown stages.

Work done : With the background of the existing knowledge on the life-history and the control measures and of the very serious potentialities of the pest, some tangible method had to be evolved, which would, at the same time appeal readily to the average dry land ryot.

Earlier observations have indicated that the young caterpillars in their gregarious phase, are the most vulnerable, with the added advantage that their destruction would nip the pest in its bud stage, before the real damage starts.

BHC 10% dust – the cheapest of the newer synthetic insecticides – was found to confer the desired results to a remarkable degree. It is easy to note the mass emergence of the moths during the season (i. e., the third evening after every rain). They are attracted to lights and bonfires and the presence of the nefarious pest can also be traced

from such sources. Giving them time to lay their eggs and for the caterpillars to hatch out, the gregarious stage may be present in the field for 3 or 4 days from about the 6th day after every sharp rain. The intensity of the population can readily be detected on a closer scrutiny of the field, by the mottled colour of the leaves.

A thorough dusting of the entire field with BHC 10% dust at this stage, would practically annihilate the entire young larval population and the few that may either survive or escape can be easily disposed off later. Considerable economy could be effected if the ryot would only spot out the infested plants and treat them alone. Two or three rounds of treatment may be necessary depending upon the magnitude of the subsequent emergences. For a thorough and complete control, the co-operation of all the ryots in a village is necessary. All of them should take up the treatment almost simultaneously and complete it within a day or two.

The above 'modus' was given a fair trial over two compact and extensive blocks of groundnut, each extending about 400 acres at Usilampatti and Kallupatti (Madurai district) during September and October 1956. About 15 lb per acre of BHC 10% dust were required for the treatment and even one round was found to give a satisfactory protection to the crop.

The overall cost of the treatment is not likely to exceed Rs. 5/- per acre even if more than one round of dusting was necessary. Considering the wholesale ruin which the pest is capable of inflicting on the crop, it is worth spending the small amount as it will be within the economic limits of the average dry land ryot.

Economics: The average yield of groundnut (rainfed) is 1500 lb of pods per acre. In case of severe incidence loss will be heavy and it may exceed even 75%. As such by spending Rs. 5/- per acre it will be possible to avert a loss of about 1100 lb per acre.

Summary: Red hairy caterpillar pest of groundnut can easily be controlled at a nominal cost provided the control measure is taken up by the ryots of a particular area at the proper time on a co-operative basis. By dusting BHC 10% dust within a week after the emergence of the moth, the pest can be annihilated completely at a cost of about Rs. 5/- per acre.

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(*Madras Agricultural Journal* Vol. XLIV (3) Page 106)

Page 106 Add as para three the following :

“There is no published record of this fungus from this country. It is however widely prevalent in the Indo-Malayan region, Africa, Australia and in the West Indies. (Wardlaw 1935; 1937.)”

Page 106 Last two lines. - For Mardlaw — Read ‘Wardlaw’.