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Coconut Research Board

Leaflet No. 38

THE COCONUT SCALE INSECT AND ITS CONTROL

The Coconut Scale insect is a pest on coconut palms. As a result of a large number of these insects feeding on leaves, the leaves turn yellow, never to regain their green colour. Under favourable conditions for the pest, it would appear in large colonies, on palms, usually covering about eight to ten acres. The pest is commonly found in the North Western, Wertern and Southern Provinces in Ceylon. The insect is entomologically termed **Aspidiotus destructor** Sign.

Detection and nature of damage.

In mild infestations, the pest damage could be seen as small yellow patches on leaflets. In a single palm, several mature lower fronds, may be found infested, at first, a few leaflets and later on several neighbouring leaflets as well. When heavily infested, the entire leaf may turn yellow.

The yellowing of the leaf is consequent to the sucking of sap by these insects. Each yellow spot may correspond to individual Scale insect injury, causing in fact a yellow mottling. When the numbers of these insects are numerous, the resulting effect is the appearance of an entire yellow frond.

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This yellowing of leaves should not be confused with yellowing due to other causes, such as, mal-nutrition and unfavourable environment. To detect a Scale infestation, it is most advisable to cut down a few affected leaves and examine them on the underside. If the pest is present, a white incrustation of scaly matter will be seen. The Scale insects are easily recognizable with the aid of a hand lens, if available. If the pest material is present, a simple test to ascertain whether the infestation is fresh, is to run the nail of the thumb over the scally matter, when insects are alive, they will be crushed and a watery matter will ascend on to the nail. If the insects are dead, a scaly fluff will get thrown off. During wet weather, the Scale insects may be covered with a fungus growth.

The Pest Insect :—

Young Scale insects (nymphs) emerge as eggs hatch out. They could be seen easily with the aid of a hand lens. These nymphs can crawl about and would find for themselves a fresh location for feeding. In the next stage, the insect becomes sedentary, feeds upon leaf material beneath it, and puts on a scaly covering over its soft body. Each Scale insect enlarges with age under the scally covering. Those that become males develop wings and the capacity for flight. The females, remain sedentary and when mature, lay eggs, still under the scaly covering.

Natural Control :—

In nature, there are natural enemies of this insect (parasites and predators) that can keep the pest under check or sometimes even effect control at an out-break. The lady bird beetle, **Chilocorus nigritus,** is one such predator commonly found in this country. This beetle is a small black insect, roundish, hemispherical from a lateral view. They could be seen moving over the Scales on a Scale-infested frond; could disappear from sight on a quick fllight.

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Early attention :—

Vigilance is the first necessity for detection and control, particularly in areas where the pest is known to occur. In some areas the insect is known to occur throughout, in small infestations that do not cause serious damage to palms. At that level of incidence, control measures are unnecessary and uneconomical. As they increase in numbers, developing into outbreaks, effective control could be obtained early by cutting and burning infested fronds.

Chemical Control :—

If an infestation gets wide-spread, a quick control could be obtained by spraying infested fronds with kerosene oil emulsion prepared as follows —

Warm 1 gallon of water over a fire. Dissolve 1/2 lb. of laundry soap, put into this warm water in shavings and stirred. After the soap is completely dissolved, remove the soap solution from the fire and add to it, 2 gallons of kerosene oil, in small quantities, stirring the mixture, vigorously, all the time A heavy emulsion will then be formed. This is the stock solution.

This stock solution should then be diluted with water in the proportion of 1 to 10 respectively. It is this dilution that is sprayed.

Care should be taken to stir well the dilution at the time of spraying. If the emulsion is not well prepared, free oil will separate out, which will scorch the foliage. When spraying seedlings, special care should be taken to prevent spray liquid from dripping into the bud region.

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Quantity of ingredients required to spray 20 grown-up palms :—

Stock Solution

Kerosene oil	4 gallons
Water	2 gallons
Laundry soap	1 lb.

Spray Fluid

Dilution with water, 40 gallons

The Crop Protection Service Unit :—

The Coconut Research Institute maintains a Unit, equipped with power sprayers to spray tall palms. If an infestation spreads out in spite of cutting and burning infested fronds in the early stages, it should be brought to the notice of the Institute. Following the report an inspection will be done, if necessary, to ascertain the need for spraying. The unit will attend to the spraying operations free of charge, but the estate has to supply ingredients for the preparation of kerosene oil emulsion, and provide a few labourers when required.

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