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PREVENTIVE MEASURES AGAINST RED WEEVIL IN COCONUT PALM

V.A. ABRAHAM and CHANDY KURIAN

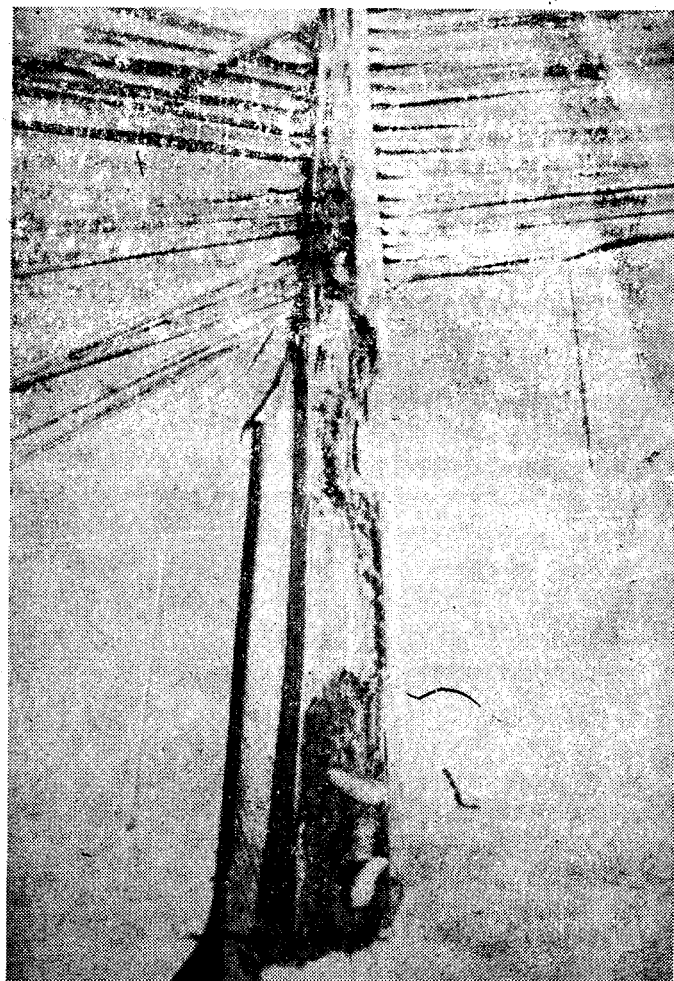
Central Plantation Crops Research Institute, Regional Station,
Kayangulam, Kerala

RED palm weevil (*Rhynchophorus ferrugineus* F.) infestation on coconut palm is a serious problem in certain regions of the Kerala State. Prophylactic measures recommended to control this deadly pest are mainly (i) chemical method of filling leaf axils of the palms with a mixture of 5 per cent BHC or Chlordane and sand in equal proportion thrice a year before and after the monsoons (ii) sanitational practices like destroying all possible breeding sources of the pest and (iii) protection of young palms against all kinds of wounds and injuries.

A very common way of causing injury to the palm is by cutting the green leaves of the palm for various uses like thatching, fencing etc. The wounds produced thus are the preferred sites of egg deposition by female weevils. Grubs emerging from eggs laid there will tunnel towards the stem and gain entry into the interior as long as the petiole remains green (Fig. 1). A total ban on this practice of cutting leaves is not practical due to the great demand of the leaves. Therefore, an alternative is to find out a suitable length to be measured from the place of attachment to stem, at which leaves can be cut without facilitating the pest to gain entry into the stem. With this object in view an experiment was conducted at Central Plantation Crops Research Institute, Regional station, Kayangulam and results are reported here.

Experiment

Leaves were cut leaving behind petioles of different lengths varying from 40-120 cm. The average period required for drying of these stalks was studied. The rate of linear progress made by the feeding grubs was separately worked out. The object was to correlate the drying period of different lengths of stalks with the rate of progress of pest infestation so that a suitable length at which the leaves could be cut without involving the risk



Progress made by tunnelling grubs—entry through cut end of leaf stalk

of pest entry could be recommended. It was found that during 55 days the grubs could traverse a distance of only 100 cm. Seventy-five per cent of the stalks cut at lengths of 120 cm from the stem dried in 55 days. Hence it is clear that if leaves are cut at 120 cm, 75 per cent entry of pest through cut ends of leaves can be avoided. This incidentally is the distance immediately beyond which the leaflets are given off from the leaf-stalks.

A second alternative is to treat the wounds with chemicals to prevent egg laying. Apart from the cut ends of leaves, wounds on the stem are caused by other means like cutting steps and accidental injury occurring mostly at the bole region due to cultural practices, on the crown due to attack of rhinoceros beetle and bud rot and on leaves owing to breaking of leaf-stalks due to wind etc. Such wounds on the palms below twenty years of age are favourite sites of oviposition by the female weevils. Treatment of such wounds with some

pesticide is necessary to prevent or reduce pest entry into stem through them.

An experiment was conducted to find out the efficacy of tar, BHC and combination of tar and BHC in preventing or reducing entry of the pest through wounds. Adult weevils were liberated on cut portions of leaf-stalks which were either untreated or treated with 5 per cent BHC dust or tar or BHC+tar mixture. Seven days after caging, wounds on the stalks were examined by peeling off portions from them. In BHC and tar plus BHC treated wounds no egg or larvae could be observed, but in case of tar treatment and untreated stalks large number of them were present. Thus it is evident that wounds on the palms if treated with BHC 5 per cent dust will prevent pest entry through these favoured sites. Tar may act as a good base for BHC to adhere to the wounds.

Recommendation

The attack of this pest can be reduced to the minimum if cultivators will adopt all the proved and known methods of preventive control measures against red palm weevil viz. filling up all the leaf-axils with BHC plus sand, treatment of wounds with BHC and cutting of leaves, if need be, 120 cm away from the base of leaves. Remember! Prevention is always better than cure.

Once the palm is detected as infested, as a curative measure it has to be injected with Pyrocon-E/Carbaryl (Sevin) 1 per cent concentration at 1000-1500 ml. per tree. If the intensity of infestation is at a stage when injection cannot cure it, i.e., the single growing point is already damaged, the tree has to be split open and all stages of pest be destroyed to prevent this deadly enemy of the palm from further spread.