

SPINDLE BUG - A MAJOR INSECT PEST OF ARECA PALM



**CENTRAL PLANTATION CROPS
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Spindle bug

1. Occurrence

The spindle bug *Carvalhoia arecae* is one of the major insect pests of areca palm. First reported in 1956 from Dakshina Kannada, it is now present all along the West Coast in Kerala and Karnataka.

This mirid bug infests areca palms of all age groups but the damage is more serious in seedlings and young plantations. If the symptoms are

unnoticed it could cause severe damage to the emerging spindles. Severely infested spindles fail to open fully. The continuous infestation leads to crown choke symptoms and death of the palm.



Adult bug

2. The pest

Adult bugs (cover photo) about 6 mm long and 2.5 mm wide, are brightly coloured red and black. The nymphs (young ones) are pale greenish yellow with the thorax and border of abdomen light violet brown. Colonies of the adults and nymphs live inside the top most leaf axils at the



Spindle bug - nymphs

base of the spindle and move about on the spindle in the cool morning hours to feed. They suck the sap from the leaflets of the spindle.

3. Symptoms

Fresh feeding marks appear as linear watery streaks on the spindle. These lesions turn dark to become necrotic patches later and dry up and drop off forming numerous holes on the leaves.



Damage symptoms on spindle

Affected spindles and opened leaves show these characteristic linear brown lesions. Severely affected spindles fail to open completely, get slightly twisted and do not attain the normal size.

Secondary fungi and insects may attack severely affected spindle tissues and hasten their rotting especially in rainy months. In humid weather conditions, the rotting may lead to the death of the palms. Persistent incidence without any management measures may be detrimental to the general health and longevity of the palm.

4. Life cycle

Oblong, minute, off-white eggs with the typical chorionic processes (one long and one short) arising from the operculum are thrust into the folds of the tender leaves in the unopened spindle. They hatch in 9 days. Nymphal period with five instars lasts 15-24 days. Twentyfour to 33 days are required to complete the life cycle.

5. Seasonal abundance

Though the insect is present throughout the year, peak incidence occurs during the monsoon and post monsoon months. The incidence is relatively low during summer months.

6. Management

Studies conducted at the Central Plantation Crops Research Institute indicated that the following measures are to be adopted to ensure effective management of this insect.

Plantations of young palms of sprayable height could be sprayed. The unopened spindle and inner most leaf axils are to be sprayed with a very fine spray of dimethoate @ 15ml in 10 litres of water. Spraying should be done preferably in the early morning hours or late in the evening. The fine spray should drip in to the leaf axils. For plantations showing persistent attack the following "sachet method" of insecticide application is to be adopted. The sachet method of application can be both curative and preventive especially in view of the fact that the insect population is higher during monsoon period and spraying insecticide against this pest will be ineffective. The salient features of sachet method of insecticide application against this pest are listed below.

6.1 'Sachet method' of application

- ◆ Polythene bags of 5x3 cm are filled with phorate granules and heat sealed or stapled.
- ◆ Few pin-prick perforations are to be made on the upper portions of the sachet.
- ◆ Two such sachets are to be placed in the topmost two leaf axils before the premonsoon showers.

- ◆ As and when new spindles emerge, the sachets are to be transferred to the youngest leaf axils.
- ◆ The activity of phorate granules in these sachets will continue for about six months.
- ◆ Care should be taken while filling the granules in sachet. Proper protective clothing for hands and face is necessary while filling granules in the sachet. This work is to be done during evening hours to avoid bright sunlight.

This method is highly effective and economical.



Insecticide 'sachets' in leaf axils

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Extension Publication No. : 74

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Published by : Director, CPCRI,
Kasaragod - 671 124