A NOTE ON PESTS AND DISEASES OF ARECANUT SEEDLINGS

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Observations on the arecanut seedlings in the nursery of this Research Station for a period of two years from May 1959 have shown that the seedlings are prone to a number of fungal diseases, a few pest attacks and some nutritional disorders. Isolations of fungi from the dead areas of the lamina have given cultures of *Phyllostiets*, *Pestalotia* and *Betryodiplordia* sp; microscopic studies conducted from 1959 to 60 have revealed perithecia of *Phyllachora* and *Ceriospora arecae*. However these fungi are primarily saprophytes and so far there are no instances at this Station where the saprophytes have turned parasitic i. e. infecting the living cells of the lamina. No majorpests have been noticed but *Carvalhoia arecae*, Millar and China, *Pseudoccus* sp., and mites are a few noted at this Station and its surrounding gardens. Cases have been noticed of bleaching of seedlings during the long, intense summer of February, March, April, May and June. A small percentage of the seedlings showed a typical physiological disease. Attempts have been made in this paper to detail the investigations carried out at this Station on the aetiology of the diseases and control measures taken to check the spread.

Studies on *Phyllosticta*, *Hormedendron* sp. and *Ceriospora arecae* have been communicated in detail by the senior author (1959, 1960, 1961.)

Pestalotia palmarum

This fungus has been constantly isolated from the seedlings. The symptoms are withering of the leaf tips subsequent to the appearance of reddish brown discoloured areas on the leaves following heavy rains after severe drought conditions, prevailing in this locality in the months of February, March, April May and June. (Fig 1) The

Fig 1

brown spots wither, and on these appear the pustules of the fungus. The tips of the leaflets shred; later this shredding extends to the entire lamina. Shredding is a very serious damage consequent to the attack of the fungus. At this station the disease has been more pronounced in cultivars raised from Quilon and Kottayam districts. It is probable that the disease may be the result of poor soil fertility. Spraying with 1% Dithane once a month, manuring with muriate of potash, Ammonium sulphate and destruction of diseased leaflets have served to hold the disease in check. Sprays of tannin have yielded good results.

Carvalhoia arecae. Millar & China

This has been described by Millar and China in the Bulletin of Entomological Research (1957) as a new genus and species of Miridae from areca catechu, in South India. The specimens have been collected from the diseased arecanut gardens of Palode village and incorporated in the National Pusa Collection. The bugs attack the spindles of young arecanut palms from 2 years onwards In the young creamy white leaves, round water soaked areas with a depression in the centre, 1 mm in diameter, mark the point of damage by the insects. In the older leaves longitudinal streaks are formed; the tissues are necrotic. The affected portions flake off leaving shot holes. (Fig. 2.) These bugs were fed on 1½—2 years old arecanut seedlings kept under bell jars in the laboratory. Lesions were produced which resembled the markings resulting from abrasion of carborundum powder. These lesions within 24 hours turned necrotic; the withered parts fell off. Logitudinal streaks were formed on the spindles and the young pinnae. The necrosis formed under controlled conditions were similar to those found in the field. Insecticides like Follidol 605, DDT, Endrin, Wettable B. H. C. were tried for controlling the pest. Best results have been obtained with Endrin.

Fig. No 2

Mealy bugs

In the arecanut nursery of this Station, during the years 1959, 1960 and 1961 many seedlings have been affected by a species of Pseudococcus. The specimen has been sent to I. A. R. I: for identification.

The bugs are found in clumps at the collar region areas, 5 to 6 cms in length. When disturbed these bugs gradually move away and concentrate on other portions. (Fig 3) The point of attack is characterised by rotting tissues, black in colour, soft, with watery exudations. The growing points can easily be detached without difficulty and the bases of the leaf sheaths are decayed. The affected leaves are chlorotic and later wilt A drenching with .03% Endrin has given good results after monsoons but mortality has been high in the summer.

Fig No. 3

Bleaching

During the summer months of February, March, April and May in the years 1959, 1960 and 1961 a number of seedlings on the edges of the beds in the bulk nursery showed a very characteristic bleaching of the lamina due to the intense rays of the sun; in spite of direct overhead shade provided by pandals, the young leaves were totally bleached; in transverse sections of the leaf examined in 1959, chloroplasts were broken down in the cells; Chlorophyll granu es were in all stages of degeneration. The mortality of seedlings is not controlled by spraying, shading or watering. Secondary fungi later invade the bleached portions of the lamina; chief among these are *Cladosporium* and *Pestalotia* sp

Spindle choking

In the young seedlings a common d's ase noted in 1960-61, was the crinkling, stunting and massing of the young leaves and growing shoot. The basal sheaths are decayed to some extent with watery exudations The diseased plants tend to recover in 6 to 7 months. Experiments are being conducted as to the cause of the disease, at this Station. Symptoms are chracteristic of nutritional disorder.

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