# THE OCCURRENCE OF SHOOT-ROT IN THE ARECANUT PALM ARECA CATECHU LINN.

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IN September-October, 1959, the writer came across a few cases of shoot-rot of the arecanut palm in one of the gardens around the Vittal Kasba of the South Kanara District, Mysore State. The Symptoms of the disease are almost similar to that of the shoot rot of coconut described by Sunderaraman and Krishnaswami(1933). Subsequently he observed the occurrence of this disease in the bulk garden of the Central Arecanut Research Station, Vittal also. The first visible symptom of the disease is the gradual yellowing of the inner whorl of leaves and the curling up of the leaflets. In due course all the leaves wither away, leaving the crown bare.

A detailed examination of the spindle (heart leaf) and the tender inner whorl of leaves at the early stage of the disease showed that they contained numerous brown to reddish brown spots all over the lamina. As the disease progressed, reddish sporulating masses developed at the centre of infected areas and these caused a secondary cycle of infection. The necrotic spots coalesced and the spindle and the tender leaves gradually rotted and died. Secondary organisms then entered the dead tissues. The disease then spreads to the whorls of undeveloped (primordial) leaves, and from there to the tender growing point and these also rotted and the entire palm died. The rotting tissue emits stinking odour.

The causative organism was isolated and identified as a species of *Gloeosporium*. The progress of the disease is very rapid and during certain seasons such as the months of August and September. Palms are seen to die within the course of about 10-15 days after showing the first symptoms of the disease.

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If the garden is already crowded with arecanut palms and intercrops, and sufficient space is not available to grow green, manure crops *in situ*, such crops can be grown along the boundaries of the gardens-along foot-paths and in all odd nooks and corners of the garden. *Crotalaria anagyroides* and *Crotalari striate* and *Tephrosia candida* are found quite suitable for this purpose. Another crop which is found to be highly suitable for this purpose is *Gliricidia maculata*. This is a perennial, and can be easily propagated from seeds or stem-cuttings, and stands any amount of lopping.

Growing green-manure crops inside arecanut gardens thus enables the grower to get over this serious problem of finding green leaf from forest areas for his garden.

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The essential points of difference between the symptoms of shoot-rot described here and the budrot of the palm caused by *phytophthora palmivora* Butl. are that in the former case the infection works its way from the tip of the spindle (heart leaf) and tender leaves downwards towards the growing point, while in the latter case, the infection starts from the base of the spindle and then proceeds downwards. Moreover in the former case, large number of brownish spots appear on the spindle and tender leaves whereas such spots do not occur in the case of budrot. The accompanying plate shows a palm in an advanced stage of the disease.

The disease is found to occur mostly in low lying areas or in closely spaced gardens or gardens crowded with intercrops such as banana, tapioca and pepper. It makes its appearance generally in the second half of the monsoon period,which is characterised by alternating periods of sunshine and rain, when the extremely humid conditions prevailing facilitate the rapid growth of the fungus. Lack of vigour caused by lack of nourishment, or lack of attention to culture practices, pre dispose the palm to the disease.

It can be seen that the disease is capable of causing a great deal of damage in the areca gardens. It can however be controlled if it is detected sufficiently early and all the diseased and dying tissues are scooped out and destroyed. The patches so treated as also the surrounding tissues should be drenched with one per cent Bordeaux mixture or with Leytosol (at 1 kg. per 150 litres of water) immediately to prevent the spread of infection. To the best of the knowldge of the author the occurance of the shoot-rot in the areca palm has not been reported so far.

Shoot rot in Areca palm

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