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BUD ROT

A palm that has lost its bud having succumbed to the disease

Of all diseases of the coconut palm in this country, the Bud-rot disease is the most destructive. When it occurs, usually, it affects the palm fatally. Thus, its destructive nature is manifested even when only a few palms contact it. When palms succumb to the attack, one after another, the disease is apparantly alarming. When the loss is however reckoned on an acreage percentage basis over a length of time, say, annually, the actual loss is heavy only in some areas.

The Bud-rot disease is caused by a fungus infection. The two fungi known to cause this disease are *Phytophthora palmivora* and *Phytophthora nicotianae* var. *parasitica*.

Prevalence and mortality

Information on the rate of prevalence is available only from a few plantations. One noteworthy observation is that the disease can occur heavily among young palms from the age of about 3 to 20 years. In one plantation, as the palms grew up and reached about their 20th year, the rate of incidence fell without any treatment.

Records also indicate that the Bud-rot disease occurs in some localities where it tends to remain endemic. It has been noted that in humid areas, palms are more susceptible. In one estate most of the palms affected were close to a neighbouring rubber plantation. It is known that rubber trees carry the organism that causes this disease.

'Neighbour infection' is not always present. The usual pattern is a sporadic appearance, well spread out.

The heighest mortality so far recorded is 4 percent per acre per annum during a two year period when the incidence was high. In an under-plantation several palms died annually and continually till they grew up and the tall plantation was removed.

Detection

The infection of the disease would take place within the plant and develop into fatality without betraying visible symptoms of attack. Hence early detection is, usually, not possible. By the time detection is made, the bud is already rotten with no chances of recovery. Some claims have been made that the disease could be detected in its incipient stages as lesions or withered or scorched up patches that would appear on the bud leaves, which when cut and removed, the disease gets arrested.

Control

When early detection is not possible and the bud can reach an advanced stage of decay before it is detected, curative treatment is not possible.

The next consideration is a treatment for prevention. For prohylaxis, an application of a copper fungicide on young palms can be suggested. Bordeaux mixture can also be used. The fungicide Perenox is in common use. Since the disease can appear anywhere in the plantation, all palms have to be treated. Such treatments have to be repeated at least bimonthly, for a long time. Hence the cost of treatment will be considerably high, it can be even more than the actual loss from the disease. Therefore, where the incidence is low, even a preventive treatment cannot be applied.

It may be possible to treat palms neighbouring the affected ones, as a measure of protection. But this is again reasonable only if neighbour infection takes place If neighbour infection does not take place, then treating neighbouring palms is also unwarranted.

The only practicable suggestion that remains is the proper disposal of infected palms no sooner than they are detected. That is, by cutting and burning them which is itself a method of control because by their removal, sources of infection are eliminated.

If it is desired to keep an affected bearing palm to harvest maturing fruit, then the bud region should be treated with Bordeaux paste and reapplied periodically, till the palm is cut and burnt.

Other bud rots

Bud rots can occur due to lightning, red weevil damage mechancial injury or by contact with toxic substances.

In seedlings, buds can decay due to pest attack, chiefly termites and the *Pythium* (fungus) disease.

When palms are struck by lightning the bud can fal off but a characteristic symptom also develops. The fronds droop. When a palm is affected by the bud rot disease, the bud drops but the outer whorl of leaves and fruit bunches remain unaffected for a long time.

Copper fungicides are available in Firms dealing with agricultural chemicals. Any one of them can be used at a dilution of 1 - 2 per cent. The suppliers could advise on quantities for dilution in respect of their formulations. Perenox has been mentioned as it is in common use. The dilution rate is 1 oz in 2 gals water. This dilution is poured into the cabbage region to wet it thoroughly. The application is made fortnightly at commencement and latar monthly.

Bordeaux mixture is prepared as follows - Dissolve 1 lb. of copper sulphate in 5 gals of water. Separately, mix 1 lb. of quick lime in 5 gals of water. Then mix together, pouring the copper sulphate solution into the lime mixture. A vigourous stirring is necessary to make a proper mixture.

Bordeaux paste is prepared as follows - Dissolve 1 lb. of copper sulphate in ½ gal water. Separately, mix 1 lb. quick lime in ½ gal water. Then mix together the copper sulphate solution and the lime mixture. The mixing should be done thoroughly.