



Coconut Research Institute of Sri Lanka



Advisory Circular No. B 9

BUD ROT DISEASE AND ITS CONTROL

Bud rot is a fatal disease of coconut. It is caused by a fungus known as *Phytophthora palmivora*, which attacks the growing point of the coconut palm. Once the growing point is attacked, the palm is beyond recovery.

Palms of age 3-45 years are particularly susceptible to this disease. As in the case of other fungal diseases bud rot prevails when the humidity is high as such this condition favours the growth and dispersal of the causative fungus. Thus young palms, which have clustered leaves, and under plantations in which the young palms are shaded by the older palms are susceptible to the disease. The disease is often seen in river banks subject to flooding. Normally, the disease is observed sporadically in widely scattered palms.



Picture 1 : A palm affected by bud rot

In Sri Lanka, this disease is not widespread, but occasionally, in the wet and intermediate zones minor epidemics have been recorded.

Symptoms

In affected palms, initially the spear leaf loses its luster and withers. Wilted symptom gradually spreads to the adjacent leaves. Close examination of the bud region would reveal discoloured patches at the base of the spear leaf. Withered fronds turn brown and dry while the lower fronds remain healthy and green. Drying of inflorescence and immature nut fall occurs at this stage.

In the advanced stage, the spear leaf can be easily pulled out and will give a foul odour. Later bud and few adjacent fronds fall followed by other fronds leaving only the trunk. The disease is often detected when the bud breaks away due to the rot. Such palms are beyond recovery.

Control

Infected young palms, in an advanced stage, the crown should be cut and burnt to destroy the fungus. If bud rot is detected early, the bud region should be thoroughly wetted with Bordeaux mixture or 1% copper fungicide solution.

When older bearing palms are affected, it is possible to keep the bunches until the nuts are matured. However, in such instances, it is important to wet the bud region with recommended chemical to kill the fungus.

Preventive measures

Although it is extremely difficult to cure an affected palm, prevention of the spread of the disease is possible. Healthy palms surrounding affected ones should be treated as preventive measure. Treatment can be done using Bordeaux mixture, 1% copper fungicide or more conveniently, using fungicidal bags.

When the Bordeaux mixture or copper fungicide is used, the bud regions of the healthy palms should be thoroughly wetted once in 2-3 weeks. The fungicidal bag is more convenient and is prepared as follows

1. Take a piece of jutehessian or gunny 15 cm square
2. Place a handful of coir dust on this piece and tie up to make a small bag.
3. Leave these bags overnight in 1% copper fungicide solution
4. Dry the bags for few hours on the following morning
5. Place one bag in the axil of the youngest leaf.
6. Check the bag monthly and shift it to the base of the newly emerged spear Leaf

If heavy rain is experienced regularly, the bags will have to be dipped in fungicide more often. In dry weather, the bags have been found to keep the fungicidal properties for 4-6 months.

Bordeaux mixture:

Bordeaux mixture is prepared as follows: (Use earthenware vessels)

Copper sulphate	-	200 g
Quick lime	-	200 g
Water	-	25 litres

Dissolve copper sulphate overnight in 5 litres of water (suspend in a bag to facilitate dissolving). Suspend lime separately in 20 litres of water, and strain through a fine cloth. Add the copper sulphate to the lime, stirring vigorously.

Use immediately after preparation.

Copper fungicides

A large number of copper fungicides are marketed in Sri Lanka. Any one of these may be used as directed by the manufacturer.

Note: Both Bordeaux mixture and Copper fungicides are toxic and should be handled with care.