

INTEGRATED MANAGEMENT OF BLACK ROT DISEASE



Whitish fungal growth along
infected leaves and twigs



Whitish fungal growth on developing berries



Infected leaves hanging down
by mycelial strand



Blackening and rotting of infected leaves,
twigs and developing berries

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Coffee plantations in South India experiences prolonged wet weather during South-West monsoon from June to September. In this period, invariably coffee plants suffer from a fungal disease commonly known as 'Koleroga' (Kole = slimy; roga = disease) or black rot. This disease is considered as the second important disease of coffee next to leaf rust in India. It is caused by the fungus *Koleroga noxia*, infects both Arabica and Robusta coffee. It is a seasonal disease, mainly confined to rainy season and this disease is generally noticed in almost all the coffee growing regions coming under the influence of heavy South-West monsoon. Damage caused by this disease varies from place to place and season to season. However, 10 - 20 % of crop loss may occur in severely infected areas.

Symptoms

- ❖ The black rot pathogen infects leaves, developing berries and young shoots. The most striking symptoms are blackening & rotting of leaves, developing berries and young twigs.
- ❖ Disease development is pronounced more towards the centre of the bushes.
- ❖ The fungus develops on the surface as thin film, which can be easily peeled off when wet.

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- ❖ Close examination reveals the presence of characteristic thread like fungal growth along the twig, petioles and spreading mostly on the lower surface of the leaves.
- ❖ Infected leaves get detached from branches and hangs down by means of slimy fungal strands.
- ❖ Infected leaves and berries show white web consisting of closely interwoven mycelia of the pathogen after the loss of surface wetness.
- ❖ At advanced stage of disease development, defoliation and berry drop is observed.
- ❖ The dropped berries and infected young shoots affect the next year's crop when conditions are favourable.

Favourable factors

- ❖ Continuous rains during the monsoon season without a long dry spell
- ❖ Saturated atmosphere with 95-100% relative humidity
- ❖ Hanging mist, thick overhead shade and wind in the valley areas
- ❖ Overcrowding of coffee bushes due to closer planting

Integrated Disease Management

Black rot disease is managed by adopting integrated approaches viz., cultural, physical and chemical measures.

- ❖ Thick overhead shade should be reduced in black rot endemic areas before the onset of the monsoon season.
- ❖ Planting monoculture shade trees especially Silver Oak (*Grevillea robusta*) in disease-prone areas should be avoided.
- ❖ Centring and handling of the bushes by removal of criss-cross branches, dead & dry branches, suckers and dried leaves of the shade trees fallen on the canopy of the bush must be completed before imposing the pre-monsoon spray.
- ❖ Adequate coverage of 1% alkaline Bordeaux mixture on both the surface of the leaves and berries just before the onset of monsoon.
- ❖ If the disease progression is noticed even after pre-monsoon spray, in such situation collect and destroy the infected plant parts and debris. After phyto-sanitation, take up spray of tebuconazole 38.39% SC @ 200 ml/200 litres of water and NAA (Planofix) @ 50 ml along with any sticker/wetting agent during clear break in monsoon season.

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