

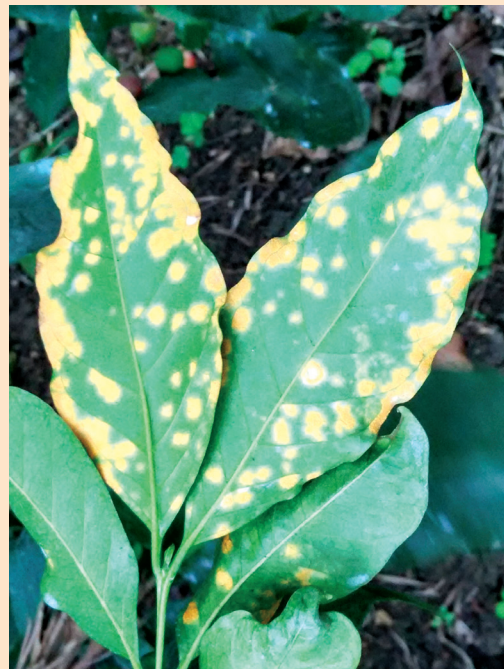
INTEGRATED MANAGEMENT OF COFFEE LEAF RUST DISEASE



Orange coloured spots



Severely infected Arabica coffee plant



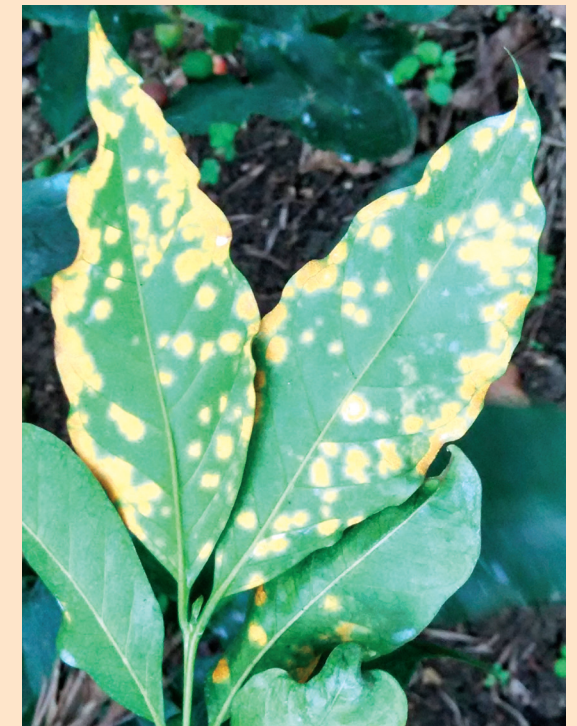
Yellowish orange spots



Spraying of fungicide

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Coffee leaf rust (CLR) is also known as 'orange rust' caused by an obligate parasitic fungus *Hemileia vastatrix*. Among the cultivated coffee species, *Coffea arabica* (Arabica coffee) shows varying levels of susceptibility to rust, while *C. canephora* (Robusta coffee) is tolerant to rust. In India, leaf rust is a threat to Arabica coffee cultivation as the climatic factors of alternate wet and dry conditions prevail in coffee tracts are favourable for high disease build up leading to crop loss up to 70% in susceptible cultivars, if proper control measures are not adopted timely. Diseased leaves fall prematurely and predispose the bushes for the incidence of die-back. Severely infected coffee bush loses its framework, looks barren and berries formed on such branches fails to develop leading to floats (Jollu).

Symptoms

- ❖ Coffee rust mainly infects the leaves and very rarely on the young branches and fruits.
- ❖ Initially, symptoms appear as pale yellow, pinhead size spots on the

lower surface of leaves later, turns to orange-yellow spots.

- ❖ These spots increase in size, later become irregular in shape and coalesce with adjacent spots. On these spots, mass of yellow-orange dust like deposits of urediniospores are observed.
- ❖ These urediniospores are the infection propagules spreads through wind, rain splash, to some extent by insects, animals and human beings.

Favourable factors

- ❖ Wet weather during June to September with intermittent rain and sunshine.
- ❖ Ambient temperature between 22°C to 24°C with relative humidity above 80%.
- ❖ Prolonged leaf wetness during October to December due to mist or intermittent North-East rains.
- ❖ Thin overhead shade and overbearing.

Integrated Disease management

- ❖ Grow leaf rust-tolerant Arabica selections such as Sln.5B, Sln.6, Sln.9 and Sln.13 (Chandragiri).

- ❖ Cultivating Arabica coffee under optimal two-tier shade consisting of top canopy of recommended mixed shade trees and middle canopy of dadap as temporary shade.
- ❖ Prune the unwanted, dead wood, lean, lanky, unproductive and overlapping branches after harvest and before blossom showers. The pruning during this period will help to reduce the initial inoculum of the pathogen.
- ❖ Spray freshly prepared 0.5% alkaline Bordeaux mixture with proper coverage on the lower surface of leaves before the onset of South-West monsoon.
- ❖ Spray any one of the systemic fungicides viz., hexaconazole 5% EC @ 400 ml/200 liter or hexaconazole 75% WG @ 30 g/200 liter OR tebuconazole 38.39% SC @ 200 ml/200 liter of water during post-monsoon period.

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