



Coffee Leaf Rust

Fact Sheet

Coffee leaf rust is caused by the fungal pathogen known as *Hemileia vastatrix*. Coffee leaf rust infection, especially when combined with drought, can lead to flower abortion, poor quality berries and lower harvestable yield.

How do you spot it?



The first visible symptoms are small, pale yellow spots on the upper surface of the leaves.

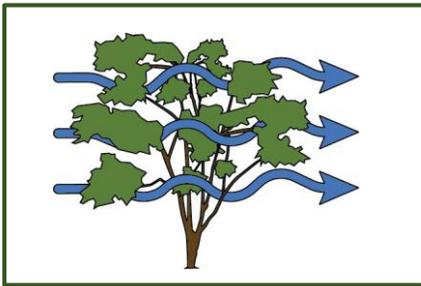


Orange circular lesions (pustules) with spores will appear on the underside of the leaf.

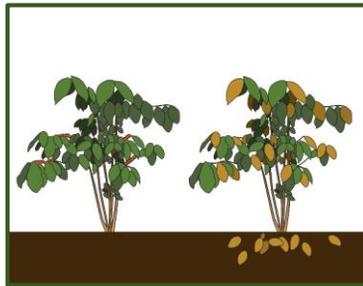


In the middle of the larger pustules there may be a brown spot (where the leaf died).

How do you manage it?



Pruning coffee shrubs for proper air circulation so that moisture will not stay long on the leaves. **Proper nutrition** makes the plant more resistant to infection. **Weed control** can strengthen shrubs by removing competitors for nutrients. **Optimal shade** level is also important. Too much shade gives an overly moist air that can increase disease development and too little shade can weaken the coffee shrub and facilitate spread of the disease by wind.



Coffee varieties resistant to coffee berry disease have less resistance to the leaf rust fungus. To select resistant varieties, it may be best and easiest to grow the seeds collected from **farmers' landraces** or from the **natural forests** of those plants that have shown low susceptibility to rust for many years.



The white fungus (*Lecanicillium lecanii*) that can sometimes be seen on coffee leaf rust is another fungus. This white fungus is beneficial, as it **feeds on, and kills, the coffee leaf rust**.

Chemicals used to control leaf rust

- Copper oxy-chloride
- Kocide©
- Bayleton© (triadimefon)

More about coffee rust

The first severe outbreak of the coffee leaf rust was in Sri Lanka in the 1870s, where it caused a total collapse in coffee production, and the farmers' turned to cultivate tea. Since then it is considered the most economically damaging coffee disease in the world. However, in southwestern Ethiopia it seems less damaging, in particular when compared to other diseases (like coffee berry disease)

Rust spores germinate in the presence of free water (such as rain or heavy dew on leaves). The disease will develop and spread during the rainy season, as spores need approximately 3-6 weeks to germinate and infect. When the weather is dry, the rust fungus can survive up to six months as mycelium within the coffee leaves. The disease can be found the entire year, but is most severe in January and February.

Our mission and what we hope for

We are currently carrying out research on the most important fungal coffee diseases in several farmers' plantations in the Gomma-Gera landscape (Jimma zone). For this, we record the yield, disease dynamics and biodiversity in a range of different management systems, including natural forest, semi-forest and plantation systems. We hope that the results from the research project will provide insights in the disease dynamics as well as management recommendations to reduce the disease levels. The aim of the current fact sheet is to provide farmers and extension agents with information on the symptoms and consequences of coffee leaf rust (and other diseases), as well as recommendations for management.

The research project *Managing coffee to increase farmers' livelihood and biodiversity in Ethiopia* is financed by SIDA and managed by Ayco Tack ayco.tack@su.se, Kristoffer Hylander kristoffer.hylander@su.se and Beyene Zewdie Hailu beyene.hailu@su.se.

