

Leaf Rust of Mulberry

Dr.H.B.Mahesha, Yuvaraja's College, University of Mysore, Mysuru.

Experiment No. 3: Study of leaf rust through sectioning, staining and temporary mounting.

Leaf rust disease is caused by *Cerotelium fici*. It belongs to the order Uredinales of class Basidiomycetes. In India *Cerotelium fici* is the pathogen which causes leaf disease.

Symptoms: In case of leaf rust the pathogen produces numerous pin head sized circular to oval brownish to black eruptive lesions on the lower surface of leaves. As the disease becomes severe leaves become yellow and wither off prematurely.

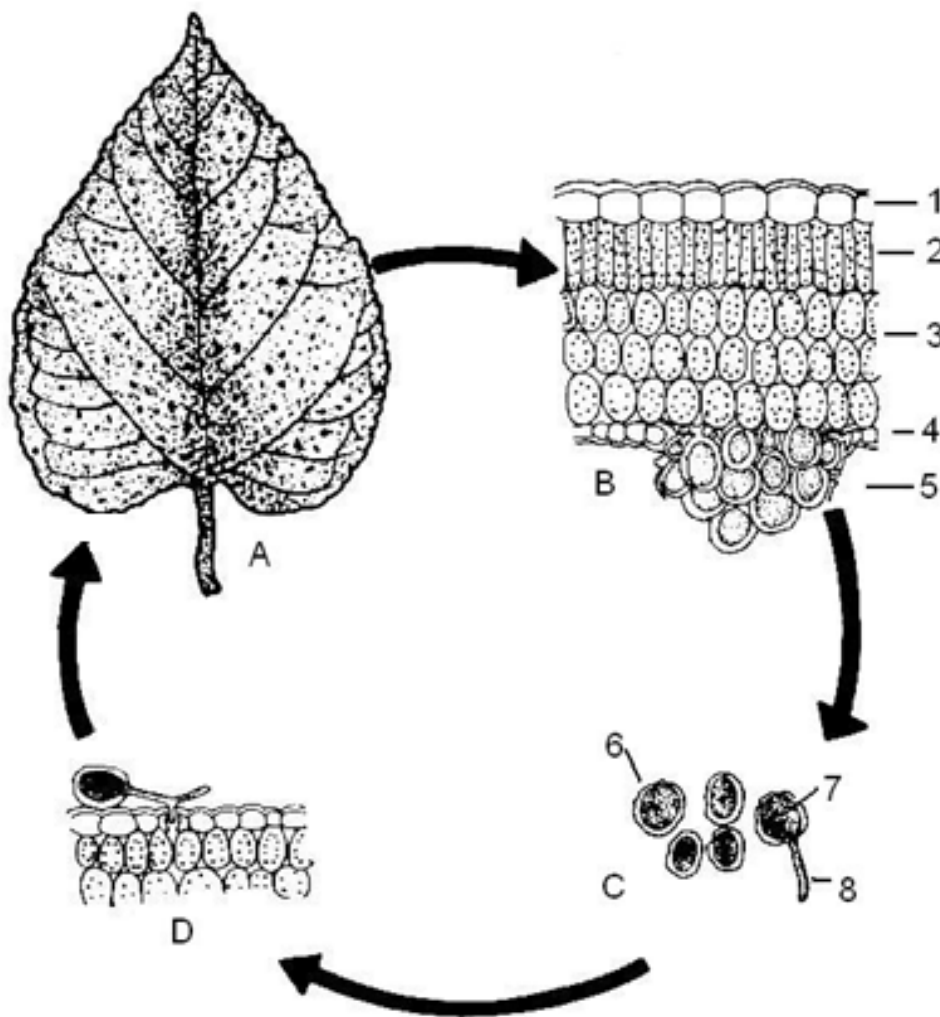


Symptoms

Disease cycle: The pathogen *Cerotelium fici* is an obligate microcyclic rust fungus. It exists primarily as mycelium, Uredia and Uredospore. Uredospores are oval to round and uninucleate produced singly on uredophores in Uredia. In favourable conditions (22-24°C with high humidity) Uredospores germinate and produce hyphae, which enter the leaf through stomata. The hypae grow intercellularly in the host tissue, sending haustoria into the host cells to draw the nutrients. Uredospores disperse through water droplets and wind currents and spreads the disease.

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| A. Mulberry leaf infected by leaf rust | (5) Uredospores |
| B. T.S. of infected leaf | C. Liberated Uredospores |
| (1) Upper epidermis | (6) Exine |
| (2) Palisade tissue | (7) Intine |
| (3) Spongy tissue | (8) Germ tube |
| (4) Lower epidermis | D. Germinating Uredospore on the leaf surface |

Disease cycle of *Cerotelium fici*



Control: Timely utilization of leaves without delaying the leaf harvest especially during winter months and wider spacing in plantation have been found to reduce the disease incidence. In addition, spraying of fungicides like Dinocap and Carbendazim at 0.2 percent concentration helps in controlling the disease with a safe period of 7 days.

Varietal difference in resistance to leaf rust disease is known, though no variety has been yet found to be completely resistant.

REFERENCES

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