



## MINT RUST

Rust, caused by the fungus *Puccinia menthae*, is a common disease of mint. Mint rust was first reported from Europe in 1801. This rust was found on commercial peppermint plantings in Oregon in 1948. The disease is now distributed widely throughout the world. *P. menthae*, infects plants in the mint family, especially spearmint and peppermint. The strain of *P. menthae* that infects peppermint does not infect native spearmint, nor will the strain of *P. menthae* that infects native spearmint infect peppermint. Both strains can infect Scotch spearmint. In the Midwest, spearmint rust is more common than peppermint rust.

### SYMPTOMS

*Puccinia menthae* causes light-yellow spots on the upper side of infected leaves and blister-like on the underside of the leaves and young shoots in the spring. Later in the season, brownish-red spots (pustules) surrounded by a yellow halo appear on the leaves. Affected leaves may eventually drop off, causing the plant to become severely defoliated. When rust infects young plants, the shoots usually become twisted and distorted, and break off easily at the point of infection. In late summer and fall, the spots on the leaves become deep-chocolate brown, as the overwintering spores of the fungus are produced.

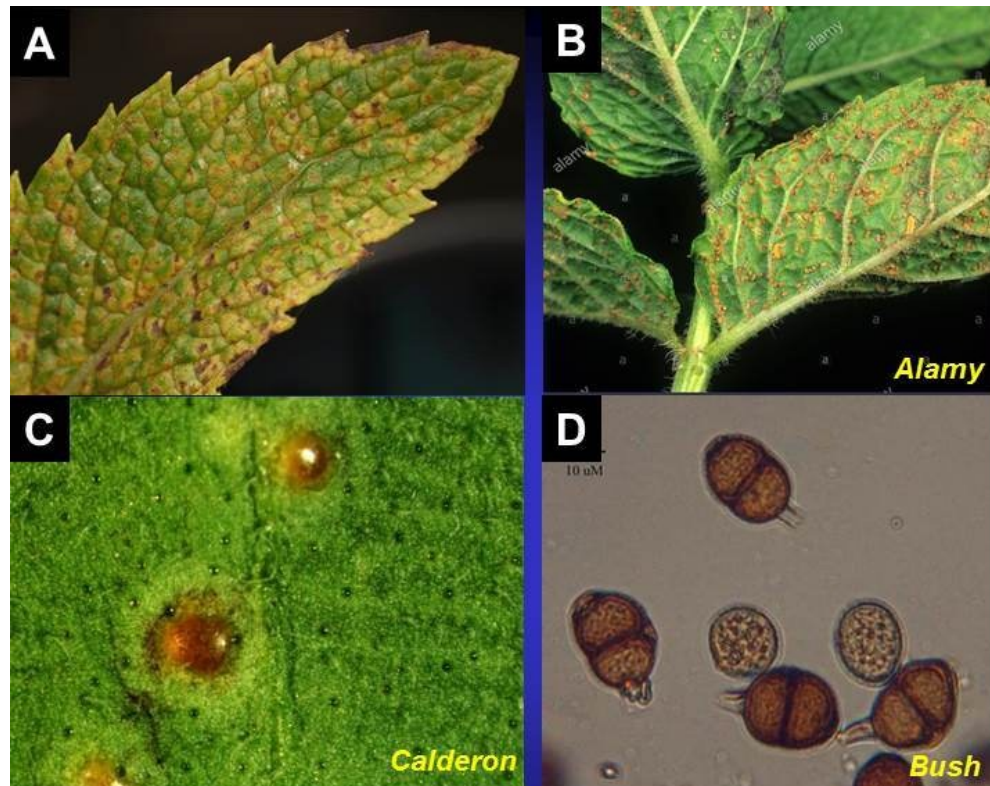


Figure 1. Mint rust caused by *Puccinia menthae*. A, yellow spots on upper side of a leaf; B & C, pustules of rust on the undersides of leaves; and D, urediniospores and teliospores of the pathogen.

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## **DISEASE CYCLES**

*Puccinia menthae* overwinters as thick-walled black spores (teliospores). After a period of dormancy, and when the conditions are favorable, teliospores germinate to produce colorless spores (basidiospores). Basidiospores are able to infect young stems and leaves of mints. Gradually, infected plants develop brownish-red pustules that have brown spores (urediniospores) that can infect mint. Infection of plants and production of brown spores continues until the fall, when teliospores (overwintering spores) are produced.

## **DISEASE MANAGEMENT**

Mint rust is managed by cultural practices and fungicide application. Organic producers should destroy infected mint plants or remove infected leaves if the disease is mild. Any rust-infected tissues should be immediately burned or double bagged, and all plant debris kept away from mint plants to minimize re-infection. Thinning mint stand will allow better air circulation that can dry out rust fungus without the use of fungicide. Plants should be watered at the base to prevent foliage wetness, and watering should be early in the day so water will evaporate quickly. Fungicidal treatments for rust on mint plants should be considered when cultural practices fail. Relatively long pre-harvest intervals (PHI) are needed for the use of fungicides on mints, so fungicide may be applied when absolutely necessary. In the Midwest, fungicides Bravo (chlorothalonil, 80-day PHI), Headline (pyraclostrobin, 14-day PHI), Propimax (propiconazole, 30-day PHI), Quadris (azoxystrobin, 7-day PHI), and Rally (myclobutanil, 30-day PHI) can be used for control of spearmint rust. For the updates on the fungicide use for control of mint rust, refer to the “Midwest Vegetable Production Guide for Commercial Growers” (URL: <https://ag.purdue.edu/btny/midwest-vegetable-guide/>).