THE OHIO STATE UNIVERSITY COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

POWDERY MILDEW IN PROTECTED CULTURE

Scientific Name

Leveillula taurica, Oidium neolycopersici, Erysiphe orontii

High Tunnel Host Crops

Tomato, eggplant, pepper

Identification

Early symptoms depend on which pathogen species is present:

Leveillula taurica (pictured below) begins on the undersides of leaves as flat white mycelia. Bright yellow lesions form on the upper sides of leaves, and then sometimes develop into necrotic lesions with yellow halos. Fruits develop irregular, bright yellow lesions until they become completely necrotic.

Oidium neolycopersici starts as white or gray splotches on the upper sides of leaves and progresses to the stems. White mycelia spread to cover the leaves and stems as the disease becomes more severe. The plant becomes very weak, which leads to rapid defoliation and fewer and smaller fruits.



Often Confused With

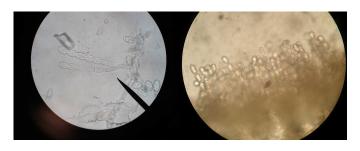
Leaf mold, Botrytis gray mold, early blight

Thresholds

For Leveillula taurica, action threshold information has been developed using a disease forecasting model for field tomatoes. However, this may not be helpful for greenhouse and high tunnel growers.

Favorable Environmental Conditions

Mild temperatures are favorable for tomato infections. High relative humidity (75 - 85%) helps pathogens colonize plants. Conidia germinate from 50°F to 98°F, where the optimal temperature is about 70°F.



Scouting Notes

Symptoms and signs develop on the upper and undersides of leaves. They begin as yellow lesions or white cottony mycelium. Infected leaves should be removed and destroyed to prevent any further infections.

Management Notes

Apply Preventative Fungicides – Sulfur and copper containing fungicides can be sprayed every 7 to 14 days until the pathogen is eliminated. Oils and plant -based oils have also been effective in controlling the disease, such as Saf-T Side Spray, neem oil, or jojoba oil.

Avoid High Humidity – Maintain proper air circulation through spacing and good pruning practices. Avoid overhead irrigation where excess leaf moisture is possible. Full-sun conditions and high temperatures will hinder the pathogen's growth.

Maintaining Plant Health – Keep plants healthy by applying fertilizers regularly; however, do not raise nitrogen levels too high because this favors growth of the pathogen.