



AVRDC - The World Vegetable Center

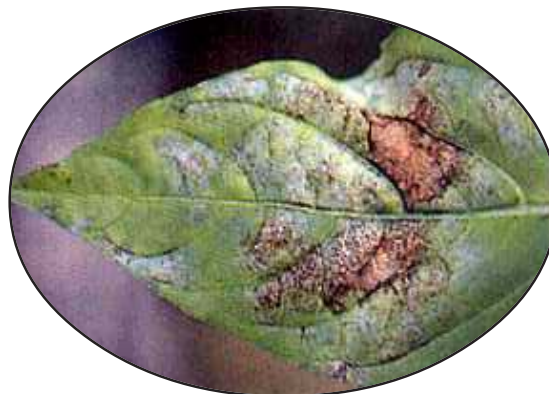
Fact Sheet

Pepper Diseases

Powdery Mildew

Leveillula taurica (asexual stage *Oidiopsis sicula*)

Found worldwide



Symptoms

L. taurica infects the lower leaf surface as small, whitish powdery-like colonies. The upper surface of the foliage develops yellow spots that become more prominent as *L. taurica* develops. There are no symptoms on either the fruit or root tissues.

As the disease develops, the older colonies of the fungus may turn a dirty white color with age. The severely affected leaves turn yellow, then brown and fall off. Generally, the older leaves are affected first and the disease gradually moves up the plant. Crop yields and fruit quality may be reduced through loss of foliage.

Conditions for Disease Development

Pepper is the main crop affected by this disease, but the same isolates of *L. taurica* may attack tomato, eggplant, and cucumber. Many cycles of infection may occur during the growing season.

The main method of spreading the fungus is by wind, but rain splash will also spread the spores. Insects such as thrips, aphids and whiteflies are considered minor sources of spread. Workers handling affected plants may cause spores to be disseminated to neighboring plants. The fungus survives from season to season on living pepper plants or alternative hosts. The

How to Identify Powdery Mildew



Powdery white lesions and necrotic areas develop on lower surface



Yellow blotches and necrotic areas develop on upper surface



Yellow blotching

fungus is not found on or within pepper seed.

The disease is favored when large day/night temperature and humidity fluctuations occur, which promote periods of leaf wetness. Development of *L. taurica* is favored by warm (25°C) and dry (less than 80% RH) days followed by humid (greater than 85% RH) nights. Temperatures of 25°C are associated with a higher rate of disease development than temperatures of 18–20°C. Young plants are less susceptible than older plants.

Other factors such as close plant spacings and luxuriant plant growth arising from high nitrogen levels are likely to foster greater disease development.

Control

Prevention – The disease is difficult to prevent because the fungus infects many different hosts and its spores are disseminated by wind. Nevertheless, avoid excessive rates of nitrogen since they make plants more susceptible to infection. Avoid crowding and shading plants, which favor development of leaf wetness. Monitor the undersides of leaves for mildew development and act promptly when symptoms appear.

Avoid planting young pepper plants while diseased plants remain nearby. Control weeds around the planting site since *L. taurica* has a wide host range and could persist on these plants during the growing season or during the off-season.

Chemical – Sulfur and other protectant fungicides are available. Ensure good spray coverage with protectant fungicides, particularly on the undersurface of the foliage and the lower plant canopy. Avoid applications during very warm, sunny weather to prevent phytotoxicity. Application in the evening using high volumes of water will prevent this. Consult your local extension agent for availability of other chemical control measures. Prevent development of resistance in *L. taurica* to certain fungicides by rotating with sulphur or other materials, if available.

Resistance – Currently, all pepper varieties are susceptible but resistant plant material has been identified. Consult your local extension agent for the varieties best suited to your area.

For more information on the production of pepper and other vegetables, go to <www.avrdc.org>.