

Powdery Mildew of Cucurbits

Symptoms

Powdery mildew symptoms first appear as pale, yellowish spots on leaves that soon turn powdery-white in appearance due to fungal growth on the leaf (Fig. 1). Fungus will spread to stem tissue and cause more defoliation (Fig. 2)



Figure 1 Abundant powdery mildew growing on a pumpkin leaf. Photo: Ronald French.

The disease starts on the crown and lower leaves, mainly on the under-leaf shaded surface. Young plants may turn yellow, stunted, and may die. Severely infected leaves become brown, brittle and die, resulting in foliage loss (Fig. 2). Exposed fruits may suffer sun-scald. Other fruit symptoms include reduced size, malformation, poor flavor, discoloration, speckled rind and shriveled handles.

Causal Agent

Powdery mildew of cucurbits is caused by two fungi, *Sphaerotheca fuliginea* and *Erysiphe cichoracearum*. The fungus *S. fuliginea* is more commonly reported worldwide, and prefers warmer weather. *Erysiphe cichoracearum*



Figure 2. Powdery mildew-caused defoliation on pumpkin. Photo: Ronald French.

prefers cooler weather. This disease affects all cucurbits (ie.cantaloupes, squash, and pumpkins).

Inoculum Source and conditions

The pathogen may overwinter in crop and weed refuse, but the main source of infection is conidia (asexual spores) produced on cucurbits grown in warmer southern areas. The airborne conidia are blown northward early in the season. Thrips and other insects and farm equipment may disseminate the conidia within the crop. Spore germination is induced by high humidity, but inhibited by free standing water. Dry conditions are conducive to spore production and dispersal.

Management/Control

Plant resistant varieties. Favor air circulation (proper spacing, balanced nitrogen amendments, weed control). Apply preventive fungicides after runners start developing. Apply fungicides to control the disease.

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