

Organic Management of Late Blight on Tomato

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Late blight is the most devastating tomato disease and is very difficult to control. Cool, wet weather that can occur in the late summer favors this disease.

Symptoms include stem, leaf and fruit lesions that are dark brown with white fuzz during cool, wet conditions. Scout for symptoms in the early morning when dew favors spore production and signs of the pathogen (spores) can be present.

Recognizing Late Blight on TOMATO

- Irregular brown lesions on stems and leaves occurring first on the lower foliage
- White fungal growth when moist
- Fruits (green or red) will have soft, dark brown lesions

Late blight is caused by a fungal-like organism, *Phytophthora infestans*, and infects both potato and tomato. Potato leaves, stems and tubers can all be affected. Potato growers have advanced systems for tracking weather and occurrences of late blight around the state and these can help tomato growers to learn about outbreaks. For disease updates, contact your local extension agent regularly or go to www.lateblight.org.

Overwintering has not yet been documented in Michigan so although rotation is still recommended

for avoiding other tomato diseases, it may not reduce your chances of late blight.

This pathogen is favored by cool, wet conditions, and it is important to keep the foliage dry. Irrigate via drip or at a time of day when the foliage can dry quickly. Proper weed control so that the canopy is open to air circulation as well as orienting rows against prevailing winds will help dry foliage as well. In general, cultivars with indeterminate growth allow for trellising, increasing air flow and reducing leaf wetness. Resistant cultivars include Golden Sweet, Legend, Mountain Magic, Matt's Wild, Old Brooks, Red Grape, Plum Regal, Red Pearl, Black Plum, and Yellow Currant.

Prevention is key to adequate control. Start with disease-free material, carefully check seedlings before planting for early symptoms, and discard any that show symptoms as well as those around it. Hot water seed treatments may help as well (122°F for 25 minutes). Sanitation, proper site selection, water management and environmental monitoring are all important cultural strategies that will help prevent this pathogen from successfully infecting.

If all other means of control are exhausted, copper products (some forms), Serenade (*Bacillus subtilis*), Sporatec (rosemary, clove and thyme oils), Sonata (*B. pumilus*), and OxiDate (hydrogen dioxide) may help but are not likely to halt late blight when the environment favors disease.



Late blight symptoms on A) green fruit, B) stem, and C) leaf of tomato.