

Late Blight on Tomato and Potatoes

Garden retailers and landscapers should be aware of Late Blight caused by the fungus *Phytophthora infestans* – a very destructive and very infectious disease that kills tomato and potato plants in gardens and on commercial farms in the eastern U.S.

Late blight is the same disease that caused the Irish Potato Famine in the 1840s. It has been in the US for over a century, but it has never occurred this early and this widespread. It not only threatens home gardens, but also the thousands of acres of commercial potatoes and tomatoes that are grown in Massachusetts and across New England. The disease has been diagnosed on tomato transplants throughout the Northeast. Infected plants were distributed throughout the region by several plant retailers this spring. It is believed that the pathogen is not seed borne however, it is exceptionally contagious, and can spread to tomato plants on retail shelves not involved in the original and initial source of the inoculum. Humans cannot get sick from eating fruit or tubers from infected plants.

Late blight, affects both potato and tomato crops. It produces spores very rapidly and these move very easily from one garden or field to others, because the spores are easily carried in wind currents to infect susceptible plants in even the most remote area in our region. All tomato and potato plants grown in home gardens and in commercial fields are susceptible to late blight!

The most common early symptoms on tomato transplants are brown lesions on stems, with white fungal growth developing under moist conditions.

Symptoms appear as large (at least nickel-sized) olive-green to brown spots on leaves with slightly fuzzy white fungal growth on the underside when conditions have been humid or wet. Sometimes the lesion border is yellow or has a water-soaked appearance. Leaf lesions begin as tiny, irregularly shaped brown spots. Brown to blackish lesions also develop on upper stems. Firm, brown spots develop on tomato fruit. Late blight can be confused with early blight and Septoria leaf spot, two common diseases found in home gardens. If the lesion has a yellow border **and** is occurring on the bottom of the plant, it is likely due to infection of either early blight or Septoria leaf spot.

Photo gallery of what to look for:

http://www.hort.cornell.edu/departments/Facilities/lihrec/vegpath/photos/lateblight_tomato.htm

<http://blogs.cornell.edu/hort/2009/06/26/late-blight-a-serious-disease-killing-tomatoes-and-potatoes-this-year/>

To confirm a diagnosis contact the University of Massachusetts Plant Diagnostic Laboratory, (413) 545-3208 or see <http://www.umass.edu/agland/diagnostics/index.html>. There is a \$50 fee for lab diagnostics.

Management

If symptoms are already appearing on plants, remove plants, place in a plastic bag, seal and discard in the trash or completely bury plants deep enough underground so plants decompose and will not re-sprout. Do not put the plants in a compost pile as spores will still spread from this debris.

To manage late blight with fungicides, treat before symptoms appear. Use a product that contains chlorothalonil listed as the active ingredient on the label. There are ready-to-use formulations available. Fungicides are only effective if used before the disease appears and should be reapplied every 5-7 days if wet weather persists. Chlorothalonil is a protectant fungicide, with no systemic movement in the plant, so thorough coverage is necessary. For organic farmers and gardeners, the options are very limited, since only copper fungicides can be used, and copper is not very effective on late blight.

Even with fungicide applied every week, there is no guarantee of success, especially if the rainy weather continues.

For more information, see
<http://www.umassvegetable.org/index.html>