Green County

Frequently asked questions Late Blight of Tomatoes

What is Late Blight Disease?
Late blight is a potentially destructive disease of tomatoes (and potatoes) caused by the fungal-like organism, *Phytophthora infestans*. This pathogen is referred to as a 'water mold' since it thrives under wet conditions. All tomato plant parts can become infected by late blight, with leaf lesions beginning as pale green or olive green areas that quickly enlarge to become brown-black, water-soaked, and oily in appearance. Lesions on leaves can also produce pathogen sporulation which looks like white-gray fuzzy growth. Stems can also exhibit dark brown to black lesions with sporulation. Fruit symptoms begin small, but quickly develop into golden to chocolate brown firm lesions or spots. For photos of the diseases go to
http://www.uwex.edu/ces/cty/green/documents/LateBlightPhotos.pdf
http://www.uwex.edu/ces/cty/green/documents/MorePhotos.pdf

Do we get Late Blight every year?
No. Late blight has not been identified on tomatoes or potatoes since 2002. This fungus does well in the cool wet weather like we have had in Green County this summer.

Where did this late blight come from?
Based on symptoms, timing of appearance of symptoms, and spread of this disease in WI, it is likely that inoculum (source of spores for late blight infection) entered the state on air that had moved into WI from other nearby states with reports of late blight on tomato and potato. The late blight pathogen produces a lot of spores on infected plants and spores can move in air up to 40 miles.

As a gardener with tomatoes what should I do?
For home gardens, we recommend removing symptomatic plants and either bagging (in plastic) for burial in a landfill or burning (if this is an option). Non-symptomatic plants could be sprayed with a fungicide labeled for use on tomatoes (the most organic of the compounds available for control) to protect them, but spraying may only slow the spread of the disease and not totally eliminate it. Your garden should also be scouted every 1-2 days for any symptom development. Any plants subsequently showing symptoms again should be destroyed.

How do I destroy and/or dispose of my late blight-infected tomato plants?
There are several methods of destroying infected plants: 1) pull up plants, bag, and put out for general trash disposal. This method is OK for a few plants; 2) infected plants can be buried but be sure to avoid creating a warm, sheltered environment which would keep the plant tissue and pathogen alive for extended periods of time beneath the surface of the soil (such as a deep compost pile). The goal is to kill the plants: once the plants are dead, the pathogen cannot survive. Do not bury a large pile of plants in one hole; rather, make a shallow trench away from production areas and lay plants and debris in, then cover; 3) plants can be flame-killed with a propane or other torch; and 4) infected plants can be pulled and placed in a small pile covered over with a dark colored plastic tarp and left in the sun. This will create heat in the pile from the sun beating on the plastic tarp and plants will die within a few days.

Can I Compost the infected plants?
No we do not recommend composting these plants as composting will not kill this fungus for the reasons mentioned above.

Are tomato fruits from late blight infected tomato plants safe to eat?
Healthy-appearing fruit from late-blight-infected tomato plants are safe for human consumption. If they have been infected, but aren't yet showing symptoms they are fine to eat, but they won't keep in storage very long. There are some concerns about canning infected fruit because bacteria can enter late-blight infected fruit and impact quality. Further information can be found at: http://foodsafety.psu.edu/LateBlight.htm

How fast will late blight infected tomato plants die?
This depends upon how many points of infection the plant received, the cultivar (some cultivars are more susceptible than others), the history of use of protectant fungicides (such as copper), and on the weather. Hot, dry, sunny weather typically holds back late blight; whereas cool, rainy, overcast weather will cause late blight to progress rapidly killing the plant in 7 days.

I have tomato late blight in my garden – will I get it next year if I plant tomatoes again?
The tomato late blight pathogen, *Phytophthora infestans*, cannot survive outside of infected plant tissue and the current strain of the pathogen cannot produce overwintering spores (oospores) on it's own and the fungus will not overwinter in the soil. For this reason, it is critical to kill infected plant material and dispose of it. However, infected potato tubers can serve as a source of inoculum in a following year, so if you have potatoes in your garden make sure to remove all the tubers during harvest. It is always a recommended proactive to rotate plants to different areas in a garden to help break disease cycles.

Where can I find more information on tomato late blight symptoms and management?
http://www.extension.org/article/18351
http://www.extension.org/article/18361
http://www.attra.org/attra-pub/lateblight.html
http://www.plantpath.wisc.edu/wivegdis/