

Late Blight of Tomato and Potato on Long Island

Meg McGrath, Department of Plant Pathology and Plant-Microbe Biology, Cornell University

Late blight is a unique disease. It is arguably the most destructive plant disease. Due to the quantity of spores easily dispersed by wind, a planting with late blight that is not managed, even a small garden, can have devastating impact on other plantings. This was well documented in 2009. Therefore, unlike other diseases, late blight needs to be treated as a “Community Disease”. Anyone growing susceptible plants needs to take responsibility and implement a good management program to ensure they don’t become a ‘typhoid Mary’ and report suspected occurrences promptly. Diagnostic clinics: <http://ccesuffolk.org/new-page-2/>

Symptoms and more information. See: <http://www.hort.cornell.edu/lateblight> and <http://usablight.org/>

Susceptible plants: tomato, potato, some weeds. Tomatillo and petunia susceptible to some strains.

Sources of pathogen in a garden:

1. Infested potato tubers used for planting or left in the ground or compost pile. Plants growing from these tubers usually become infected.
2. Infected tomato plants. Plants produced in an area where late blight is developing in or near the greenhouse could become infected, and may not have symptoms when purchased if infection occurred recently or the plants were being treated with fungicides during production.
3. Spores dispersed by wind from affected plants in other gardens or farms.

The pathogen has the ability to survive in soil without living plant tissue; however, this has not been documented to occur in the USA as it does in some other areas of the world. To do this the pathogen has to produce a specialized spore that is the result of sexual reproduction.

Recent late blight outbreaks on Long Island.

- 2007 Started in August and remained isolated in a band across LI through Wading River. Source likely spores dispersed from eastern PA.
- 2009 Started in June. Source was tomato plants in gardens. Outbreak on LI was not as severe as in New England and upstate NY.
- 2010 One garden in Setauket developed symptoms in June. Source likely infested potato tubers used for planting. Gardeners quickly reported the suspected occurrence, got it identified at the CCE Diagnostic Laboratory, then immediately destroyed all tomato and potato plants. The outbreak was stopped. Late blight did not occur again until September in Bridgehampton area.
- 2011 Started likely in Sagaponack area in late May to early June. Not identified until June 24 when already severe in some tomato plantings and pathogen had spread to other tomato and potato plantings (farms and gardens). June 30 late blight first observed on the North Fork. As of July 8 the pathogen had become fairly widespread on LI, creating the most severe outbreak in the USA at that time. It is expected to spread to New England. The source has not been identified yet, but it is infested plant material (potato tuber or tomato seedling) brought to LI because the pathogen strain occurring in 2011 is different from the one in 2009 and 2010 and there was no source for wind-dispersed spores.