

Avoiding Late Blight Outbreaks: Role of Producers and Marketers of Garden Tomato Plants

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EVERYONE involved with growing tomatoes or potatoes has a critically important role to play in combating late blight.

Late blight is the most destructive disease of vegetable crops. This was demonstrated during the Irish Potato Famine. This disease affects two important crops for conventional and organic producers in the northeastern USA, thus an outbreak can have major economic impact. The pathogen produces an abundance of wind-dispersed spores, so only a few infected plants at the start of a season can be the source for a major epidemic, as occurred on LI in 2009 and 2011. Late blight is considered a “community disease” because of its highly contagious, destructive potential; therefore everyone needs to be involved in preventing epidemics. Fortunately late blight usually only occurs in major potato production areas; however, over the past 3 years there have been outbreaks for which the source has been linked to tomato plants produced for home gardens.

Below are steps that those producing and marketing plants for gardeners should take to protect their tomato and potato crops. There is NO tolerance for late blight in plants for gardeners because infected tomato plants in home gardens can be important initial sources of the pathogen, leading to major epidemics for commercial producers nearby. Many gardeners do not know about late blight and do not use fungicides. They do not have the knowledge, experience, nor tools of commercial vegetable growers. While the first step does not pertain directly to retail operators, all retailers purchasing plants from a greenhouse need to know how and where the plants were produced (step 1), and whether they have been monitored for disease symptoms and treated to protect against late blight.

1. Produce tomato plants where the chance of exposure to the late blight pathogen is essentially non-existent.

In areas where tomato and potato plants are killed by cold temperatures during winter, infested potato tubers continue to be the most important initial source of the pathogen each season. The pathogen is not yet able to produce a dormant spore that can survive in the absence of living plant tissue.

Do not grow potato plants in a greenhouse complex with tomato plants. Even certified potato seed could harbor the pathogen.

Do not grow tomato plants near potatoes. There should be no potato fields or potato cull piles near a greenhouse producing tomato plants. Potato crops are planted very early in the season when tomato plants are being produced in greenhouses. Potato

sprouts can become infected as they grow from a tuber harboring the pathogen. Spores produced on these plants could be dispersed by wind to nearby greenhouses.

2. Examine tomato plants regularly for symptoms.

Large brown area on stem tissue may be the first symptom on tomato plants produced in a greenhouse. The pathogen also causes leaf spots. Images are available on line at:

<http://www.hort.cornell.edu/lateblight>

3. Examine petunia seedlings as well.

A strain of the pathogen able to infect petunia as well as tomato and potato was detected in a northern greenhouse recently. Symptoms of late blight on petunia include dead brown patches on leaves; these may develop a white growth of the pathogen under highly humid conditions.

4. Submit plant tissue with suspect symptoms to a plant diagnostic clinic.

5. When late blight is confirmed, destroy ALL tomato plants.

Previous attempt to save symptom-less plants was a disastrous failure. Symptoms began to develop after the retailer had sold some plants, which initiated a major epidemic.

6. Apply fungicides effective against late blight routinely as a preventive practice.

Do not use fungicides in an effort to stop an outbreak of late blight or to protect plants being grown near a potential source of the pathogen as described in Step 1.

7. Help educate gardeners purchasing tomato plants by providing information about late blight.

They should understand that it is important to detect and destroy infected plants. An information pamphlet for distribution to gardeners will soon be available through: <http://usablight.org/>

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