

Late Blight: What Happened in 2009
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What a year—2009!! Late blight is an extremely serious plant disease for all tomato and potato producers in New England. Early detection is critical for management of this disease. This disease (which helped to create the Irish Potato Famine and the “hungry forties” in England and throughout Europe in the 1840’s) is caused by *Phytophthora infestans*, a fungus that overwinters on living tomato or potato tissue. The disease first appears as irregular, pale to dark green, water-soaked spots, often described as a greasy-look. These spots usually appear on the tips or edges of the leaves. In cool, moist weather or under humid conditions, the spots enlarge rapidly and form brown to purplish-black necrotic areas with wavy, indefinite borders, surrounded by a yellowish-green halo. Also under these conditions, a ring or a surface of white fungal growth may appear at the edge of the lesion on the underside of the leaf, which produces spores that move to other plants and continue the infection. Stems and petioles will turn brown when infected and will be very brittle; white mycelium may be present under moist conditions. Tubers are readily infected in the soil by water movement of spores. Initial tuber infection will have a brownish discoloration of skin. Under the skin, the flesh will appear reddish brown with a granular texture. In moist weather, late blight spreads rapidly; and all plants in a field can become infected. Diseased and decaying plants give off a strong noticeable odor. Potato late blight can be spread by windblown spores from infected plants.

In 2009, we had perfect late blight weather for the months of June and July. Unfortunately, there was also plenty of spore inoculum around from store purchased tomato plants to cause very early late blight infections in home and commercial gardens. These spores continued to spread and caused severe outbreaks of late blight in both tomatoes and potatoes in southern and central Maine. Luckily, the weather in August was hot and dry and, eventually, slowed the outbreak down and brought it to a standstill.

However, before the outbreak was slowed, this strain (14/17) raised havoc on tomatoes and potatoes throughout the region. Normally we see the 8 strain which is slowed down and stopped when the temperatures reach into the 80’s. This strain seemed to do quite well at the warmer temperatures at least for a while, even sporulating at these higher temperatures.

Several growers lost their entire tomato crop while others, both conventional and organic fought this organism the entire summer. Some managed to harvest reduced yields while others gave up in defeat!!