

Prevent tomato late blight next growing season

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(PhysOrg.com) -- Across the northeast, home gardeners expecting the usual bumper crop of tomatoes this season were dismayed to find their plants affected by late blight, the same fungus that caused Ireland's potato famine in the 19th century.

According to Beth Gugino, assistant professor of plant pathology at Penn State, late blight is a fungus that primarily affects tomatoes, potatoes and certain solanaceous weeds such as bittersweet nightshade.

"An unseasonably cool <u>spring</u> followed by an equally unseasonably cool and wet summer facilitated late blight growth for both home gardeners and commercial farmers throughout the growing season, which is very rare," said Gugino.

Symptoms first appear on the foliage of plants as pale green to brown lesions. These areas expand rapidly during moist conditions and a white downy mold appears on the margin of the affected area on the lower surface of the leaves. Eventually, the greasy greenish-brown lesions begin to appear on the fruit and can enlarge until the entire fruit is covered. According to Gugino, the most important sources of the pathogen early in the season are infected potato tubers and infected tomato transplants. "During the season, late blight can be spread long distances from diseased tomatoes and potatoes to healthy ones via windblown spores. Within short distances, like in a garden, spores can also move between plants in splashing rain."



To help prevent late blight next growing season, Gugino recommends making sure that all late blight-infected tomato and/or potato plant tissue from this past season is dead and home gardeners refrain from composting diseased plant material. "Late blight cannot withstand the freezing winter temperatures of the northeast, but may be able to live in the center of a warm compost pile. As long as the plant tissue is alive, the pathogen can survive."

There is no need to remove the dead <u>tomato plant</u> tissue this late in the season or treat the soil over the <u>winter</u>, since the freezing temperatures will kill both the plant tissue and late blight. However, late blight can survive in infected potato tubers overwinter and can be a potential source of the disease the following year. If they are infected, Gugino recommends they be dug up and disposed of in the regular trash. "If volunteer potato plants grow next season make sure to quickly destroy them."

Fortunately, the late blight pathogen can't survive in or on tomato seeds, or on tomato cages and stakes between the seasons and therefore cannot be a source of the disease next season. However, Gugino said many bacterial diseases can survive in the seeds and on the cages so it is still important to purchase high quality seed and to disinfect cages and stakes to help control these diseases.

Currently there are no tomato varieties resistant to late blight, however growers and home gardeners have observed that some may be less susceptible than others.

"Fortunately, there are some potato varieties including Elba, Kennebec, Allegany, Sebago, Rosa, Defender, Jacqueline Lee and Ozette, that are described as having some late blight resistance," Gugino said.

Breeding work is under way and some resistant varieties are in the final



stages of development and are expected to be available as soon as 2010. Gugino recommends gardeners plant healthy disease-free transplants next year, and examine the plants regularly for symptoms of late blight, especially if the weather is cool and wet. Plants or plant parts that have late blight symptoms should be removed quickly to prevent the spread of the disease to other plants. Avoid wet leaves by watering at the base of the plant or watering in the morning so the leaves dry quickly. She also recommends spacing the plants further apart to improve air circulation and eliminate weeds, which can be carriers of the pathogen. Preventative applications of a fungicide containing chlorothalonil may also help before late blight symptoms appear. Utilizing a combination of these integrated pest management practices will also help with the management of other common foliar tomato diseases. Integrated Pest Management (IPM) aims to manage pests -- such as insects, diseases, weeds and animals -- by combining physical, biological and chemical tactics that are safe, profitable and environmentally compatible.

<u>More information:</u> For more information on late blight, visit <u>www.ppath.cas.psu.edu/EXTENSIO ... e_Pathology_Home.htm</u>

Provided by Pennsylvania State University (<u>news</u> : <u>web</u>)

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