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1. Late Blight Alert to our East

Editor's Note: Our weather, although not as bad as the states to our east, ♦ has been close enough to pass this alert on to our growers. Keep an eye on your tomatoes and potatoes. See below for more information on Late Blight from a Plant Pathology Fact sheet

Rutgers Cooperative Extension at the New Jersey Experiment Station

Plant & Pest Advisory ♦ ♦ **Vegetable Alert!**

Date: 6/19/09

Alert Author: Andy Wyenandt

Pest: Late blight update from PA

Found: Late blight has been confirmed on tomato and potato in a homeowners garden in Bedford County, PA and is suspected in potato in Lehigh County, PA. Late blight has been confirmed on tomato in southern New Jersey.

Crop(s) at risk: all tomato/potato crops in New Jersey.

Potential impact: Significant losses will occur if not controlled properly

What growers should do:

All tomato and potato growers should scout fields on a daily basis for symptoms of late blight. **All tomato and potato fungicide programs should be shifted to include late blight specific chemistries as long as current weather patterns continue.** For more information on late blight control please see the 2009 OhioVegetable Production Guide.

Late Blight of Potato and Tomato

From: HYG-3102-95 ♦ Randall C. Rowe Sally A. Miller Richard M. Riedel

Late blight is one of the most devastating diseases of potato and tomato worldwide. It was responsible for the devastating Irish potato famine of the 1840's and has continued to be important to the present. Since 1990, late blight has caused widespread damage across the United States and Canada. If left unmanaged, this disease can result in complete destruction of potato or tomato crops.

Symptoms: Late blight appears on potato or tomato leaves as pale green, water-soaked spots, often beginning at leaf tips or edges. The circular or irregular leaf lesions are often surrounded by a pale yellowish-green border that merges with healthy tissue. Lesions enlarge rapidly and turn dark brown to purplish-black. During periods of high humidity and leaf wetness, a cottony, white mold growth is usually visible on lower leaf surfaces at the edges of lesions. In dry weather, infected leaf tissues quickly dry up and the white mold growth disappears. Infected areas on stems appear brown and entire vines may be killed in a short time when moist weather persists. On potato tubers, late blight appears as a shallow, coppery-brown, dry rot that spreads irregularly from the surface through the outer 1/8-1/2 inch or more of tissue. On tuber surfaces, lesions appear brown, dry, and sunken, while infected tissues immediately beneath the skin appear granular and tan to copper-brown. When tubers are stored under cool, dry conditions, lesion development is retarded and, upon prolonged storage, lesions may become slightly sunken and desiccated. Secondary bacteria and fungi frequently enter late-blight lesions, usually resulting in a slimy breakdown of entire tubers.

Late blight can also develop on green tomato fruit, resulting in large, firm, brown, leathery-appearing lesions, often concentrated on the sides or upper fruit surfaces. If conditions remain moist, abundant white mold growth will develop on the lesions and secondary soft-rot bacteria may follow, resulting in a slimy, wet rot of the entire fruit.



Irregular, purplish-black late blight lesions on leaves of potato.



Close-up of underside of lesion showing cottony, white mold growth of the late blight fungus on potato leaf.



Tomato fruit with late blight has large, firm, brown, leathery appearing lesions and may show a cottony, white mold growth.



Potato tuber tissues infected with late blight are firm and appear tan to copper-brown with a granular texture.

Management: ♦ Infected cull potatoes are a major source of spores of the late blight fungus and must be disposed of properly—DO NOT MAKE CULL PILES. Cull potatoes should be spread on fields not intended for potato production the following year in time that they will totally freeze and be destroyed during the winter. If this is not possible, they must be destroyed in some other way such as by complete chopping, burial, burning or feeding to livestock. Plant only certified seed potatoes. Use of "year-out" seed or seed saved from local crops is asking for trouble with late blight. Seed sources should be selected very carefully to avoid bringing in late blight on seed potatoes, especially new strains of the fungus. Look for the characteristic coppery-brown discoloration of the potato flesh under the skin of seed tubers. Infected tomato transplants also can be a significant source of the disease. Use only obviously healthy tomato transplants free of dark lesions on leaves or stems. Volunteer potatoes and tomatoes can be a significant source of spores of the late blight fungus. All volunteers should be destroyed as quickly as possible by herbicides, chopping, or cultivation. Growers should scout fields regularly to look for late blight. Special attention should be paid to early-planted fields because that is where the disease is likely to develop first. Scouting should be concentrated in low-lying areas, field edges along creeks or ponds, near the center of center-pivot irrigation rigs, in areas near woodlots or any area that is protected from wind where the leaves tend to remain wet longer. Any area where it is difficult to apply fungicides such as edges and corners or under power lines if using aerial application should be examined. Scouts should look for large, black or purplish lesions on stems or leaves and the telltale cottony, white mold growth, usually on the undersides. Be sure to check leaves and stems under the crop canopy as that is where the disease is most likely to begin. Use of a good protectant fungicide program is necessary to fully protect any crop of potatoes or tomatoes. For current recommendations consult your local county Extension agent or the *Ohio Vegetable Production Guide* (OSU Extension Bulletin 672).