

Potato Late Blight Status Report and Management August 19, 2009

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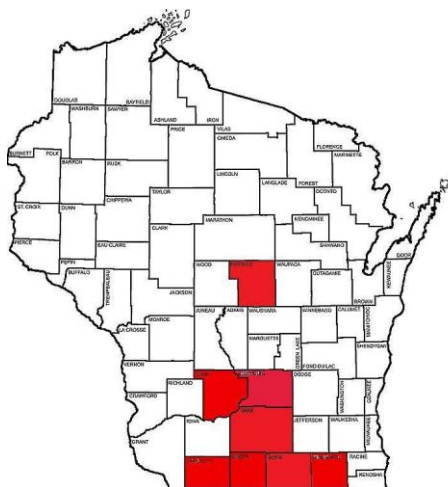
Website: <http://www.plantpath.wisc.edu/wivegdis/>

Disease Description & Status of Disease in WI:

Late blight is a potentially destructive disease of potatoes caused by the fungal-like organism, *Phytophthora infestans*. This pathogen is referred to as a 'water mold' since it thrives under wet conditions. All potato plant parts can become infected by late blight, with leaf lesions beginning as pale green or olive green areas that quickly enlarge to become brown-black, water-soaked, and oily in appearance. Lesions on leaves can also produce pathogen sporulation which looks like white-gray fuzzy growth. Stems can also exhibit dark brown to black lesions with sporulation. The time from first infection to lesion development and sporulation can be as fast as 7 days, depending upon the weather.

In Wisconsin, late blight has not been identified on tomatoes or potatoes since 2002. So, where did this late blight come from? Based on symptoms, timing of appearance of symptoms, and spread of this disease in WI to date, it is likely that inoculum (source of spores for late blight infection) entered the state on air that had moved into WI from other nearby states with reports of late blight on tomato and potato. The late blight pathogen can produce a lot of spores on infected plants and spores can move in air up to about 40 miles from a source. There was/is an epidemic of late blight that started on tomatoes in the northeastern U.S. and moved westward, infecting both tomatoes and potatoes in its path. Potentially, our epidemic is associated with this larger case which developed earlier in the growing season.

On August 18, 2009, we had a first report of late blight on potato in a small plot in Columbia County (Arlington). Just the next morning, we received the second report of potato late blight in a commercial field in Portage County (Bancroft). Prior to August 18th, late blight had only been found on tomatoes in 8 counties: Lafayette, Green, Rock, Walworth, Dane, Sauk, Columbia, and Portage. Most reports on tomato have come in from home gardeners with fewer than 12 plants in a backyard garden. However, in the past week, we have been getting reports of late blight from growers with larger acreages of tomatoes in the state. We have not yet confirmed the *P. infestans* strain or type of the late blight found on potato, but we do know that the type from tomato is US#14 which is known to be aggressive on potato, of the mating type A2, and resistant to the fungicide metalaxyl.



Confirmed reports of late blight in Wisconsin. Counties colored red represent counties with confirmed reports of tomato and/or potato late blight as of August 19, 2009.

Management:

At this time, intensified scouting of potato fields is critical. The best place to scout for potato late blight is in field corners and areas of fields that are sheltered by tree lines, or are often inaccessible to aerial pesticide application. If late blight is found, infected sections of the field should be killed with a defoliant such as Reglone. Healthy-appearing potatoes surrounding the infected area should also be killed to try to isolate and destroy any potential late blight-infected plants. The field should then be treated with fungicides that are effective in managing late blight. Such products are listed in the table below. Now that late blight is on potatoes in WI it is critical that all plantings be protected with effective fungicides. Some fields may already be receiving vine-kill applications. Perhaps, if you are risk-adverse, you may consider vine-killing early to limit foliar infections which may increase risk of tuber infections.

Comparison of Late Blight Fungicides (highest rates registered)
 Provided by Dr. Steve Johnson, University of Maine Cooperative Extension

Product	Effectiveness				Mode of action			Rainfastness	Mobility in the plant	FRAC #	REI	PHI
	Leaf blight	New growth	Stem blight	Tuber blight	Protectant	Curative	Anti-sporulant					
Bravo etc	G	No	P	No	G	No	No	G	contact	M5	12 hrs	7 days
Curzate + Dithane etc	G	?	F	No	G	E	P	G	translaminar + contact	27 + M3	24 hrs	14 days
Dithane etc	G	No	P	No	G	No	No	F	contact	M3	24 hrs	3 days
Forum + Dithane	G	?	F	F	G	P	G	G	translaminar + contact	40 + M3	24 hrs	4 days
Gavel	E	No	P	F	E	No	No	G	contact + contact	22	48 hrs	3 days
Kocide etc	P	No	P	No	F	No	No	P	contact	M1	24 hrs	0 days
Omega	E	No	P	G	E	No	No	G	contact	29	48 hrs	14 days
Previcur Flex + Dithane etc	G	G	G	No	G	G	G	E	systemic + contact	28 + M3	24 hrs	14 days
Ranman	E	No	P	E	E	No	No	E	contact	21	12 hrs	7 days
Tanos	G	?	F	No	G	E	P	G	translaminar + contact	11	12 hrs	14 days
Revus Top	E	?	F	G	E	P	F	E	translaminar + contact	40 + 3	12 hrs	14 days
Tin	E	No	E	E	G	No	E	F	contact	M1	48 hrs	7 days

No=No effect; P=Poor; F=Fair; G=Good; E=Excellent; ?=Unknown.