

Vegetable Crop Update

A newsletter for commercial potato and vegetable growers prepared by the University of Wisconsin-Madison vegetable research and extension specialists

Disease Supplement #2 – July 18, 2014

Vegetable Disease Update – Amanda J. Gevens, Assistant Professor & Extension Vegetable Plant Pathologist, UW-Madison, Dept. of Plant Pathology, 608-890-3072 (office), Email: gevens@wisc.edu. Vegetable Path Webpage: <http://www.plantpath.wisc.edu/wivegdis/>

Late blight update: Potato late blight has been detected in Portage County WI earlier today. This is the first report of late blight in WI in 2014. The genotype has not yet been determined, but notification will be sent out when we have this information. All late blight from the U.S. in 2014 (potato and tomato) has been determined to be US-23. This strain/genotype can be controlled with mefenoxam/metalaxyl fungicides.

In order to help better understand the epidemic at hand, **please submit samples to my lab** or work through your county agent and request that they send to me for genotyping. *Even if a sample has already been submitted from your county and determined to be US-23.* All we need to know is the county of sample origin. Identification of genotype at the county level would be very helpful in improving our understanding of this epidemic and potential future risks. Lab address is: Amanda Gevens, 1630 Linden Dr, Room 689, Plant Pathology Dept., University of Wisconsin, Madison, WI 53706. Please send infected leaves in a slightly inflated ziplock bag with no paper towel. Overnight shipping is best.



Figure 1. Late blight symptoms on potato foliage from US-23 *Phytophthora infestans* from 2013.

For further symptom and management information:

2014 WI organic tomato and potato late blight fungicides (disease status comments from 2013):

<http://www.plantpath.wisc.edu/wivegdis/pdf/2013/Organic%20late%20blight%20control%202013.pdf>

2014 WI commercial potato late blight fungicides:

<http://www.plantpath.wisc.edu/wivegdis/pdf/2014/Potato%20Late%20Blight%20Fungicides%202014.pdf>

Considerations for fungicide programs to manage late blight

There is not one recommended fungicide program for all late blight susceptible potato fields in WI. Fungicide selections vary based on type of inoculum introduction, proximity to infected fields, crop stage, late blight strain, disease progress, and other diseases that may be in need of management.

If seed had risk of exposure to late blight during production, consider seed trt with a mancozeb-containing fungicide for limiting seed piece to seed piece spread. Curzate DF has a supplemental label for use on seed and is effective in limiting late blight.

QoI inhibitors Headline, Quadris, Reason, and others (Group 11) can offer good late blight control at high rates under moderate pressure. Follow labels for resistance management.

Under high late blight pressure

Effective fungicides to include in programs are:

Revus Top, Forum, Curzate 60DF, Ranman, Tanos, Gavel, Previcur Flex, or Omega should be used.

Mefenoxam containing fungicides such as Ridomil Gold MZ can be highly effective with strain US-23.

Zampro is newly registered and offers novel mode of action in an effective pre-mix for late blight control.

Maintain fungicide applications post vine kill to harvest (mancozeb).

Fungicides with broad spectrum activity

Fungicide	a.i.	FRAC	PHI potato	Activity
Bravo, <u>Equus</u> , Echo	<u>chlorothalonil</u>	M5	7 days	protectant <u>16 lb a.i./acre</u> <u>limit/yr</u>
<u>Dithane</u> , <u>Penncozeb</u> , <u>Mancozeb</u>	<u>mancozeb</u>	M3	3 days	protectant <u>11.2 lb a.i./acre</u> <u>limit/yr;excellent</u> <u>tuber LB control;</u> <u>aids yield</u>
<u>Kocide</u> , Champ	copper (not all coppers OMRI approved)	M1	0 days	protectant
<u>Agri-tin</u> , <u>Supertin</u>	<u>triphenyltin hydroxide (TPTH)</u>	30	7 days	protectant <u>best in late sprays</u> <u>(final 2-3)/restricted</u> <u>use <u>fung</u></u>
<u>Polyram 80DF</u>	<u>metiram</u>	M3	3 days	protectant <u>EBDC like <u>mancozeb</u></u> <u>and counts in total</u> <u><u>a.i./yr/acre</u></u>

Reduced risk fungicides with specific late blight activity

Fungicide	a.i.	FRAC	PHI potato	Activity
Acrobat/ Forum	<u>dimethomorph</u>	40	4 days	Systemic <i>adjuvant enhances management/can be applied post</i> <u>VK:antispurulant;rainfast</u>
Curzate	<u>cymoxanil</u>	27	14 days	locally systemic <u>rainfast 2 hrs/mix with protectant;curative</u>
Fosphite, Phostrol, Crop-Phite, Prophyt, Rampart	phosphorous acid formulations	NC	0 days	Systemic <i>phytotox possible applied at low carrier volumes;tuber late blight control at multiple apps + hi rates; post-harvest applic</i>
Gavel	<u>mancozeb + zoxamide</u>	M3+22	3 days	Protectant <i>do not apply >6 apps/crop/yr; reduce tuber blight;rainfast</i>
Omega	<u>fluazinam</u>	29	14 days	protectant <i>excellent tuber blight control; rainfast</i>
Previcur Flex	<u>propamocarb hydrochloride</u>	28	14 days	systemic and contact <u>antispurulant;rainfast;curative; good protectant on leaf, new growth, stem</u>

Reduced risk fungicides with specific late blight activity

Fungicide	a.i.	FRAC	PHI potato	Activity
Ranman	<u>cyazofamid</u>	21	7 days	protectant, limited systemic <i>Good on leaf and tuber blight;rainfast</i>
Revus Top	<u>difenoconazole + mandipropamid</u>	3 + 40	14 days	preventative, systemic, curative <u>rainfast;excellent protectant on leaf blight</u>
Ridomil Gold MZ, Ridomil Gold Copper	<u>mefenoxam + mancozeb</u>	4 + M3	14 days	Systemic <i>works on US-23 not US-8</i>
Tanos	<u>cymoxanil + famoxadone</u>	27+11	14 days	locally systemic, curative <i>tank mix with protectant; excellent curative;good leaf protectant;rainfast</i>
Zampro	<u>ametoctradin + dimethomorph</u>	45 + 40	4 days	systemic and protectant <i>New registration includes two a.i.s with excellent activity on late blight, Forum plus new a.i.</i>