



Vegetable Crop Update

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

No. 19 – August 18, 2017

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Late Blight Updates

- tomato detections from Waukesha Co. 7/26, Pierce Co. 8/2, Dane Co. 8/7, Jefferson Co. 8/16 (all US-23)
- potato detection from Portage Co. 8/14, Waushara Co. 8/16

Early Blight Updates

Cucurbit Downy Mildew Updates

Other Vegetable Disease Updates

Onion downy mildew, cucurbit powdery mildew, bacterial brown spot in lima beans, white mold in bean and potato crops

Calendar of Events

January 21-23, 2018 – Wisconsin Fresh Fruit & Vegetable Conference, Wisconsin Dells, WI

February 6-8, 2018 – UWEX & WPVGA Grower Education Conference, Stevens Point, WI

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Late blight was confirmed in commercial potatoes on August 14 in Portage Co. and August 16 in Waushara Co., WI. Additionally, tomato late blight from a home garden was confirmed from Jefferson Co. All of the tomato late blight has typed as US-23. The commercial potato late blight from Portage Co. appears to be of a different genotype and we should know more about this in a few days with additional testing. Because this potato late blight doesn't appear to be US-23 (with likely sensitivity to mefenoxam/metalaxyl fungicides such as Ridomil), I recommend use of fungicides with other effective active ingredients.

Wisconsin commercial conventional fungicides for potato late blight control can be found at link below, and at table at the end of this newsletter.

www.plantpath.wisc.edu/wivegdis/pdf/2017/Potato%20Late%20Blight%20Fungicides%202017.pdf

Across the nation this season, US-23 has predominated late blight outbreaks, with the exception of a US-8 detection in the state of Washington. We will be testing the WI-collected isolates for resistance to Ridomil to better understand the epidemic and its management.

The 2017 A3422 Commercial Vegetable Production in Wisconsin guide is available for purchase through the UW Extension Learning Store website: <https://learningstore.uwex.edu/Commercial-Vegetable-Production-in-Wisconsin2017-P540.aspx>

A pdf of the document can be downloaded or is available at the following direct link:

<https://learningstore.uwex.edu/Assets/pdfs/A3422.pdf>

Tomato and potato late blight samples can be submitted free of charge to the UWEX Plant Disease Diagnostic Clinic (PDDC) or directly to my Potato & Vegetable Pathology program. We will confirm presence of late blight (or other diagnosis). If it is late blight, we will determine pathogen genotype, or strain type.

PDDC in Russell Labs, Dr. Brian Hudelson, UW-Madison campus: <https://pddc.wisc.edu/>

Potato & Vegetable Pathology, Dr. Amanda Gevens: UW-Madison campus: <http://www.plantpath.wisc.edu/wivegdis/>

Current P-Day (Early Blight) and Severity Value (Late Blight) Accumulations (R.V. James, UW-Plant Pathology/R.V. James Designs): A P-Day value of ≥ 300 indicates the threshold for early blight risk and triggers preventative fungicide application. A DSV of ≥ 18 indicates the threshold for late blight risk and triggers preventative fungicide application. **Red text in table below indicates threshold has been met/surpassed.** “-“ indicates that information is not available. Blitecast and P-Day values for actual potato field weather from Grand Marsh, Hancock, Plover, and Antigo are now posted at the UW Veg Path website at the tab “P-Days and Severity Values.”

http://www.plantpath.wisc.edu/wivegdis/contents_pages/weather_%20list_2017.html

<i>Location</i>	Planting Date	50% Emergence	P-Day Cumulative	Disease Severity Value	Date of DSV Generation	Increase in DSV from 8/11
<i>Antigo</i>	Early 5/3	5/25	>104*	90*	8/17	10
	Mid 5/15	6/1	>104*	86*	8/17	10
	Late 6/1	6/15	>101*	76*	8/17	10
<i>Grand Marsh</i>	Early 4/10	5/15	682	112	8/18	16
	Mid 5/1	5/22	675	110	8/18	16
	Late 5/17	6/1	612	102	8/18	16
<i>Hancock</i>	Early 4/15	5/18	674	99	8/18	16
	Mid 5/5	5/30	611	89	8/18	16
	Late 5/20	6/5	573	89	8/18	16
<i>Plover</i>	Early 4/20	5/20	677	101	8/18	16
	Mid 5/8	5/25	652	90	8/18	16
	Late 5/25	6/8	555	89	8/18	16

Summary: Disease Severity Values (DSVs) and Late Blight Blitecast: All potatoes are at 50% emergence or greater. **All locations have reached threshold and should be considered for preventive fungicide application to manage the risk of late blight.** *We are again having problems with weather station components – batteries and modems are causing data drops. We are making replacements and working through these concerns. In the meantime, I am using DSV data generated through our UW Vegetable Disease and Insect Forecasting web tool (<http://agweather.cals.wisc.edu/vdifn/maps>) to provide information for the Antigo location. The weather data which generates these values are from

NOAA rather than in-potato-field stations; the values have been comparable this season prior to the station failure. Note that the site also now has insect phenological data available for several pests. Recall the maximum number of DSVs that one day can accumulate is 4. Once thresholds of 18 DSVs have been met, routine, protection of susceptible tomato and potato crops is recommended. Wisconsin commercial conventional fungicides for potato late blight control can be found at:

www.plantpath.wisc.edu/wivegdis/pdf/2017/Potato%20Late%20Blight%20Fungicides%202017.pdf

P-Days indicating early blight risk have exceeded threshold for all locations. Recall the threshold is 300 P-Days. Most commercial fields in WI have symptoms of early blight and/or brown spot. A number of fungicides are highly effective in limiting early blight and brown spot. For fungicide information:

<http://www.plantpath.wisc.edu/wivegdis/pdf/2017/July%208,%202017.doc.pdf>

National Late Blight Updates: <http://usablight.org> is a useful resource for the detection and characterization of late blight on tomato and potato crops from the U.S. In addition to the previously mentioned WI locations, further, late blight was confirmed this past week in additional locations in MN, ND, and parts of southern Manitoba Canada, and 6 counties of northern NY, and southern-central PA (from usablight.org). Previous reports have come from FL, MA, MI, ME, MN, NC, ND, NY, ON, PA, WA, and WI. In all reported cases, with the exception of the WA case (US-8), the pathogen genotype was US-23. This has been the predominant genotype in Wisconsin, and across the U.S., in recent years. US-23 can still generally be managed well with use of phenylamide fungicides.

With reports on the rise, I recommend that growers of potato and tomato apply effective and preventive fungicides for late blight control. Additionally, all potato fields should be thoroughly scouted for late blight especially in areas that receive shading or may be compromised in some way from receiving thorough fungicide treatment (tree line, under/around irrigation pivots).

National Cucurbit Downy Mildew Updates: <http://cdm.ipmpipe.org/> offers information on the detection and characterization of the cucurbit downy mildew pathogen from the U.S. (and often Canada). In this past week, confirmations of downy mildew have come from AL, DE, IN, KY, MD, MI, NH, NY, OH, QC, and VA. Prior confirmations of this year were from: AL, FL, GA, IN, KY, MA, MD, MI, MS, NC, NJ, NY, OH, ON, PA, SC, TX, VA, and WV on a variety of cucurbits. The counties highlighted in red on map (below) have had disease reports within this past week; green counties indicate locations of confirmed disease this season, but greater than 7 days ago. No risk of movement of the disease to WI based on the current forecast (see risk map below).



Further details on use of fungicides in managing cucurbit downy mildew can be found at my previous newsletter #7 from June 3, 2017. Link below.

<http://www.plantpath.wisc.edu/wivegdis/pdf/2017/June%203,%202017.doc.pdf>

Risk prediction map for Day 3: Sunday, August 20



Moderate Risk in FL, southern MS, southern AL, southern GA, and eastern SC. Low Risk for cucurbits in south-central AL, west-central GA, and southeast NC. Minimal Risk to cucurbits elsewhere.

Forecaster: TK at NCSU for the Cucurbit ipmPIPE - 2017

Cucurbit disease updates: No downy mildew has been identified on cucurbit crops in Wisconsin at this point in the summer. However, powdery mildew is quite severe in many parts of the state. Fungicide information can be found in my previous newsletter from July 22, link here. <http://www.plantpath.wisc.edu/wivegdis/pdf/2017/July%2022,%202017.pdf>

Several foliar diseases have also been seen on melon and squash plantings including angular leaf spot (bacterial), some anthracnose, and some alternaria. While there were many calls on Phytophthora crown and fruit rot earlier in the summer, few newer fields are showing symptoms of this disease as far as I am aware.

Onions, basil, beans, disease updates: A few more onion fields have shown symptoms of downy mildew (first report was Aug 11: www.plantpath.wisc.edu/wivegdis/pdf/2017/August%2011,%202017.doc.pdf). Stemphylium and Botrytis have been quite active in onions this past week. More information on Stemphylium can be found here: www.plantpath.wisc.edu/wivegdis/pdf/2016/July%201,%202016.pdf

Downy mildew has not yet been confirmed in basil in Wisconsin.

Over the past ~10 days white mold has appeared in snap bean (and other bean types as well as potatoes) fields. In bean, timing of fungicides with flowering is critical in effective management. Lima and snap beans are also showing symptoms of bacterial brown spot which can impact pod health and yield if unmanaged (pic below of lima bean brown spot).

