



Vegetable Crop Update

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

No. 13 – June 30, 2018

In This Issue

DSV and PDay accumulations for potato disease management

National late blight updates

National cucurbit downy mildew updates

Horticultural updates

Calendar of Events

July 10-12, 2018 – Farm Technology Days, Sternweis & Weber’s Farms, Marshfield, WI

July 19, 2018 – UW-Hancock Agricultural Research Station Field Day, Hancock, WI

July 26, 2018 – UWEX Langlade County Field Day & Potato Virus Y Detection Training Workshop, Antigo, WI

August 2, 2018 – UW-Rhineland Field Day, Rhineland Agricultural Research Station, WI

November 27-29, 2018 – Processing Crops Conference & MWFPA Annual Convention, Wisconsin Dells, WI

January 15-17, 2019 – Wisconsin Agribusiness Classic, Alliant Energy Center, Madison, WI

January 27-29, 2019 – Wisconsin Fresh Fruit & Vegetable Conference, Kalahari Conference Center, Wisconsin Dells, WI

February 5-7, 2019 – UWEX & WPVGA Grower Education Conference, Stevens Point, WI

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Current P-Day (Early Blight) and Severity Value (Late Blight) Accumulations (with assistance from R.V. James, UW-Plant Pathology/R.V. James Designs, S.A. Jordan, & J. Hammel, UW-Plant Pathology): 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 yet 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.” www.plantpath.wisc.edu/wivegdis/contents_pages/pday_sevval_2018.html Asterisks indicate values generated from weather data sourced from NOAA (link below to interactive tool for accessing site specific DSVs). <https://agweather.cals.wisc.edu/vdifn/maps>

Location	Planting Date	50% Emergence	Disease Severity Value	P-Day	Date of DSV/P-Day Generation
Antigo	Early 5/12	5/28	22*	-	6/29
	Mid 5/25	6/7	15*	-	6/29
	Late 6/9	6/22	2*	-	6/29
Grand Marsh	Early 5/1	5/15	87	331	6/29
	Mid 5/15	5/28	80	254	6/29
	Late 6/1	6/12	60	144	6/29
Hancock	Early 5/2	5/16	42*	331	6/29
	Mid 5/17	5/30	33*	242	6/29
	Late 6/1	6/14	27*	128	6/29
Plover	Early 5/7	5/18	29	328	6/29
	Mid 5/20	6/1	18	237	6/29
	Late 6/2	6/15	14	125	6/29

WI Potato Disease Risk Updates: All early and most mid plantings have surpassed 18 DSVs and I recommend that they should be routinely receiving preventative fungicide applications to limit initial late blight infection. **No reports of late blight in Wisconsin at this time.** Moving northward of Plover in the state, the DSV accumulations are still under threshold for later plantings.

PDay values have reached the 300 threshold for Grand Marsh, Hancock, and Plover for earliest planted potatoes this week. This threshold indicates a time at which the early blight pathogen is active and initial infection of *Alternaria solani* can be limited by preventative fungicides. Many farms have already made applications for late blight prevention and depending upon the fungicide selection, this treatment may doubling to manage early blight. PDay of 300 thresholds typically align with row closure and so the timing of an initial fungicide spray just prior to PDay 300 can help to access lower canopies for improved delivery of contact fungicides. I have not yet seen any early blight symptoms in our Hancock Ag. Research Station early blight fungicide trials (planted first week in May). However, I am hearing from growers Hancock and southward that their earlier planted crops (mid-April) have been showing symptoms of early disease.

Potato foliar blighting seen in many fields over past month: Symptoms of nondescript necrotic or dead areas of leaves have been seen in many potato fields over the past month. Initially, some cases of this symptom appeared to be minor chemical burn, in other cases I did diagnose Botrytis on the plants. Botrytis tends to infect secondarily in potato foliage after damage from wind/sand blowing, equipment movement through a field, or other stress. My follow up on several of these initial cases found that growers felt that the crop ‘outgrew’ the condition and there was no further progress. In few cases, we have diagnosed Pectobacterium in association with the foliar necrosis. In all cases that have been brought to my attention or to the Plant Disease Diagnostic Clinic, we have been testing for *Dickeya* spp. when we see this symptom as it can be associated with blackleg initiated from seedborne bacteria (Pectobacterium or *Dickeya*). At this time, we have not identified *Dickeya* in association with this specific symptom in potatoes.



National Late Blight Updates: <http://usablight.org> Late blight was reported in two counties in PA on 6/28 (tomato) & 6/29 (tomato & potato). The clonal lineages/strain types are not yet known. Prior to this, and the previously reported NY tomato late blight case (new genotype reported last week), most cases reported to the usablight website in 2018 have been the US-23 pathogen genotype. US-23 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 such as mefenoxam and metalaxyl (ie: Ridomil). However, a potato sample from northeastern FL was sent to my lab earlier this spring and was the US-8 genotype. This information does pose some additional concern for management as US-8 cannot be managed with phenylamide fungicides as isolates are resistant to the fungicide.

A list of registered fungicides for late blight in potato for Wisconsin can be found in past Vegetable Crop Updates Newsletter #6 (May 20, 2018) and at link below:
<http://www.plantpath.wisc.edu/wivegdis/pdf/2018/2018%20Potato%20Late%20Blight%20Fungicides.pdf>

Further information on fungicides and other vegetable crop management inputs in the 2018 Commercial Vegetable Production in Wisconsin guide (A3422): <http://learningstore.uwex.edu/Assets/pdfs/A3422.pdf>

Cucurbit downy mildew reporting and forecasting site <http://cdm.ipmpipe.org/> indicated new confirmations of downy mildew in AL, GA, and SC cucurbit crops during the past week. In 2018 so far, the site has documented confirmations of downy mildew in AL, FL, GA, MD, NC, and SC on primarily cucumber, acorn squash, and cantaloupe.

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On Wednesday and Thursday I visited several farms. Overall the plants are doing well. Most fields have achieved 100% canopy closure and produced beautiful blossoms, and those without flowers are catching up. I did notice spotty skips and poor stands across the fields (Figure 1). When I dug a couple of really small ones, I saw cankerous shoot tips that were burnt by the Memorial Day heat (Figure 2). It has been observed that if the shoot tips were close to the soil surface (plus or minus 1'') when the four-day heat occurred, they were under higher risk of being burnt and not able to recover. The seed pieces are still intact and solid, but the regrowth of the shoots are pretty weak and impossible to catch up with the rest of the field.



Figure 1. Spotty skips in the field



Figure 2. Shoot tip burnt by the heat

The odd weather right before and during planting this spring has caused issues to potato growers in the Midwest. Seed decaying, poor emergence and stands are also being pointed out in Michigan and Minnesota. It is interesting to realize that Lamoka has the worst emergence on research plots and multiple commercial fields (20%-60%) both in Wisconsin and Minnesota.

At Hancock, our potatoes planted in the first and second week of May are nicely setting tubers (Figure 3a, b, c). Table below shows the maximum and average tuber size of different varieties:

Variety	Maximum tuber length/diameter	Average tuber length/diameter
Russet Burbank	2.5''	1.5''
Russet Norkotah	2''	1''
Silverton	1''	<0.5''
Lamoka	3''	1.5''
Snowden	2.5''	1.5''
Red Norland	2''	1.5''



Figure 3a. Norkotah



Figure 3b. Snowden



Figure 3c. Red Norland

The heatwave starting from Thursday this week will likely lead to some heat stresses to the potato plants, especially those susceptible varieties like Russet Burbank. Good news is that most plants have closed canopies at this point, which can shade the soil surface and potentially reduce soil water evaporation (this is the “T” part of “ET”). Watch your soil moisture closely and adjust your irrigation scheduling if needed to keep up with the crop water demand.

For those who have not done so, the UW Extension Ag Weather website (<https://agweather.cals.wisc.edu/subscribers>) is a good resource to provide automated daily ET values of specific fields and assist irrigation scheduling. You can subscribe by entering your name and email, and the GPS coordinates of up to 15 sites.

Stay cool and enjoy the holiday!