



Vegetable Crop Update

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

No. 14 – July 7, 2018

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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 & WPGA 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	30*	70	7/6
	Mid 5/25	6/7	23*	-	7/6
	Late 6/9	6/22	10*	-	7/6
Grand Marsh	Early 5/1	5/15	108	380	7/6
	Mid 5/15	5/28	101	302	7/6
	Late 6/1	6/12	81	192	7/6
Hancock	Early 5/2	5/16	45*	372	7/6
	Mid 5/17	5/30	36*	283	7/6
	Late 6/1	6/14	30*	169	7/6
Plover	Early 5/7	5/18	34	372	7/6
	Mid 5/20	6/1	23	281	7/6
	Late 6/2	6/15	19	169	7/6

WI Potato Disease Risk Updates: Nearly all planting of potato 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.** In Antigo area, the DSV accumulation is still under threshold for later plantings.

PDay values have surpassed the 300 threshold for Grand Marsh, Hancock, and Plover for earliest planted potatoes this week; and mid-planted potatoes in Grand Marsh area. 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 several fungicide applications for late blight prevention and depending upon the fungicide selection, this treatment may be 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. Early symptoms of early blight and possibly brown spot are now evident in lower canopies in southern Wisconsin. Pressure seems relatively low, so far, in our Hancock Ag. Research Station early blight fungicide trials (planted first week in May). Our survey of the early blight pathogen population in several regions of Wisconsin indicated that resistance to the QoI fungicide azoxystrobin (ie: Quadris, Satori, many more) is prevalent and shouldn't be relied upon for early blight management. Use of azoxystrobin may still be useful for brown spot management in early season, but populations increase in resistance by July to August.

National Late Blight Updates: <http://usablight.org> **No late blight was reported in this past week.** Prior to that time, reports had come from PA on tomato & potato, NY on tomato, and FL on tomato and potato. The clonal lineages/strain types are not yet known for the PA reports. Prior to this, and the previously reported NY tomato late blight case, 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>

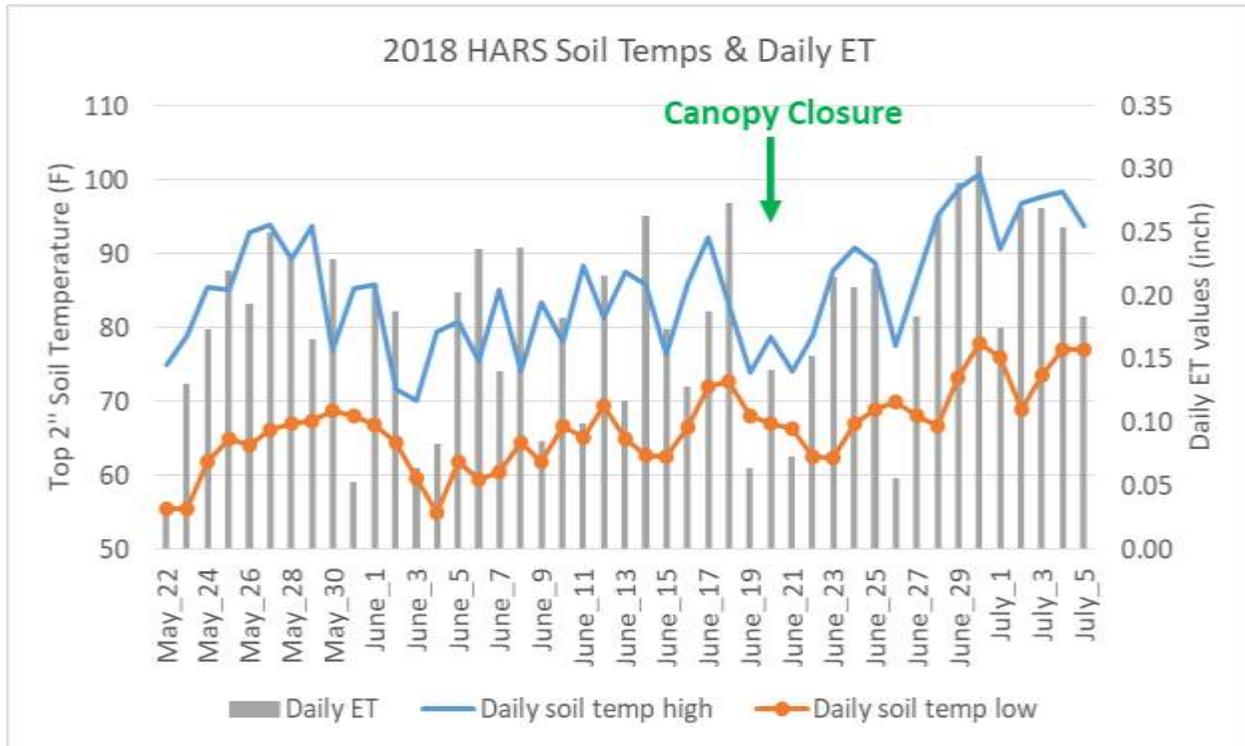
Further **information on fungicides** and other vegetable crop management inputs in the 2018 Commercial Vegetable Production in Wisconsin guide (A3422): <http://learningstore.uwex.edu/Assets/pdfs/A3422.pdf>

Cucurbit downy mildew reporting and forecasting site <http://cdm.ipmpipe.org/> indicated new confirmations of downy mildew in DE, MD, NC, NJ, and SC on various 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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It has not been easy to manage potato production in Wisconsin this season. After I joked about the overwhelming rainfall in my June_23rd newsletter, Mother Nature stopped raining right away. We barely got any precipitation over the last 10 days, but had several really hot days. As you can see from the graph below, daily ET values have been well correlated with daily max soil temperatures (blue line) since

canopy closure. For example, on June 30th, the max soil temperature was higher than 100°F, and the daily ET was 0.311”.



To respond to the heat and high crop water demand, some folks are trying to irrigate lightly but more frequently. Depending on the size of the pivot and the capacity of the well, daily application of 0.25-0.3” have been conducted quite often on the full season varieties. This is a recommended irrigation strategy during hot and dry days when potato plants are in need of sufficient water. On sandy soils, feeding the potato crops with the amount of water that is slightly higher than or equals to ET on a daily basis will consistently keep the soil moisture level within allowable depletion and ensure a no-water stress environment. On our research plots, we have been watering with 0.5” every other day over the past week. However, we did notice that the plants were under water stress (signs of leaf wilting) on the days without irrigation during the heatwave.

The goal of efficient potato irrigation management is to provide the amount of water that will be needed until the next irrigation, not the amount needed to make up for water lost through ET. This is an important distinction particularly during hot and dry days. Monitor your soil moisture status, watch the daily ET values and weather forecast closely will help you make informed decisions on irrigation management and avoid water stress for the plants.

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.

Potato Virus Detection Training Workshop

Langlade Co. Airport, Antigo, WI
Thursday, July 26th, 2018

- 9:00 am – 9:45 am: Talks at the Research Grading Shed
- 9:00-9:15: Updates on diseases of seed potatoes
Dr. Amanda Gevens, UW-Plant Pathology, Co-interim director WSPCP
 - 9:15-9:30: Necrotic viruses of potato: USDA SCRI updates
Dr. Stewart M. Gray, Virologist, USDA-ARS/Cornell University
 - 9:30-9:45: Managing the spread of Potato Virus Y
Dr. Russell Groves, UW-Entomology, Co-interim director WSPCP
- 10:00-11:30: Field Plot Tour
- Challenges with visual assessment of virus infection
Mr. Alex Crockford, Program Director WSPCP
 - Ms. Clover Spacek, Field Inspector WSPCP
 - Ms. Dianna Kessler, Field Inspector WSPCP
- 11:30-12:30: Light Refreshments
- 1:00-3:30PM: Antigo Field Day