Vegetable Crop Update

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

No. 18 – August 6, 2018

In This Issue

Calendar of Events

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

Amanda J. Gevens, Associate Professor & Extension Vegetable Plant Pathologist, Interim Co-Director of Wisconsin Seed Potato Certification Program, UW-Madison, Dept. of Plant Pathology, 608-890-3072 (office), Email: gevens@wisc.edu. Webpage: 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, 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 and P-Day Generation
Antigo	Early 5/12	5/28	69*	>231	8/4 7/27
	Mid 5/25	6/7	61*	>231	8/4 7/27
	Late 6/9	6/22	48*	231	8/4 7/27
Grand Marsh	Early 5/1	5/15	236	560	7/27
	Mid 5/15	5/28	229	482	7/27
	Late 6/1	6/12	209	373	7/27
Hancock	Early 5/2	5/16	66*	527	8/4 7/27
	Mid 5/17	5/30	61*	439	8/4 7/27
	Late 6/1	6/14	52*	324	8/4 7/27
Plover	Early 5/7	5/18	65	533	7/27
	Mid 5/20	6/1	54	442	7/27
	Late 6/2	6/15	50	330	7/27

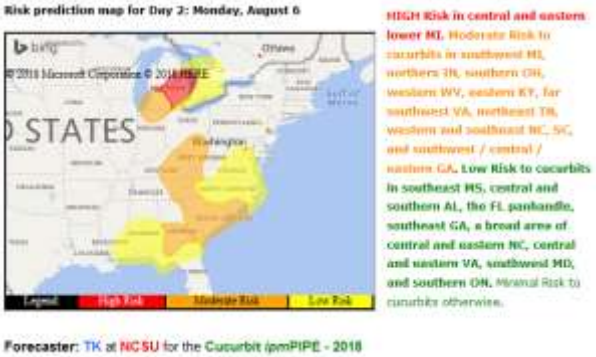
WI Potato Disease Risk Updates: All commercial potato plantings have surpassed 18 DSVs and I recommend that they should be routinely receiving preventative fungicide applications to limit initial late blight infection. **Still, no reports of late blight in Wisconsin at this time**.

PDay values have surpassed the 300 threshold for Grand Marsh, Hancock, and Plover for all plantings; Antigo PDays have been accumulated only since June 27 and are at 231. Early blight typically ramps up as we enter the month of August. Increase in disease comes results from increase in inoculum, but also increased age of the plant, increased moisture and limited airflow in lower canopy, and at times, nitrogen deficiency. Do to data access issues, we are unable to provide P-Days at this time. We are working on the issue and hope to get back to regular reporting this week. As in past years, we'll continue to report until the fields in which the weather stations are hosted are harvested.

National Late Blight Updates: http://usablight.org. No new reports of late blight around the US this past week based on usablight platform, or other vegetable/potato communications. The Ottertail MN tomato late blight report from last week was not examined further for genotype/strain. 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. However, a potato sample from northeastern FL was sent to my lab earlier this spring and was the US-8 genotype.

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

No downy mildew on cucurbits in our UW Hancock Agricultural Research Station sentinel plots this past week. Michigan did make a first report of cucumber downy mildew this past week in Berrien County. The cucurbit downy mildew reporting and forecasting site http://cdm.ipmpipe.org/ indicated new confirmations of downy mildew in IN, MI, NC, NJ, PA, TN, and VA on various cucurbit crops during the past week. In 2018 so far, the site has documented confirmations of downy mildew in AL, DE, FL, GA, KY, MD, NC, NJ, PA, SC, and VA on primarily cucumber, acorn squash, and cantaloupe. A map showing forecasted movement of the downy mildew pathogen from active sources of inoculum is provided, below. No risk of movement to WI at this time. **I have also been watching several basil downy mildew sentinel plots this summer and I have seen none of this disease so far this year.**

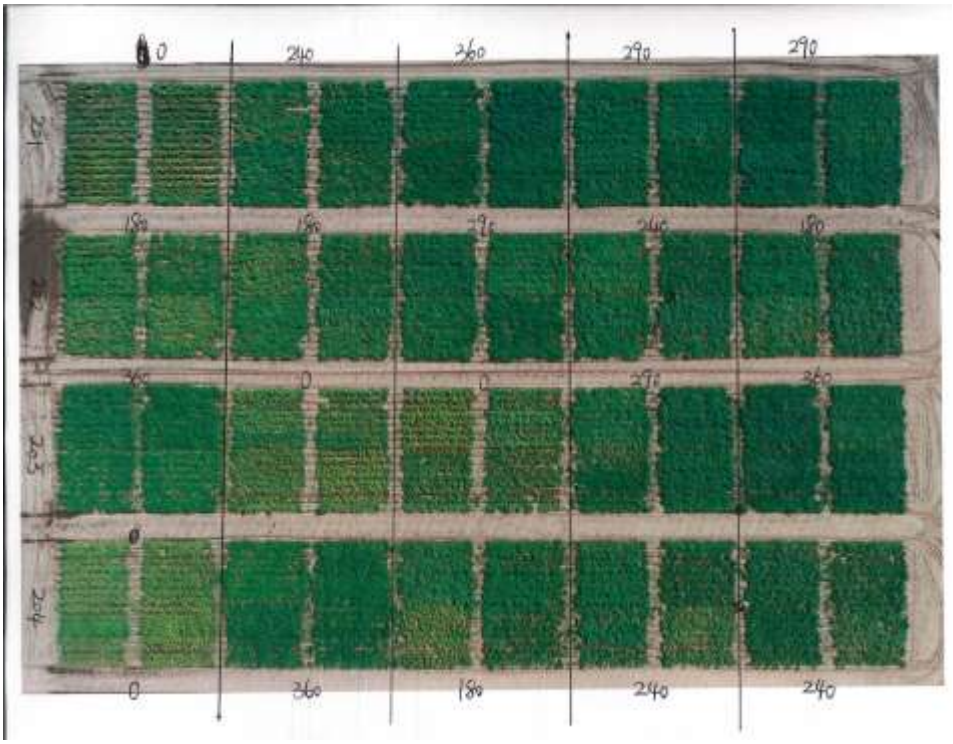


Yi Wang, Assistant Professor & Extension Potato and Vegetable Production Specialist, UW-Madison, Dept. of Horticulture, office: 608-265-4781, email: wang52@wisc.edu.

Despite a challenging growing season, early harvested fresh market potatoes are showing good yield and quality. The recent and forecasted rainfall is hopeful to mitigate the long dry spell in the past month and let the full season potatoes bulk to their full potential in their last 30-35 days before vine kill. Yesterday I dug some Lamoka potatoes on our research plots, tuber set and tuber size are good so far (picture below).

This week we collected our last petiole/leaf/whole vine samples on our nitrogen trial. From the image that Dr. Bethke took with his UAV on July 30th, we are very happy to see that the green/yellow color of the canopies lines up with the amount of nitrogen applied to the plants. In the figure below, I marked each plot with the N application rate. It is interesting to observe that under higher N rates (290 and 360 lb/acre), no specific difference can be identified between the four varieties (Hodag, Snowden, W9433-1rus, and Silverton), but under lower N rates (180 and 240 lb/acre), Snowden easily stands out due to its yellow and senesced canopies. Under the zero in-season N treatment, every variety has yellow canopies and smaller canopy size. Below is a short summary of using UAV for in-season N management:

- Non-destructively scout the field and monitor the plant growth;
- UAV images can immediately help us identify areas that are short on nitrogen, and the identification can be variety-specific.



Another thing I am very happy to share is that the WPVGA Water Task Force committee met with Dr. Ankur Desai and his people on this past Monday. Dr. Desai's group has been using a flux tower to monitor the evapotranspiration (ET) values of a commercial potato field near Hancock Ag Research Station. Quick check on the data shows that the values are close to the ET values that are reported by the UW Extension Ag Weather Website (https://agweather.cals.wisc.edu/subscribers). This is the very first time to get real-time true ET values from a commercial potato production area. Dr. Desai's group is in the process of installing a second flux tower in a nearby forestry area, so that comparisons of ET between potato production field and natural landscape can be made in the near future.