Vegetable Crop Updates

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

Extension
UNIVERSITY OF WISCONSIN-MADISON

August 17, 2025

In This Issue:

- Disease forecasting updates for potato early blight and late blight
- Cucurbit downy mildew updates
- Tomato Septoria disease and management

Calendar of Events:

December 2-4, 2025 – Midwest Food Producers Assoc. Processing Crops Conference, Kalahari Convention Center
January 12-13, 2026 – Wisconsin Agribusiness Classic, Kalahari Convention Center
February 3-5, 2026 – UW-Madison Div. of Extension & WPVGA Grower Education Conference & Industry Show, Stevens Point, WI

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Current P-Day (Early Blight) and Disease Severity Value (Late Blight) Accumulations will be posted at our website and available in the weekly newsletters. Thanks to Ben Bradford, UW-Madison Entomology for supporting this effort and providing a summary reference table: https://agweather.cals.wisc.edu/thermal-models/potato. A Potato Physiological Day or P-Day value of ≥300 indicates the threshold for early blight risk and triggers preventative fungicide application. A Disease Severity Value or DSV of ≥18 indicates the threshold for late blight risk and triggers preventative fungicide application. Data from the modeling source: https://agweather.cals.wisc.edu/vdifn are used to generate these risk values in the table below. I've estimated early, mid-, and late planting dates by region based on communications with stakeholders. These are intended to help in determining optimum times for preventative fungicide applications to limit early and late blight in Wisconsin.

	Planting Date		50% Emergence Date	Disease Severity Values (DSVs) *through 8/16/2025*	Potato Physiological Days (P-Days) *through 8/16/2025*
Spring Green	**Early**	Apr 5	May 10	**50**	**777**
	Mid	Apr 18	May 14	**50**	**750**
	Late	May 12	May 26	**47**	**693**
Arlington	**Early**	Apr 5	May 10	**39**	**779**
	Mid	Apr 20	May 15	**39**	**742**
	Late	May 10	May 24	**36**	**706**
Grand Marsh	**Early**	Apr 7	May 11	**48**	**761**
	Mid	Apr 17	May 14	**48**	**742**
	Late	May 12	May 27	**48**	**687**
Hancock	**Early**	Apr 10	May 15	**49**	**731**
	Mid	Apr 22	May 21	**49**	**705**
	Late	May 14	June 2	**49**	**650**
Plover	**Early**	Apr 14	May 18	**42**	**708**
	Mid	Apr 24	May 22	**42**	**700**

	Late	May 19	June 7	**42**	**608**
Antigo	**Early**	May 1	May 24	**48**	**662**
	Mid	May 15	June 1	**48**	**627**
	Late	June 1	June 15	**43**	**541**
Rhinelander	**Early**	May 7	May 25	**31**	**641**
	Mid	May 18	June 8	**31**	**565**
	Late	June 2	June 16	**27**	**524**

Late blight of potato/tomato. I'm aware of no new reports of late blight in the US this past week. Findings thus far in potato and tomato have been confirmed as US-23 *Phytophthora infestans* (still sensitive to mefenoxam/metalaxyl (ie: Ridomil). Here in Wisconsin, we saw elevated accumulations of 5-14 DSVs across WI this past week with the highest accumulations in the Antigo area. All plantings of potatoes in Wisconsin have surpassed the Blitecast threshold of 18 DSVs and should receive preventative fungicides for the management of late blight. *Please find a fungicide listing for Wisconsin potato late blight management:* https://vegpath.plantpath.wisc.edu/documents/potato-late-blight-fungicides/

Early blight of potato. Accumulations of P-Days were 55-65 over the past week, with P-Day 300 thresholds met for preventative fungicide treatment in potatoes across all of Wisconsin. Lesion progression over the past few weeks has been substantial. In our untreated plots at UW-HARS, lower canopies are quite yellow with enlarged early blight lesions. This time of the year is tough for specific scouting as there are several diseases which may be at work along with natural crop tip and maturation. https://vegpath.plantpath.wisc.edu/diseases/potato-early-blight/. For Wisconsin-specific fungicide information, please refer to the Commercial Vegetable Production in Wisconsin (A3422), a guide available here: https://cropsandsoils.extension.wisc.edu/articles/2025-commercial-vegetable-production-in-wisconsin-a3422/

For custom values, please explore the UW Vegetable Disease and Insect Forecasting Network tool for P-Days and DSVs across the state (https://agweather.cals.wisc.edu/vdifn). This tool utilizes NOAA weather data. Be sure to enter your model selections and parameters, then hit the blue submit button at the bottom of the parameter boxes. Once thresholds are met for risk of early blight and/or late blight, fungicides are recommended for optimum disease control. Fungicide details can be found in the 2025 Commercial Veg. Production in WI Extension Document A3422: https://cropsandsoils.extension.wisc.edu/articles/2025-commercial-vegetable-production-in-wisconsin-a3422/

Cucurbit Downy Mildew: National cucurbit downy mildew information helps us understand the potential timing of arrival of the pathogen, *Pseudoperonospora cubensis*, in our region, as well as the strain type which can give us information about likely cucurbit hosts in WI – as well as best management strategies. Clade 1 downy mildew strains infect watermelon and Clade 2 strains infect cucumber. I am hosting a cucurbit (and basil) downy mildew sentinel plot at the UW Hancock Agricultural Research Station this summer. This 'sentinel plot' is a non-fungicide-treated collection of cucurbit plants observed weekly for disease symptoms. **No downy mildew was seen on cucurbits this past week at HARS, and none reported through our UW Plant Disease Diagnostic Clinic.** The basil downy mildew that I reported on July 27 at Hancock ARS has not advanced from the lower plant canopies. In this planting, we have drip tape under plastic mulch that aids in limiting canopy moisture and disease progress. Additionally, I keep an eye on the downy mildew work of Dr. Mary Hausbeck at Michigan State University and include this information as relevant to WI

https://veggies.msu.edu/downy-mildew-news/. This season, Clade 2 downy mildew spores were confirmed in several MI counties and downy mildew has been confirmed in commercial cucumber fields and home garden plots in several MI counties. No new reports were posted at the Cucurbit Downy Mildew ipm PIPE website: https://cdm.ipmpipe.org/.

Tomato septoria leaf spot is a common fungal disease of solanaceous crops caused by *Septoria lycopersici*. This disease is typically seen on Wisconsin tomatoes in early to mid-July of most years and initiates in the lower canopy and moves upward. Symptoms appear on the leaves as circular, tan-to-gray spots with darker brown margins and dotted with dark, raised pycnidia inside the lesion. These lesions are often surrounded by a yellow halo. Lesions can converge and lead to defoliation of lower leaves, and in severe cases the death of an entire plant. Stem lesions appear similar to leaf lesions, but are often darker. Fruit lesions are uncommon, but appear similar to leaf lesions under very high disease pressure. In severe cases, this disease can defoliate tomato plants.

Photo credits*: On Far Left:* Paul Bachi, University of Kentucky Research and Education Center, Bugwood.org. *Immediate Right:* Bruce Watt, University of Maine, via Bugwood.org.

Primary source: Primarily diseased solanaceous crop or weed debris in soil, also infected seeds and equipment
Spread: Rainfall, irrigation, workers, equipment, and several insects
Favorable conditions: High humidity, moderate temperatures (68-77ºF), high dew point/wet conditions, poor airflow

Infection & Disease Cycle. The main source of inoculum for primary infections is *S. lycopersici* spores that overwinter on diseased solanaceous crop or weed debris in the soil. The fungus can also survive on equipment, as well as infected seed, which will produce diseased seedlings. Spores (conidia) are produced and spread during wet and warm periods, especially when airflow is poor due to canopy closure and densely-spaced plants, These spores are spread from primarily debris to leaves via rainfall, irrigation, workers, equipment, and several insects, often reaching and infecting the lower and older leaves first. These spores penetrate the leaf tissue via the stomata, leading to lesion development within ~5 days. Pycnidia (asexual fruiting bodies) will develop ~14 days after inoculation, releasing more spores that will be spread and create new, secondary infections of healthy plant tissue including leaves, stems, and fruit.

Cultural Control. Scouting regularly allows early identification of disease before significant spread and damage. Disease spread can be limited by proper mulching, which can reduce plant-soil contact, as well as disinfecting tools and equipment like stakes and cages. The following practices can also help prevent disease development:

- Plant resistant varieties
- Rotate away from susceptible solanaceous crops (1-2 years)
- Stake or trellis plants to improve airflow
- Remove 'suckers' or lowest lateral tomato plant growth (https://hort.extension.wisc.edu/articles/tomato-pruning/)
- Maintain proper spacing between plants
- Control host weeds
- Destroy infested plant debris
- Avoid over-irrigating (reduce leaf wetness)

Chemical Control: Preventative applications of fungicides containing copper or chlorothalonil can be useful in areas with chronic *Septoria lycopersici* infections. For Wisconsin-specific fungicide information, refer to the annually updated Commercial Vegetable Production in Wisconsin (A3422), a guide available through the UW Extension Learning Store website. Or, for home garden fungicide recommendations, see Home Vegetable Garden Fungicides (D0062), a fact sheet available through the UW Plant Disease Diagnostic Clinic website. Always follow label directions carefully.

Resources

- Commercial Vegetable Production in Wisconsin (A3422) from the UW Extension Learning Store. This guide offers the latest recommendations for disease, insect, and weed management in Wisconsin's most common commercial vegetable crops. Also included are lime and fertilizer recommendations as well as insect identification information and keys.
- UW Plant Disease Diagnostics Clinic. The University of Wisconsin-Madison/Extension Plant Disease Diagnostics Clinic (PDDC) provides assistance in identifying plant diseases and provides educational information on plant diseases and their control.

- Douglas, Sharon M. "Septoria Leaf Spot of Tomato." The Connecticut Agricultural Experiment Station.https://portal.ct.gov/CAES/Fact-Sheets/Plant-Pathology/Septoria-Leaf-Spot-of-Tomato.
- Hudelson, Brian. "Septoria Leaf Spot." UW Plant Disease Diagnostics Clinic, May 22, 2021. https://pddc.wisc.edu/wp-content/blogs.dir/39/files/Fact_Sheets/FC_PDF/Septoria_Leaf_Spot.pdf.

Adapted from UW Extension publication A2606, originally written by Karen Delahaut and Walt Stevenson in 2004. Last updated by Gevens, Abbrescia, Bradford, and Groves in Nov 2023.