



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 21, 2022

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- Potato disease risk and management recommendations for early blight and late blight
- Cucurbit downy mildew

Calendar of Events:

November 29-December 1, 2022 – Midwest Food Producers Assoc. Processing Crops Conference, Kalahari Convention Center
January 29-31, 2023 – Wisconsin Fresh Fruit and Vegetable Growers Conference, Kalahari Resort, Wisconsin Dells, WI
February 7-9, 2023 – UW-Madison Div. of Extension & WPVGA Grower Education Conference & Industry Show, Stevens Point, WI

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<https://vegpath.plantpath.wisc.edu/>

Current P-Day (Early Blight) and Disease Severity Value (Late Blight) Accumulations. Thanks to Ben Bradford, UW-Madison Entomology; Stephen Jordan, UW-Madison Plant Pathology; and our grower collaborator weather station hosts for supporting this disease management effort in 2022. 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. Red text in table indicates threshold has been met or surpassed. Weather data used in these calculations will come from weather stations that are placed in potato fields in each of the four locations, as available. Data from an alternative modeling source: <https://agweather.cals.wisc.edu/vdifn> will be used to supplement as needed. Data are available for each weather station at: <https://vegpath.plantpath.wisc.edu/dsv/>.

Location	Planting Date		50% Emergence Date	Disease Severity Values (DSVs) 8/20/2022	Potato Physiological Days (P-Days) 8/20/2022
Grand Marsh	Early	Apr 5	May 10	65	767
	Mid	Apr 20	May 15	65	726
	Late	May 12	May 25	65	668
Hancock	Early	Apr 7	May 12	37	739
	Mid	Apr 22	May 17	37	719
	Late	May 14	May 26	35	660
Plover	Early	Apr 7	May 15	104	702
	Mid	Apr 24	May 20	104	668
	Late	May 18	May 27	103	633
Antigo	Early	May 1	Jun 3	42	589
	Mid	May 15	June 15	38	515
	Late	June 10	June 24	38	430

In addition to the potato field weather stations, we have the UW Vegetable Disease and Insect Forecasting Network tool to explore P-Days and DSVs across the state (<https://agweather.cals.wisc.edu/vdifn>). This tool

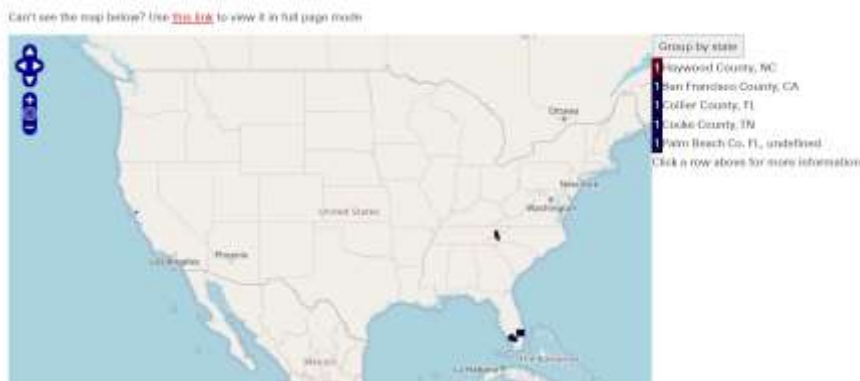
utilizes NOAA weather data (stations are not situated within potato fields). In using this tool, be sure to enter your model selections and parameters, then hit the blue submit button at the bottom of the parameter boxes.

Accumulations of P-Days were high (50-72) over the past week. Potatoes should continue to be on a preventative fungicide program with effective disease management selections to limit early blight in long season potatoes. Early blight in our UW Hancock Agricultural Research Station fungicide evaluation trial on ‘Russet Burbank’ is beginning to advance much more rapidly (in non-treated controls) than in prior weeks. With an aging crop and promotive weather, the *Alternaria solani* pathogen is much more successful in making disease. We have some very effective foliar fungicide programs in the trial this summer which are keeping the disease below 10% severity in comparison to the controls which are at approximately 60% severity.

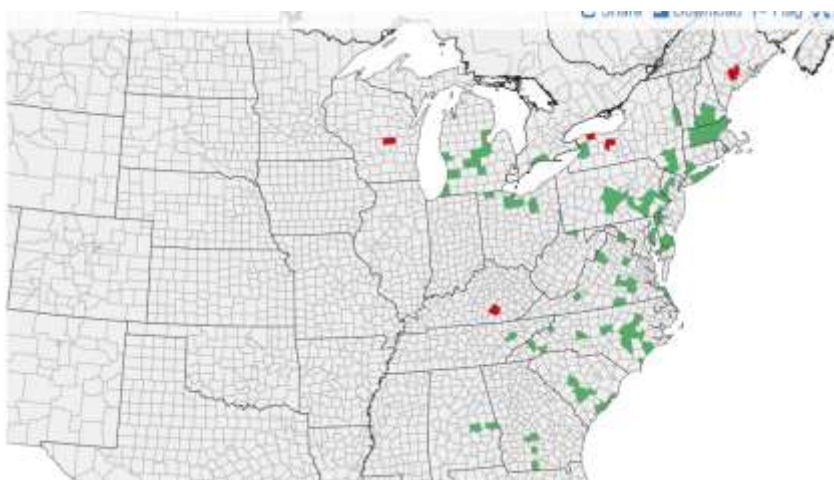
There are no confirmed reports of late blight in Wisconsin, to the best of my knowledge, at this time. All monitored Wisconsin locations accumulated moderate to high DSVs this past week (9-15) indicating a moderate to high-risk week for promoting late blight in potato plantings in Grand Marsh, Hancock, Plover, and Antigo. All plantings have now reached/exceeded the threshold for receiving a preventative application of fungicide for the management of late blight. A fungicide list for potato late blight in Wisconsin was provided in last week’s newsletter and is available here: <https://vegpath.plantpath.wisc.edu/2022/07/03/update-10-july-3-2022/>

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 2022 Commercial Vegetable Production in Wisconsin Guide, Extension Document A3422, linked here: <https://learningstore.extension.wisc.edu/products/commercial-vegetable-production-in-wisconsin>

According to usablight.org there was a recent diagnosis of late blight in tomato in Haywood County North Carolina, the strain type is not yet known. For this year, there were just 2 reports entered back in March in southern Florida (US-23 clonal lineage/strain type) and 2 reports from eastern Ontario Canada on tomato in late July. Additional, reports from August have recently been posted to the usablight.org website from CA (tomato), and TN (tomato). This is a very unusual pattern of late blight confirmations in 2022.



Cucurbit Downy Mildew: During this past week, cucurbit downy mildew was confirmed on cucumber in Waushara County, WI and KY, NY, and ME. Previously this growing season, the disease was confirmed in AL, CT, DE, FL, GA, MA, MD, MI, NC, NH, NJ, NY, OH, PA, SC, and VA. No findings of cucurbit downy mildew in our Wisconsin-based sentinel plots in Dane County. Red counties, on figure below, indicate recent reports (less than 1 week old) of cucurbit downy mildew.



<https://cdm.ipmpipe.org/>

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As a reminder, the pathogen is now known to have two ‘strains’ for clade types. The type (Clade 2) which infects cucumber, can also infect melon. Due to fungicide resistance within the downy mildew pathogen population, especially in Clade 2, selection of fungicides is important. Management of cucurbit downy mildew requires preventative fungicide applications as commercial cultivars are generally susceptible to current strains (Clades) of the pathogen. Management information can be sourced here:

<https://vegpath.plantpath.wisc.edu/2022/07/03/update-10-july-3-2022/>