

In This Issue

Disease forecasting for early and late blight in potato

Calendar of Events

July 16, 2020 – UW Hancock Ag Research Station Field Day CANCELLED
 December 1-3, 2020 – Midwest Food Producers Association Annual Convention/Processing Crops Conference, Kalahari, Wisconsin Dells, WI
 February 2-4, 2021 – UW-Madison Div. of Extension & WPVGA Grower Education Conference, Holiday Inn, Stevens Point, WI

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Current P-Day (Early Blight) and Disease Severity Value (Late Blight) Accumulations (Many thanks to Ben Bradford, UW-Madison Entomology; Stephen Jordan, UW-Madison 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 indicates threshold has been met/surpassed. TBD indicates that data is To Be Determined as time progresses. Weather data used in these calculations comes from weather stations that are placed in potato fields in each of the four locations. Data are available in graphical and raw data formats for each weather station at: <https://vegpath.plantpath.wisc.edu/dsv/>

Location	Planting Date	50% Emergence Date	Disease Severity Values 6/14/20	Potato Physiological Days 6/14/20
<i>Grand Marsh</i>	Early Apr 17	May 18	13	197
	Mid Apr 25	May 26	10	142
	Late May 6	June 1	7	101
<i>Hancock</i>	Early Apr 8	May 18	11	208
	Mid Apr 20	May 25	9	157
	Late May 4	May 30	6	119
<i>Plover</i>	Early Apr 10	May 23	11	169
	Mid Apr 20	May 30	5	115
	Late May 5	June 1	5	103
<i>Antigo</i> Station set up at airport 5/29	Early May 14	June 5	2	70.83
	Mid May 24	June 10	2	33.63
	Late Jun 1	TBD	TBD	TBD

National Late Blight Reports: (<https://usablight.org/map/>) Late blight has been confirmed on tomato (FL) and potato (FL and AL) during the growing season of 2020. Dr. Yu (Monica) Chen from my lab at UW-Madison Plant Pathology processed a potato late blight sample from Putnam County Florida at the end of March and it was clonal lineage US-23. The other samples do not yet have a clonal lineage determination as of yet. I will continue to monitor this national database and offer updates here in the newsletter. This information is useful to consider, especially when clonal lineages are determined, as we

can use these data to better understand the likelihood of particular clonal lineages here in Wisconsin. This information gives us indication of likely sensitivity to the phenylamide fungicides, such as Ridomil Gold.

Late blight character in WI over past decade: I provide a few helpful summaries of late blight character from WI, below. We routinely collect and characterize isolates of the pathogen, *Phytophthora infestans*, to best understand the epidemiology and management. As we are nearing the DSV threshold of 18 in our early plantings of potatoes in southern WI, it is time to consider preparing for early season preventative fungicides that best control the disease. Our 2020 Commercial Vegetable Production Guide for Wisconsin is a useful resource in identifying fungicides. Page 220 begins listing of fungicides for late blight control. While potato cultivars can vary in susceptibility to late blight, most are quite susceptible and require fungicides for management of this aggressive disease.
<https://cdn.shopify.com/s/files/1/0145/8808/4272/files/A3422-2020.pdf>

Genotype	Mating Type	Host	Mefenoxam Sensitivity**
US-8	A2	potato*/tomato	resistant
US-22	A2	potato*/tomato*	sensitive
US-23	A1	potato*/tomato*	sensitive
US-24	A1	potato*/tomato	resistant

Late blight in Wisconsin: Distribution and genotypic characteristics of *Phytophthora infestans* from 2009-2019

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Table 1. Characterization of Wisconsin *P. infestans* genotypes³
 *Favored if two hosts are present. **Mefenoxam is a highly effective phenylamide fungicide with high risk for pathogen resistance.

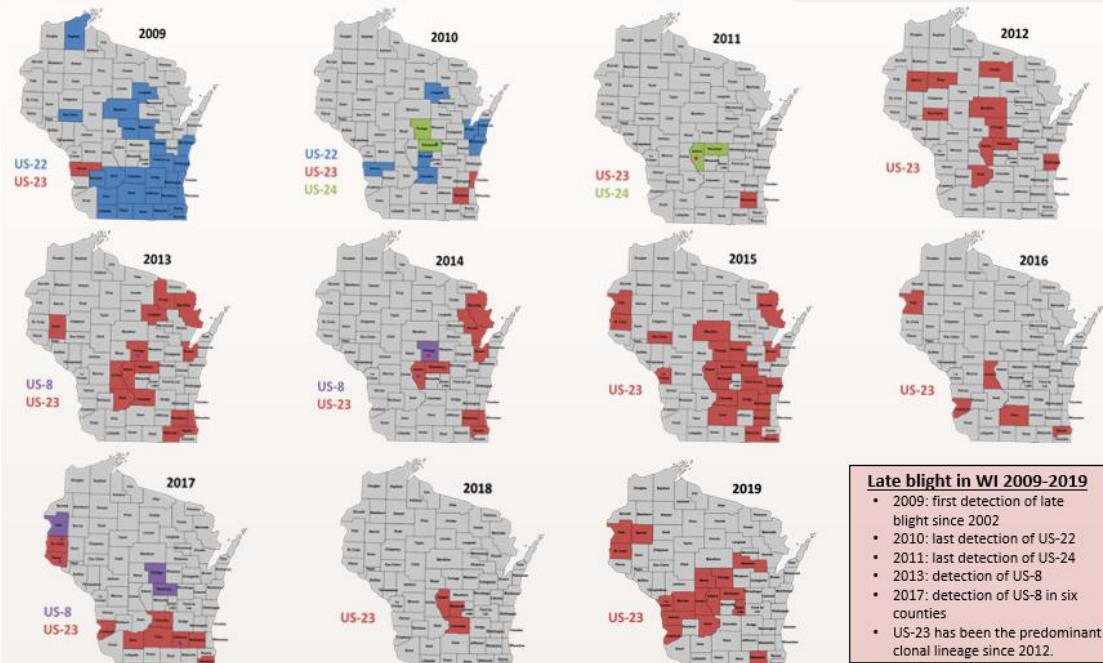


Figure 3. Counties with confirmed detection of *P. infestans* are highlighted with colors representing different genotypes (purple = US-8; blue = US-22; red = US-23; green = US-24). Multiple genotypes found in the same county are indicated with colored asterisks.