Vegetable Crop Update

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

No. 11 – June 29, 2017

In This Issue

Calendar of Events

July 20, 2017 – UW-Hancock ARS Field Day, Hancock, WI
July 27, 2017 – UWEX Langlade County Airport Research Station Field Day, Antigo, WI
August 4, 2017 – UW-Lelah Starks Elite Foundation Seed Potato Farm Field Day, Rhinelander, WI (10AM to Noon Lunch to Follow)
January 21-23, 2018 – Wisconsin Fresh Fruit & Vegetable Conference, Wisconsin Dells, WI
February 6-8, 2018 – UWEX & WPVGA Grower Education Conference, Stevens Point, WI

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Current P-Day (Early Blight) and Severity Value (Late Blight) Accumulations (R.V. James, UW-Plant Pathology/R.V. James Designs): 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 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."
http://www.plantpath.wisc.edu/wivegdis/contents_pages/weather_%20list_2017.html

Location	Planting Date	50% Emergence	P-Day Cumulative	Disease Severity Value	Date of DSV Generation	Increase in DSV from 6/23
Antigo	Early 5/3	5/25	>104*	**33***	6/29	4
	Mid 5/15	6/1	>104*	**29***	6/29	4
	Late 6/1	6/15	-	**19***	6/29	4
Grand Marsh	Early 4/10	5/15	265	**32**	6/27	2
	Mid 5/1	5/22	258	**30**	6/27	2
	Late 5/17	6/1	195	**22**	6/27	2
Hancock	Early 4/15	5/18	264	**26**	6/27	2
	Mid 5/5	5/30	200	16	6/27	2
	Late 5/20	6/5	162	16	6/27	2
Plover	Early 4/20	5/20	266	**28**	6/27	2
	Mid 5/8	5/25	241	17	6/27	2
	Late 5/25	6/8	145	16	6/27	2

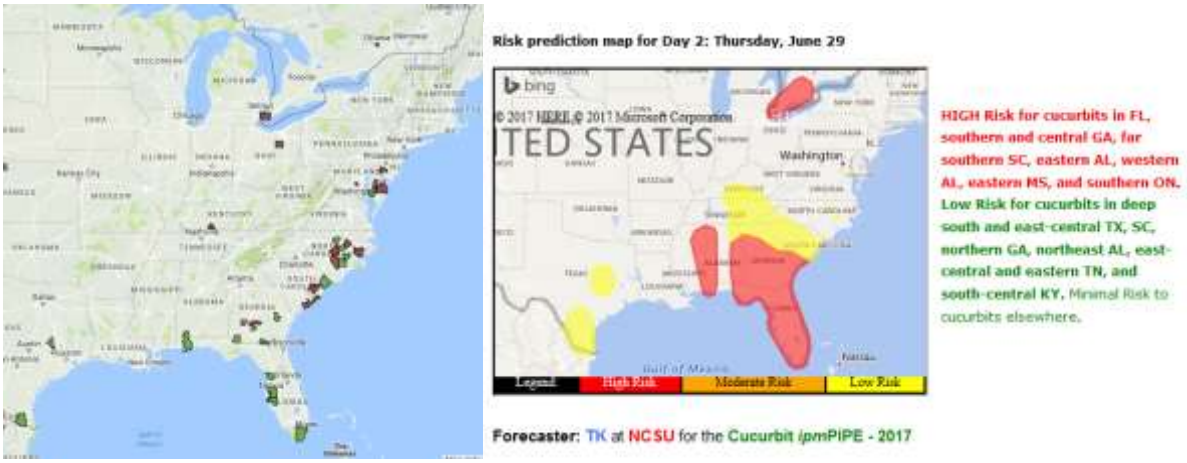
Summary: Disease Severity Values (DSVs) and Late Blight Blitecast: All potatoes are at 50% emergence or greater. Several locations have reached threshold and should be considered for preventive

fungicide application to manage the risk of late blight. All locations with the exception of mid- and late-planted potatoes at Hancock and Plover, are at/surpassing the threshold of DSV 18. *We are again having problems with weather station components – batteries and modems are causing data drops. We are making replacements and working through these concerns. In the meantime, I am using DSV data generated through our UW Vegetable Disease and Insect Forecasting web tool (http://agweather.cals.wisc.edu/vdifn/maps) to provide information for the Antigo location. The weather data which generates these values are from NOAA rather than in-potato-field stations; the values have been comparable this season prior to the station failure. Note that the site also now has insect phenological data available for several pests. Recall the maximum number of DSVs that one day can accumulate is 4. Once thresholds of 18 DSVs have been met, routine, protection of susceptible tomato and potato crops is recommended. Wisconsin commercial conventional fungicides for potato late blight control can be found at: http://www.plantpath.wisc.edu/wivegdis/pdf/2017/May%2022,%202017.pdf

P-Days indicating early blight risk have not yet reached threshold for Wisconsin potatoes. Recall the threshold is 300 P-Days. In commercial fields planted in mid-April in southern/central Wisconsin, the first early blight lesions have been noted. Some commercial and research fields are beginning to develop symptoms of early blight in the lower canopy. We typically reach 300 P-Days on/around the first of July in the Hancock area for a general reference.

National Late Blight Updates: **http://usablight.org** is a useful resource for the detection and characterization of late blight on tomato and potato crops from the U.S. Late blight was confirmed on tomato in Henderson County North Carolina this past week. Already this year, late blight has been confirmed on potato and/or tomato in FL, NC, and VA, as reported on the usablight.org website. In all reported cases, the pathogen genotype was US-23. This 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.

National Cucurbit Downy Mildew Updates: **http://cdm.ipmpipe.org/** offers information on the detection and characterization of the cucurbit downy mildew pathogen from the U.S. (and often Canada). In this past week, confirmations of downy mildew have come from DE, GA, KY, MD, MI (Monroe Co.), NC, NJ, OH (Wayne Co.), Ontario (Canada), and SC. Prior confirmations were from AL, FL, GA, MD, NC, SC, and TX on a variety of cucurbits. The counties highlighted in red on map (below) have had disease reports within this past week; green counties indicate locations of confirmed disease this season, but greater than 7 days ago. No risk of movement of the disease to WI based on the current forecast (see risk map below).



The sample from Michigan had well-developed lesions despite the fact that the crop had been sprayed with a protectant fungicide. Typically, when southern MI makes their first reports of cucurbit downy mildew, we see it in WI about a week to 10 days later. It is an appropriate time to consider use of protectant fungicides against downy mildew on the most susceptible cucurbit crops (including cucumbers, cantaloupe and watermelon). Interestingly, MSU's downy mildew spore trap system has not yet detected significant numbers of spores in the areas in which the first detected lesions have been found (or in other areas tested across the state). Based on many years of field trialing, Dr. Mary Hausbeck at Michigan State University has put together a table of "Preferred Downy Mildew Fungicides" (below).

Preferred downy mildew fungicides			
Product	**Active ingredient**	**FRAC**	**Comments (maximum applications per season)**
Orondis Opti*	oxathiapiprolin/ chlorothalonil	45/ M05	Make no more than two sequential applications before rotating to a fungicide with a different mode of action (FRAC). Use either soil applications of Orondis or foliar applications of Orondis Opti A, but not both for disease control. Do not use for more than one-third of the total foliar fungicide applications. (6)
Ranman 4SC*	cyazofamid	21	Mix with chlorothalonil or mancozeb. (6)
Gavel 75DF	mancozeb/ zoxamide	M03/ 22	Mix with chlorothalonil or other downy mildew fungicide. (8)
Zampro 4.4SC	ametoctradin/ dimethomorph	45/40	Mix with chlorothalonil or mancozeb. Labeled for application via drip as a foliar spray. (4)
Zing! SC	zoxamide/ chlorothalonil	22/ M05	Mix with mancozeb or other downy mildew fungicide. (8)

*Orondis Opti and Ranman have performed exceptionally well in Michigan trials.

Further details on use of fungicides in managing cucurbit downy mildew can be found at my previous newsletter #7 from June 3, 2017. Link below.
http://www.plantpath.wisc.edu/wivegdis/pdf/2017/June%203,%202017.doc.pdf

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