



Vegetable Disease Update – Amanda J. Gevens, Assistant Professor & Extension Vegetable Plant Pathologist, UW-Madison, Dept. of Plant Pathology, 608-890-3072 (office), Email: gevens@wisc.edu. Vegetable Path Webpage: <http://www.plantpath.wisc.edu/wivegdis/>

Late blight disease forecasting indicates risk for late blight in early-planted potato crops in Grand Marsh, Hancock, and Plover areas. At this time, a fungicide application is recommended for early-planted potatoes to prevent development of late blight. A second file listing registered fungicides for potato late blight in Wisconsin is included as a companion to this newsletter (& will be accessible at Veg Path website above).

No late blight has been detected in Wisconsin potato or tomato crops at this time. And, there have been no recent (within a week) reports of late blight in the U.S. This Disease Supplement serves to make growers aware that the Blitecast thresholds (DSV 18) have been met at several locations in Wisconsin and preventative fungicide application is recommended for producers of susceptible potato crops at specific crop stages. The website: <http://www.usablight.org/> indicates location of positive reports of late blight in the U.S. and provides further information on disease characteristics and management. Additional, specific fungicide recommendations will soon be provided through this newsletter for tomato and organics.

Current P-Day (Early Blight) and Severity Value (Late Blight) Accumulations

P-Day of ≥ 300 indicates threshold for early blight risk and triggers preventative application of fungicide. DSV of ≥ 18 indicates threshold for late blight risk and triggers preventative application of fungicide. Red text in table below indicates threshold has been met. NA indicates that information is not yet available as emergence has yet to occur. http://www.plantpath.wisc.edu/wivegdis/contents_pages/pday_sevval_2013.html

Location	Planted	50% Emergence	P-Day Cumulative	DSV Cumulative	Calculation Date
Antigo Area	Early 5/13	NA	NA	NA	NA
	Mid 5/22	NA	NA	NA	NA
	Late NA	NA	NA	NA	NA
Grand Marsh Area	Early 4/15	5/10	117	18	6/3/13
	Mid 5/1	5/21	82	18	6/3/13
	Late 5/15	NA	NA	NA	NA
Hancock Area	Early 4/20	5/15	132	18	6/3/13
	Mid 5/5	5/23	71	16	6/3/13
	Late 5/15	NA	NA	NA	NA
Plover Area	Early 4/22	5/17	111	28	6/3/13
	Mid 5/7	5/30	NA	NA	NA
	Late 5/24	NA	NA	NA	NA

Disease Forecasting: What are DSVs and P-days?: As we will now be routinely posting disease forecasting information in this newsletter, and have added new subscribers, it is necessary to provide some explanation of the 18 disease severity value and 300 P-Day concepts used in disease forecasting and IPM programming. Locations of in-field weather stations/disease forecasts will include: Antigo, Plover, Hancock, and Grand Marsh. (This year, I will also add summary of our state-wide, remotely sensed weather data/disease forecasting). Computation of 18 disease severity values (**DSVs**) relies on maximum and minimum temperatures each day, the duration of relative humidity periods above 90% and the maximum/minimum temperatures during the relative humidity periods above 90%. For a given day, up to 4 DSVs can accumulate. We start the severity value calculations at approximately 50% crop emergence. When we reach a total of 18 severity values, we issue a warning which indicates that environmental conditions have been met which favor late blight. At 18 DSVs, the recommendation for preventive applications of effective late blight fungicides is made. An additional alert is issued when the first symptoms of late blight appear anywhere in the state. The determination of late blight management recommendations is made by taking into consideration DSVs, projected weather forecast, and presence/risk of inoculum. This information is published in our newsletter and will be disseminated in various other outlets as the season progresses.

WI had late blight during the 2009-2012 production seasons and there is risk in 2013. We had a cold and long winter – as evidenced by the cold soil temperatures at 2 & 4 inch depths reported previously in this newsletter. Using MI's calculation for potato volunteer risk, we determined that risk for volunteer viability is likely low across the state, and thus, late blight potential in volunteers is low in 2013. Growers should be mindful to plant disease-free seed, to destroy cull potatoes prior to new crop emergence, and to control volunteers when they do appear. Other potential sources of late blight in WI come from overwintered infected tomato plants.

The Potato P-Day accumulator is used to generate early blight management recommendations. The physiological degree day (P-Day) program is used to predict the development of the potato plants and P-Day 300 accumulation has been correlated in Wisconsin with the first seasonal rise in the number of spores of the early blight fungus. Once we reach 300 P-Days (typically around time of potato row closure), calculated from emergence on, our spray recommendations take both the P-Day and severity value totals into account to generate 5 day, 7 day or 10 day spray interval recommendations. The interval is variable depending on prevailing weather conditions and the presence of disease in the area. In most years, the need to prevent early blight in potatoes occurs before the need to consider late blight control with fungicides, but this year has been a bit different and late blight risk is preceding early blight risk.

Further details on registered fungicides for WI vegetables can be found in the Wisconsin Commercial Vegetable Production Guide A3422, <http://learningstore.uwex.edu/assets/pdfs/A3422.PDF>.