



# Vegetable Crop Update

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

No. 21 – September 5, 2014

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## Calendar of Events

**October 29-30** – Hancock Ag Research Station Fresh Market Potato Variety Trial Open House (Jeff Endelman), Hancock, WI

**December 2-3** – Midwest Food Processing Crops Conference, Kalahari Resort, Wisconsin Dells, WI

**January 13-15** – Wisconsin Crop Management Conference, Madison, WI

**January 26-28** – Wisconsin Fresh Fruit & Vegetable Growers Conference, Wisconsin Dells, WI

**February 3-5** – UWEX & WPVGA Grower Education Conference, Stevens Point, WI

**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](mailto:gevens@wisc.edu). Veg Pathology Webpage: <http://www.plantpath.wisc.edu/wivegdis/>**



**Late blight updates: Wisconsin:** While no new counties reported late blight this past week, a few additional fields were found to have late blight in Portage and Adams Counties. Updates on genotypes: Oconto Co. on potato and tomato (US-23), Portage on potato (US-8 & 23), and Marinette Co. on tomato (US-23). Earlier reports included Portage, Milwaukee, Adams, Waushara, and Racine Counties. US-23 is an A1 mating type strain with sensitivity to mefenoxam/metalaxyl. US-8 is an A2 mating type strain with resistance to mefenoxam/metalaxyl fungicides. Map above was generated from [usablight.org](http://www.usablight.org) website data at 9:25PM Sep 5, 2014.

**Nationally:** In the past week, there have been several new late blight reports from Benton Co. MN on potato, NC, NY, OH, OR, PA, and WA. Recent reports are indicated on map above in dark red. Most (~92%) of the *P. infestans* isolates that have been genotyped from U.S. field and garden samples in 2014, thus far, have been of the US-23 genotype/strain, with the exception of US-8 in a few WI counties, a New Type B 2014 from NY, and US-24 from OR. Reports from >one week ago include CT, FL, IN, MA, MD, ME, MI, NC, NH, NJ, NY, OH, ON Canada, OR, PA, VA, VT, WI, and WV. Details can be found at <http://www.usablight.org/>. The website provides location of positive reports of late blight in the U.S. and further information on the disease. If you would like further information regarding late blight pathogen character, oospore risk and impact, or management, please see presentation linked below.

<http://www.plantpath.wisc.edu/wivegdis/pdf/2014/Gevens%20LB%20Presentation%20HARS%202014%20-%20Copy.pdf>

**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  $\geq 300$  indicates the threshold for early blight risk and triggers preventative fungicide application. A DSV of  $\geq 18$  indicates the threshold for late blight risk and triggers preventative fungicide application. Red text in table below indicates threshold has been met/surpassed. NA indicates that information is not yet available as emergence has yet to occur. 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/pday\\_sevval\\_2014.html](http://www.plantpath.wisc.edu/wivegdis/contents_pages/pday_sevval_2014.html)

<i>Location</i>	Planting Date	50% Emergence	P-Day Cumulative	Disease Severity Value	Date of DSV Generation	Increase in DSV from last week (8/29)
<i>Antigo</i>	Early 5/20	6/9	<b>693</b>	<b>100*</b>	9/5	12
	Mid 5/27	6/16	<b>645</b>	<b>100*</b>	9/5	12
	Late 6/6	7/2	<b>509</b>	<b>69*</b>	9/5	12
<i>Grand Marsh</i>	Early 4/20	5/19	<b>858</b>	<b>159*</b>	9/5	14
	Mid 5/4	6/1	<b>771</b>	<b>153*</b>	9/5	14
	Late 6/3	6/23	<b>594</b>	<b>117*</b>	9/5	14
<i>Hancock</i>	Early 4/24	5/20	<b>905</b>	<b>100*</b>	9/5	12
	Mid 5/8	6/2	<b>806</b>	<b>97*</b>	9/5	12
	Late 6/3	6/24	<b>617</b>	<b>79*</b>	9/5	12
<i>Plover</i>	Early 4/21	5/20	<b>809</b>	<b>157*</b>	9/5	12
	Mid 5/5	6/1	<b>725</b>	<b>154*</b>	9/5	12
	Late 6/5	6/24	<b>548</b>	<b>125*</b>	9/5	12

Please note that we have surpassed the threshold for late blight DSVs (18) in all monitored areas for all plantings of potatoes. Asterisks on the DSVs indicate that I have revised the value as displayed in the SureHarvest Blitecast daily output that is found at the UW-Vegetable Pathology website. In some cases, the number of hours of relative humidity above 90% was being issued as a value greater than 24 - giving unusually high DSVs for the individual day. I assigned a maximum DSV of 4 to such dates.

Preventive fungicide application for late blight control may include base protectants such as chlorothalonil or mancozeb, or include a base protectant tank-mixed with one of the reduced risk fungicides with specific activity in controlling late blight. Be mindful of the season-long limitations for use of chlorothalonil and mancozeb fungicides. Bravo and Echo products do have the WI special registrations for long season potato use of up to 16 lb active ingredient per acre. Other chlorothalonils do not have this special allowance and their use must be limited to 11.25 lb active ingredient per acre. Mancozeb use is limited to 11.2 lb active ingredient per acre.

We specifically discussed use of phosphorous acid products (ie: Phostrol) and mancozeb (ie: Dithane) for late season potato late blight management for tuber disease control in conventional systems at our 8/25 Hancock Late Blight meeting. Use of Phostrol as a foliar fungicide application has been shown to create tuber resistance to late blight (and pink rot) in studies from

multiple states. Phostrol is at times associated with some phytotoxicity depending upon environmental conditions, spray volume, and rate. However, a little phytotox prior to chemical vine kill is not a bad thing. Mancozeb use late in the spray program can aid in limiting tuber infection by late blight spores. For further information on specific fungicide rates and activities, please find the 2014 updated list of potato fungicides for WI at the link below.

<http://www.plantpath.wisc.edu/wivegdis/pdf/2014/June%206%202014.pdf>

Further details on registered fungicides for WI vegetables can be found in the Univ. of WI Commercial Vegetable Production in WI Guide A3422,

<http://learningstore.uwex.edu/assets/pdfs/A3422.PDF>.

**P-Days and early blight management:** P-Days are over the 300 threshold for potatoes of all planting dates at all locations. Recall, the P-Day 300 threshold is an indicator for timing the initial fungicide application for management of early blight.

**Cucurbit downy mildew updates:** Downy mildew was confirmed in another Dane County field this past week. To date, we've confirmed cucurbit downy mildew in Dane and Green Lake Counties, WI. It is likely that more infection is out there, but may not be recognized or confirmed. Powdery mildew is quite aggressive this year and can complicate diagnosis of downy mildew. Pickling cucumber crops are finishing up in Central WI and it is important to pay attention to pre-harvest intervals on fungicide labels to enable timely harvests in a multi-pick crop. In the past week, IN, KY, NC, NY, OH, PA, TN, and WI reported cucurbit downy mildew, as depicted in red on the map below. In summary this year, AL, DE, FL, GA, KY, LA, MA, MD, MI, NC, NJ, NY, OH, ON Canada, PA, SC, TN, TX, WI, and WV have reported cucurbit downy mildew across multiple cucurbit hosts.

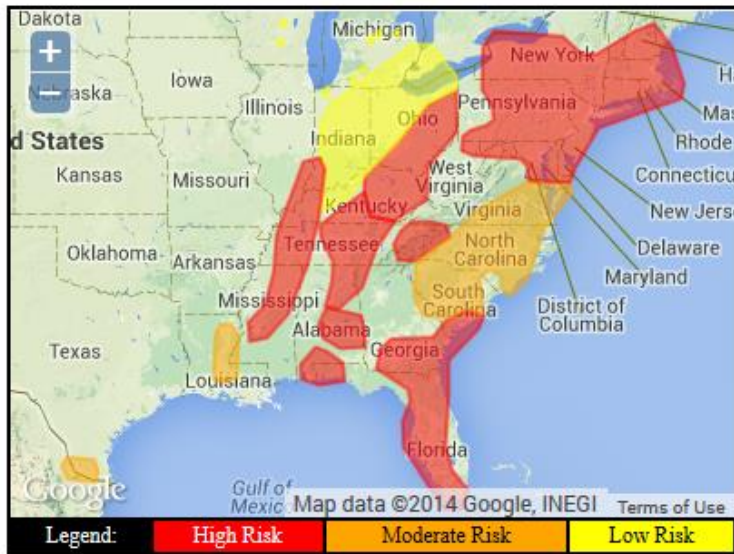


### National reports of cucurbit downy mildew

Locations of recent (red) and older (green) reports of cucurbit downy mildew in the U.S. in 2014. Map sourced from <http://cdm.ipmpipe.org/> from 9:33PM Sep 5 2014.

Further information on cucurbit downy mildew:  
<http://learningstore.uwex.edu/Assets/pdfs/A3978.pdf>

### Risk prediction map for Day 2: Saturday, September 6



### Sat Sep 6, 2014 Cucurbit Downy Mildew Forecast

(<http://cdm.ipmpipe.org/current-forecast>) accessed 9/5/14 at 9:47PM.

There is low risk of spore movement from older sites of confirmation in Dane and Green Lake Counties, WI to the rest of WI - see forecast map to the left with low risk area in yellow. Management information for cucurbit downy mildew can be found at:

<http://www.plantpath.wisc.edu/wivegdis/pdf/2014/August%2015%202014.pdf>

### Cucurbit Powdery Mildew Fungicide Trials – Comments on trials in progress with S.A.

**Jordan, UW-Plant Pathology** – In Cashton, WI we have been working with Bill Halfman (UWEX Monroe Co.) to investigate organic fungicides for powdery mildew control on acorn squash. Disease pressure started in late June and progressed significantly through the season. Just this past week, the trial was harvested and evaluated for powdery mildew on foliage. None of the organic programs (neem oil, sulfur, copper treatments) effectively managed late blight. More details on trial results will be forthcoming. In our Jack-o-lantern-powdery mildew fungicide trial at the Hancock Ag Research Station, we are finding that Rally (formerly Nova) containing myclobutanil has had limited powdery mildew control effects during 2014. Commercial fields have also experienced this lack of control in 2014 – which suggests that the powdery mildew pathogen population has developed resistance to this specific fungicide. When the pathogen is sensitive to Rally – it can work very well. When resistant – you’ll find little to no disease control. We also saw limited control with organic fungicide programs (as in Cashton). Quintec (quinoxifen) has been the stand out highly effective treatment for limiting powdery mildew in 2014. Other fungicides gave good results as well and will be further discussed with specific data in upcoming newsletters. We will be harvesting our Hancock pumpkin trial in the upcoming 2 weeks and can offer more info on handle/stem quality and yield.