



# 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 5, 2012

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## Calendar of Events

July 13 – UW-Rhineland Ag Research Station, Potato Tour, 10AM-2PM  
 July 24 – UW-Hancock Ag Research Station, Field Day, 12:30-4:00PM  
 August 2 – UW-Langlade County Ag Res Station Field Day Antigo, 1:00PM

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

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

[http://www.plantpath.wisc.edu/wivegdis/contents\\_pages/pday\\_sevval\\_2012.html](http://www.plantpath.wisc.edu/wivegdis/contents_pages/pday_sevval_2012.html)

*(NA indicates that information is not yet available as emergence has yet to occur)*

Location	Planted	50% Emergence	P-Day Cumulative	DSV Cumulative	Calculation Date
<b>Antigo Area</b>	Early 5/1	5/30	22	0	6/4
	Mid 5/10	NA	NA	NA	NA
	Late 6/1	NA	NA	NA	NA
<b>Grand Marsh Area</b>	Early 4/3	5/8	176	7	6/4
	Mid 4/15	5/16	129	7	6/4
	Late 4/30	NA	74	6	6/4
<b>Hancock Area</b>	Early 4/1	5/1	235	11	6/4
	Mid 4/15	5/10	178	5	6/4
	Late 5/1	5/17	134	5	6/4
<b>Plover Area</b>	Early 4/3	5/17	188	4	6/4
	Mid 4/19	5/18	123	4	6/4
	Late 5/1	5/27	60	0	6/4

**P-Days and Early Blight:** Earliest planted potato fields have P-Days of 176 in Grand Marsh (6/4), 235 in Hancock (6/4), 188 in Plover (6/4), and 22 in Antigo (6/4). Mid-planted fields are 129, 178, and 123, consecutively on 6/4 (Antigo mid-planted not yet emerged). P-Days have accumulated rapidly this season with early warm temperatures indicating precocious crop development and, likely, earlier than normal presence and spread of the early blight pathogen. An accumulated P-Day value of 300 indicates time to initiate fungicide applications for early blight control.

**DSVs and Late Blight:** As of June 4, we had DSV accumulations at almost all sites with emerged potatoes, with the exception of late planted fields in Plover and Antigo. The highest DSV accumulation was calculated for earliest planted fields in the Hancock area (DSV 11 on 6/4). Accumulation of DSVs was low this week, with no increases at most sites in the past 7 days. An accumulated DSV of 18 indicates time to initiate fungicide applications for late blight control.

I have not seen any symptoms of late blight in my fields visits within Wisconsin. This past week there was one new state report of late blight in the U.S. on tomato and potato – Blair and Franklin Counties, in central PA. To date, late blight has been reported in CA, FL, NC, NJ, and NY. 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.

**Cucurbit Downy Mildew:** has not been identified in Wisconsin at this time in commercial fields. We planted our experimental sentinel plots last week. ‘Sentinel plots’ are plantings of susceptible cucurbit hosts (watermelon, muskmelon, cucumber, pumpkin, and squash varieties) that are maintained without fungicide protection. We scout the plot 2X each week and report on first downy mildew finds in each cucurbit as it develops. Once infected, plants are destroyed so as not to create inoculum for area producers. At this time in the U.S., cucurbit downy mildew has been reported in FL, GA, and NC. Dr. Mary Hausbeck at Michigan State University reported the presence of downy mildew spores from air samplers (‘spore traps’) in eastern Michigan cucumber fields. Presence of the spores in the air above fields indicates heightened risk for infection and need for preventative fungicide applications. The website: <http://cdm.ipmpipe.org/> offers up to date reports of cucurbit downy mildew and disease forecasting information.

For further information on any fungicides that may be mentioned in this newsletter, please see the 2012 Commercial Vegetable Production in Wisconsin Guide A3422. An online pdf can be found at the link below or a hard copy can be ordered through the UWEX Learning Store. <http://learningstore.uwex.edu/assets/pdfs/A3422.PDF>

**Vegetable Insect Update – Russell L. Groves, Assistant Professor and Applied Insect Ecologist, UW-Madison, Department of Entomology, 608-262-3229 (office), (608) 698-2434 (cell), or e-mail: [groves@entomology.wisc.edu](mailto:groves@entomology.wisc.edu).**

**Several Caterpillars – (Cutworms, Loopers, and Armyworms)** – As reported in an earlier newsletter, several species of potentially damaging Lepidopterans (moths and butterflies) have migrated into the state in response to the early spring and major weather systems. Migrating

populations of the variegated cutworm, armyworms, and some looper species have recently been detected throughout much of Wisconsin. Several of these species will often overwinter in states to the south of Wisconsin and then adult moths migrate to the region during the spring and early summer. In the case of armyworms, few overwinter in Wisconsin. Most armyworm moths migrate into Wisconsin from the southern states in May and early June. During the day, adult moths remain hidden in grassy vegetation. Like variegated cutworm, armyworm moths are active during the evening, feeding on nectar, mating, and searching for oviposition (egg laying) sites. Eggs are deposited on the leaves of grasses or at the base of plants and hatch in 1 to 2 weeks. Newly hatched larvae are pale green and are also active at night, feeding on host plants. During the day, they can be found under plant debris or in the top few inches of the soil. After completing six instars, larvae pupate just below the soil surface with adults emerging in 1 to 2 weeks. A second generation occurs in late June or early July and a third in late August or early September. Cabbage loopers are similar in their biology as adults are nocturnal moths with mottled grayish brown wings. The caterpillars are pale green with narrow white lines running down each side. Since cabbage looper caterpillars have no legs in their middle sections, they have a characteristic 'looping motion' as they move across vegetation. Full grown caterpillars are about 1½ inches in length. With early flights this year and above average temperatures throughout much of the state during the spring, populations of all of these insects can be expected to be above average. The choice of control to target these insects is dependent upon the crop affected, the stage of insect, and the level of damage to the crops. Please consult the Vegetable Entomology webpage for more details on selected methods of control (<http://www.entomology.wisc.edu/vegento/>).

**Colorado potato beetle (CPB)** - adults continue to colonize fields in the Central Sands region as well as in the seed production areas of northern Wisconsin. In the south, these adults are rapidly colonizing from their overwintering sites adjacent to previously planted potato as several fields have populations (egg laying) moving into the center of fields. As noted in the past newsletter, pay close attention to these colonizing populations to see if the at-plant systemic neonicotinoids remain effective. High concentrations of the neonicotinoids should still persist in the young potato plants which 'should' provide very good control of early season adult beetles and any newly hatched larvae. If you continue to see in-field populations of adults and early larvae persisting in plant terminals, it is important to consider foliar applications to get control of this first generation and lessen the impact of the second generation of CPB. Initial applications of the insecticide, novaluron (Rimon<sup>®</sup>), were recommended to begin last week. Subsequent applications should follow this week, but the season total of formulated product (24 fl oz/A) should not be exceeded. Recall that this material has the unique activity of targeting not only eggs, but early instar larvae. In fact, it has been shown that adult female CPB that ingest novaluron-treated foliage will lay eggs that are non-viable. As a result, it is critical to get this material applied at this stage of crop / insect development to ensure good control. A third application may be necessary over the next 7-10 days following the second application to provide more complete control of the entire 1<sup>st</sup> generation.

**Potato leafhopper** – Adult potato leafhoppers (PLH) have become well established at several locations in southern and central WI, arriving over the past few weeks on the strong southerly winds in advance of cold fronts. Populations of adults are increasing in potato at the Arlington Ag. Experiment Station with sweep net counts in potato now averaging 1.8 adults / sweep. At

the Hancock Ag. Experiment Station, where nearly all potatoes receive an at-plant neonicotinoid, the populations are considerably lower averaging 0.2 adults / sweep. Recommended treatment thresholds are 1 adult per sweep with a net or 15 nymphs on the undersides of 50 potato leaves.

**North Central Region – Aphid Suction Trap Network** – The University of Illinois, and specifically Dr. David Voegtlin, in cooperation with several state Extension Specialists and participating land managers maintain aphid collection data through the suction trap network webpage: <http://www.ncipmc.org/traps/>. Here you can find updated information on aphid captures over the past week(s) in several states. This information has been very useful to our program in our efforts to model the phenology of the major PVY vectors in seed potato. Very briefly, Dr Voegtlin notes that suction trap data for the weeks ending 18 and 25 May are now available at the website. Of interest, during the week ending on May 25 two soybean aphids were collected and one was collected in the Antigo, Wisconsin trap and the other in the Bean and Beet, Michigan trap. David notes that these are some of the earliest collections of the soybean aphid we recorded in suction traps. He further notes that these captures may not be too surprising considering the early spring with above average temperatures and the insects inability to find / located early season soybean plants. Captures of cereal aphids are becoming more widespread and are somewhat less than populations observed from the first week. Seed potato growers should be planning for their initial applications of oil on varieties that are highly susceptible to Potato virus Y. Specifically, varieties that are challenging to certify with the post-harvest testing, such as Russet Norkotah and Silverton Russet, should be protected very soon with the first set of weekly oil applications.

**Vegetable Entomology Webpage:** <http://www.entomology.wisc.edu/vegento/index.html>

**Organic Potato Research – Department of Plant Pathology – Dr. Ruth Genger, Assistant Researcher, Phone: (608) 265-3056, or E-mail: [rkg@plantpath.wisc.edu](mailto:rkg@plantpath.wisc.edu):** This summer marks the 3<sup>rd</sup> year of potato variety trials on Wisconsin organic trials. This year, we have 36 varieties in our trials, up from 34 last year and 16 in 2010. In our first year of trials, we focused on establishing baseline expectations for commonly grown varieties in four market classes: red, yellow, russet and fingerling. In 2011 and 2012, we have added more varieties and market classes. This year, we are trialing eight varieties with red skin and white or yellow flesh, including Dark Red Norland as a standard; four russet varieties, including Goldrush as a standard; eight yellow varieties, with Yukon Gold as a standard; five white varieties, including Langlade and Superior as standards; and eleven specialty varieties, including two blue-fleshed and one red-fleshed, five fingerlings, and three with variegated skin color. Eight organic farms are participating in the full trial this year, and two are participating with a subset of varieties. All varieties are also planted at West Madison Agricultural Research station on certified organic land – watch for a field day announcement later this summer.

Potato planting is completed at most of the participating farms – several sites were planted in late April, but rain and sodden soil prevented planting at other sites until mid to late May. We are seeing good emergence, and will be following varietal development through the remainder of the season. One of the participating farms delays planting till late June to evade potato leafhopper, which is difficult to control by organic means. Our observations through the season will include plant vigor and ability to suppress weeds, susceptibility to disease and insect attack, and maturity/senescence. Watch for updates!