



Vegetable Crop Update

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

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Calendar of Events

July 13 – UW-Rhinelander 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 Crop Update – A.J. Bussan, Department of Horticulture, UW-Madison, Tel. No. 608-225-6842, email: ajbussan@wisc.edu

The early crop production season has continued with warmer than normal temperatures over the past week. This has led to early crop emergence as well as rapid development across a number of species. Rains this week were welcome as many areas were rapidly becoming dry and heat made things difficult for new transplants. Localized high winds and heavy rains did cause some crop damage in different locations across the state of Wisconsin.

Potatoes: The potato crop is staggered across the Central part of the state, with a good portion of the crop having already emerged. Some potato varieties have set tubers already, while others are still in the stolonization phase of development. Tuber initiation is a critical phase of development for the potato crop. Drought stress during tuber initiation can cause changes in cell division within the newly forming tuber that ultimately lead to losses in yield potential. We also know that drought stress during tuber initiation and early tuber bulking can lead to increase level of common scab. Finally, drought and heat stress can combine to reduce tuber bulking and in particular formation of starch and also lead to quality losses such as sugar end in processing russets or other varieties.

Irrigation is crucial for prevention of sugar end, lower solid contents, and scab development. While irrigation alone cannot prevent the impact of heat and stress on these key quality components, we also know that irrigating at less than optimal levels during this stage of development can negatively affect quality. To avoid water deficit in potatoes, some potato agronomists and researchers have hypothesized more frequent rains improve potato productivity and quality. The best means for increasing irrigation frequency is to lower the allowable depletion level or try and maintain the soil moisture content at a higher percentage of field capacity. For example, many manage soil moisture in potatoes to remain above 75% of field capacity on sand soils. New thinking suggests soil moisture must remain at 85% of field capacity to maximize solid content and decrease potential for sugar end.

Most of the seed potatoes across the state have already been planted, in particular in the Langlade County area. Some potatoes are still being planted on the muck soils across different regions of the state while tubers are already setting in muck grown potatoes in other parts of the state.

Also remember that nitrogen and other nutrient uptake increase rapidly in Wisconsin once potatoes initiate and during early tuber bulking. For this reason, large proportion of the nitrogen fertilizer is applied about 2 to 3 weeks after crop emergence. This happens to coincide with the timing of tuber initiation for the most part.

Processed vegetables: Early planted sweet corn should be rapidly nearing the five leaf stage of crop development. The five leaf stage in corn generally corresponds with the differentiation of the sweet corn tassel. It also corresponds with a rapid increase in nutrient uptake by corn. Many field and sweet corn producers began side dressing corn on non-irrigated medium textured soils as well as coarse textured soil over the last week. The heat of the weekend really promoted rapid corn growth.

Fresh Market Vegetables: We are now well clear of the frost free dates. Winter squash and pumpkin can now be planted, especially with soil temperatures $> 60^{\circ}\text{F}$. Tomato, pepper, eggplant, and other warm season crops can be transplanted. Last week was difficult for transplanting due to hot and windy weather. The forecast for the coming 5 days is almost ideal for transplanting with highs in the mid 60 to 70°F .

Potato Crop Update from the Wisconsin Seed Potato Certification Program – Amy Charkowski, Administrative Director of Certification Program, Department of Plant Pathology, UW-Madison, Tel. No. 608-262-9711, email: amyc@plantpath.wisc.edu

Submitted by Amy Charkowski: Planting at the State Farm is proceeding at a good pace. Due to the warm weather this March and the lack of refrigeration in the State Farm warehouse, some varieties had longer sprouts than are ideal, but most of the seed stored well despite the challenges brought by a warm spring. We aggressively addressed the seed quality problems with Dark Red Norland seen in the spring of 2011 by changing management of our 2011 crop, including adding calcium during the summer, increasing air flow in the warehouse, widening spacing between boards in our pallet boxes, and closely monitoring carbon dioxide levels. The Dark Red Norland seed quality was high in 2012, suggesting that these changes were effective.

Production in our hydroponic system is winding down for the spring. We had another good hydroponic crop and have made additional progress on tweaking this system to further increase yield and reduce costs. The remaining three greenhouses are now filled with potatoes planted into potting mix and the plants are doing well, although we have faced increased challenges from insects due to the warm spring.

Several SpudPro varieties are in production this year, including the named line "Lelah" (W2717-5), and the numbered lines W6234-4rus, W5015-12, W6002-1R, W6234-4rus, W5955-1, W6609-3, and W6703-1Y.

Vegetable Disease Update – Amanda J. Gevens, Vegetable Plant Pathologist, UW-Madison, Dept. of Plant Pathology, 608-890-3072 (office), Email: 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

(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
Antigo Area	Early 5/1	NA	NA	NA	NA
	Mid 5/10	NA	NA	NA	NA
	Late 6/1	NA	NA	NA	NA
Grand Marsh Area	Early 4/3	5/8	135	7	5/28/12
	Mid 4/15	5/16	89	7	5/28/12
	Late 4/30	NA	33	6	5/28/12
Hancock Area	Early 4/1	5/1	190	11	5/28/12
	Mid 4/15	5/10	132	5	5/28/12
	Late 5/1	5/17	89	5	5/28/12
Plover Area	Early 4/3	5/17	146	4	5/28/12
	Mid 4/19	5/18	81	4	5/28/12
	Late 5/1	5/27	18	0	5/28/12

P-Days and Early Blight: Earliest planted potato fields have P-Days of 135 in Grand Marsh (5/28), 190 in Hancock (5/28), and 146 in Plover (5/28). Mid-planted fields are 89, 132, and 81, consecutively on 5/28. 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 May 28, we had DSV accumulations at almost all sites with emerged potatoes. The highest DSV accumulation was calculated for earliest planted fields in the Hancock area (DSV 11 on 5/28). 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 were 2 new reports of late blight in the U.S. – Burlington County NJ 6 days ago on potato

and Suffolk County NY (Long Island) 7 days ago on potato. 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 are scheduled to plant our experimental sentinel plots later this week. At this time in the U.S., cucurbit downy mildew has been reported in FL, GA, and NC. 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>