



Vegetable Crop Update

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

No. 18 – September 17, 2023

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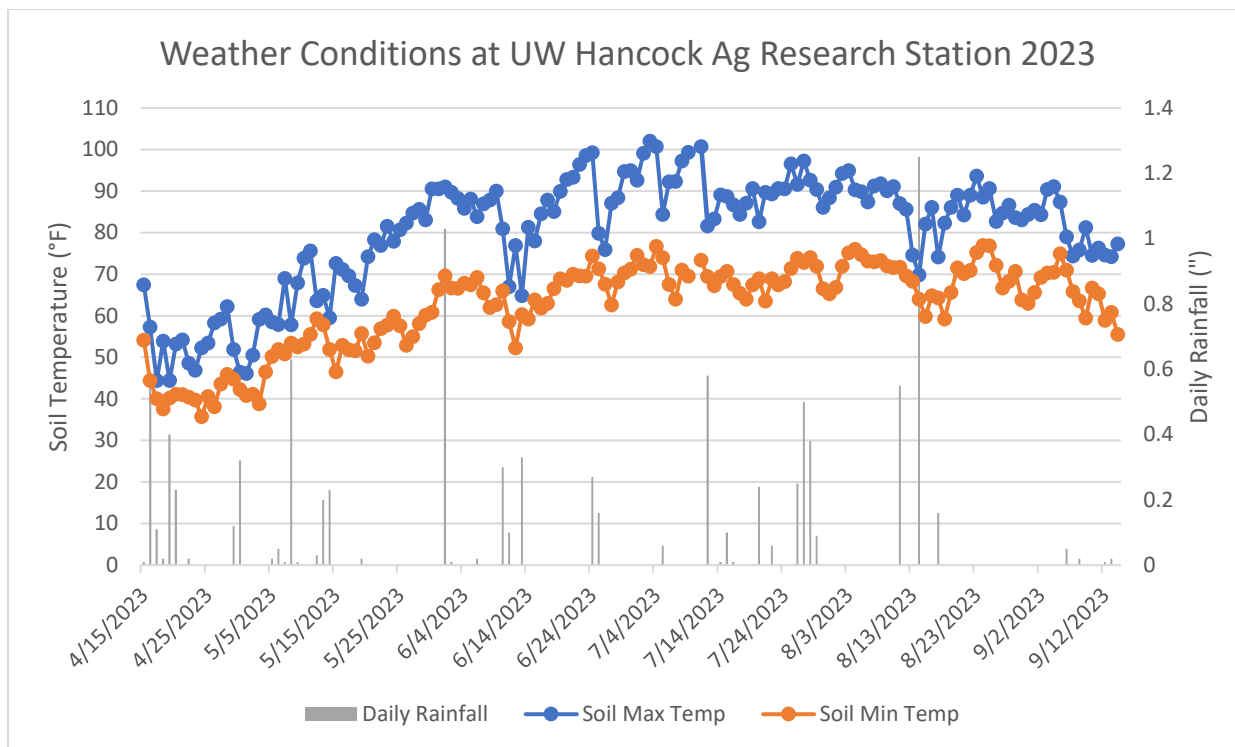
Calendar of Events:

November 28-30, 2023 – Midwest Food Producers Assoc. Processing Crops Conference, Kalahari Convention Center
January 9-11, 2024 – Wisconsin Agribusiness Classic, Alliant Energy Center, Madison, WI
January 21-23, 2024 – Wisconsin Fresh Fruit and Vegetable Growers Conference, Kalahari Resort, Wisconsin Dells, WI
January 25-26, 2024 – Organic Vegetable Production Conference, UW Madison Division of Extension (Online)
February 2-3, 2024 – Organic Vegetable Production Conference, UW Madison Division of Extension, Alliant Energy Center, Madison, WI
February 6-8, 2024 – UW-Madison Div. of Extension & WPVGA Grower Education Conference & Industry Show, Stevens Point, WI

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Overall, Wisconsin and the Upper Midwest were hot and dry through most of August. However, growers were able to catch up with good irrigation management, and spotty rainfall events could keep potato crops in good conditions. For example, the >1.2'' of rainfall event on August 14th and 15th supplied a decent amount of moisture to the soils. Warm days and cool nights in August greatly helped the tubers to achieve their bulking potential as much as possible.

Looking back, the state has been dry and hot most of this growing season. With good irrigation management practices, the soil moisture was kept at good levels, and didn't cause any substantial leaching risk. On the flip side, more irrigation water could mean higher nitrogen credits from irrigation water, if groundwater nitrate-N levels were high. Our calculation so far is that our full season potatoes in the K field (33.3 ppm of nitrate-N in the well) at Hancock have received 22.65'' of irrigation water and a total of 173 lb/acre of extra N just from the groundwater. This high amount of extra N could cause confounding effects on our nitrogen trial this season. I will keep everyone posted once we harvested those research plots.



For commercial production, this season's potato crop is in good to excellent condition, which should be associated with above average yields with a larger size profile, similar to 2022. Average yield is estimated to be 430 cwt/acre. In particular, more yellows and less reds were planted this year, yields of early-season yellows have been above average, and those of reds have been close to or slightly below average. For early-season russets such as Caribou, yields and size profile were reported to be ideal. Full-season harvests are ongoing, besides the hot conditions that shut down most of the operations in early September, conditions were almost ideal and potatoes look good going into storage.

According to USDA, growers are expected to harvest 500 more acres in 2023, which is estimated to be 870,000 cwt more potatoes than last season. If ideal conditions continues, we should see a 3.1% increase of total production compared to 2022. Happy harvest!

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Early blight of potato/tomato. Accumulations of P-days this past week were between 35-66 across the state of Wisconsin. In all locations and all planting dates, potato fields have surpassed the threshold and should continue to receive fungicide applications for early blight management depending upon the time-to-harvest of the field

Late blight of potato/tomato. Accumulations of Blitecast DSVs were low with a range of 1-6 this past week in the 7 sites detailed in our table, below. **The Antigo location did surpass the threshold of 18 DSVs this week with a total of 20 as of 9/16.** Prevention of late blight should still be considered even this late in the season since airborne sporangia can move into fields (despite senescing foliage) and make their way down to tubers in the soil to create tuber infection. Late season application of mancozeb can be helpful in limiting tuber blight. Fungicides for the management of late blight in tomato and potato crops are provided:

<https://learningstore.extension.wisc.edu/products/commercial-vegetable-production-in-wisconsin>. A specific list

of fungicides for potato late blight in Wisconsin was also offered in a special report shared via email on July 28. <https://vegpath.plantpath.wisc.edu/wp-content/uploads/sites/210/2023/08/2023-Potato-Late-Blight-Fungicides.pdf>

The usablight.org website (<https://usablight.org/map/>) indicates no new late blight reports in the past week. So far, all characterizations of the late blight pathogen identified in North America this growing season have resulted in the US-23 type.

Current P-Day (Early Blight) and Disease Severity Value (Late Blight) Accumulations. Many thanks to Ben Bradford, UW-Madison Entomology; Stephen Jordan, UW-Madison Plant Pathology; and our grower collaborator weather station hosts for supporting this disease management effort again in 2023. A Potato Physiological Day or P-Day value of ≥ 300 indicates the threshold for early blight risk and triggers preventative fungicide application. A Disease Severity Value or DSV of ≥ 18 indicates the threshold for late blight risk and triggers preventative fungicide application. Red text in table indicates threshold has been met or surpassed. Weather data used in these calculations is from weather stations that are placed in potato fields in each of the four locations, as available. Data from an alternative modeling source: <https://agweather.cals.wisc.edu/vdifn> will be used to supplement as needed for missing data points and for additional locations (indicated with *). Data are available in graphical and raw formats for multiple locations at: <https://vegpath.plantpath.wisc.edu/dsv/>.

	Planting Date		50% Emergence Date	Disease Severity Values (DSVs) <i>through 9/16/2023</i>	Potato Physiological Days (P-Days) <i>through 9/16/2023</i>
Spring Green*	Early	Apr 3	May 9	13	1015
	Mid	Apr 17	May 12	13	994
	Late	May 10	May 23	13	925
Arlington*	Early	Apr 5	May 10	12	1027
	Mid	Apr 20	May 15	12	989
	Late	May 12	May 25	12	929
Grand Marsh	Early	Apr 5	May 10	14	975
	Mid	Apr 20	May 15	14	941
	Late	May 12	May 25	14	889
Hancock	Early	Apr 10	May 17	14	944
	Mid	Apr 22	May 19	14	938
	Late	May 14	May 28	14	889
Plover	Early	Apr 14	May 19	16	934
	Mid	Apr 24	May 20	16	929
	Late	May 19	May 29	16	879
Antigo	Early	May 1	May 28	20	830
	Mid	May 15	June 3	20	785
	Late	June 7	June 23	20	649
Rhineland*	Early	May 7	June 1	12	798
	Mid	May 18	June 5	12	763
	Late	June 9	June 24	12	640

Cucurbit Downy Mildew. The Cucurbit Downy Mildew forecasting webpage (<https://cdm.ipmpipe.org/>) is not forecasting the movement of the pathogen, but the group is offering reporting of findings of cucurbit downy mildew from the US. **To date, there have been no reports of downy mildew here in WI.** We should be considering preventative treatment of cucumber and melon crops here due to the likelihood of the disease resulting from clade 2 downy mildew. <https://vegpath.plantpath.wisc.edu/2023/08/28/update-15-aug-27-2023/>