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
December 3-5, 2019 – Midwest Food Producers Association Annual Convention/Processing Crops Conference, Wisconsin Dells, WI
January 26-28, 2020 – WI Fresh Fruit & Vegetable Growers Conference, Wisconsin Dells, WI
February 4-6, 2020 – UW-Madison Div. of Extension & WPVGA Grower Education Conference, Stevens Point, WI

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This week on July 29th we dug our spacing trial with Dark Red Norland (DRN), W8893-1rus, GoldRush, and W9133-1rus under 8”, 12”, 16” seed spacings for the third / last time before vine kill.

Graph below shows the total yield and size distribution of different varieties under different seed spacing treatments:
It is very interesting to note that 8” resulted in the highest total yield for all four varieties, and 16” led to more large-sized tubers (≥10oz) for all varieties except W8893-1R.

Graph below shows the total tuber per 10 plants that we dug for each variety/spacing:

For tuber set, 12” or 16” spacing always led to more tuber set compared to that under 8”. And for all four varieties, 16” spacing is associated with set of tubers that are larger than 4oz.

So far, a general summary of our finding is that smaller seed spacing at 8” can result in higher total yield but less tuber set, and seed spacings at 12” or 16” are associated with more tuber set (with more tuber size categories) but less total yield.

A final update will be shared with you after we harvest the trial in the last year of August.

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Cucurbit downy mildew: No reports of downy mildew on cucurbits in Wisconsin at this time. The cucurbit downy mildew reporting and forecasting site http://cdm.ipmPIPE.org/ indicated new confirmations of downy mildew in MD, MI, NC, NJ, PA, and TN during this past week. In 2019 so far, the site has documented confirmations in AL, FL, GA, MA, MD, NC, NJ, SC, and VA on various cucurbits. No apparent risk of movement of the pathogen to WI at this time. Please visit our 2019 WI
There have been no additional reports of late blight on tomatoes or potatoes in Wisconsin since the finding on tomato in La Crosse County this past week. Last week’s finding was the second confirmation in WI in 2019; the first from potato in Wood Co. in mid-July. The clonal lineage/strain type of the late blight pathogen found on potato in Wood County and on tomato in La Crosse County was US-23. This has been the predominant strain type found in the US and WI in recent years. Most isolates of US-23 can be managed with phenylamide fungicides such as mefenoxam and metalaxyl. It is critical that susceptible potatoes and tomatoes in the Wood and La Crosse County areas be treated with a combination of antisporeulant and protectant fungicides to limit reproduction of the pathogen and new infections. Antisporeulants include: Orondis, Forum, Curzate, Tanos, Ariston, Previcur, Revus, and Ridomil. Late blight was confirmed in TN, PA, and WA on July 18th. In each of these three instances, the pathogen was of the US-23 clonal lineage. Late blight fungicides registered for use in Wisconsin are available at the UW-Potato & Vegetable Pathology website or at link: https://wivegdis.wiscweb.wisc.edu/wp-content/uploads/sites/210/2019/06/2019-Potato-Late-Blight-Fungicides.pdf

P-Days are currently over 300 for all potato across locations and emergence dates. Early blight lesions are beginning to spread in lower canopies in southern and central Wisconsin. Foliar fungicide applications are recommended to manage further spread and vine decline which can result in negative tuber size and quality. Starting on page 219 in the A3422 Commercial Vegetable Production Guide for Wisconsin please find listing of registered fungicides for early blight caused by Alternaria solani and brown spot caused by Alternaria alternata. https://cdn.shopify.com/s/files/1/0145/8808/4272/files/A3422.pdf

Current P-Day (Early Blight) and Disease Severity Value (Late Blight) Accumulations (Many thanks to Ben Bradford, UW-Madison Entomology; Stephen Jordan, John Hammel, & Samuel Meyer, UW-Madison Plant Pathology). A P-Day value of ≥300 indicates the threshold for early blight risk and triggers preventative fungicide application. A DSV of ≥18 indicates the threshold for late blight risk and triggers preventative fungicide application. Red text in table indicates threshold has been met/surpassed. Weather data used in these calculations comes from stations that are in potato fields. Data are available in graphical and raw data formats for each weather station at: https://wivegdis.plantpath.wisc.edu/dsv/