

SPUDSCOOP

31 July 2020

Welcome to this week's Spud Scoop. Late blight severity values continue to rise, but no late blight has been reported and no DNA was found in spore traps this week. Aphid numbers are down from last week but are more widely distributed. The warm temperatures are causing tuber sets to be lower and as a result, tubers are sizing rapidly. As an example, a tuber from an early planted research trial was nearly 24 ounces. Heat stress is also causing cracking and secondary growth. In general, the crop is progressing well, and harvest is getting into full swing for fresh growers in central Minnesota. Have a spudtacular week!



Figure 1. Large tuber dug from research plot.

Blightline

by Gary Secor

Welcome to the NDSU Potato Blightline for July 31, 2020. Late blight has not been reported in ND, MN or MB. Late blight has been reported in the Delta area of BC and central WA. Late blight severity values have exceeded the threshold value of 15 in all potato growing areas of ND and MN indicating that conditions are favorable for late blight and infection can occur if inoculum is present. Continue to scout fields, especially in areas that remain wet for longer periods, such as along shelterbelts and in low areas. The hot temperatures are not favorable for late blight sporulation and spread. The cooler temperatures and morning dew are favorable for late blight infection. We recommend application of protectant fungicides on a 10-14 day schedule in non-irrigated fields, and 7-10 day schedule in irrigated fields. The protectant fungicides mancozeb and chlorothalonil provide protection for both late blight and early blight. Send suspect late blight samples or photos to us for positive identification.

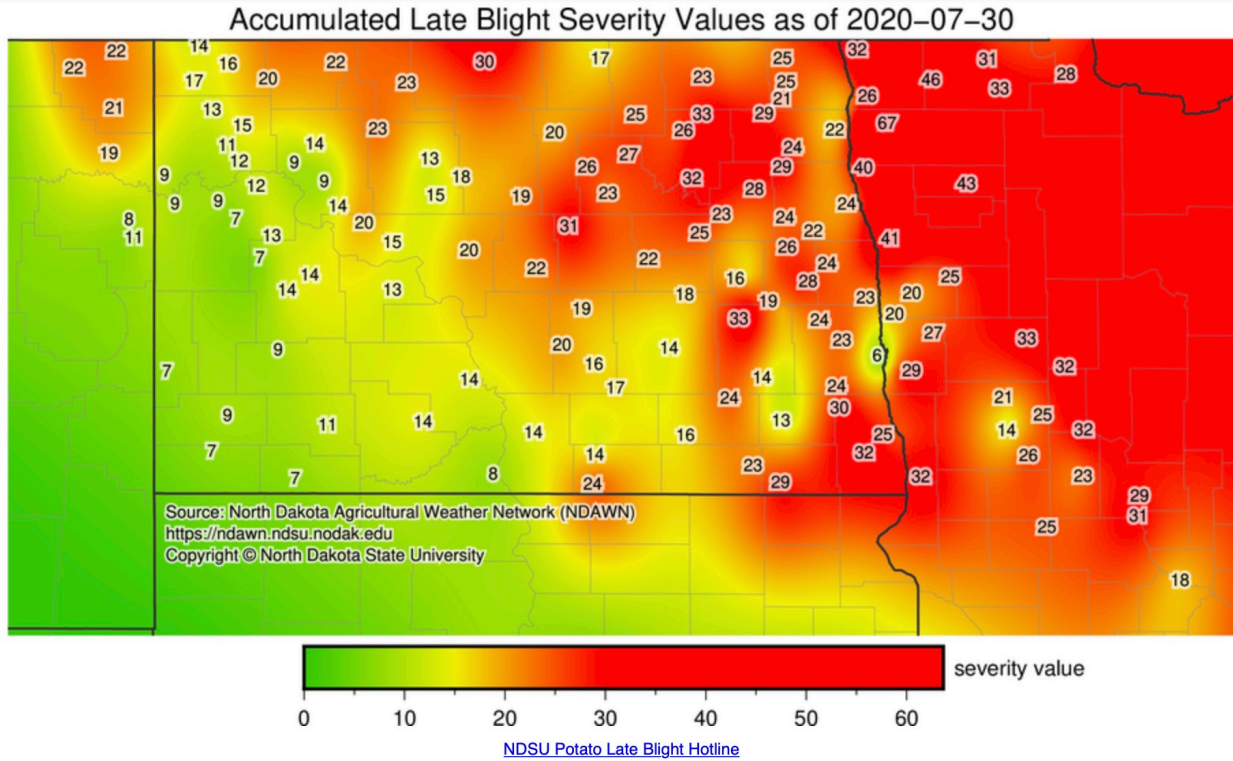


Figure 2. Late blight severity values with emergence date of May 26 and row closure date of June 26.

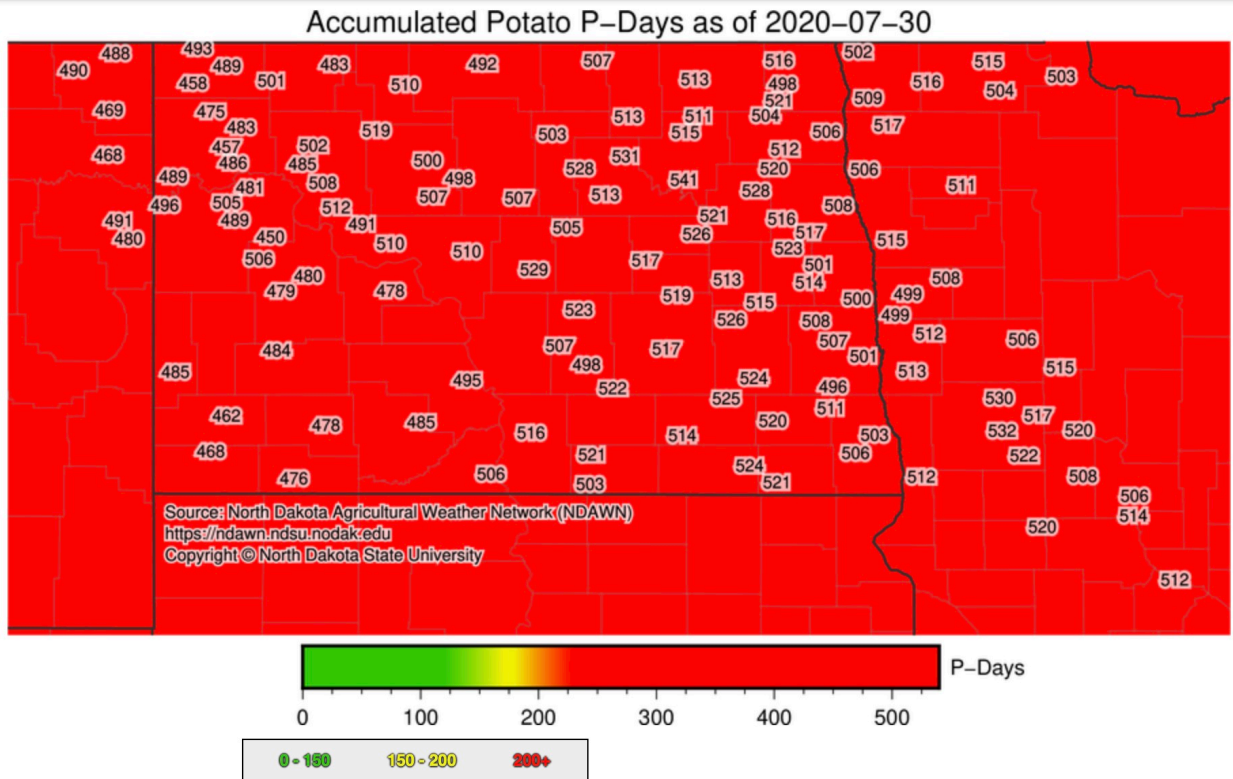


Figure 3. Early blight P-day values with emergence date of May 26 and row closure date of June 26.

Potato Late Blight Spore Trapping Network

Trap catches from July 20-27, 2020

By Andy Robinson and Julie Pasche

This is the fourth reporting period for 2020. This report contains 28 sites reporting. The PCR assays to detect late blight spores were conducted in the lab of Dr. Julie Pasche at the NDSU Plant Pathology department. No late blight spore DNA was recovered this week. Late blight has not been confirmed in any potato fields. This purpose of this network is to provide an early detection system for potato growers to assist in late blight management. As the legend in the map indicates, green dots indicate no late blight spores recovered and the gray dots indicate sites not reporting.

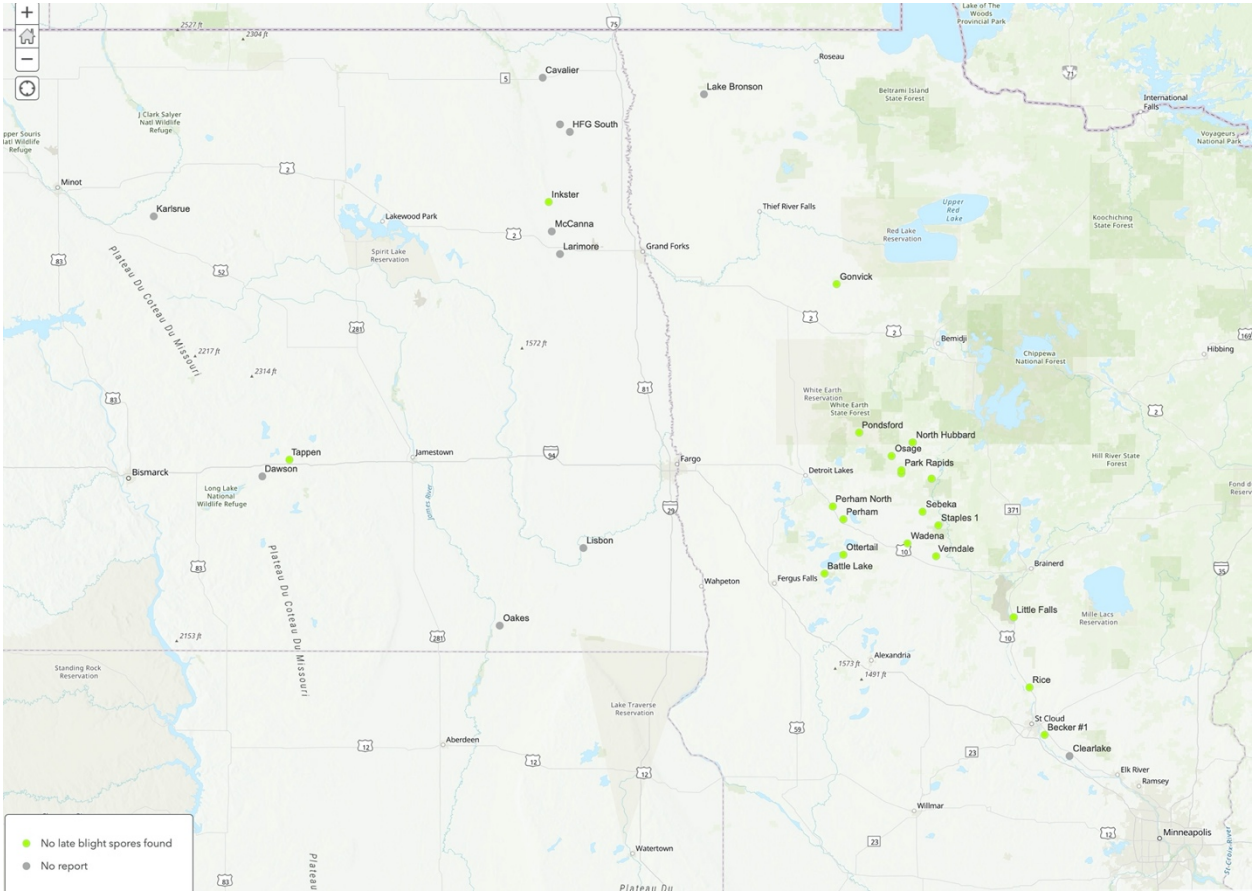


Figure 4. Results of late blight spore traps during the week of July 20-27, 2020.

Thank you to the Northern Plains Potato Growers Association, Minnesota Area II Potato Council, J.R. Simplot Company, Cavendish, R.D. Offutt Farms, Syngenta, Sipcarn, Bayer Crop Science, BASF, UPL USA, Corteva, and Nufarm for supporting this effort.

Aphid Alert

by Ian MacRae

Trap Catches Identified to July 31, 2020.

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More sites captured aphids this week than last (12 of 19 reporting) but overall numbers are down a bit. The season's vector numbers are low to this point and so the PVY Vector Risk Index remains low. The numbers of sites reporting aphids though does mean we have winged aphids flying in the area.

So, while aphid vector numbers may be low, they are well-distributed. And considering the very low threshold for aphids in seed potatoes, scouting remains important.

Aphid Fact of the Week - Potato Virus Y can be acquired or transmitted by aphids vectors in less than a minute, there is data to indicate some strains are more transmissible than others. Virus particles are picked up on the mouth parts of winged aphid vectors when they probe potatoes to ascertain if the plant is a suitable host. These aphids will eventually fly to and probe other potato plants, transmitting the virus particles to the new plant. Because aphids will continue to probe plants as they cross a field, efficiently moving PVY inoculum around fields.

If you have a field where Colorado Potato Beetle aren't being controlled by insecticides, please let us know. We'd like to get samples of that population to test for insecticide resistance. Contact Ian MacRae at 218-280-9887.

As always, keep on scouting!

Scouting for aphids in potatoes:

- Select leaves from the lower to mid canopy. Start at the edge of the field.
- Lower, older leaves will have more established colonies and aphids prefer the balance of nutrients found here; aphids are rarely found on leaves in the upper canopy.
- Avoid leaves on the ground or in contact with the soil.
- In seed potatoes there is only a threshold for PLRV (10 aphids/100 leaves), reactive application of insecticides an effective control for PVY.
- The use of feeding suppressing insecticides, such as pymetrozine (Fulfill®) or flonicamid (Beleaf®) and refined crop oils, such as Aphoil and JMS Stylet Oil, at or prior to field colonization by aphids may reduce the transmission of PVY within fields. Some other insecticides, such as clothianidin (Belay®), imidacloprid (Admire Pro® or Provado®), and spirotetramat (Movento®), have also been demonstrated to reduce the transmission of PVY.
- In table stock potatoes, a treatment threshold of 30 aphids /100 leaves should deter yield loss due to aphid feeding.

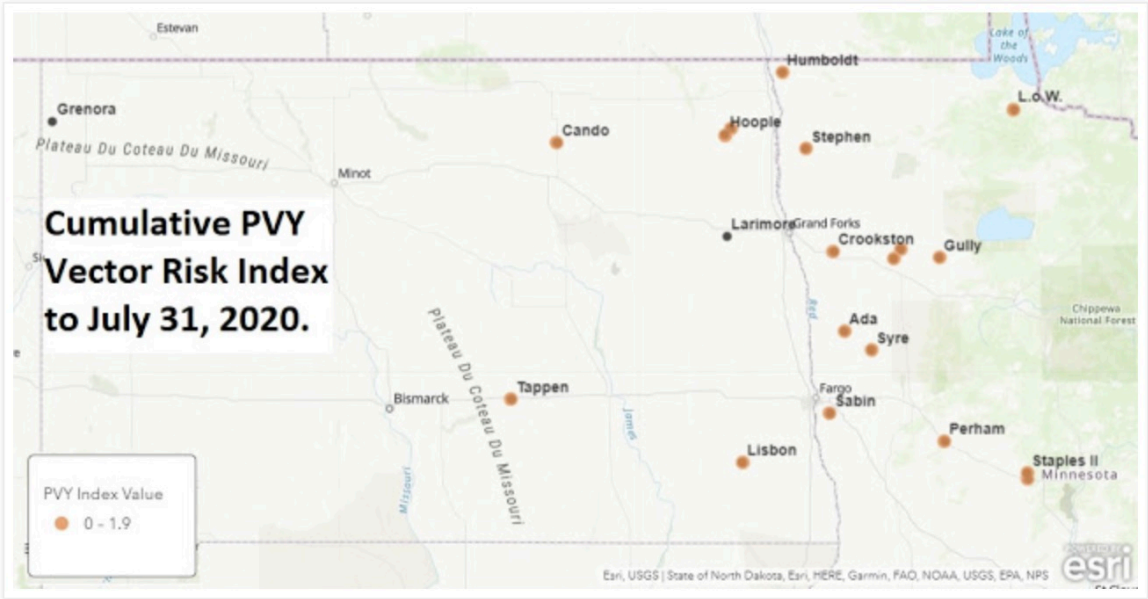
The PVY Risk Index Index

Not all species of aphid are equally efficient at transmitting PVY, some are better than others (green peach being the most efficient vector of PVY). So, the total number of aphids in a trap don't necessarily reflect just how much vector pressure there is at that location. The PVY Vector Risk Index compares aphid numbers, incorporating their relative vector efficiency compared to

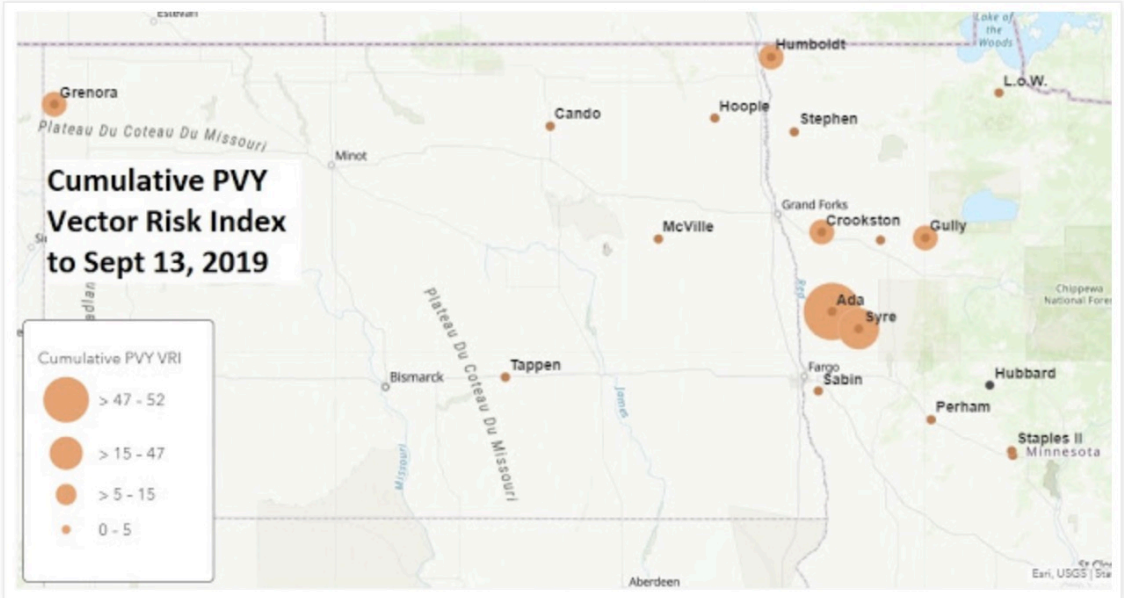
the Queen of PVY vectors (green peach aphid!). Using averaged reference comparisons from the literature, we multiply the number of each aphid species captured by its efficiency compared to Green Peach Aphid to more accurately depict risk posed by the species being trapped. We then sum the totals. The PVY-VRI values are presented on the tables below but also on maps comparing current cumulative risk to the total risk from the sample sites of last year (to compare with your local winter grow out results).

Check out all the trap data at: aphidalert.blogspot.com

Cumulative PVY Vector Risk Index to July 24, 2020.



Cumulative PVY Vector Risk Index for 2019 (for comparison)



Sustainable Water Management Course at University of Wisconsin

Dr. Yi Wang from the University of Wisconsin has developed a water management course that is available online. If you are interested in this course it can be accessed at <https://uwveggies.wiscweb.wisc.edu/extension-articles/>



POTATO AND VEGETABLE SUSTAINABLE PRODUCTION PROGRAM

at Department of Horticulture, College of Agricultural and Life Sciences

YOUTUBE CHANNEL

EXTENSION ONLINE COURSE

TRADE JOURNAL ARTICLES

UW VEGETABLE CROP NEWSLETTERS

EXTENSION BULLETINS

PREVIOUS EXTENSION CONFERENCE PROCEEDINGS

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EXTENSION ONLINE COURSE

Water Stewards Training Program funded by SARE NCR

The six module, self-guided course focuses mainly on water quantity issues within Wisconsin, however, water quality is also discussed in many of the modules since water quantity and quality are closely linked. Six Certified Crop Advisor credits (4 for soil and water, 2 for sustainability) are available for participants upon completion of the [course](#). The course is also available on the CANVAS platform within the UW-Madison website.

The six modules include:

[Module 1: Basic terms and principals of water conservation in agriculture](#)

[Module 2: Water management in Wisconsin, overall water levels, natural landscapes and agricultural use, on-farm management of landscapes](#)

[Module 3: New approaches to optimize water use](#)

[Module 4: Managing Irrigation to optimize water use](#)

[Module 5: Modeling water use: approaches and practices](#)

[Module 6: Implementing water conservation](#)

This course is funded by the North Central Sustainable Agriculture Research and Extension Program. I serve as the leading PI of the course. Dr. Deana Knuteson (dknuteson@wisc.edu) is the course moderator. If you would like to receive CCA credits for the course, please contact Deana to sign up.