

SPUDSCOOP

7 August 2020

Hi and welcome to Spud Scoop this week. No late blight has been reported in potato fields, however weather conditions are favorable for late blight and late spores have been found in Lake Bronson, Oakes and Perham. Keep scouting for late blight. If you have any leaves, you'd like tested for late blight let Gary Secor or Andy Robinson know. Early blight is becoming more prevalent. Aphid numbers have doubled over last week, causing the PVY Vector Risk Index to more than double this week. The good news is PVY Risk Index values are less than half what they were at this time last year. This continues to be a low aphid year, but it only takes a few aphids to move inoculum around in a field. Harvest season is here. Our red and yellow-skinned potato trials are sizing up well. The favorable planting conditions and warm weather has encouraged rapid tuber growth. Some early russets were harvested this week including we harvested an early russet research potato trial. The value of herbicides, from one of our research plots can be seen below, you can see where herbicide treatment was and was not applied.



Figure 1. Early blight on lower leaves; Red Norland and Malou tubers from a 10-foot dig in research plots.



Figure 2. RDO harvest near Perham, MN; effect of herbicides compared to no herbicides in weed control research plot.

Blightline

by Gary Secor

Welcome to the NDSU Potato Blightline for August 7, 2020. Late blight has not been reported in ND, MN or MB. 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 cooler temperatures and morning dew are favorable for late blight infection and spread. 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 3. Late blight lesions expand rapidly into large, dark brown or black lesions, often appearing greasy.

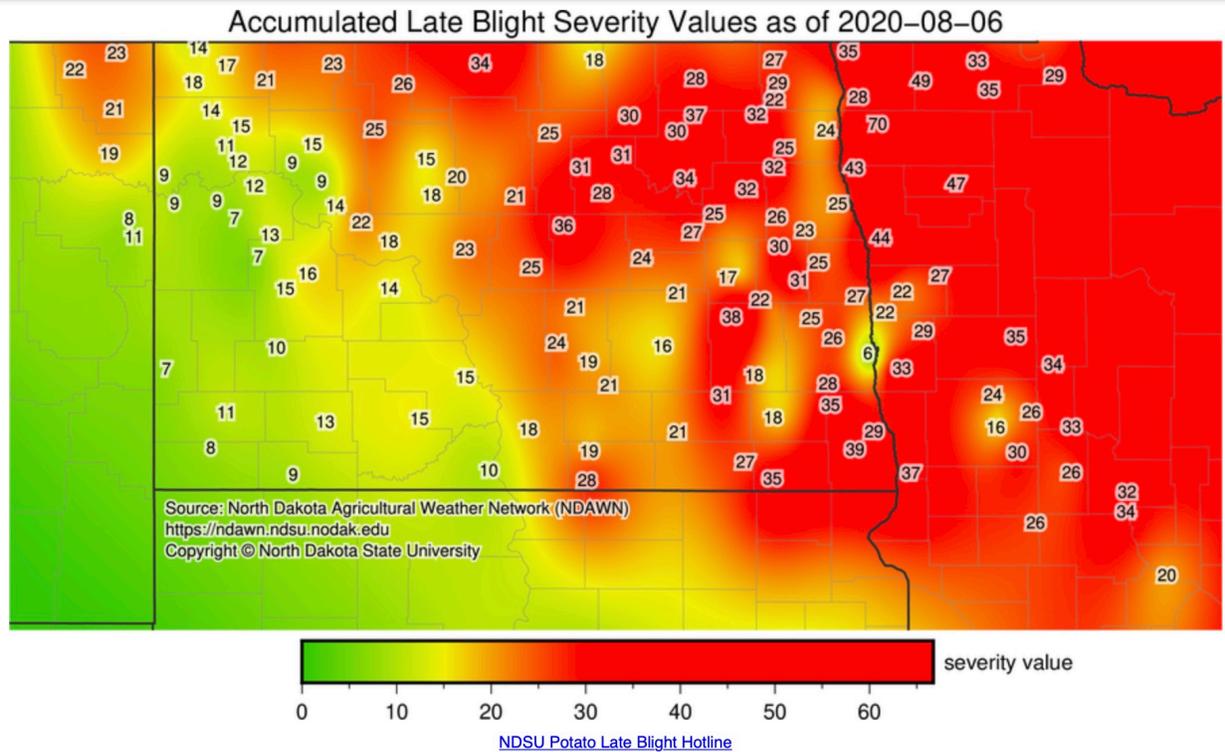


Figure 4. Late blight severity values with emergence date of May 26 and row closure date of June 26.

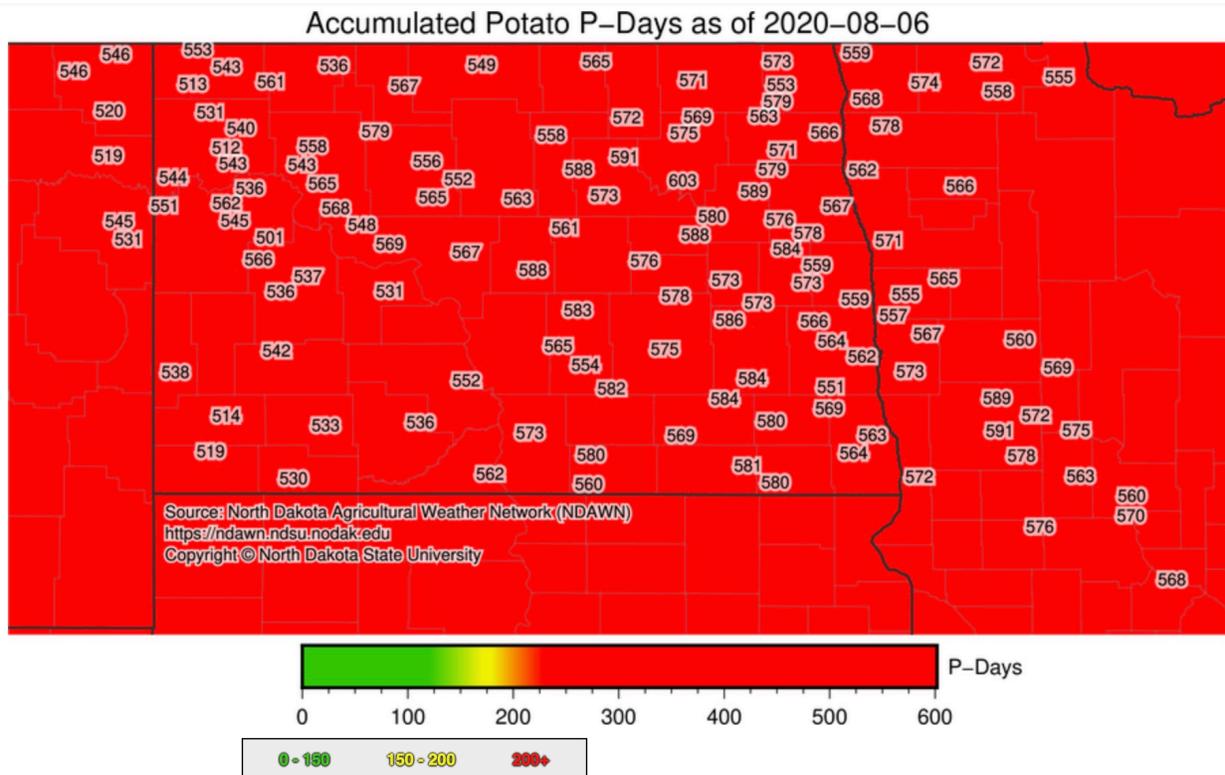


Figure 5. Early blight P-day values with emergence date of May 26 and row closure date of June 26.

Potato Late Blight Spore Trapping Network

Trap catches from July 27 to August 3, 2020

By Andy Robinson and Julie Pasche

This is the fifth reporting period for 2020. This report contains 29 sites reporting for the week of July 27 to August 3. An updated report for the week of July 20 to 27 has 10 additional sites being reported. The PCR assays to detect late blight spores were conducted in the lab of Dr. Julie Pasche at the NDSU Plant Pathology department. Late blight spore DNA was recovered from Lake Bronson for the week of July 20 to 27 and at Oakes and Perham for the week of July 27 to August 3. Positive samples were run twice in the laboratory and came back positive for late blight in both runs. Weather conditions have been favorable for late blight. These spore traps sample a very small area, but they are a good indication that late blight spores are around in some of the potato growing regions. Late blight has not been confirmed in any potato fields. As the legend in the map indicates, green dots indicate no late blight spores recovered and the gray dots indicate sites not reporting. If the fin on a spore trap breaks, please let me know so we can get you replacement parts.

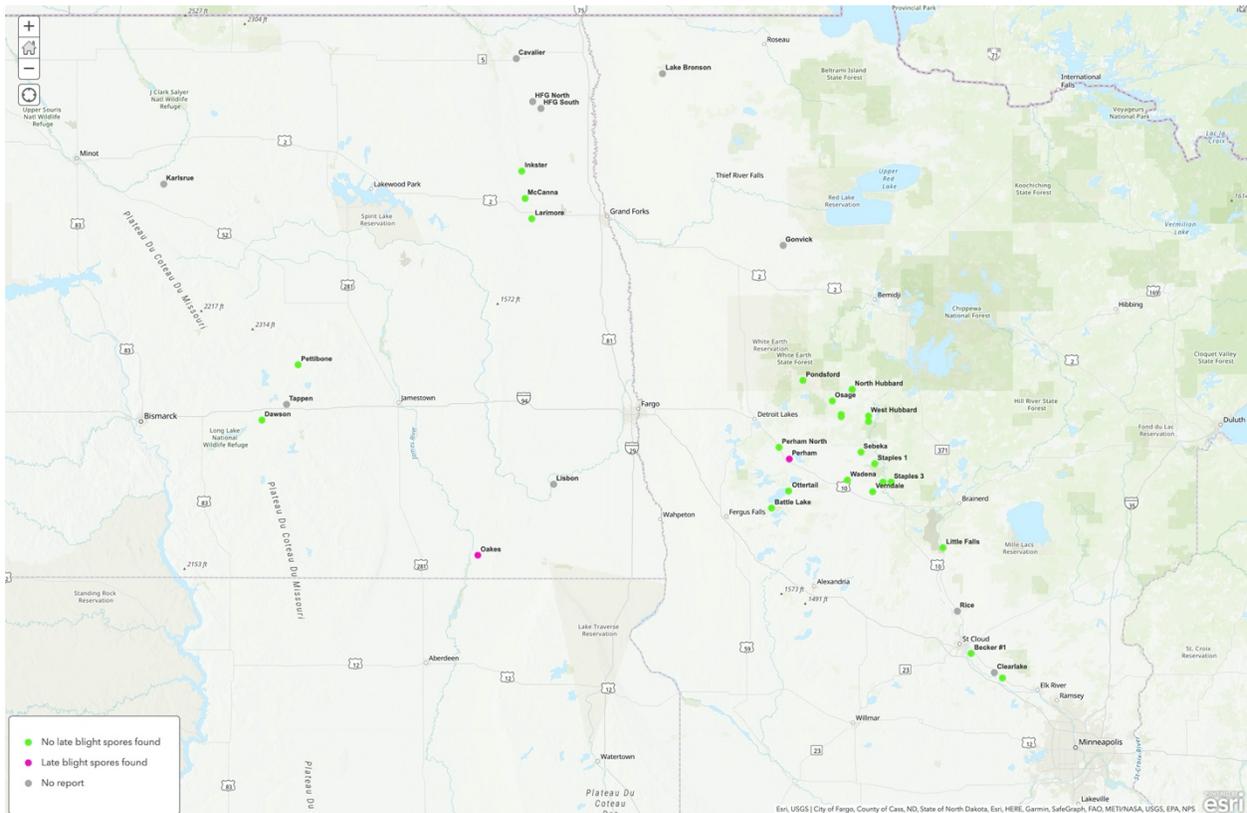


Figure 6. Results of late blight spore traps during the week of July 27 to August 3, 2020.

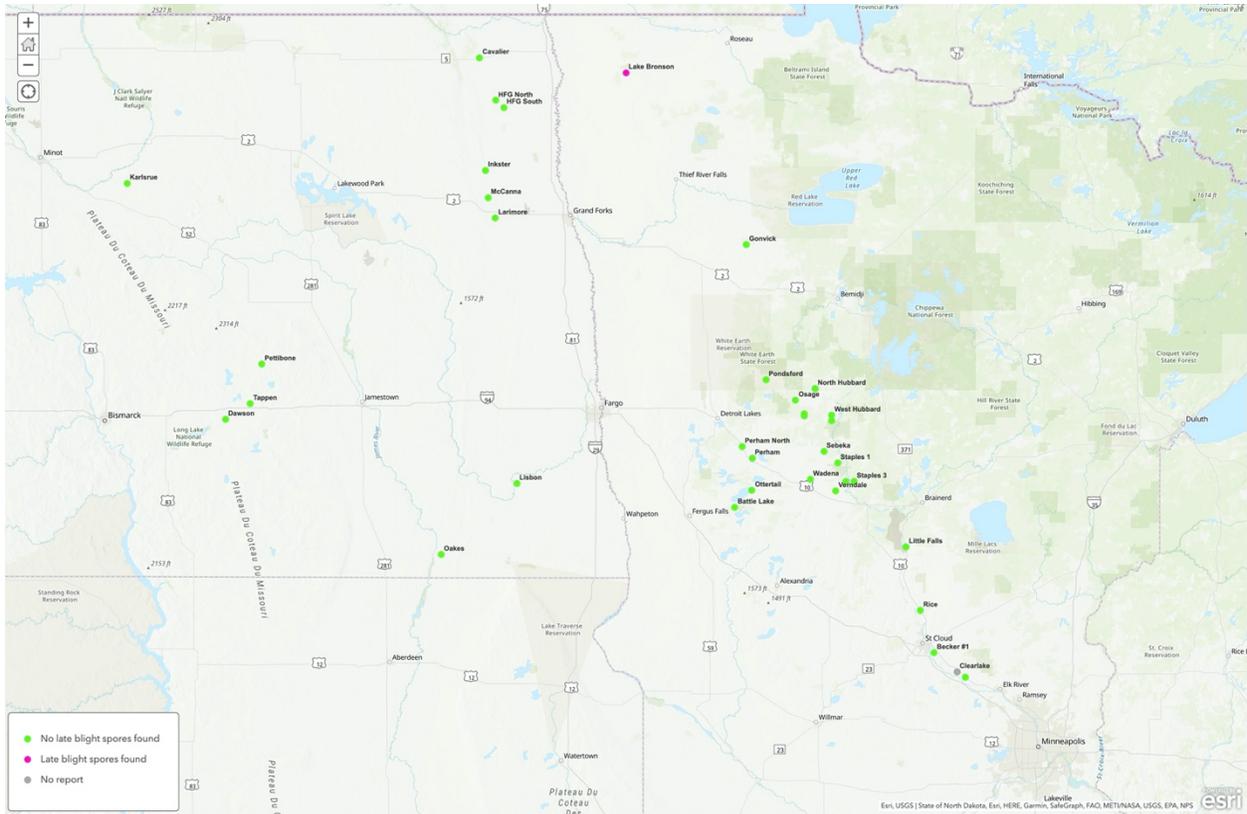


Figure 7. Updated results of late blight spore traps during the week of July 20-27, 2020.

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



Figure 8. If your spore trap breaks, please let me know so we can get you replacement parts.

Aphid Alert

by Ian MacRae

Trap Catches Identified to August 08, 2020.

Aphid numbers took a jump this week with the total aphid numbers and the number of vector species doubling over last week. The Damson Hop aphid, which was recovered at 3 different sites this week, Cannabis aphids also were captured this week, although only at one location. Thistle aphids have started to appear and small grain aphids also increased in numbers. Potato aphids remain well established in several locations. Several of these vector species being recovered are relatively effective. Consequently, the PVY Vector Risk Index more than doubled this week.

Even though numbers have doubled from last week, aphid captures and the PVY Risk Index values are less than half what they were at this time last year. Compared to many past years, this remains a low aphid year. But even a few aphids can move inoculum around in a field. So keep scouting!

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).

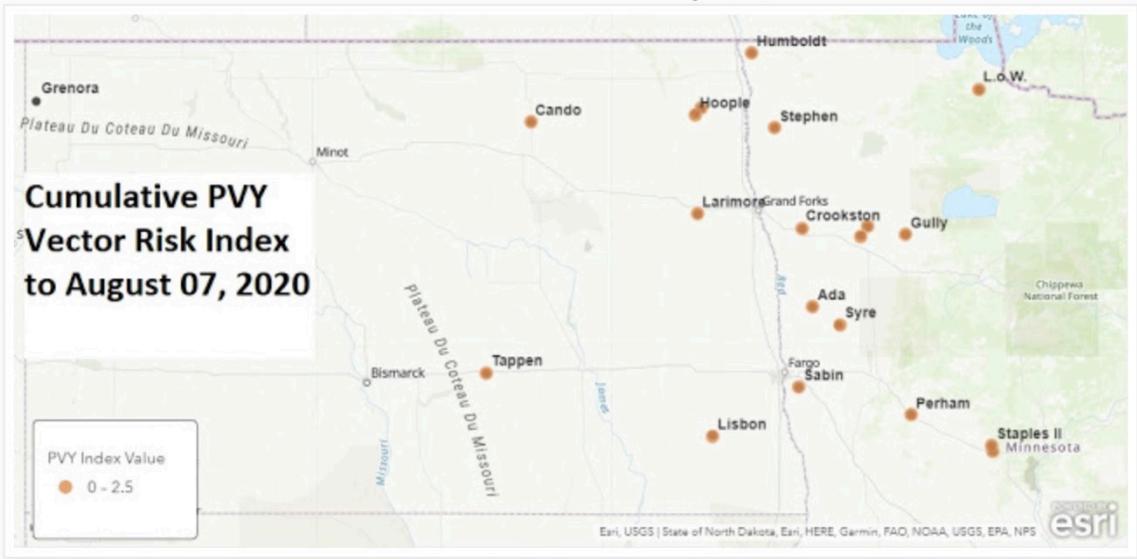
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Check out all the trap data at:
aphidalert.blogspot.com

Cumulative PVY Vector Risk Index to August 08, 2020.



Cumulative PVY Vector Risk Index for 2019 (for comparison)

