



July 29, 2022 Update

By Andy Robinson

Welcome to Spud Scoop! No late blight has been reported in ND, MN and MB. Late blight has been reported on tomatoes in Prince Edward County, Ontario, Canada. This week and last week no late blight spores were found in the spore traps! Conditions have been more conducive to late blight this year than last year.

Drift of herbicides into potato fields has been occurring sporadically. It is important to document areas injured as soon as injury is noticed, because as time passes symptoms in the leaves can be harder to find. However, tuber injury will take longer to appear. Here's a document that explains how to take a sample for herbicide residue testing: z.umn.edu/injury



Figure 1. Glyphosate can cause yellowing of the leaves and reduced growth.



Figure 2. Dicamba or any plant growth regulator will cause leaflets that are crinkled, curled, and twisted.

Blightline

Welcome to the NDSU Potato Blightline for July 29, 2022. No late blight has been reported in ND, MN and MB. Late blight has been reported on tomatoes in Prince Edward County, Ontario, Canada. Late blight likes cool wet weather. We are having more conducive weather for late blight this year.

Late blight severity values have been accumulating throughout ND and MN with the rainy weather and morning with dew. Our recommendation is to scout fields for late blight, especially in areas that remain wet for longer periods, such as along shelterbelts and in low areas. Send any suspect late blight samples or photos to us if you have questions or for confirmation. Conditions for early blight are favorable and protectant fungicides for early blight should be applied.

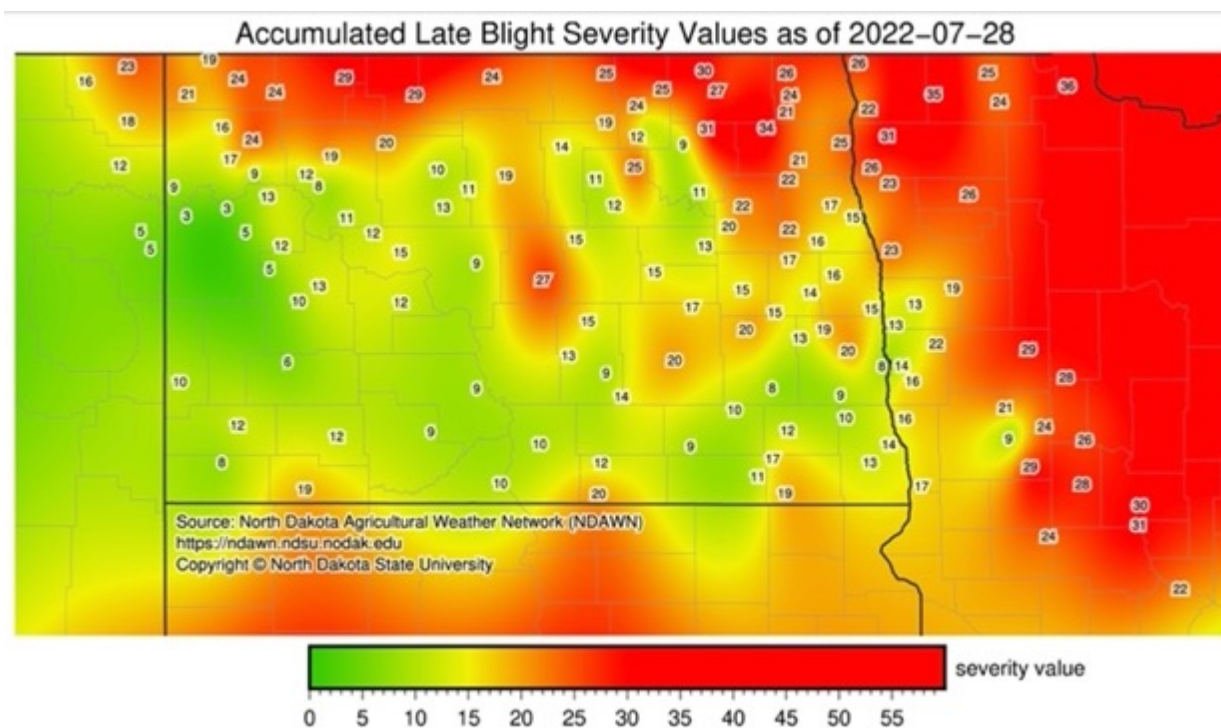


Figure 3. Accumulated late blight favorable days as of July 28, 2022. This model was run with the average emergence date of June 7 and row closure date of July 10.

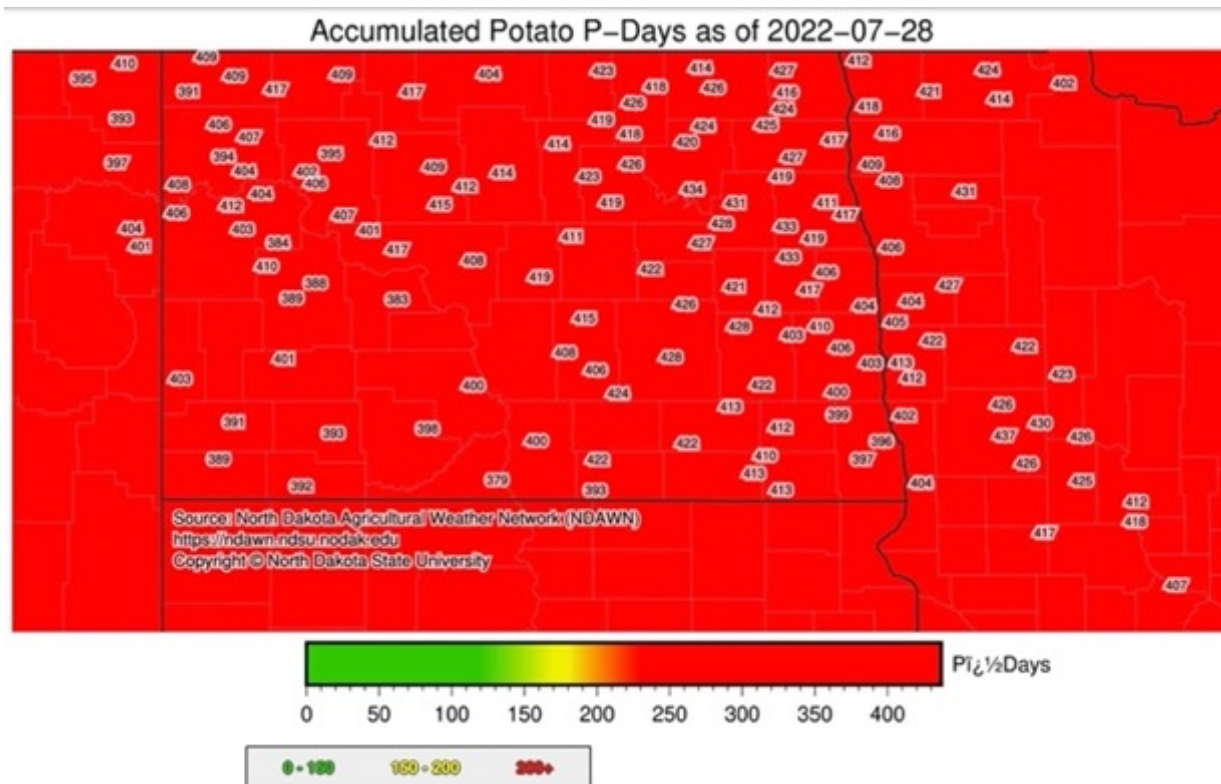


Figure 4. Early blight P-days as of July 28, 2022.

Potato Late Blight Spore Trapping Network

Trap catches from July 9 - 16, 2021

By Andy Robinson and Julie Pasche

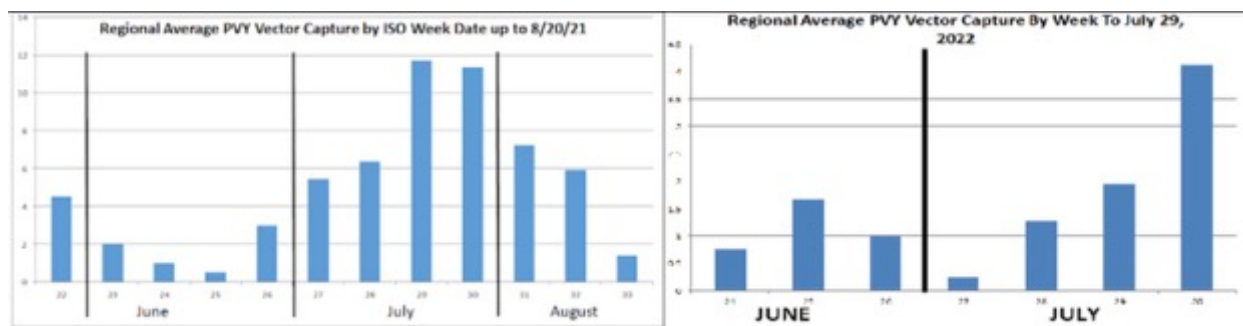
The late blight spore traps have been starting to come in. For the week of July 11-17 and 18-24 there were no late blight spore DNA recovered from the traps submitted. The PCR assays to detect late blight spores were conducted in the lab of Dr. Julie Pasche at the NDSU Plant Pathology department.

Thank you to the Northern Plains Potato Growers Association, Minnesota Area II Potato Council, J.R. Simplot Company, Cavendish, and R.D. Offutt Farms for supporting the spore trap effort.

Aphid Alert - Trap Catches to July 29, 2022

by Ian MacRae

Aphid vector captures are up again this week, but the regional PVY Vector Risk is less than half that of last year. While some sites this week are close to last year's numbers, far more sites had high numbers at this point last year than this year. However, at this time last year, the vector population peaked and captures began to decline through August. This year's population seems to still be growing and our PVY Risk may continue to increase. The graph below on the right shows the average number of PVY vector aphids caught across the region at this time last year, the graph on the left shows where those populations are this week. Note the Y-axis range is very different, the 2021 populations were 2-3 times those of this year. But in 2021, because of the hot, dry year, most aphid movement from small grains had already occurred by this time. This year, many crops are behind where they were last year, there has been significantly greater moisture and conditions for continued aphid population growth through August are much better than in 2021.



The data below shows that for the first time this year, the number of vector species captured outnumbered the non-vectors. While many of these were cereal aphids (Bird Cherry Oat, Corn Leaf and English Grain aphids were recovered at several trapping locations) moving in response to maturing grain crops, a number of other vector species increased this week. Potato aphids and Cotton/Melon aphids were numerous at several locations, as were Buckthorn and Thistle aphids. Soybean aphids, likewise, are starting to appear in low numbers at almost all trapping locations.

So, the more favorable weather for aphids we're experiencing may result in an associated increase in aphid numbers but so far, we're trending lower than last year. Our typical peak aphid season is the next 2-3 weeks, lets hope our numbers stay low.

So... Keep scouting, and we'll keep counting...

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

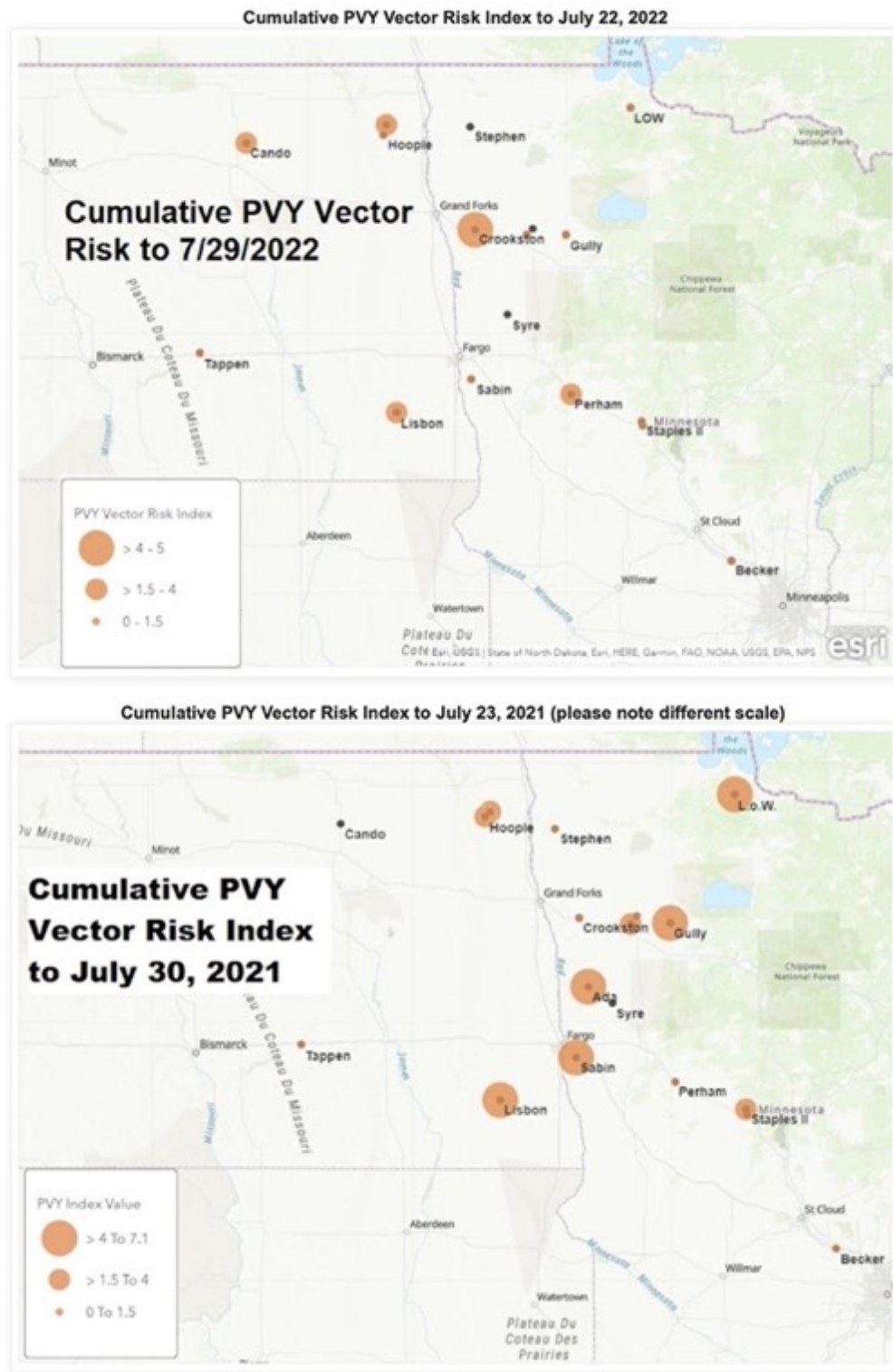


Figure 5. Cumulative PVY vector risk index to July 22, 2022, compared to the PVY vector index from July 23, 2021.