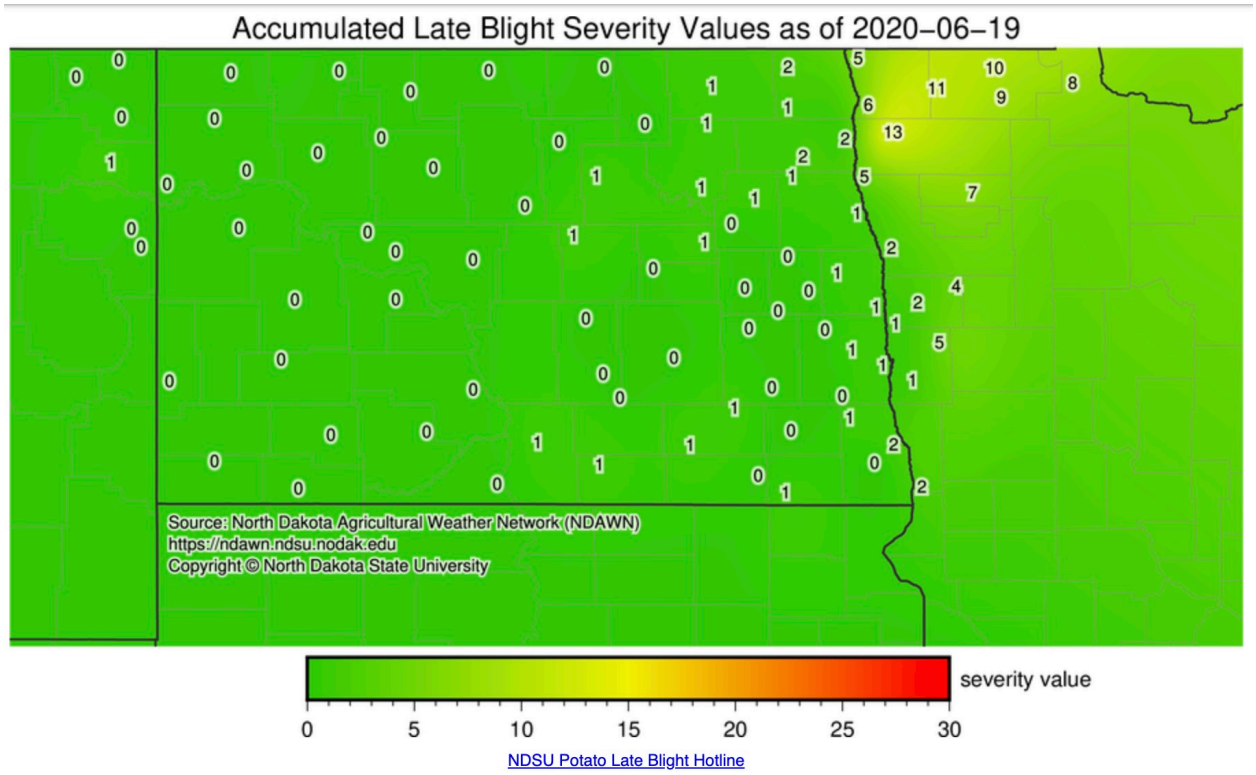
NDSU and UMN Potato Blightline
20 June 2020

This is the first issue of the 2020 NDSU Potato Blightline. There have been some changes to the Blightline this year. The telephone hotline is not available, but the Blightline will be sent to our list serve recipients and be available at http://z.umn.edu/spud. Late blight severity values and maps are still available on NDAWN as in the past at https://ndawn.ndsu.nodak.edu/potato-late-blight.html.

The Blightline will be updated weekly and posted on the website of Andy Robinson, http://z.umn.edu/spud.

An NDAWN Potato Blight App developed by Andy Robinson, Extension Potato Specialist NDSU/UMN is available with field specific data models. The app is available at http://z.umn.edu/potatoapp. To be able to use this app, you will need to enter your specific field information and location. If you have questions, please contact Andy Robinson (Andy.Robinson@ndsu.edu or 701.219.9646)

Late blight has not been reported in ND, MN or MB in 2020 and accumulated severity values remain low in single digits (based the estimated emergence date of 5/26 and row closure date of 6/26 below). When severity values exceed, the threshold value of 15, conditions for late blight have accumulated enough for late blight infection to occur if inoculum is present. Severity values accumulate most rapidly during cool wet weather. We recommend growers to scout fields early and often for late blight, apply a protectant fungicide just prior to row closure and send suspect late blight samples to us for positive identification.



The Blight Spore Trapping Network will continue in July of 2020. If you would like to host a trap on your farm, this would include sending in a filter weekly in a prepaid envelop, please let Andy Robinson know of your interest.

Keep an eye out for early symptoms of late blight as shown below. More information and pictures of late blight can be found at https://www.ag.ndsu.edu/publications/crops/late-blight-in-potato/pp1849.pdf

Figure 1. Late blight lesions expand rapidly into large, dark brown or black lesions, often appearing greasy.

Summer Late Blight Checklist

Dr. Eugenia Banks, potato specialist for the Ontario potato industry, has prepared an excellent article entitled “Summer Late Blight Checklist” That all people affiliated with the potato industry should read and heed (see below).

2020

2020 Summer Check List for Late Blight

Eugenia Banks

Early Summer

• **Field Scouting**
Start your scouting program before the crop emerges. This will allow scouts to become familiar with field characteristics such as low spots and changes in soil texture.
Risky areas that should always be monitored are:

- Low lying areas that tend to be wet for long periods after rainfall.
- Compacted areas.
- Rows close to tree lines.
- Field edges along creeks or ponds.
- Pivot center points and pivot wheel tracks. Look closely at the plants under the first tower of center pivots. This area remains wet longer than areas farther out on the boom. Also, wheel track areas usually remain damp or wet after other parts of the field have dried up.
- Weedy areas.
- Windward sides of fields. Windborne spores may blow in and infect here.
- Any area that is protected from the wind where leaves tend to remain wet longer.

• **Make sure there are no cull piles in your farm.**
Late blight is a community disease. A single cull pile can cause an epidemic with serious economic losses for many growers. Monitor sites where cull potatoes were buried and eliminate any volunteer potatoes.

• **Be aware of home gardens with alternate hosts near your fields**.
Tomatoes, peppers, eggplants, some petunia spp. are hosts of late blight. Explain to your neighbors that late blight can spread easily from gardens to commercial fields causing serious economic losses. Plants infected with late blight in home gardens should be destroyed immediately after symptoms are visible

• **Start your fungicide program early.**
Begin a fungicide program early, when plants are 12-15cm tall.
Alternate fungicides from different chemical groups to delay the development of resistance.
Spray cymoxanil (Curzate) at 80% emergence if the field is at high risk of late blight.

• **Be aware of the bi-weekly spore trapping results for your area**. If late blight sporangia are detected by spore traps, include late blight specific fungicides in your spray program

• **Keep new growth protected.**
New growth is a good target for late blight, especially the growing point where water persists for longer periods after a rain.

• **Try to achieve good spray coverage.**
Calibrate your sprayer and use a volume of water that will ensure even coverage of the canopy.

• **Monitor last year's potato fields for volunteers.**
Volunteer potato plants may be common where soil temperatures do not reach -4^0C to -6^0C four to six inches deep during the winter.
Use labeled broadleaf herbicides where possible to suppress growth of volunteer potatoes in rotational crops.

• **Destroy hot spots.**
If late blight is found in a localized spot, destroy all diseased plants plus a 6-foot border of surrounding plants. Pull and bag the diseased plants, spray them with an herbicide, or disc the area. If you decide to disc the hot spot, spray the crop with a fungicide before doing it to avoid spreading spores on farm equipment while driving out of the field. Pressure wash the equipment when finished.

MID-SUMMER

• **Continue Scouting Your Fields.**
Keep scouting fields regularly, at least twice a week. By mid-summer, rows are closed, and the lower part of the plants remains wet for longer periods after rain. This allows late blight sporangia to germinate and start infections. Check plants at random in risky areas and examine the base of the stems for late blight. Pay particular attention when scouting after cool, rainy periods.

• **Check for alternate weed hosts.**
Hairy nightshade is a host of late blight. This weed is becoming more common in Ontario and may be found growing at the edges of potato fields. Infected nightshades spread sporangia to neighboring potato fields. Destroy this weed wherever you find it.

• **Manage irrigation.**
Try to irrigate late at night or early in the morning so that foliage can dry quickly during the day.

• **Continue the spray program alternating fungicides of different chemical families.**

• **Check the spray coverage.**
Optimize spray equipment. Use adequate water volume and pressure to get even coverage on the canopy. Place sticky paper disks sensitive to pH in the canopy to evaluate spray coverage in the field.

• **Destroy hot spots.**
If late blight is found in a localized spot in a field, top kill the spot plus a 6-foot border of surrounding plants. Surrounding plants may have no symptoms but may be infected. It takes at least 3 to 4 days for symptoms to become visible after infection.

• **Send samples of infected foliage/tubers to a laboratory for strain identification.**

New strains of the late blight pathogen develop fast. The US 23 strain has prevailed in North America for at least 6 years. US 23 is sensitive to metalaxyl-M (Ridomil), but the late blight pathogen might develop resistance to this fungicide during the current season.

Dr. Larry Kawchuck with Agriculture & Agri-Food Canada in Lethbridge can conduct molecular tests to identify late blight strains. (no fees charged). His address is:
Dr. Larry Kawchuck
5403 - 1 Avenue South
Lethbridge, Alberta
T1J 4B1

LATE SUMMER

• **Keep scouting your fields.**
Attention should be given to scouting after cool, rainy weather. This is particularly important to detect infections late in the season that can result in tuber infection.

• **Top kill infected fields if heavy rain is forecast.** Rain washes sporangia down cracks in the soil into the tuber zone. If heavy rain is forecast, consider top killing infected fields before it rains to reduce the risk of tuber infection.

• **Do dig tests to check for tuber infection.** Map the areas where you found infected tubers; it is advisable not to dig areas where tubers are infected.

• **Seal soil cracks with a roller.** This practice is very effective to reduce tuber infection before harvest

• **Top kill vines at least 2 weeks before harvest.**
The vines should be completely dead before digging to reduce the risk of tuber infection. Infected green vines may be releasing late blight sporangia that can infect tubers at harvest.

• **Tank mix Reglone with a copper fungicide to kill sporangia produced on infected tissue not killed by the desiccant.**

Remember: An Ounce of Prevention is Worth a Pound of Cure!