

No 14

July 31, 2025

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2025 Field Days Locations & Dates

Oakes	Aug. 7	Morning	
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The North Dakota State University Research Extension Centers' annual field days show N.D. Agricultural Experiment Station research in action. The events occur at the Research Extension Center sites across the state, featuring speakers, presentations and tours covering various topics. The field days are open to the public.



RED SUNFLOWER SEED WEEVIL UPDATE

Sunflowers varied widely in their growth stage from R1 to R4 this past week. One to seven red sunflower seed weevils (RSSW) per head were observed in non-flowering R2 sunflowers by the IPM Scout already in Morton County, southwest North Dakota. Lower numbers of RSSWs were observed in Grand Forks and Emmons counties.

📩 Please continue to send in your RSSW scouting reports with RSSW counts per head and field location



*Red sunflower seed weevil in R2 bud
(Ashlyn Williams, DREC IPM scout)*

Continue scouting until the economic threshold or plants reach 70% pollen shed (R5.7). After R5.7, plants are no longer at risk for egg laying or significant damage, and larvae are protected inside seeds from insecticides.

Optimum Treatment Timing: The ideal treatment stage is when most plants are at 40% pollen shed, but it's recommended to treat when 3 out of 10 plants are just starting to shed pollen in a field. This gives flexibility in weather delays or scheduling issues with aerial applicators. Early sprays or high weevil pressure may require a second application. The Economic Threshold includes the cost of insecticide treatment and the cost of insecticide application per acre, plant population, some research factors and market prices. We are using \$22 per cwt for oilseed sunflower.

2025 RSSW Economic Threshold (average # weevils per head)

Oilseed sunflower at 22 cents per lb:

22,000 – 18,000 plants per acre

- \$6 insecticide cost per acre + \$12 aerial application costs – **>7-9 weevils per head**
- \$8 insecticide cost per acre + \$12 aerial application costs – **>8-10 weevils per head**

Confection sunflowers:

- **>1 weevil per head**

The NDSU Extension Entomology team has rated insecticides for control of RSSW since 2021 (see Table below). For optimal insecticide control of RSSWs, select an insecticide that provides “good to excellent” performance. These North Dakota RSSWs were not resistant to the pyrethroid group, 3A. Remember, chlorpyrifos is not labeled in sunflowers as of June 30, 2025, EPA (based on September 30, 2024, regulatory ruling).

See the [Crop & Pest Report #13, July 24, 2025](#), for information on identification, scouting and thresholds for RSSW in sunflower.

Insecticide Tested	Rate(s)	Insecticide Class	Active Ingredient	IRAC #	ND Performance	Year Tested	Notes
Sevin XLR Plus	48 fl oz	Carbamates	Carbaryl	1A	Poor	2022	
Vantacor	2.5 fl oz	Diamides	Chlorantraniliprole	28	Poor	2021 - 2022	
Steward EC	11.3 fl oz	Oxadiazines	Indoxacarb	22A	Poor	2021 - 2022	
Asana XL	9.6 fl oz	Pyrethroids	Esfenvalerate	3A	Excellent	2021 - 2023	
Asana XL + Exponent*	9.6 fl oz + 8 fl oz*	Pyrethroids	Esfenvalerate	3A	Excellent	2022 - 2023	Exponent contains piperonyl butoxide, and insecticide synergist
Baythroid XL	2.8 fl oz	Pyrethroids	Beta-cyfluthrin	3A	Excellent	2022 - 2023	
Baythroid XL + Exponent*	2.8 fl oz + 3.5 fl oz*	Pyrethroids	Beta-cyfluthrin	3A	Excellent	2022 - 2023	Exponent contains piperonyl butoxide, and insecticide synergist
Delta Gold	1.5 fl oz	Pyrethroids	Deltamethrin	3A	Good	2022 - 2023	
Delta Gold + Exponent*	1.5 fl oz + 2.8 fl oz*	Pyrethroids	Deltamethrin	3A	Excellent	2022 - 2023	Exponent contains piperonyl butoxide, and insecticide synergist
Mustang Maxx	4 fl oz	Pyrethroids	Zeta-cypermethrin	3A	Excellent	2022	
Warrior II	1.92 fl oz	Pyrethroids	Lambda-cyhalothrin	3A	Excellent	2022 - 2023	
Warrior II + Exponent*	1.92 fl oz + 5 fl oz*	Pyrethroids	Lambda-cyhalothrin	3A	Excellent	2022 - 2023	Exponent contains piperonyl butoxide, and insecticide synergist

*Exponent contains piperonyl butoxide, an insecticide synergist.

TRUE ARMYWORM OUTBREAK IN SMALL GRAINS!

More reports flooded the Extension Entomology office this week as scouts, crop consultants and farmers got out to check their small grains for true armyworms (*Mythimna unipuncta*). True armyworms are causing severe feeding injury in lodged grain fields from many storms, mainly in North Dakota and western Minnesota's southeast, south central, and north central areas. Sporadic infestations have also been observed in the northeast region of North Dakota (A. Chirumamilla, LREC). In some fields, larvae (caterpillars) completely defoliated the leaves, and grain heads were clipped off, lying on the ground where mature larvae were present. Most wheat fields are approaching maturity (harvest in 10-14 days), so an insecticide with a short pre-harvest interval (PHI) must be selected (see Table on next page).

Economic Threshold for Small Grains (wheat, barley, oats)

Preheading: 4 or more larvae per square foot

Heading (head clipping): 2 or more larvae per square foot

Armyworm Insecticides with Short Pre-harvest Interval in Wheat and Barley								
Insecticide	Rate(s)	Insecticide Class	Active Ingredient	IRAC #	PHI	Performance	Cost per fl oz	Cost per Acre
Malathion	32 fl oz/acre	Organophosphates	Malathion	1B	7 days	Poor	\$0.59	\$18.88
Mustang Maxx	4 fl oz/acre	Pyrethroids	Zeta-cypermethrin	3A	14 days	Poor	\$1.72	\$6.88
Vantacor	1.2 - 2.5 fl oz/acre	Diamides	Chlorantraniliprole	28	1 day	Good	\$17.74	\$21.29 - \$44.35

FMC provided some facts on Vantacor (Group 28, diamide, active ingredient chlorantraniliprole) performance against armyworms. "We have been recommending 1.2 fl oz/A for armyworms, and it has performed very well for the last few seasons. A grower can go with a higher rate, but we have not seen any reasons to go any higher for armyworms. MSO 1% v/v will help with the activity and deposition into the canopy. I recommend MSO when it fits the situation (which, in small grains, MSO fits). The armyworm will not die immediately, but will stop feeding quickly following ingestion. Typically, you will see death within 24 hours, increasing the number of dead worms. For the last 5-6 years, we have had an issue with the pyrethroids not working on armyworms in northeastern North Dakota and northwestern Minnesota. We have also seen the same thing in Southern Manitoba, where chlorantraniliprole (Vantacor) is the only thing working on the armyworms." (Source: Ryan Hunt, FMC Inc)

If larvae are large (1½ to 2 inches long) and not feeding, they are mature and done feeding! Larvae will move under the litter and soil clods to dig 2-3 inches into the soil for pupation (non-feeding development period). However, we see young, small larvae (<1¼ inch long) as well as large mature larvae in most fields due to multiple wind events blowing the moths into North Dakota. Unfortunately, these young armyworm larvae will be around for 3 to 4 weeks, feeding on plants!

For more information and control recommendations in field crops, consult the [2025 North Dakota Field Crop Insect Management Guide E1143](#) and [The Armyworm and the Army Cutworm E830](#).



Small and large larvae of true armyworm (on left) and clipped heads on ground (on right) (Phil Wanner, crop consultant)

CORN ROOTWORM BEETLES ACTIVE

Adult beetles of northern corn rootworms are now being observed in southeastern North Dakota. Larvae damage corn roots, which can reduce yield potential and cause plants to “gooseneck” lodge. Rotating out of continuous corn is an effective way to reduce some corn rootworm populations. But, to complicate matters, an extended-diapause variant of the northern corn rootworms may occur in North Dakota. This variant lays eggs in late summer, which can remain dormant in the soil for two years or longer before hatching. So, this will make pest management decisions more difficult for corn growers.

The decision to rotate from corn or to use an insecticide / Bt corn hybrid for corn rootworm management can be based on field scouting or trapping for adult beetles.

Scouting Threshold for adult (beetle) before and during corn pollination:

Record the number of corn rootworm beetles on the foliage and silk of 100 plants. Rootworm beetles feed on the leaves, silk and pollen of corn for three weeks after pollination. Occasionally, the beetles congregate and feed on silks during early pollen shed. If silks are chewed back to the tips of ears (less than 1/2 inch of silks protruding) during the maximum pollen shed, poor pollination and grain set can occur. Adult injury to corn silks is uncommon in North Dakota. **Treat the field with a foliar insecticide for adult beetles when an average of 5 or more beetles per silk mass is found, or silks are being clipped to within ½ inch of the ear tip on 25-50% of the total number of sampled plants, and when pollination is not complete (<50%).**

Scouting Threshold for adult (beetle) after corn pollination:

The potential for economic damage by corn rootworm larvae for the following year can be estimated by determining the average number of adults on corn plants. Start scouting three weeks after pollination and continue once weekly until silks are dry and brown.

Randomly select five non-consecutive plants in 10 representative locations throughout the field for 50 total plants. Avoid choosing plants within 100 feet of the field edge. During corn ear inspection, carefully cover the silk with one of your hands, then count the number of adults present by slowly allowing your hand to open. Gently disturb silks near the ear tip to dislodge and force beetles to exit.



Northern corn rootworm adults feeding on corn silks (V. Calles Torrez)



Sticky trap mounted on corn stalk at ear height to monitor corn rootworm adults (V. Calles Torrez)

Also check the plant stalk, upper and lower leaves, leaf axils and tassel for corn rootworm beetles. When inspecting the leaf axils, pull leaves down because adults often hide inside them. Count and record the number of adults of each species, and then estimate the average number of adults per plant by species.

If the average number of adults is 0.75 or more beetles per plant in continuous corn or if 4.5 beetles per plant in first-year corn or rotated corn, the risk of root damage next season is high enough to justify crop rotation or rootworm-targeted control measures.

Trapping Threshold for adult (beetles): Adults may be monitored with yellow sticky traps (Scentry® Multigard or Pherocon AM® yellow sticky traps, non-baited). Place four traps in a transect parallel to the field edge in early August. Traps are spaced at least 50 yards apart from each other. Transect starts at least 50 rows away from field edges. Sticky traps are monitored and changed once a week. **A capture rate of two or more adults per trap per day indicates a high rootworm population for the next season, and a pest management strategy will be needed for corn rootworm control.**

For more information and control recommendations in field crops, consult the [2025 North Dakota Field Crop Insect Management Guide E1143](#) and [IPM of Corn Rootworms in North Dakota E1852](#).

CONTINUE TO SCOUT FOR SOYBEAN APHIDS

Overall, soybean aphids are still low, below the E.T. (average of 250 aphids per plant and are actively increasing across 80% of the field) in most soybean fields. About 45% of the fields scouted by IPM scouts in North Dakota and Minnesota were infested with soybean aphids, with an incidence ranging from 5 to 100% among positives. The average number of aphids per plant ranged from 1 to 405 aphids per plant, with an overall average of 28 aphids per plant. Two hot spots, Walsh and Ramsey Counties, were reported this past week (near the E.T.).

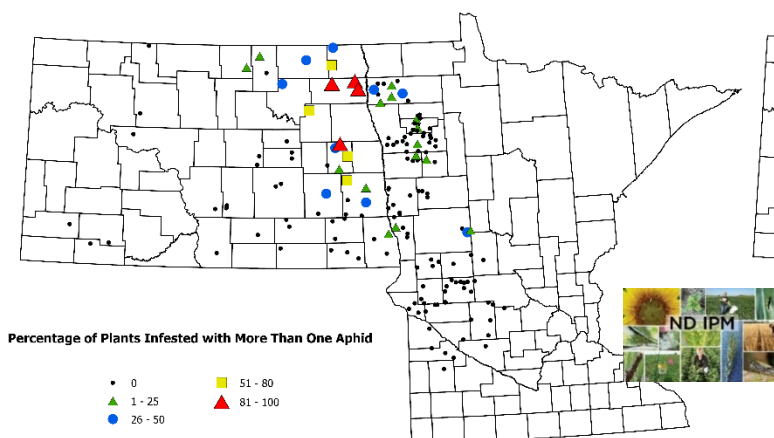
Aphids parasitized by wasps, and diseased aphids infested with a fungal disease, probably *Pandora neoaphis*, were observed in some soybean fields.



Fungus-infected soybean aphid (Patrick Beauzay, NDSU Extension)

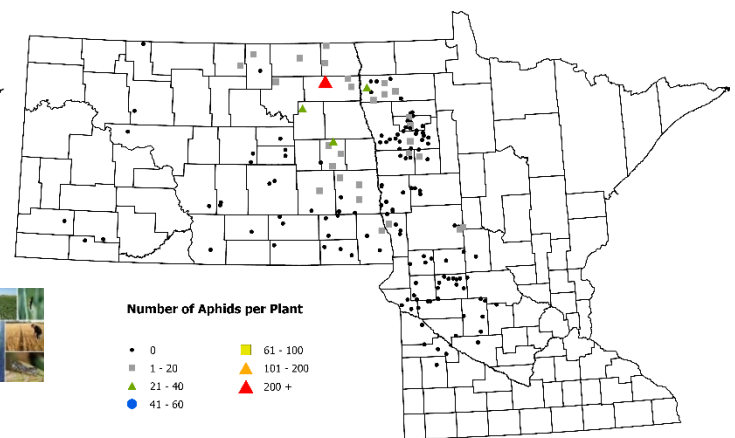
Soybean Aphids Incidence

July 14 - July 25, 2025



Soybean Aphids

July 14 - July 25, 2025



SUNFLOWER INSECT TRAPPING

Sunflower crop stages vary widely from R1 to R3.

Banded sunflower moths were captured at all the trap sites in North Dakota. Trap catches increased slightly from 54 to 216 moths per trap per week. The average among all trap sites was 137 moths per trap per week.

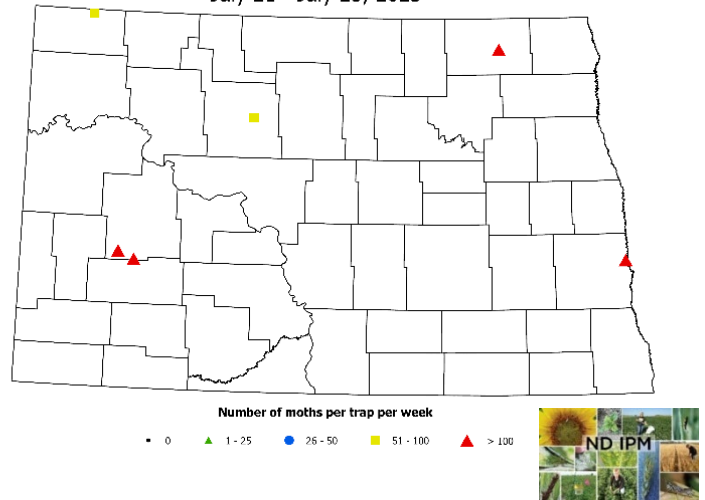
Arthuri sunflower moths were also captured at all of the trap sites in North Dakota. Trap catches increased slightly from 8 to 21 moths per trap per week. The average among all trap sites was 14 moths per trap per week.

Sunflower moth was captured for the first time this year in Dunn County at two trap sites, but only 2 and 3 moths per trap per week. All other trap sites had zero sunflower moths. All other trap sites had zero sunflower moths.

Banded Sunflower Moth Trapping Network

Cochylis hospes

July 21 - July 25, 2025



More on scouting and threshold for banded sunflower moth, Arthuri sunflower moth and sunflower moth in the next issue of the *Crop & Pest Report*. Stay tuned.

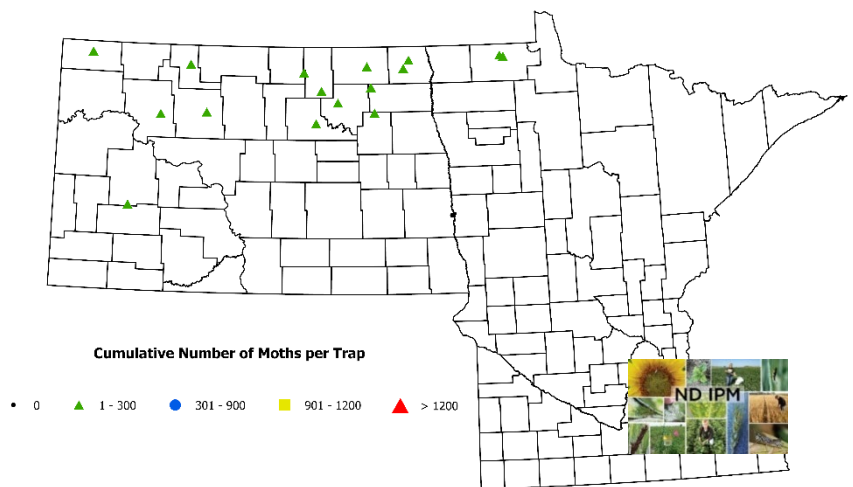
CANOLA INSECT TRAPPING

Canola crop stages vary widely from the 4.2 mid-flowering to 5.3 seeds in lower pods, green-brown.

Bertha armyworms: Moths were captured at 94% of trap sites in northern and southwest North Dakota and northwest Minnesota. Trap catches ranged from 1 to 234 moths per trap (cumulative total for this season), below the economic threshold of 300 moths per trap. Cumulative trap catches among all sites averaged 84 moths per trap per week, compared to 80 moths per trap two weeks ago. The top three trapping sites were Walsh County (total of 234 moths per trap per week), Towner County (total of 207 moths per trap per week) and Dunn County (total of 165 moths per trap per week). The larvae (caterpillar) risk is low, so no field scouting is required.

Bertha Armyworm Trapping Network

July 21 - July 25, 2025

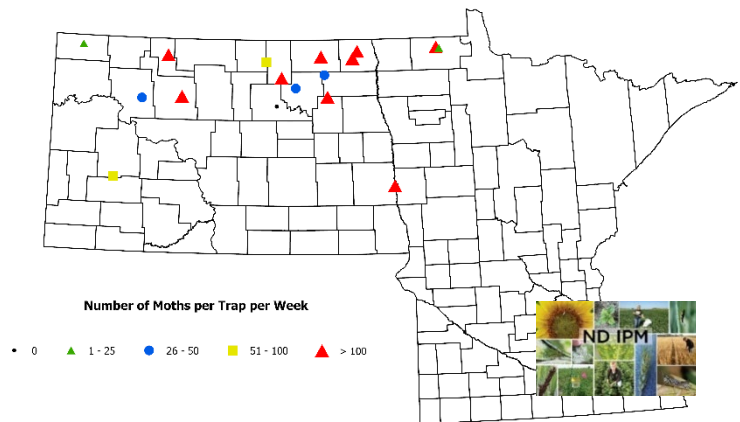


Diamondback moth trap catches decreased slightly, but remained elevated at several locations. Cumulative trap catches among all sites averaged 162 moths per trap per week, compared to 144 moths per trap two weeks ago. The top three trapping sites were Ward County (total of 627 moths per trap per week), Towner County (total of 510 moths per trap per week) and Renville County (total of 346 moths per trap per week).

Canola is most susceptible to larval feeding injury during the flowering and pod stages, especially from the second generation (late June through July). Continue to scout for diamondback moth larvae in canola. See the [Crop & Pest Report #9, June 19, 2025](#), for information on identification, scouting and thresholds for diamondback moth in canola.

Diamondback Moth Trapping Network

July 21 - July 25, 2025



[Janet J. Knodel](#)

Extension Entomologist



plant pathology

SMALL GRAIN DISEASE REPORT

The IPM scouts have been busy the last two weeks and have provided timely updates on disease occurrence in wheat and barley fields. The most common foliar disease recorded in wheat and barley is bacterial leaf streak (Figure 1). Bacterial leaf streak has been recorded in 20% of the wheat fields and 8% of the barley fields. Incidence of bacterial leaf streak within the fields has averaged 9% for wheat and 6% for barley. Reports of Fusarium head blight (FHB) have also been fairly common, but severity within fields has remained relatively low. Scouts reported FHB (Figure 2) in 33% of the wheat fields and 34% of the barley fields. Incidence of FHB within the fields has been 11% for wheat and 20% for barley. The IPM scout's disease observations have matched those sent to me by crop consultants, agronomists, and crop advisors.

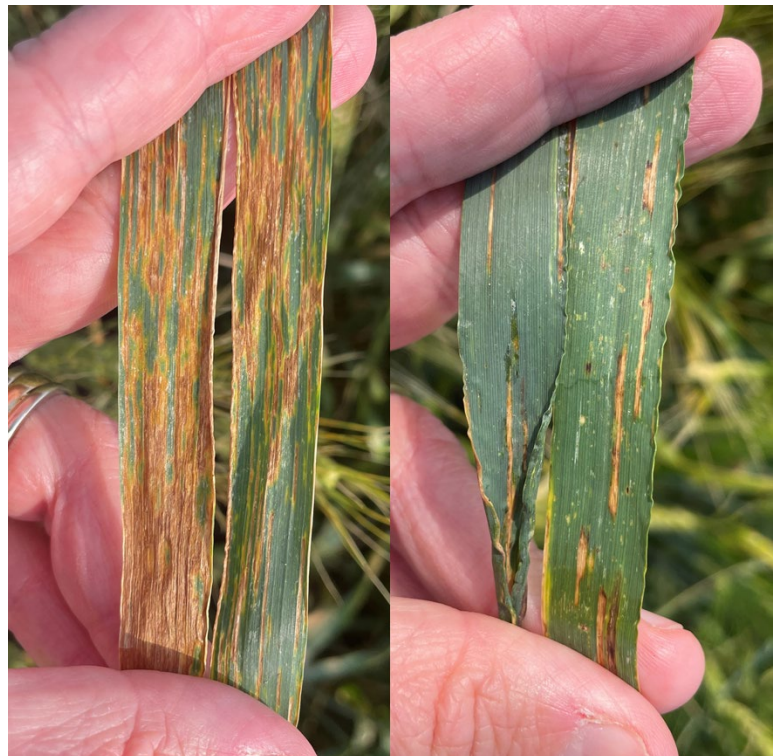


Figure 1. Bacterial leaf streak symptoms on hard red spring wheat (left) and two-row barley (right).



Figure 2. Fusarium head blight symptoms on hard red spring wheat (left), durum (middle) and two-row barley (right).

[Andrew Friskop](#)

Extension Plant Pathology, Cereal Crops

HIGH RISK FOR CERCOSPORA LEAF SPOT IN SUGARBEET

By late July, sugarbeet growers have typically made at least two fungicide applications to control *Cercospora* leaf spot, and are planning for the third or even the fourth application. As heat, humidity, and rainfall persist into August, it is easy for CLS symptoms to spread and approach the economic threshold. Leaves with 25 or more CLS lesions are already at approximately 1% disease severity (Figure 1). Every lesion produces hundreds of spores, which may each cause a new lesion. Due to the exponential nature of CLS infection, even fields intended for pre-pile harvest, scheduled for mid-August in the Red River Valley, will be impacted if not managed proactively in case of warm, humid, and wet weather.

The Sugarbeet *Cercospora* model and risk maps provided at <https://ndawn.ndsu.nodak.edu/sugarbeet-cercospora.html> can give important context to help inform optimal fungicide application intervals. During the previous week, CLS risk has been moderate or severe across almost the entire sugarbeet-growing region of North Dakota and Minnesota (Figure 2). Even if fungicide applications are intended for a calendar schedule (every 14 days, for example), a few days of increased DIVs, combined with a few tenths in the rain gauge, support a switch to a 10- or 12-day interval.

These maps are a good reminder to keep application intervals within the 14-day recommendation, and consider reducing time between fungicide applications to 12 days, 10 days, or even shorter. Tin + mancozeb tank mixes include

contact fungicides only, not systemic or translaminar active ingredients (triazoles). In this case, the application interval before the next spray should be kept short following rains. If CLS risk is high, it will likely remain high in July.



Figure 1. Sugarbeet leaf with lesions from *Cercospora* leaf spot, photographed on July 22nd (photo credit: Eric Branch). Disease severity in this case is already 1.0-1.5%. The economic threshold is 3% severity, or 3% of the leaf affected, where recoverable sugar is impacted. While this leaf was just one in an overall healthy field, increased risk (DIVs) the next week suggests potential for rapid spread to nearby plants and leaves.

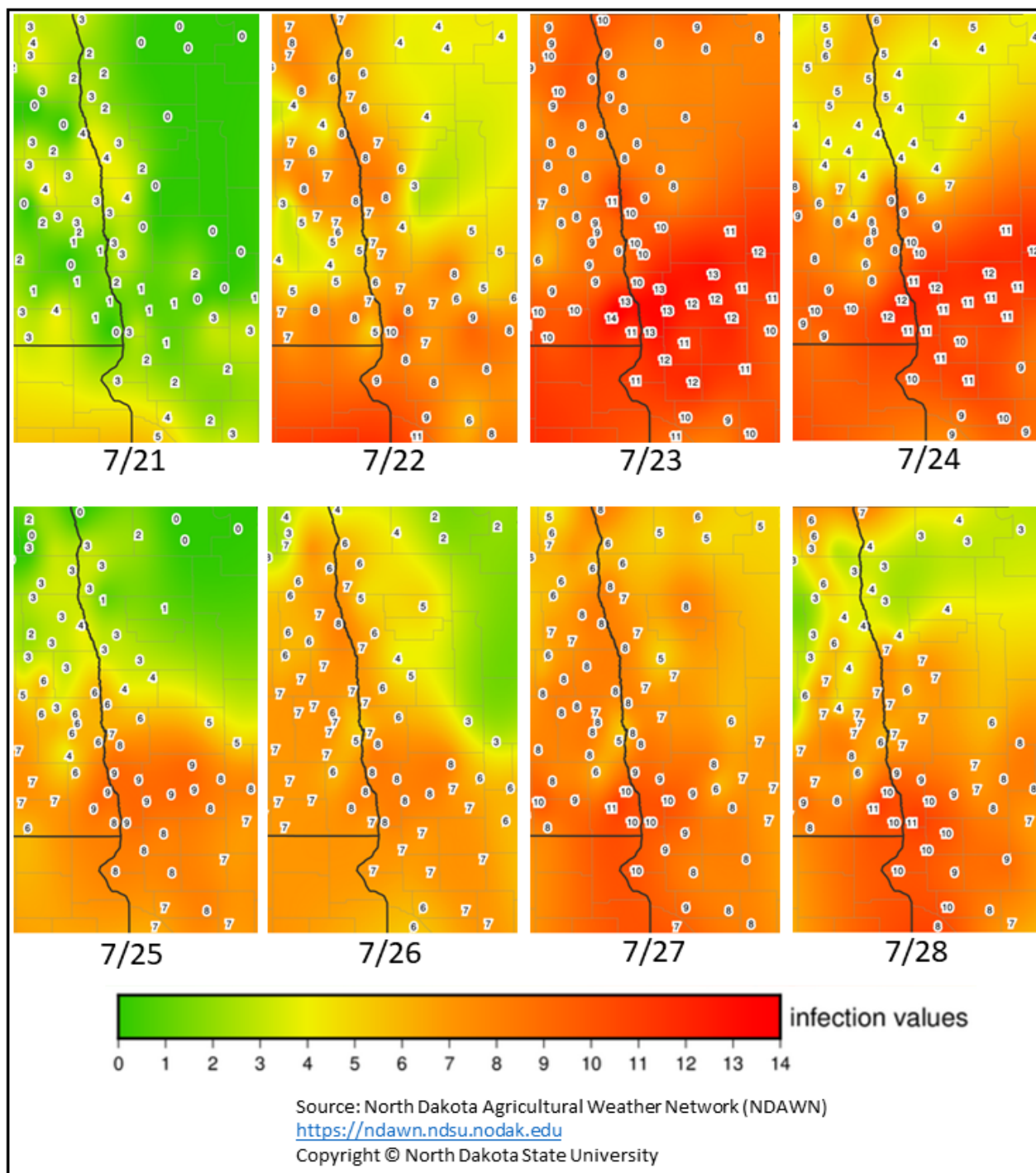


Figure 2. Two-day total daily infection values (DIVs) for eastern North Dakota and western and southern Minnesota from July 21 through July 28. Two-day totals can range from 0 to 14. 4-6 is considered moderate infection risk, 7-14 is considered severe infection risk. Most of the sugarbeet-growing regions have seen seven consecutive days of moderate to severe risk for CLS infection and symptom development.

[Eric Branch](#)

Extension Plant Pathology, Sugarbeets



SPRING WHEAT AND DURUM QUALITY TOUR RE-CAP AND CROP STATUS UPDATE

I had the pleasure of traveling around the state last week with the 2025 Spring Wheat and Durum Quality Tour. Every year, the Wheat Quality Council brings together a group of people from across the country and many international guests to survey the northern spring wheat and durum growing areas of ND, SD, and MN. The week of surveying fields in different parts of the state helps get more eyes on the crop and provides a preview of expected yields at harvest. On the first day, I drove one of the southeast routes going through Enderlin, Lamoure, Edgeley, Wishek, and Linton. In the southeast, the spring wheat generally looked good, though we did find a field with some tan spot pressure and multiple fields with scattered Fusarium Head Blight (also called scab), but only present at low levels. On the second day, we drove Highway 200 east across central ND and got our feet wet. We saw some prevent plant fields and some with standing water, though for the most part, where a crop had been planted, it looked good. Around the Carrington area and north, we observed quite a few hail-damaged fields with some corn having lost most of its leaves. After the 3-day tour, the group estimated spring wheat yield at 48.3 bushels per acre and durum at 37.0 bushels. While down a little from 2024's record yields, 2025 is shaping up to be a strong crop. Hopefully, we'll get into a drier weather pattern and the crop will mature and get harvested without any quality issues.

On the corn front, I saw only a few fields with tassels starting to emerge on July 22nd while driving through southeast and southcentral ND. On the 24th when driving back to Fargo from Langdon, I saw a lot more tassels out and even some silks. It seems that crops in the northeastern part of the state are farther along than those in the south due to the very dry conditions they experienced during June. While driving around Cass County on the 28th, I saw most corn fields with tassels and silks out, so a lot of progress has happened over the last week. Having adequate moisture in the soil profile this week and next will be very good for enabling the corn to set kernels and start filling grain.



Spring wheat plots at Thompson, Grand Forks Co. on July 9th.

[Clair Keene](#)

Extension Agronomist Small Grains and Corn



PRE-HARVEST HERBICIDE APPLICATIONS IN WHEAT

Our small grain crop is maturing fast in many areas of the state. As the crop begins to mature, there are many weeds that are a month or two away from maturity, and a pre-harvest herbicide application can help desiccate those weeds and make combining easier. Glyphosate is one of the more popular options as it will help kill off just about any grass, and most broadleaf weeds we encounter in our fields. One of our growing challenges is desiccating glyphosate-resistant kochia and waterhemp with pre-harvest applications. The Group 14 options in small grains, Sharpen (saflufenacil) and Valor (flumioxazin), have been utilized because they cause rapid necrosis and dry-down. However, the utility of those products should be monitored now that we are finding more cases of Group-14 resistant kochia across the state. We have some kochia

populations with resistance to glyphosate + Group 14 + dicamba, leaving no labeled herbicides for effective use in these pre-harvest scenarios. It is important to note that **Gramoxone (paraquat) is NOT labeled for preharvest weed control in small grains.**

Kochia response to preharvest applications should be monitored, as any surviving plant should be dealt with after harvest to prevent seed production and prevent further issues in next year's crop.

A list of herbicides, rates, when to apply, and pre-harvest interval (PHI) is below (**Note: Gramoxone (paraquat) is NOT a labeled option to use preharvest in small grains**):

SMALL GRAIN PRE-HARVEST WEED CONTROL

Herbicide	Product/A (ai/A)	Weeds	When to Apply	Remarks and Paragraphs																									
Glyphosate ⁹ For HRS, Durum and Winter Wheat and Feed Barley Only.	Up to 0.75 lb ae See Remarks.	Annual and perennial grass and broadleaf weeds including Canada thistle.	Wheat and barley: Hard-dough stage, 30% or less grain moisture. Allow a 7 day PHI.	<table border="1"> <thead> <tr> <th>lb ae/gal</th> <th>lb ai/gal</th> <th>0.38 ae</th> <th>0.57 ae</th> <th>0.75 ae</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>4</td> <td>= 16 fl oz</td> <td>24 fl oz</td> <td>32 fl oz</td> </tr> <tr> <td>4/4.17</td> <td>5.4/5.1</td> <td>= 12 fl oz</td> <td>18 fl oz</td> <td>24 fl oz</td> </tr> <tr> <td>4.5</td> <td>5.5</td> <td>= 11 fl oz</td> <td>16 fl oz</td> <td>22 fl oz</td> </tr> <tr> <td>4.8</td> <td>5.88</td> <td>= 10 fl oz</td> <td>15 fl oz</td> <td>20 fl oz</td> </tr> </tbody> </table> Do not apply more than 0.75 lb ae/season. Do not apply on wheat or barley grown for seed because reduced germination/vigor may occur. Apply 0.75 lb ae/A for Canada thistle control. May be applied with 2,4-D or dicamba for improved broadleaf weed control. Add AMS fertilizer at 8.5 lb/100 gal. Refer to label for adjuvant use and application information.	lb ae/gal	lb ai/gal	0.38 ae	0.57 ae	0.75 ae	3	4	= 16 fl oz	24 fl oz	32 fl oz	4/4.17	5.4/5.1	= 12 fl oz	18 fl oz	24 fl oz	4.5	5.5	= 11 fl oz	16 fl oz	22 fl oz	4.8	5.88	= 10 fl oz	15 fl oz	20 fl oz
lb ae/gal	lb ai/gal	0.38 ae	0.57 ae	0.75 ae																									
3	4	= 16 fl oz	24 fl oz	32 fl oz																									
4/4.17	5.4/5.1	= 12 fl oz	18 fl oz	24 fl oz																									
4.5	5.5	= 11 fl oz	16 fl oz	22 fl oz																									
4.8	5.88	= 10 fl oz	15 fl oz	20 fl oz																									
2,4-D ⁴ ester For HRS, Durum, and Winter Wheat, Barley, and Rye	1.5 to 3 pt 4EC/SL (0.75 to 1.5 lb)	Broadleaf weeds.	Wheat and oat: Hard dough stage to harvest. Allow a 14 day PHI.	Do not feed straw to livestock. Use only 2,4-D brands labeled for preharvest application. Drift to broadleaf crops is especially hazardous at this time.																									
Dicamba ⁴ + 2,4-D ⁴ For HRS, Durum, and Winter Wheat Only	0.5 to 1 pt 4SL + 1 to 2 pt 4EC/SL (0.25 to 0.5 lb + 0.5 to 1 lb)		Wheat: Hard-dough stage and green color is gone from the nodes (joints) of the stem. Allow a 7 day PHI.	Do not feed treated straw to livestock. Drift to broadleaf crops is especially hazardous at this time.																									
Sharpen (saflufenacil) ¹⁴ For HRS, Durum, and Winter Wheat Barley and Triticale Only	1 to 2 fl oz (0.36 to 0.72 oz)	Annual broadleaf weeds.	Wheat: Hard-dough stage and grain with less than 30% moisture. Allow a 3 day PHI.	Do not apply Sharpen to cereals grown for seed because reduced germination/vigor may occur. Apply with MSO adjuvant at 1.5 pt/A + AMS at 8.5 to 17 lbs/100 gal or 28% N at 1.25 to 2.5 gal/100 gal. Apply with glyphosate for additional weed control weed and desiccation. Sharpen has no grass activity. Refer to label for crop rotation intervals. Caution: MRL's may change and growers/exporters are responsible for checking a reliable database to ensure an MRL is in effect prior to export.																									
Valor SX Valor EZ + MSO adjuvant (flumioxazin) ¹⁴ For HRS, Durum, and Winter Wheat Only	2 oz WDG 2 fl oz EZ + 2 pt (1.02 oz)	Annual broadleaf weeds.	Wheat: Hard dough stage and grain with less than 30% moisture. Allow 10 day PHI	Apply with MSO adjuvant at 2 pt/A. Spray grade nitrogen source (AMS at 2.5 lb/A or 28% or 32% nitrogen solution at 2-4 pt/A) may be added to spray mixture with MSO. Tank mix with glyphosate to increase control of emerged weeds and aid in harvest.																									

UPDATE ON DICAMBA FOR OVER THE TOP (OTT) USE ON XTENDFLEX SOYBEAN

On July 23, the EPA released their proposed mitigations for three dicamba products to be used in Xtendflex soybean in 2026. The main document containing these proposed measures is titled “Memorandum Supporting Proposed Decision to Approve Registration for the Uses of Dicamba on Dicamba-Tolerant Cotton and Dicamba-Tolerant Soybean” (<https://www.regulations.gov/document/EPA-HQ-OPP-2024-0154-1239>). The proposed label requirements can be found on pages 28-35. At this point in time, the EPA is requesting comments on the documents, and the comment period closes on August 22. This document gives a glimpse at what additional mitigations may be needed to make applications in soybean next year, but it’s important to note that these may change after the comment period ends. Comment periods are an important opportunity to address any practical concerns with items in the proposed rule. It is therefore critical if you have feedback on this issue to engage with EPA through the comment period so that they can take these into consideration before drafting the final rule.

That document, along with other supporting documents can be found at <https://www.regulations.gov/docket/EPA-HQ-OPP-2024-0154/document?sortBy=postedDate>.

[Joe Ikley](#)

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NORTHEAST ND

A week of consistent rainfall and moderate temperatures has significantly accelerated crop development across the region. Early-seeded small grains are entering the ripening phase, with noticeable color changes, while late-seeded fields are progressing through the milk to dough development stages.

- **Small Grains:**
 - **Scab and bacterial leaf streak** have been observed in many fields at low to moderate severity levels.
 - **Armyworm damage** has been reported in some counties, with localized infestations.
 - **Wild oats** are becoming more visible in wheat fields.
 - Storms have caused lodging in some barley and wheat fields
- **Canola:**
 - Canola is nearing the end of its flowering phase and transitioning into pod development.
 - **Diamondback moth** populations, which had declined a couple of weeks ago, have begun to increase again in Towner, Ramsey, and Nelson counties. Growers should remain vigilant and continue regular scouting for larval activity.
- **Field Peas:**
 - Field peas are approaching the late stage of flowering, with pods filling at the base of the plants.
- **Soybeans:**
 - Soybeans are improving and rows are closing. The majority of fields are at the **R1-R2 growth stages**.
 - **Soybean aphids** have begun to appear in some fields, though populations are still relatively low except for one hotspot in Walsh County.

- Growers should monitor soybean aphid populations closely and treat fields only when aphid numbers exceed **250 per plant** and are actively increasing across **80% of the field**. Soybeans remain vulnerable to aphid damage through the **R5** stage (beginning seed development).
- **Corn:**
 - Corn has caught up rapidly in the past two weeks, with many fields nearing **tasseling** and **silking** stages.
 - **Corn aphids** have started to appear. The critical period for damage is during tassel emergence and through pollination. Control measures are only necessary when **50% of corn plants** have **100+ aphids per plant** during tassel emergence, particularly if plants are drought-stressed.
 - Natural predators such as **ladybugs, syrphid flies, and lacewings** are helping to reduce aphid populations.
- **Sunflowers:**
 - Sunflowers are some of the best-looking crops in the region, with many fields showing **flower buds**.
 - However, insect pests like **banded sunflower moth, red sunflower seed weevil, and sunflower bud moth** have started to be noticed in the region.
-

Recommendations for Growers:

- Continue regular scouting, particularly for pests such as aphids, armyworms, and diamondback moths.
- For pest control, rely on thresholds for economic treatment and prioritize actions when pest populations are actively increasing.



Wild oats in spring wheat field in Cavalier County. Photo: Anitha Chirumamilla, LREC



Soybean aphids in Walsh County. Photo: McKenna Schneider, IPM Scout, LREC



Soybeans at R1 stage. Photo: Anitha Chirumamilla, LREC



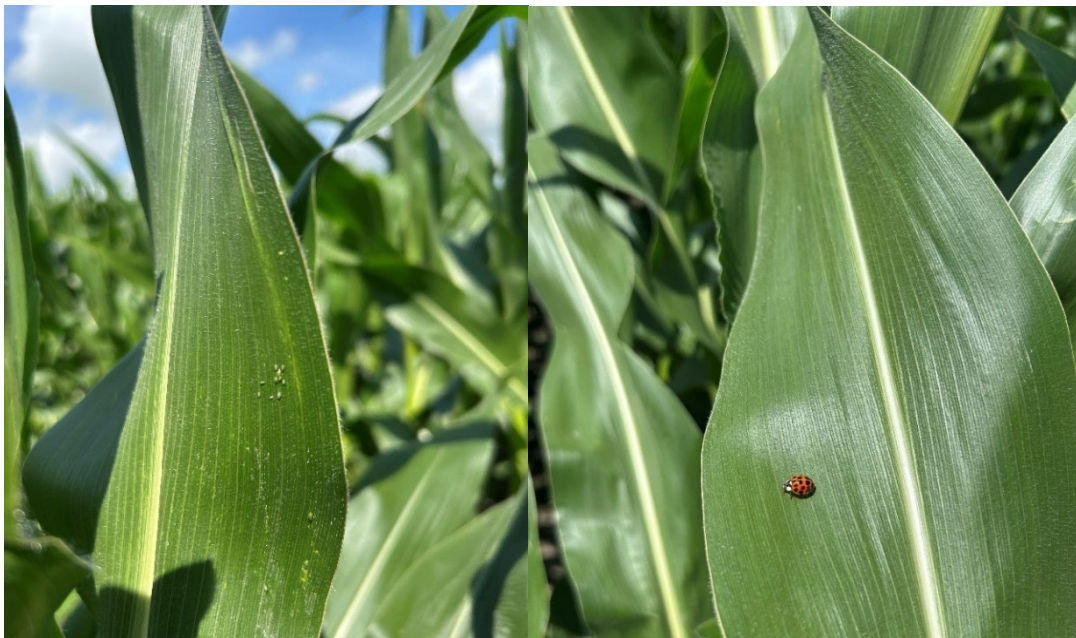
Red sunflower seed weevil. Photo: Isaac Cuchna, ANR Extension Agent, Grand Forks County.



Sunflower bud moth larva feeding damage. Photo: Anitha Chirumamilla, LREC.



Tassel emergence in corn. Photo: Anitha Chirumamilla, LREC



Corn leaf aphids and lady bug (predator of aphids). Photo: Anitha Chirumamilla, LREC.



Field peas at the Langdon REC. Photo: Anitha Chirumamilla, LREC.

[Anitha Chirumamilla](#)

Extension Cropping Systems Specialist
Langdon Research Extension Center

SOUTH-CENTRAL/SOUTHEAST ND

Plan to attend the Dazey Plot Tour on July 31, 2025, at 10:30 a.m., the Oakes Irrigation Research Site Annual Field Day on August 7, 2025, from 9 a.m. to 11:30 a.m., and the Fingal Plot Tour on August 14, 2025. Please look forward to attending the annual Carrington Research Extension Center Row Crop Tour on August 21, 2025, from 9 a.m. to 1:00 p.m., sharing information about corn, soybean, dry bean, and sunflower.

Crop growth continued to move along for most crops. Crop condition improved for some crops, but became poorer for others. Large quantities of rain, up to 3+ inches, fell in many parts of the region, making field work impossible and causing crop conditions to decline. Due to the constant rain, little to no second-cutting of alfalfa has been made.

The region's hard red spring wheat stage ranges from watery-ripe kernels to harvest, starting in Richland and likely Sargent counties. In photo 1 (Taken by Nancy Deis, Emmons County ANR Extension Agent), plants are coloring and seeds are in the hard dough stage in Emmons County. Spring wheat harvest will not start in earnest for at least 2 weeks. All spring-seeded small grain crops condition continues to be mostly good to excellent throughout the region. Wheat diseases are becoming more obvious now with bacterial leaf streak in many fields, tan spots in some fields, like in photo 2 in Sheridan County, and Fusarium Head Blight (FHB) as seen in photo 3 (Nancy Deis). Areas south of I-94 may have more FHB than north, but it can also be found in many fields in the northern part of the region.



Photo 1: Hard Red Spring Wheat turning colors and reaching hard dough stage in Emmons County. (Photo by Nancy Deis)



Photo 2. Severe tan spot in a hard red spring wheat field in Sheridan



Photo 3: Fusarium head blight (scab) in a hard red spring wheat field in Emmons County. (Photo by Nancy Deis)

Corn in the region varies from V12 (12-collars) to R2 (blister kernels in Sargent and Richland Counties). At least 35% of corn fields are tasseling in every region's county, with Sargent and Richland mostly in the R1 to R2 stage of development. No reports of poor corn pollination in the area yet, but lots of reports in states to the south and east. Corn condition improved in most counties, but some counties are still struggling. However, well-drained areas of fields will likely provide record corn yields in those parts of the field. There are no pest issues in corn now—lots of discussions now regarding corn maturity. Based upon the four corners of the region, Skogmo to Mooreton and Mayville to Linton and Carrington in the center, Skogmo GDDs are -94 from normal and +22 from 2024, Mooreton GDDs are -40 from normal and -36 from 2024, Mayville GDDs are -6 from normal and 15 from 2024, Linton GDDs are -33 from normal and +27 from

2024, and Carrington GDDs are -20 from normal and +37 from 2024. The discussion with farmers at a meeting near Wishek was about how the GDDs compare to 2019. That GDD comparison to 2019 is as follows: Skogmo, unknown, newer station; Mooreton, -64; Mayville, -77; Linton, +6; and Carrington, -30. Based upon the U2U Corn GDD Tool by University of Nebraska (<https://hprcc.unl.edu/agroclimate/gdd.php>), it looks like black layer for May 24th planted corn will not occur at Skogmo for 80 day hybrids until September 19th, at Mooreton for 95 day hybrids until September 30th, at Mayville for 85 day hybrids until October 9th, at Linton for 90 day hybrids until October 5th, and at Carrington for 80 day hybrids until September 24. Those dates are all past the first possible 28-degree Fahrenheit temperature. We will need a hot August and September and a mid-October frost like last year to get corn to maturity and reduce moisture.

Soybean stage in the region varies from R1 (beginning bloom) to R4 (full-size pods), with the average stage in the area between R2 (full flower) and R3 (small pods), as seen in photo 4. Soybeans remain the poorest crop in our region, but have improved nicely in most areas. They do not have excessive rainfall, as seen in photo 5 in Foster County, with Sargent County likely having 50% of soybeans excellent. Continued saturated soils and IDC are the most severe soybean problems in the region, as seen in photo 6.



Photo 4: R2 soybean stage in Sheridan County.



Photo 5: Good soybean condition in Foster County in a rye cover crop field. (Photo by Jeff Gale)

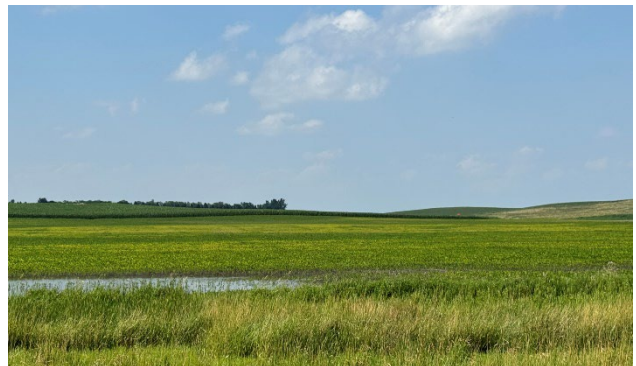


Photo 6: Large area of IDC and saturated soils stunting soybeans in Foster County.

Most canola has completed flowering, and some have started to turn color. The canola crop condition looks good across most of the region, and above-average yields are expected with a long flowering period.

All dry beans are flowering in the region now, with some having full-length pods, but most only having pin pods. Dry bean conditions improved for many in the region, as seen in photo 7, unless the soils stayed saturated, causing a decline in quality.

Sunflowers are between R1 (head starting to form and R5 (petals visible), but most are at the R3 (stem elongation under head) stage. To my knowledge, no fields in the region are in full flower. The sunflower condition for most of the region is good to excellent, with many excellent fields. The only bad fields are where stand establishment was not good, excessive moisture, and saline soils. Insect and disease issues are becoming more frequent in sunflowers now. The *Dectes* stem borer adult is shown in photo 8, and downy mildew in photo 9 was found in Emmons County. Red sunflower weevils have been found even before flowering!



Photo 7: Good dry bean condition in Emmons County. (Photo by Nancy Deis)



Photo 8: *Dectes* stem borer adult found in an Emmons County sunflower field. (Photo by Nancy Deis)



Photo 9: Sunflower downy mildew in Emmons County. (photo by Nancy Deis)

[Jeff Stachler](#)

NDSU Extension Cropping Systems Specialist
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SOUTHWEST ND

July is coming to an end, and for Southwest North Dakota, most NDAWN weather stations have received above normal precipitation (Figure 1). Other than the fields negatively affected by wind or hail, most fields look good, and crops seem to have benefited from the moisture available, although there is a concern that corn may be running behind due to the lack of warm days.

Percent of Normal Precipitation Since June 1 (%)

Jul 28 2025

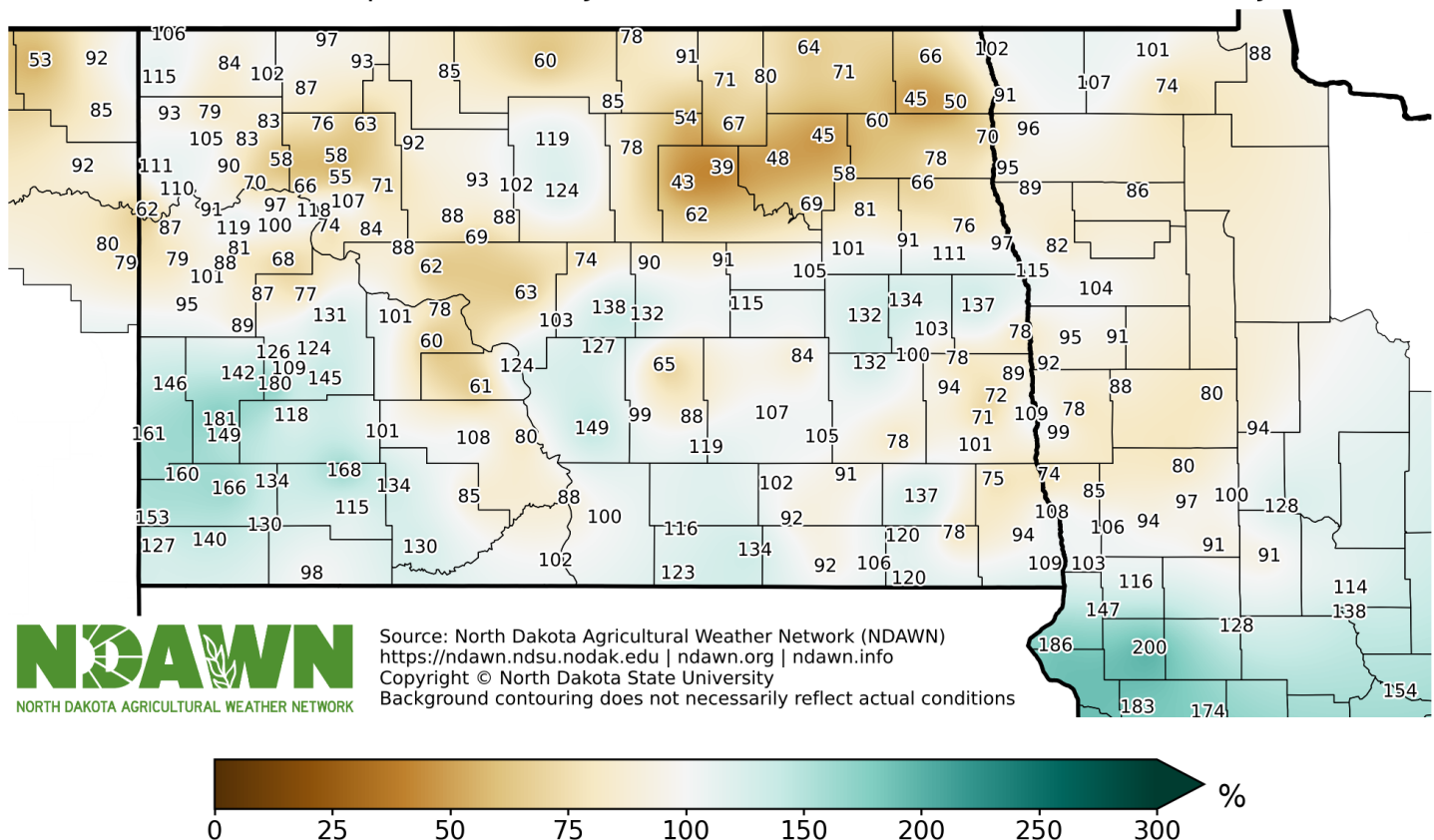


Figure 1. Percent of normal precipitation since June 1 (%). Notice how most of the Southwestern Counties are above 100% of the normal precipitation for June. Source: NDAWN.info

Regarding crop progress, winter wheat, spring wheat and field peas may have their harvest starting in the next couple of weeks. With the rains coming down almost every other day, field pea dry down has been delayed and that, along with the presence of weeds, has growers considering the use of a desiccant to aid harvest. According to NDSU's field pea production guide, the decision to start the harvest process depends on three factors:

1. Crop maturity (stage of uniformity): Look for many plants with tan pods on the bottom, yellow to tan pods in the middle, and yellow-green pods on the top.
2. Seed moisture content: Swath or desiccate field pea when the seed moisture content has reached 25% to 30%. Straight combine field pea when the seed moisture content has reached 18% to 20%.
3. Presence of weed growth: Do not wait for green weed growth to dry.

On the wheat front, given the widespread problems with nitrogen management earlier in the season and the prevalent symptoms of nitrogen deficiency throughout the season, concerns with grain protein content have come up in calls and stakeholder meetings. Discount schedules vary by elevator, but in many cases, the discounts outweigh the bonuses.

Depending on the crop growth stage, a foliar nitrogen fertilization may solve the problem if it was not corrected by a sidedress N application earlier in the season. Keep in mind that a foliar N application at this stage only increases protein content and does not boost yields! However, for most fields, the time for that is long past, as the recommendation is to apply the foliar fertilizer immediately after flowering, between the anthesis stage and the watery ripe stage. Some late-planted fields may still benefit from a foliar N fertilization, if warranted and if it is in the right stage. For that, the recommendation is a foliar application of UAN (28% Urea Ammonium Nitrate) with 10 gpa water, applied post-anthesis at the water-ripe stage of growth in the cool of the day, is the best choice for enhancing protein by an average of ½ %.

Canola fields are mostly done flowering, and a few have started to change color. Soybeans in the area look good and are anywhere between the early flowering and the pod fill stage.

Sunflowers are mainly in the bud stage, with a minority of fields at early flower, specifically in Adams County (Figure 2).



Figure 2. Early flowering sunflowers in Adams County. Photo: Aspen Lenning, ANR Extension Agent.

A significant concern for sunflowers this year is that in some areas, we are already finding threshold populations of Red Sunflower Seed Weevil in budding sunflowers (Figure 3).



Figure 3. Red Sunflower Seed Weevils in budding sunflowers in Grant County, just SE of Carson (A) and south of Werner in Dunn County (B). Photos: Ashlyn Williams, IPM Scout.

Similarly, sunflower bud moths have been spotted north of Dickinson, but in relatively low numbers (Figure 4). These are fairly seldom found in this area, with some reports coming from the Killdeer area last year. As per Dr. Knodel's article from last week, this insect pest rarely causes economic damage, and no specific management measures are warranted. However, continued field monitoring is essential to detect changes in pest status.



Figure 4. Sunflower bud moth tunneling in sunflower stem. Photo: Josh Hammond.

[Victor Gomes](#)

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WEATHER FORECAST

The July 31 to August 6, 2025 Weather Summary and Outlook

It was another week with much of the state recording rain (Figure 1). This next week should bring rain again, but the thunderstorms are expected to be hit and miss more, meaning that at least some areas may dry off a bit.

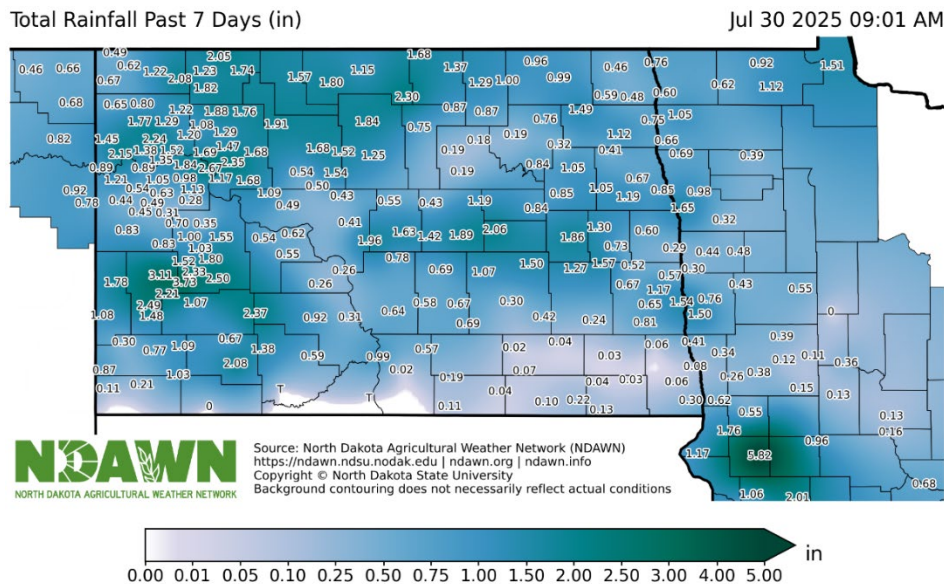


Figure 1. Total Rainfall for July 24 through July 30 at 9:00 a.m.

The rain from the past week, like last week, did lessen the percentage of North Dakota being drier than average since June 1 (Figure 2).

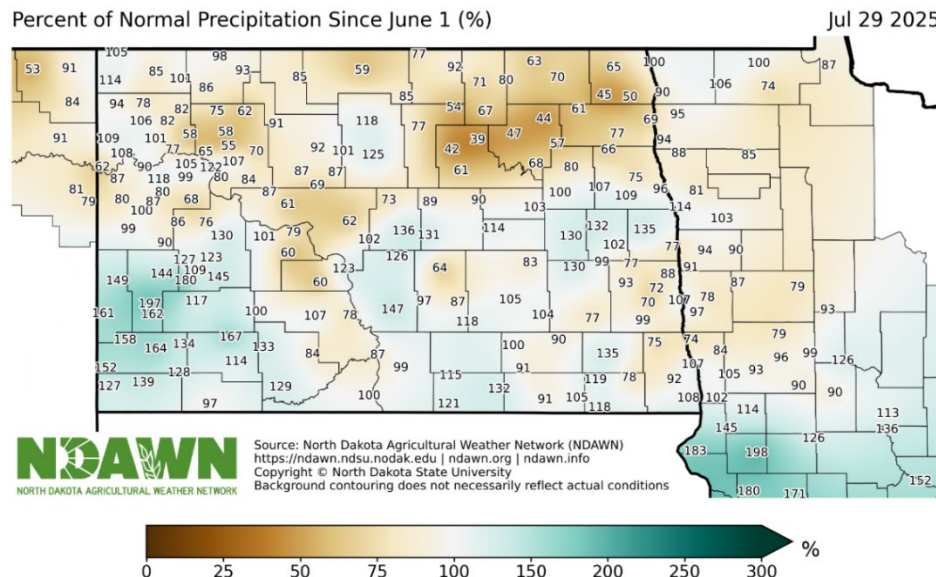


Figure 2. Percent of Normal Precipitation from June 1 through July 29, 2025

After a couple of weeks with below-average temperatures, this past week recorded temperatures above average across much of the state (Figure 3). The main exception was in northwestern North Dakota. The following week looks below average for temperatures for the next several days, then a warmup toward the middle to end of next week.

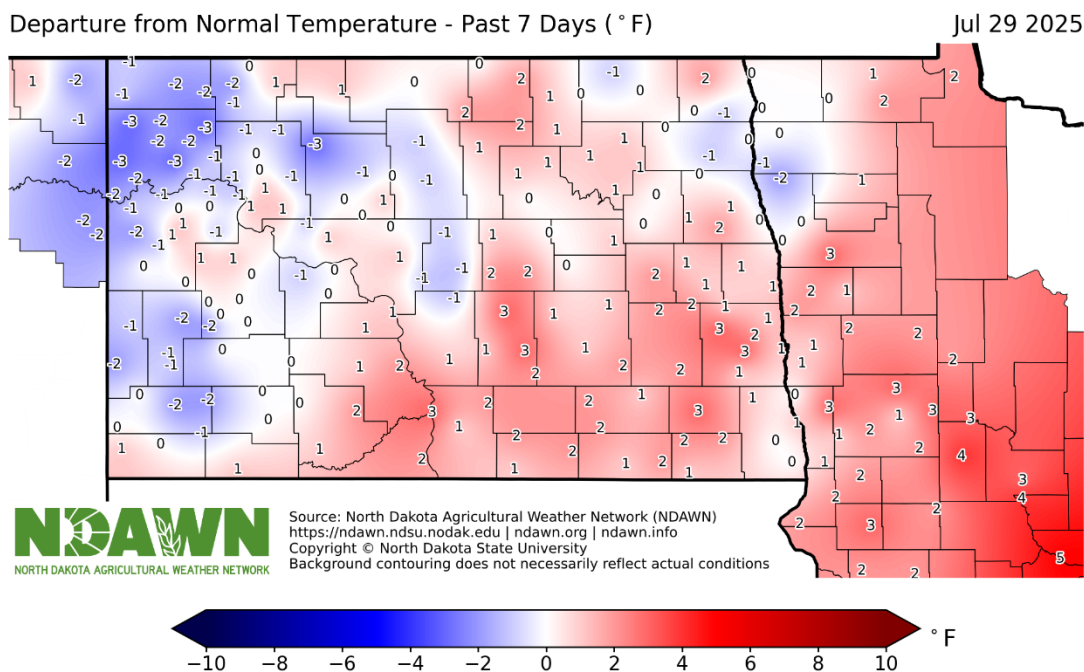


Figure 3. Departure from Average Air Temperature for Period of July 23 through July 29, 2025

Figures 4 and 5 show forecasted growing degree days (GDDs) for base 32°F (wheat and small grains) and base 50°F (corn and soybeans) during this forecast period.

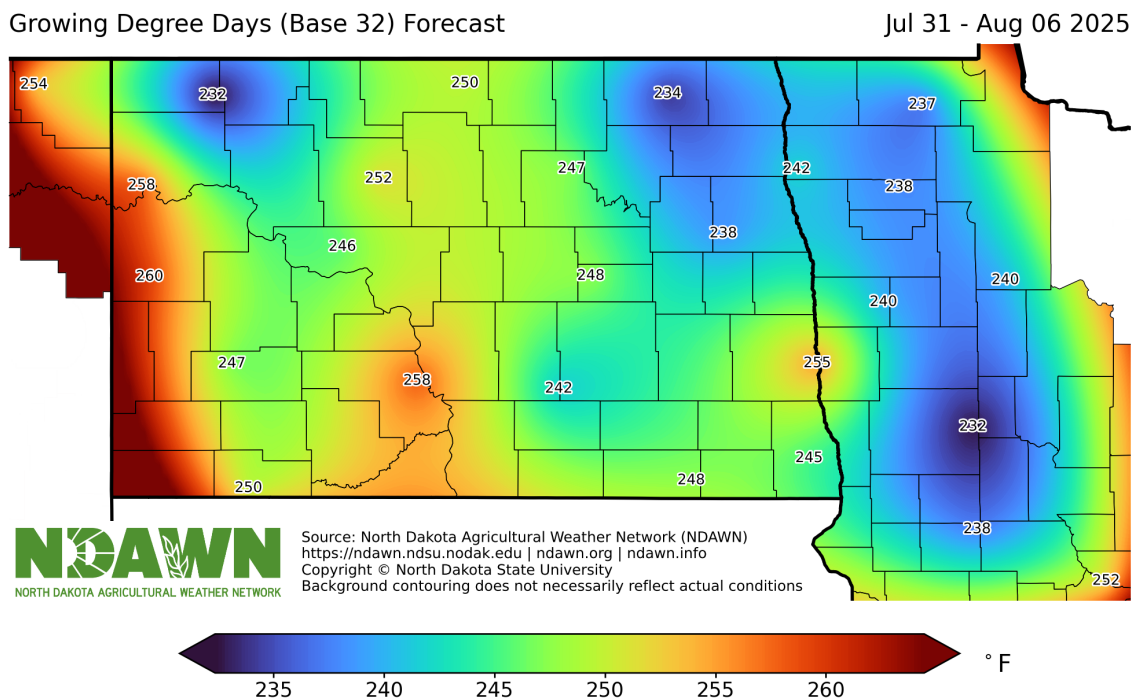


Figure 4. Estimated growing degree days based on 32° from July 31 to August 6, 2025.

Growing Degree Days (Base 50) Forecast

Jul 31 - Aug 06 2025

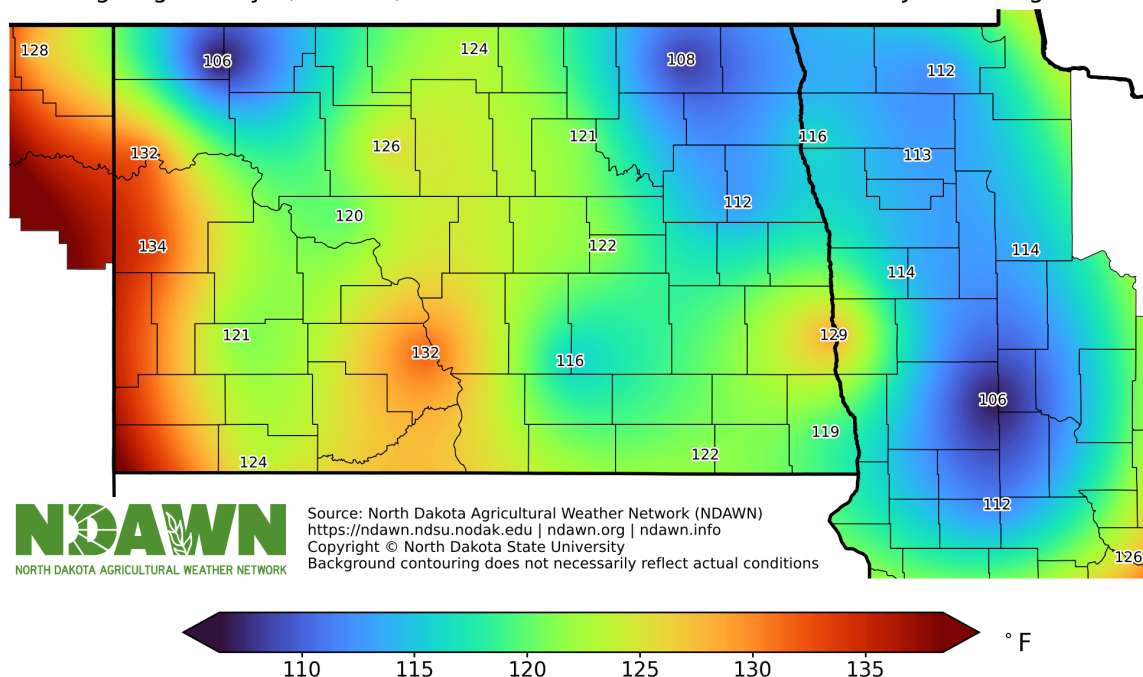


Figure 5. Estimated growing degree days based on 50° from July 31 to August 6, 2025.

Using May 1 as a planting date, the accumulated growing degree days for wheat (base temperature 32°) are given in Figure 6. You can calculate wheat growing degree days based on your exact planting date(s) here:

<https://ndawn.ndsu.nodak.edu/wheat-growing-degree-days.html>

Wheat Growing Degree Days Since May 1

Jul 29 2025

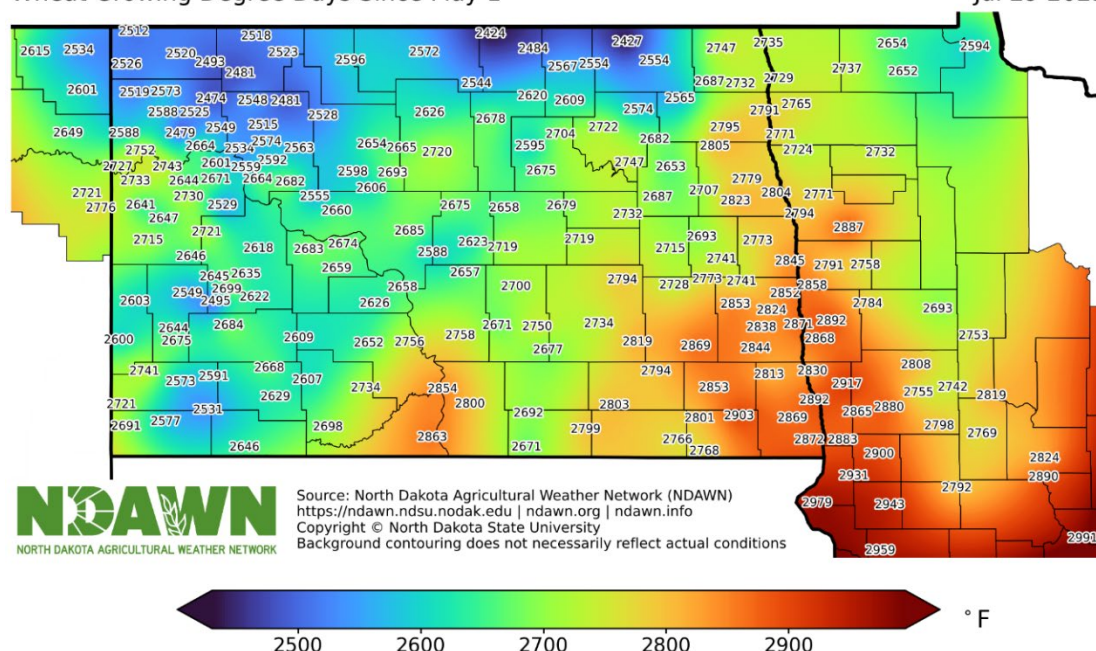


Figure 6. Wheat Growing Degree Days (Base 32°) from May 1 through July 29, 2025

Using May 10 as a planting date, the accumulated growing degree days for corn (base temperature 50°) are given in Figure 7. You can calculate corn growing degree days based on your exact planting date(s) here:

<https://ndawn.ndsu.nodak.edu/corn-growing-degree-days.html>.

Corn | Soybean Growing Degree Days Since May 10

Jul 29 2025

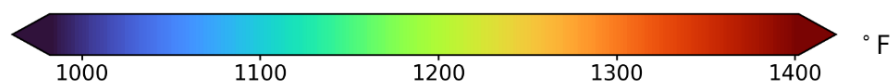
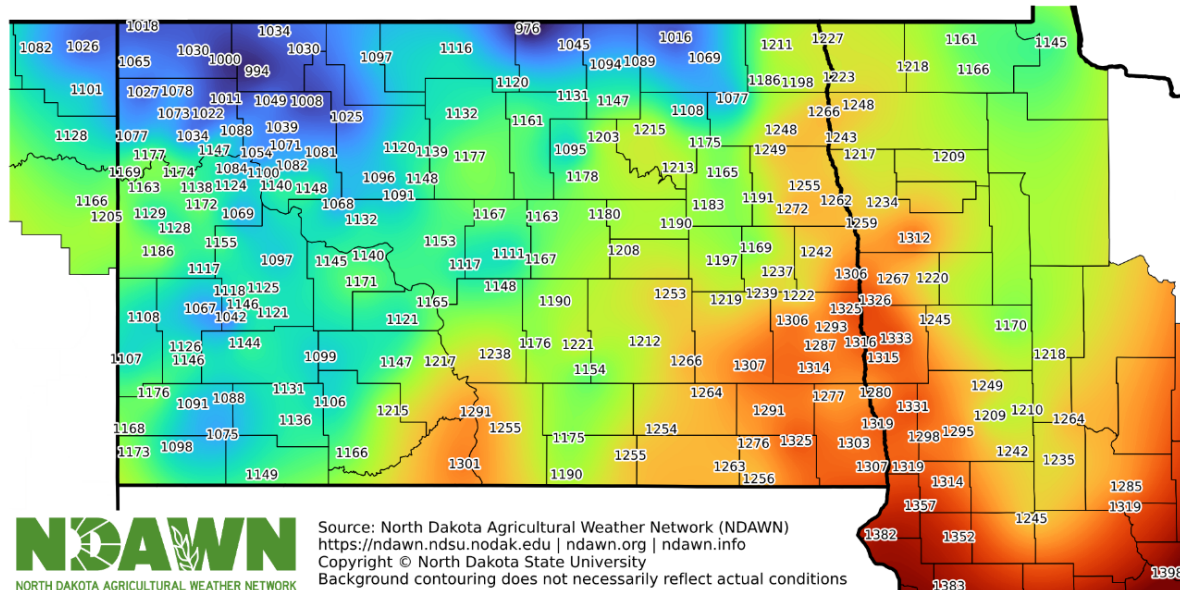


Figure 7. Corn Growing Degree Days (Base 50°) from May 10 through July 29, 2025

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