North Dakota State University
CROP & PEST REPORT

NDSU EXTENSION

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Entomology

RED SUNFLOWER SEED WEEVIL INCREASING

Sunflower growth stages ranged from R2 to early flowering this past week. IPM Scouts observed zero to 39 red sunflower seed weevils (RSSW) per head. However, the average number of RSSWs per head was only 0 to 5.3, below the economic threshold.

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

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

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: 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 for high RSSW populations may require a second application.

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**

CONTINUE TO SCOUT FOR TRUE ARMYWORM IN SMALL GRAINS

Economic Threshold for True Armyworms in Small Grains (wheat, barley, oats)
Preheading: 4 or more larvae per square foot
Heading (or head clipping): 2 or more larvae per square foot

True armyworms continue to cause severe feeding injury (leaf defoliation and some head clipping) on maturing small grains, especially wheat and barley. Reports have come in from southeast, south central and north central areas of North Dakota and northwestern Minnesota this past week. Most fields are within 14 days of harvest, so select an insecticide with a short pre-harvest interval (PHI, see table below). There have been NO field reports of true armyworms infesting corn, soybeans or other crops.

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

For more information and control recommendations in field crops, consult the *2025 North Dakota Field Crop Insect Management Guide E1143,* Crop & Pest Report #13, July 24, 2025, Crop & Pest Report #14, July 31, 2025 and *The Armyworm and the Army Cutworm E830*.

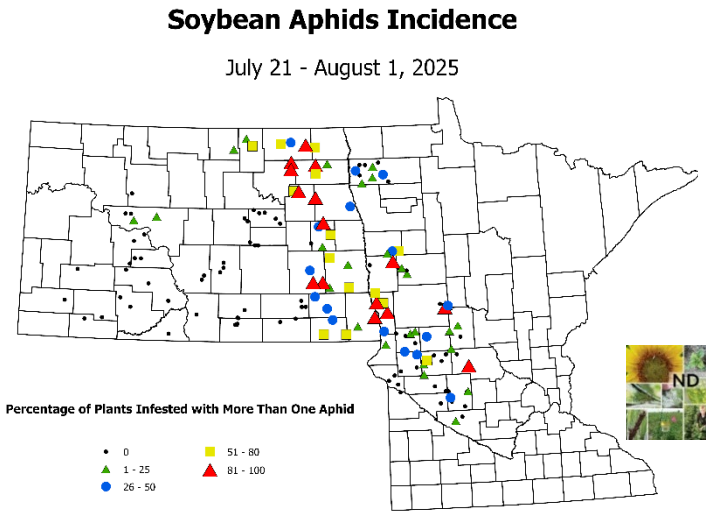
CONTINUE TO SCOUT FOR SOYBEAN APHIDS

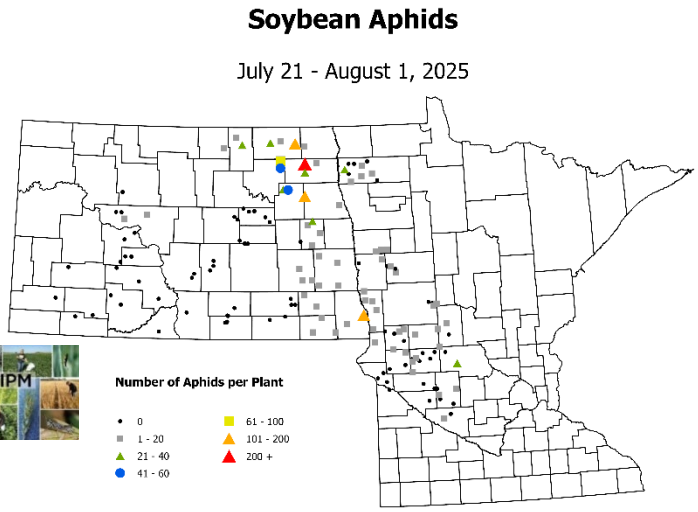
Soybean growth stage ranged from R2 (full bloom) to R5 (beginning seed set). **Be sure to scout the lower to middle canopy for soybean aphids now**, because plant nutrients move to the developing pods. Research suggests that soybean aphids follow nutrient flow to support their population growth.

Overall, soybean aphids are increasing slowly in eastern North Dakota only. Most soybean fields are below the E.T. (250 aphids per plant and 80% of the plant infested), perhaps due to the rainy, cooler weather. About 55% 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 123 aphids per plant, with an overall average of 15 aphids per plant, a decrease from last week's average of 28 aphids per plant. The top four hot spots include Grand Forks, Walsh, Cavalier and Richland counties.

See IPM maps on the next page.

Soybean aphids moving down to the middle and lower canopy. (Patrick Beauzay, NDSU)



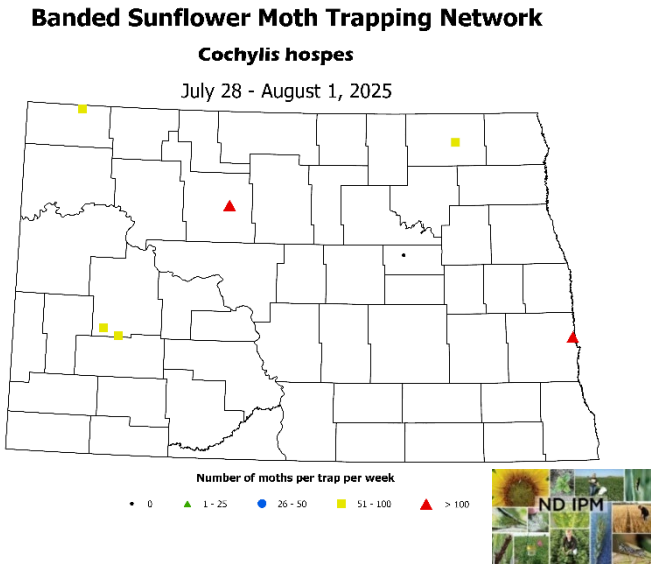


SUNFLOWER INSECT TRAPPING

Sunflower growth stages in the trapping network varied widely from R1 to R3.

Banded sunflower moths were captured at all of the trap sites in North Dakota, except Eddy County. Trap catches increased from 77 to 266 moths per trap per week. The top three trapping sites were Cass County (266 moths per trap per week), Ward County (199 moths per trap per week) and Dunn County (94 moths per trap per week).

Arthuri sunflower moths (a similar species to the banded sunflower moth) were also captured at all of the trap sites in North Dakota, except Eddy County. Trap catches increased from 3 to 110 moths per trap per week.



Sunflower moth was captured for the first time in Ward County, with 14 moths per trap per week (2 moths per trap per day). All other trap sites had zero sunflower moths.

CANOLA INSECT TRAPPING

Canola growth stages ranged from 4.2 (mid-flowering) to 5.3 (seeds in lower pods, green-brown). This is the last trap report for 2025.

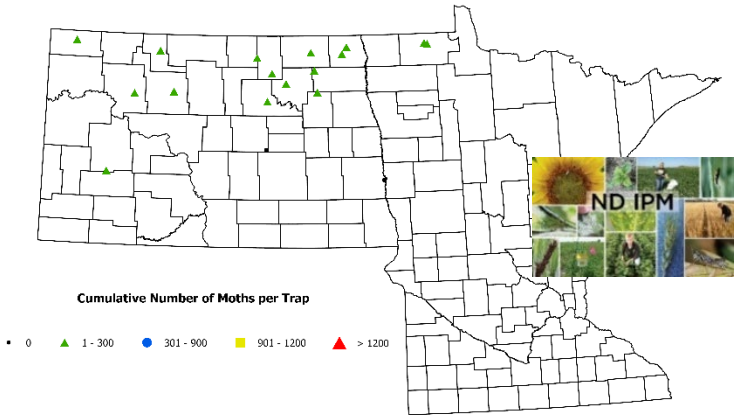
Bertha armyworms: Moths were captured at 89% of trap sites in northern and southwest North Dakota and northwest Minnesota**.** Cumulative trap catches ranged from 0 to 237 moths per trap, below the economic threshold of 300 cumulative moths per trap per season. The top three trapping sites were Walsh County (237 moths per trap per season), Towner County (208 moths per trap per season) and Mountrail County (181 moths per trap per season). Walsh and Towner had the highest trap catches two weeks in a row.

The risk of larvae (caterpillar) feeding injury continues to be low. Fields can be scouted to confirm the absence of larvae or feeding injury on leaves and pods.

Bertha armyworm larva feeding on pod (Janet Knodel, NDSU)

Bertha Armyworm Trapping Network

July 28 - August 1, 2025

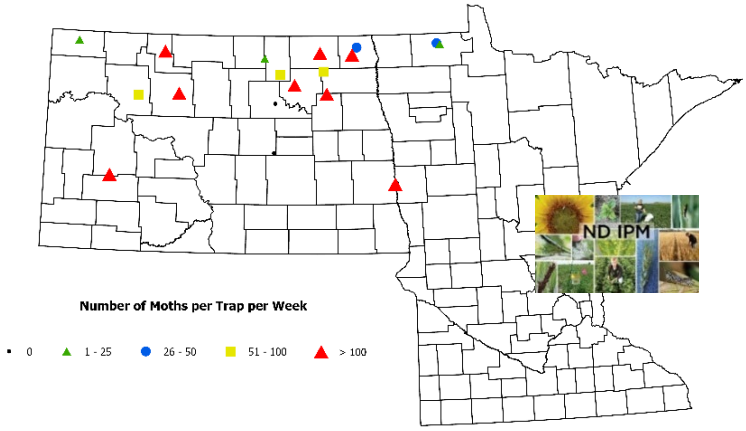


Diamondback moth trap catches had comparable numbers over the past two weeks. The top four trapping sites were Nelson County (401 moths per trap per week), Pembina County (399 moths per trap per week), Cass County (396 per trap per week) and Ramsey County (393 moths per trap per week).

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 28 - August 1, 2025



BANDED SUNFLOWER MOTH SCOUTING

The banded sunflower moth (BSM) continues to be an important insect pest for sunflower growers, particularly as it affects seed quality and yield potential. In North Dakota, BSM typically emerges from the soil by mid-July, with peak moth activity occurring in late July through the first week of August.

Because BSM moths migrate from last year's fields, they're first observed along field margins, then move into the crop as sunflowers reach the mid-bud stage (R3). Female moths lay eggs on the back side of the buds and the outer bracts of R3 buds. Very few eggs are laid on plants at pollen shed (R5.1) and later. Eggs are present through early August and hatch about five to eight days after being deposited. Once eggs hatch, larvae crawl to the face of the flower head and feed on florets and bracts. Third and later instars tunnel through the disk flowers and seed hulls. Each larva penetrates and damages the kernels of several seeds, reducing seed quality and market value.

Scouting should begin mid-July during the late bud stage (R3). Moths are easiest to detect during the day by walking a field in an "X" pattern, examining 20 plants at each of five sites, spaced well inside the field (at least 75–100 feet from the edges). The late morning to early afternoon is the best time to scout fields. Moths rest on the top or bottom of leaves and flutter when disturbed, making visual counts easier.

Banded sunflower moth and eggs above moth on R3 bud (Kirk Mundall, NDSU)

Banded sunflower moth larva inside seed (Frank Peairs, Colorado State University, Bugwood.org)

To determine whether an insecticide treatment is needed (see Tables 1 and 2), use the Economic Injury Level (EIL) formula below. This calculation considers treatment costs, plant population, and market price. **The threshold for BSM in oilseed sunflower is an average of 1 to 3 moths per 100 plants based on 22 cents per lb and $18 to $20 for the cost of insecticide and application** (see yellow highlighted row in Tables 1 and 2)**.**

$$\text{EIL (moths per 100 plants)} = \left(\frac{\text{(Treatment Cost (\$) / Market Price)}}{\text{Plant Population}} \right) \times 582.9 \;) \; - \; 0.7$$

Table 1. Economic Threshold for Oilseed Sunflowers - Number of adult banded sunflower moths per 100 plants when the cost of control equals $18.00 per acre.

Market Price	Sunflower Plants per Acre (x 1,000)											
$ per lb	14	15	16	17	18	19	20	21	22	23	24	25
0.18	3.5	3.2	2.9	2.7	2.5	2.4	2.2	2.1	1.9	1.8	1.7	1.6
0.19	3.2	3.0	2.8	2.5	2.4	2.2	2.1	1.9	1.8	1.7	1.6	1.5
0.20	3.0	2.8	2.6	2.4	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4
0.21	2.9	2.6	2.4	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3
0.22	2.7	2.5	2.3	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2

Table 2. Economic Threshold for Oilseed Sunflowers - Number of adult banded sunflower moths per 100 plants when the cost of control equals $20 per acre.

Market Price	Sunflower Plants per Acre (x 1,000)											
$ per lb	14	15	16	17	18	19	20	21	22	23	24	25
0.18	3.9	3.6	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.9
0.19	3.7	3.4	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.9	1.8
0.20	3.5	3.2	2.9	2.7	2.5	2.4	2.2	2.1	1.9	1.8	1.7	1.6
0.21	3.3	3.0	2.8	2.6	2.4	2.2	2.1	1.9	1.8	1.7	1.6	1.5
0.22	3.1	2.8	2.6	2.4	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4

When to Spray

Once the decision is made to treat, timing the spray correctly is critical. **The best time to apply insecticide is during the R5.1 growth stage, when approximately 10% of the disk florets are in flower. At this stage, larvae have hatched and are exposed on the surface of the head, making them vulnerable to insecticides.** Waiting too long allows larvae to move into developing seeds or hide under florets, reducing control and increasing damage.

Sunflower Growth Stage	Activity	Spray?
R3	Bud stage, scout for moths	No – Too early
R5.1	10% disk florets are flowering, and larvae exposed	Best time
R5.4-5.5	Pollen shed in full swing	No - Larvae hidden
R6 (Mature)	Seeds formed; damage already done	No - Too late

Confection Sunflowers

For growers of confection hybrids, especially those intended for export markets, a two-spray program is currently recommended. Banded sunflower moth, red sunflower seed weevils, and Lygus bugs have all contributed to seed damage in recent seasons. Applying one insecticide treatment at early flowering (R5.1) and a second 5 to 7 days later provides a window of protection against all three pests.

SUNFLOWER MOTHS

Sunflower moths migrate into North Dakota from southern states. Due to their migratory nature, they have not historically caused significant problems in the state. The grayish-tan moths typically arrive during early bloom and lay eggs on the face of the sunflower head. Larval feeding damage is similar to that of the banded sunflower moth.

Sunflower moth (Janet Knodel, NDSU)

Because female moths deposit eggs on the flower face, insecticide applications should be timed between the R5.1 and R5.3 stages (early flowering).

Monitoring: Pheromone traps are commercially available and should be used from R5.1 (early flowering) through R5.8 (80% pollen shed).

Thresholds:

- ✓ Field scouting: Treat when the average is 1 to 2 moths per 5 plants.
- ✓ Pheromone traps: Treat when catches average 4 or more moths per trap per day (or 28 moths per trap per week).
- ✓ If trap catches are less than 1 moth per trap per day, the infestation is considered non-economic.

Sunflower moth larva and feeding injury to sunflower seeds (Janet Knodel, NDSU)

Janet J. Knodel
Extension Entomologist

plant pathology

SUGARBEET LEAF SPOTS: CERCOSPORA, BACTERIA, OR BOTH?

In many areas of western and central Minnesota, and some areas of North Dakota, the previous couple of weeks have had multiple wind, rain, and even hail events that complicate identification and management of foliar diseases in sugarbeet. Storms causing physical damage to sugarbeet leaves increase susceptibility to bacterial leaf spot, along with cooler-than-average temperatures and plenty of moisture.

Bacterial leaf spot was highlighted last month in the Crop & Pest Report #11, July 3rd, 2025. However, now in August many sugarbeet fields also have visible Cercospora leaf spot symptoms. Both diseases can even be found on the same leaves (Figure 1). NDSU Extension publication PP1244, "Comparison of Cercospora and Bacterial Leaf Spots on Sugarbeet" provides information on these foliar diseases.

Figure 1. Sugarbeet leaf photographed on August 5th, 2025, showing symptoms of bacterial leaf spot (irregular lesions, dark margins) and Cercospora leaf spot (smaller, circular lesions, margins are lighter in color than edges of bacterial leaf spot lesion) (Photo credit: Eric Branch). Fields with any of these symptoms should be managed, as planned, for Cercospora leaf spot with the recommended fungicide applications.

The biggest complication from these cases where multiple pathogen groups (bacteria and fungi) are active in a field arises from the desire to prevent and control foliar diseases of all kinds in sugarbeet. Cercospora leaf spot should remain the priority. Since Cercospora leaf spot is best managed preventatively, the development of symptoms means that spray intervals need to be tightened in order to maintain season-long control.

Bacterial leaf spot is unlikely to significantly reduce sugar production on its own; therefore, there is no economic threshold for bacterial leaf spot. Bacterial leaf spot outbreaks depend heavily on the environment. As August continues and the summer storm season wraps up, the warm and dry weather is likely to be less favorable for bacterial leaf spot. Chemical control is not recommended since fungicides are ineffective. While copper is useful in other cropping systems to manage similar bacterial diseases, the cost of application is much greater than any potential benefit in sugarbeet. Put simply, Cercospora leaf spot needs to remain the priority, no matter what other foliar issues (disease, nutrients, etc) are present.

Dr. Eric Branch
Sugarbeet Extension Plant Pathologist

plant science

SOYBEAN CRITICAL PERIOD FOR YIELD HAS BEGUN

Soybeans faced a challenging start this season, with many fields only closing the canopy in recent weeks. However, in some parts of the state the critical period for determining final yield is now underway. This is when soybeans are filling pods, and adequate moisture, nutrient supply, and protection from stress are essential for maximizing yield potential.

Understanding the Critical Period

The **critical period for yield determination** extends from **R4 (full pod)** to **R7 (beginning maturity)**, with **peak sensitivity around R5.5**. That means that yield component compensation is possible until R4

The number of pods per acre sets the maximum potential seeds per acre, making **pod development one of the most influential stages** in the life cycle of soybeans. While stress during this stage can result in aborted pods, soybeans can partially compensate through increased seed number per pod or larger seed size.

The **R3-R4 growth stages** (beginning to full pod) are ideal times to scout for **diseases, insect pests, and nutrient deficiencies**. If conditions warrant, consider applying **fungicides, or insecticides,** to protect yield potential. The **economic threshold for defoliating pests decreases**, and less defoliation is tolerated during pod fill because leaf loss directly reduces the plant's ability to produce and fill seeds. Stress management during this window is key; every pod lost now reduces the maximum seed count, and compensation later in the season is limited.

What Happens at R5.5?
At approximately **R5.5 (mid-seed fill)**:

- The plant reaches **maximum height, node number, and leaf area**.
- **Nitrogen fixation peaks** and then gradually declines.
- Seeds maintain a steady period of **dry weight accumulation**.
- Nutrient accumulation in leaves **peaks**, then begins redistributing to the seeds.

This is the **most sensitive stage for stress**, yield loss from pests, diseases, or drought can be significant.

Dry bean Field Day Next Week!

Ana Carcedo
Broadleaf Agronomist

soils

WHAT CAUSES MID-SEASON IDC IN SOYBEANS?

We normally think of iron deficiency chlorosis (IDC) as an early-season problem in soybeans. Often, on high pH (calcareous) soils, the plants come up, begin to grow, exhaust their seed reserves of iron, and yellowing develops in the first or second trifoliolate stage. Usually, with a resistant variety, and the use of an effective iron fertilizer at planting, the yellowing is not severe, the plants recover as the soil dries out, and yield losses are minimal. However, if the variety is susceptible and the chlorosis progresses so that leaf tissues begin to die (necrosis) and the growing point is injured, the plants will be stunted and yields will be poor.

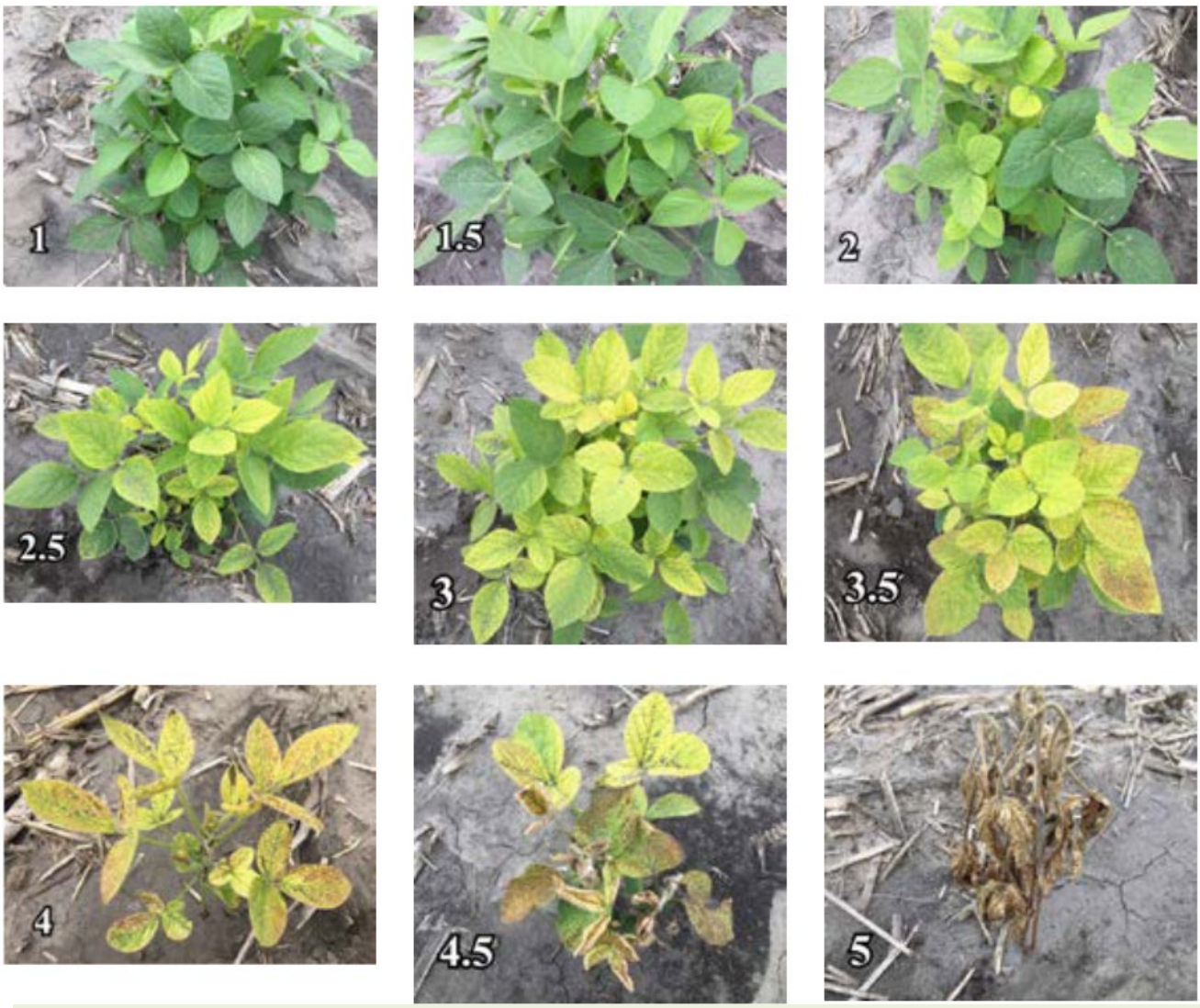


Figure 1. Visual ratings used by NDSU scientists for IDC severity comparisons. Source: Soybean Soil Fertility SF1164

In the past week, I've received calls about soybean fields that had fully recovered from early-season IDC, but had yellowed again after recent heavy rains. It's clear that the yellowing was a response to the rain, but the question is…why?

The best explanation is related to the bicarbonate anion, HCO_3^- (the same anion in baking soda); when a high pH, or calcareous, topsoil gets inundated with water, the bicarbonate concentration in the water in the soil increases. This is partially due to the organisms in the soil, which continue to respire and give off carbon dioxide, and partially because the carbon dioxide is slow to vent to the atmosphere because the soil pores are filled with water. Elevated carbon dioxide levels in the soil water leads to more bicarbonate in the soil water. That's not good, when it comes to IDC.

The bicarbonate ion is very antagonistic towards iron uptake and transport in soybean plants. Elevated bicarbonates in the soil water have been shown to slow iron uptake, and bicarbonate uptake by roots can interfere with iron transport within the plant.

Fortunately, mid-season IDC is usually transitory, and typically the plants will re-green after the soil dries out. So, a major factor of mid-season IDC is the same as for early-season IDC…bicarbonate in the soil solution. Just like early-season IDC, there is no economically or agronomically feasible for rescue treatment for mid-season IDC—simply hoping for a change in the weather is the best we can do (along with making plans to plant a more IDC-resistant soybean variety next season!).

Brady Goettl
Extension Soil Science Specialist

R. Jay Goos
Professor Emeritus

ELECTRICITY TO CONTROL WATERHEMP

A phone or text message in late July or early August about weed control usually means weed control escapes. Unfortunately, there are no herbicide options for control of weed escapes once sugarbeet rows have closed or soybean have flowered and waterhemp is towering above the crop canopy. I can think of only two good options. First, go out and pull them. The second option is to consider electricity, the Weed Zapper.

The Weed Zapper (Old School Manufacturing, Sedalia, MO) is a PTO-powered high voltage generator transferring electricity to a 40-foot-wide electrically charged bar (Figure 1). The toolbar also features a coulter that runs in the soil, acting as the electrical ground. Electricity flows from the bar through the weed and into the soil. The heat energy produced by electricity destroys vascular bundles in plant cells causing an immediate wilting phenotype. Control is dependent on succulent weeds favoring the flow of electricity at application.

We conducted research using one, two or four passes the same day (https://www.sbreb.org/wp-content/uploads/2022/10/2020chap-7.pdf). We found number of passes or direction of passes did not influence control. However, other researchers have reported making a second pass 5 to 7 days after the first pass improves waterhemp control. Overall control will be dependent on how far electricity and resultant necrosis extends down the stem. Regrowth will occur from growing points deeper in the canopy that become dominant after terminal growing points are killed. Likewise, we observed the Weed Zapper being less effective on highly branched broadleaf weeds such as kochia and grasses.

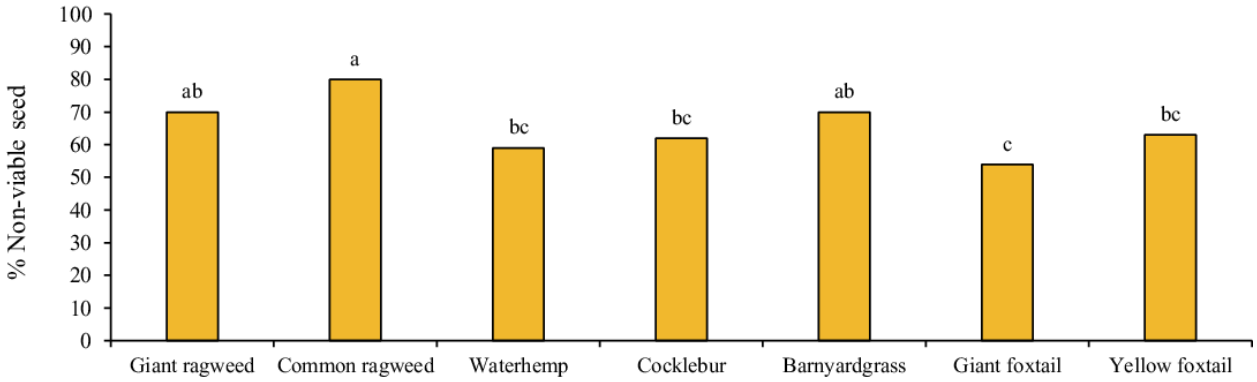


Figure 2. Viability of weed seeds following electrocution, Schreier et al., 2022. Viability was in comparison to the nontreated control of each species. Bars followed by the same letter are not different, α=0.05.

Reducing the viability of weed seed is an additional benefit from using the Weed Zapper. The Univ. of Missouri reported the Weed Zapper reduced waterhemp seed viability approximately 60% (Figure 2).

Tom Peters
Extension Sugarbeet Agronomist
NDSU & U of MN

around the state

AROUND THE STATE

SOUTH-CENTRAL/SOUTHEAST ND

Plan to attend the Oakes Irrigation Research Site Annual Field Day August 7, 2025, from 9:00 to 11:30 a.m. and the Fingal Plot Tour August 14, 2025. Interested in flax and hemp fiber crops? Attend the Carrington REC Fiber Roundtable August 20, 2025, from 1:00 to 4:00p.m. Don't forget to attend the annual Carrington Research Extension Center Row Crop Tour August 21, 2025, from 9:00 a.m. to 1:00 p.m. (a new time!) sharing information about corn, soybean, dry bean, and sunflower.

Finally, we received a dry week for most of the region! A great majority of second cutting alfalfa was mowed, but it rained often enough in some areas the hay is still laying in the fields.

Hard red spring wheat harvest has begun in the region with 5 to 10% of the hard red spring wheat harvested in Richland County. Reported yields have been from 70 to upper 80 bushels per acre with moisture around 14%, but now the fields are wet. Harvest was going to start the end of this week in Griggs County, but not now. Hard red spring wheat stage in the region ranges from pollinating last Friday in Kidder County to harvested at least in Richland County. Photo 1 shows hard red spring wheat kernels ready to harvest in Emmons County. The majority of the hard red spring wheat in the region is turning color. All spring-seeded small grain crops condition continues to be mostly good to excellent throughout the region. Wheat diseases are becoming more prevalent, especially bacterial leaf streak and Fusarium Head Blight (FHB) (photo 2 in Foster County). FHB is most commonly observed in fields south of I-94, but can be found to some degree in nearly every field in the region.

Photo 1: Hard red spring wheat kernels hard and ready to harvest in Emmons County (photo by Nancy Deis, NDSU Extension Emmons County Agent).

Photo 2: An entire hard red spring wheat head infected with Fusarium Head Blight (scab) in Foster County, ND.

Photo 3: An Excellent corn crop in Foster County, ND.

Corn in the region varies from V12 (12-collars) yet in some fields in Kidder County to R3 (milk stage in Sargent and Richland Counties). At least 75% of corn fields have tasseled in every county of the region so most corn is still at R1 (silking stage) yet corn in Sargent and Richland Counties is mostly in the R1 to R3 stage of development. I have not heard any reports of poor corn pollination yet in our region. Corn condition improved again in most counties of our region. I even found some good corn in Foster County (photo 3). The cooler temperatures last week keep us concerned as to whether corn will reach maturity this season prior to a freeze (28 degrees Fahrenheit). Based upon the four corners of the region, Skogmo to Mooreton and Mayville to Linton and Carrington in the center, Skogmo GDD's are -118 from normal and +5 from 2024 (new station, no history before 2024), Mooreton GDD's are -87 from normal, -102 from 2019, -88 from 2024 and -161 from the 5-year average, Mayville GDD's are -31 from normal, -113 from 2019, -60 from 2024, and -166 for the 5-year average, Linton GDD's are -59 from normal, -9 from 2019, +5 from 2024, and -86 for the 5-year average, and Carrington GDD's are -48 from normal, -57 from 2019, +10 from 2024, and -122 for the 5-year average. Based upon the U2U Corn GDD Tool from University of Nebraska (https://hprcc.unl.edu/agroclimate/gdd.php), May 24th planted corn likely will reach black layer for 85-day corn hybrids on September 29th at Skogmo for 85-day hybrids, October 3rd at Mooreton for 95 day hybrids, October 3rd at Mayville for 85 day hybrids, September 23rd at Linton for 85-day hybrids and October 2nd at Carrington for 85-day hybrids. At this point in time, all black layer dates are before the average first freeze for these locations, however it may freeze the average first freeze dates. We're going to need a hot August and September and a mid-October freeze again like last year for corn to reach maturity again. At this point in time the weather forecast mostly supports what we need.

Photo 4: A very poor soybean field in Barnes County, ND.

Soybean stage in the region ranges from R2 (full flower) to R5 (beginning seed) with an average stage for the region between R2 and R3 (small pods). Soybean condition has improved greatly for most of the region with the exception of Barnes (photo 4), Foster, and Wells Counties, but there are some good soybean fields in these counties as well as seen in photo 5 in Foster County. Kidder County has some really excellent soybean fields (photo 6). Soybean pest concerns include late season root rots in Steele County, IDC in most counties (photo 7 from Foster County), high frequency of bacterial leaf blight in a Griggs County soybean field (photo 8), soybean aphids at least in Griggs (photo 9) and Kidder Counties with the soybean aphid population very low at this time, and bean leaf beetles in most south central and southeast North Dakota Counties as seen in photo 10 in Griggs County.

Photo 5: Good to excellent soybean plants in Foster County, ND.

Photo 6: An excellent soybean field in Kidder County, ND.

Photo 7: Severe IDC in soybean in Foster County, ND.

Photo 8: Severe bacterial leaf blight of soybean in Griggs County, ND.

Photo 9: Soybean aphids on the underside of soybean leaflets in Griggs County, ND.

Photo 10: Bean leaf beetle on soybean plant in Griggs County, ND.

Canola in most fields, at least in the south central part of the region, has started turning color. The canola crop condition still looks really good across most of the region.

Dry bean stage is from pin pods to seeds forming in pods with most having full-sized pods on plants. Dry bean conditions improved for many in the region except those fields receiving too much rain. Environmental conditions are near perfect for white mold to get started in dry bean this season. I have not seen or heard of any other dry bean diseases at this time.

Sunflowers in most fields in the region are flowering now. Sunflower conditions for most of the region is good to excellent, except fields having saturated soils. The only bad fields are where stand establishment was not good, excessive moisture has been present, and saline soils. Nancy Deis, NDSU Extension Emmons County, reported most sunflower fields have reached economic threshold for red sunflower seed weevil and most fields have been sprayed already.

Of the 27 NDAWN stations I've chosen this season across region, the average maximum daily air temperature from July 29 through August 4, 2025, ranged from 73 degrees Fahrenheit near Finley, Jamestown, Streeter, and Wishek to 80 degrees Fahrenheit near Livona, with an average of 75 degrees Fahrenheit. Based upon Cooperstown historical records the maximum daily air temperature for this period was 74 degrees Fahrenheit, 8.8 degrees Fahrenheit below normal and tied for the fourth coldest on record for this time period! The average daily minimum air temperature for the mentioned period at the 27 NDAWN stations ranged from 51 degrees Fahrenheit near Galesburg to 60 degrees Fahrenheit near Hurdsfield, Livona, McKenzie, and Wirch with an average of 56.9 degrees Fahrenheit.

A week with little rain for most, although it still rained too often in many areas to bale hay! Rainfall for the region at these 27 weather stations in this time period ranged from 0 inch near McKenzie (first time this season!), Skogmo, Steele, and Zeeland to 1.48 inches near Ypsilanti with an average for the region and period of only 0.29 inch!

The wind this past week was likely the calmest of the season ranging from 3 miles per hour near Galesburg to 8.9 miles per hour near Wing (McHenry was not the highest for the first time in many weeks!) with an average of 5.4 miles per hour.

Have a great week, attend some field days, and let's get some wheat harvested!

Jeff Stachler
NDSU Extension Cropping Systems Specialist at Carrington Research Extension Center

SOUTHWEST ND

Over the last seven days, precipitation levels in Southwest North Dakota have ranged from 0.10 inches southern Adams County to up to 2.69 inches in Hettinger County, with Dickinson receiving over 2 inches just on Tuesday. In addition to the rain, temperatures have been cooler than normal, with departures ranging from -1 to -4 °F. Warmer temperatures are forecast for this week, which should help accelerate crop development.

In terms of crop progress, spring wheat is currently in the grain-filling stages, ranging from medium milk to hard kernel. We're beginning to see an increase in scab incidence (10–30%) in later-planted wheat fields that are still in the milk stage; however, severity remains low (1–7%). Barley harvest has started in some areas, and we anticipate that wheat harvest will begin within the next couple of weeks. Canola is ripening and harvest is expected to begin soon as well.

Corn in the area is tasseling, with some fields in the silking stage. A few earlier planted fields are entering the blister stage.
Soybeans range from late vegetative stages (V5) to early grain fill (R5).
Sunflowers range from early budding to the beginning of inflorescence opening.

High numbers of Red Sunflower Seed Weevils—above economic thresholds—continue to be reported in Grant, Mercer, and Morton Counties. Please refer to Dr. Knodel's article on the previous edition of the CPR (#13) to learn more about threshold levels and control options.

Some growers have started their second cutting of alfalfa, and reports suggest better forage quality and volume than the first cutting.

Victor Gomes
Extension Cropping Systems Specialist

weather

WEATHER FORECAST

The August 7 to August 13, 2025 Weather Summary and Outlook

The rain this past week was much more hit and miss than previous weeks with totals varying from 0 to several inches. (Figure 1). The heaviest rain occurred in southeastern North Dakota where flooding rains were observed with the slow moving and training thunderstorms on Tuesday evening. This next week will bring opportunities for thunderstorms once again, especially in the next 48 hours (Thursday Night through early Saturday).

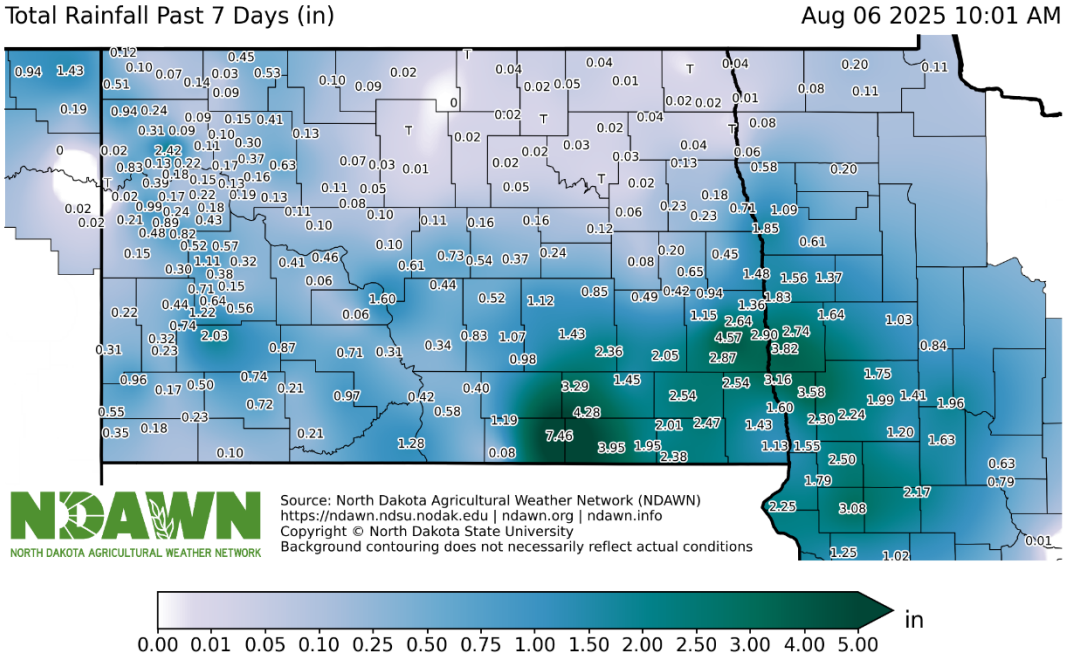


Figure 1. Total Rainfall for the Period of July 31 through August 6 at 10:00 AM.

Northern North Dakota continues to be the main area that has recorded below average precipiation since June 1 (Figure 2). The rain from Tuesday night turned some parts of southeastern North Dakota from marginally dry to well above average to this point in the summer.

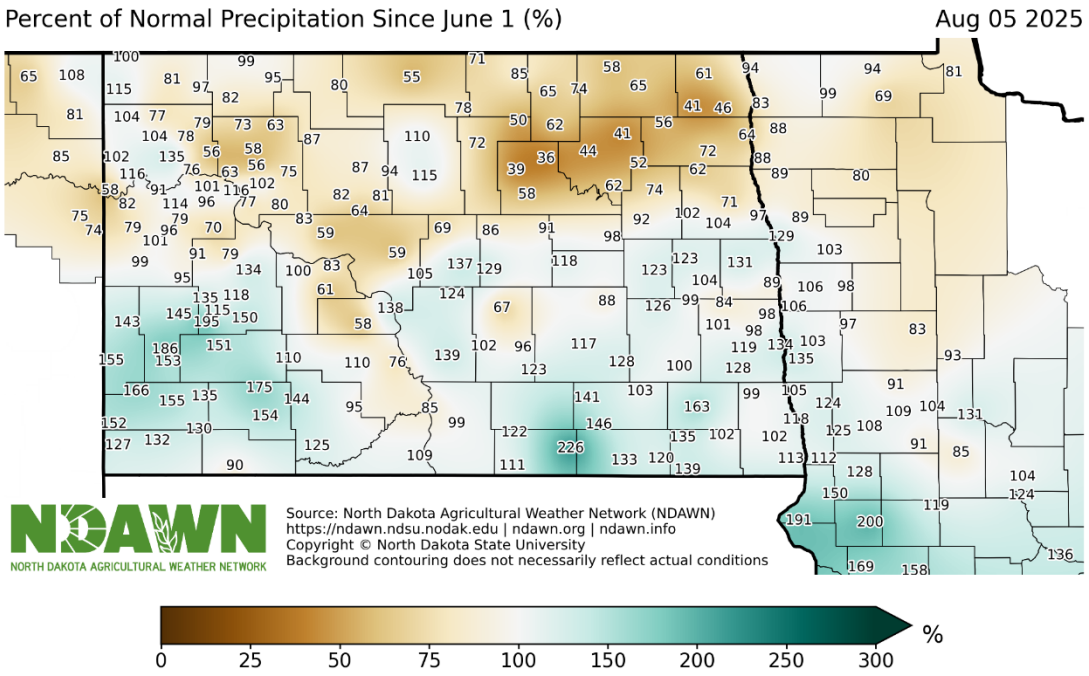


Figure 2. Percent of Normal Precipitation from June 1 through August 5, 2025

This past week was another cooler than average period. The past two months have been below average for much of North Dakota (Figure 3). This next week is expected to bring a mix of above and below average days, but there will likely be more below than above average days for most of the state keeping growing degree days below normal.

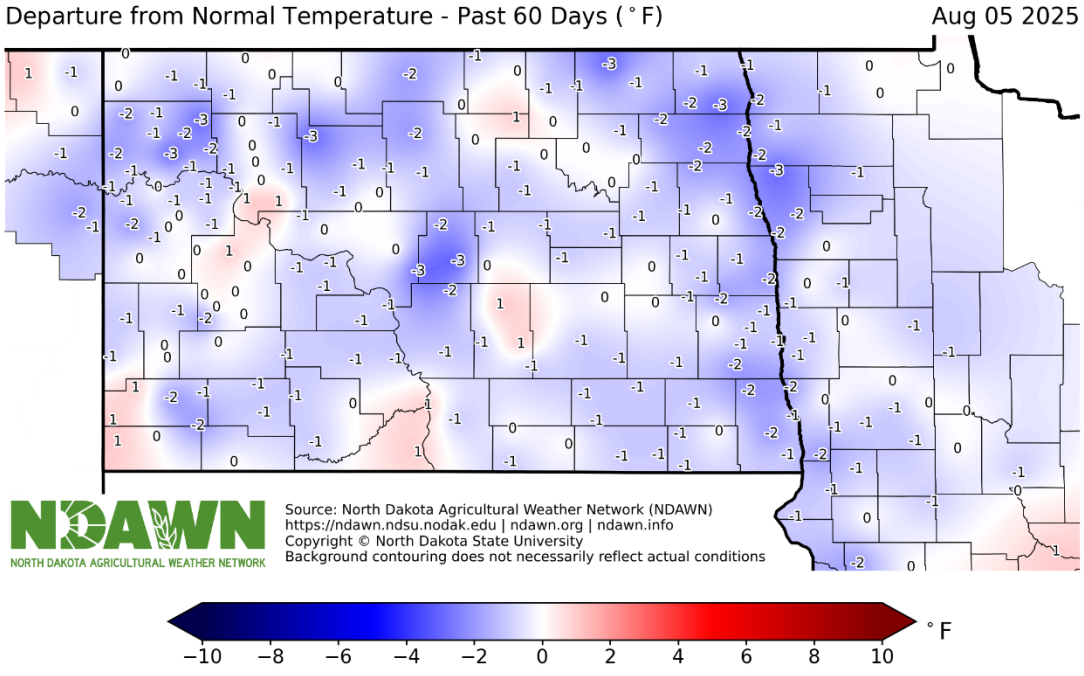


Figure 3. Departure from Average Air Temperature for Period of June 6 through August 5, 2025

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.

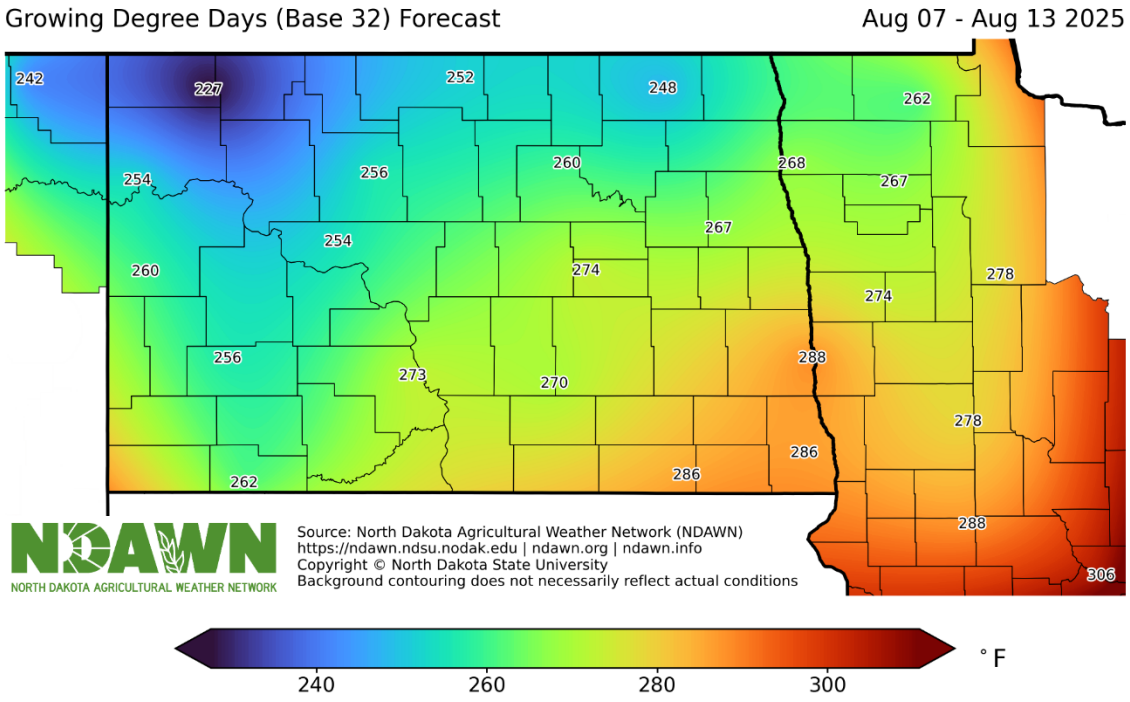


Figure 4. Estimated growing degree days base 32° for the Period of August 7 to August 13, 2025.

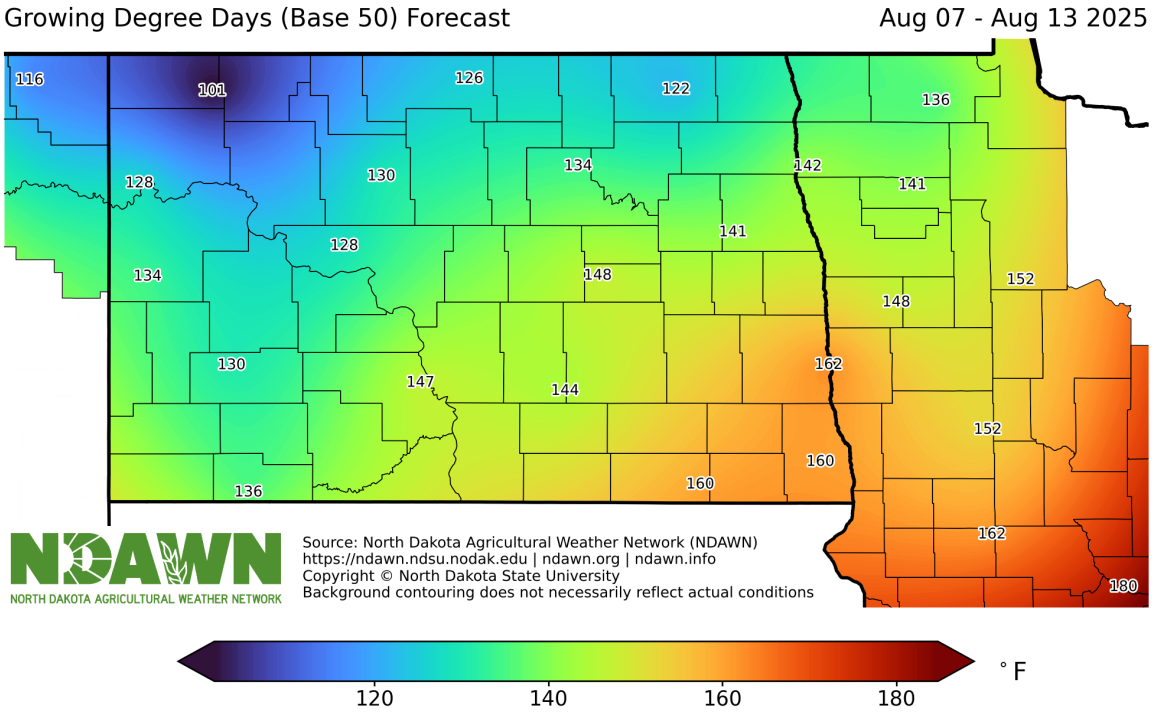


Figure 5. Estimated growing degree days base 50° for the Period of August 7 to August 13, 2025.

Using May 1 as a planting date, the accumulated growing degree days for wheat (base temperature 32°) is 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

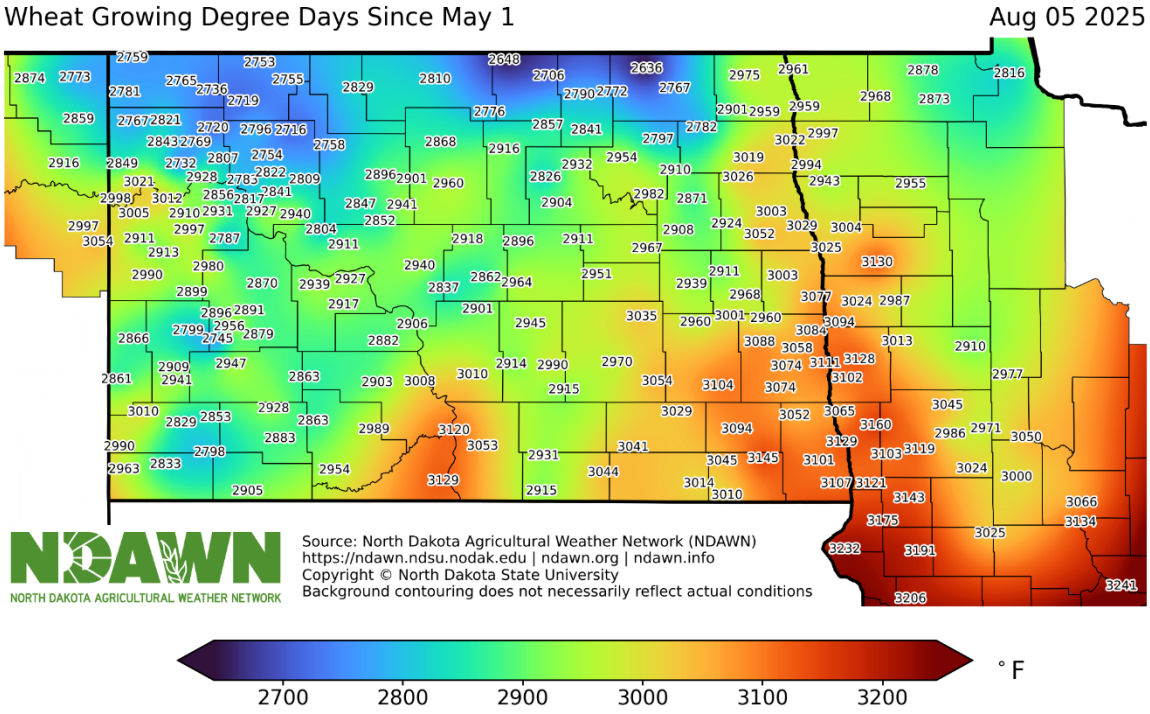


Figure 6. Wheat Growing Degree Days (Base 32°) for the Period of May 1 through August 5, 2025

Using May 10 as a planting date, the accumulated growing degree days for corn (base temperature 50°) is 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. Soybeans also use base 50° like corn, but NDAWN has a special tool for soybeans that, based on your planting date and cultivar, can estimate maturity dates based on average temperatures, as well as give you GDDs based on the planting date(s) you set. That tool can be found here: https://ndawn.ndsu.nodak.edu/soybean-growing-degree-days.html

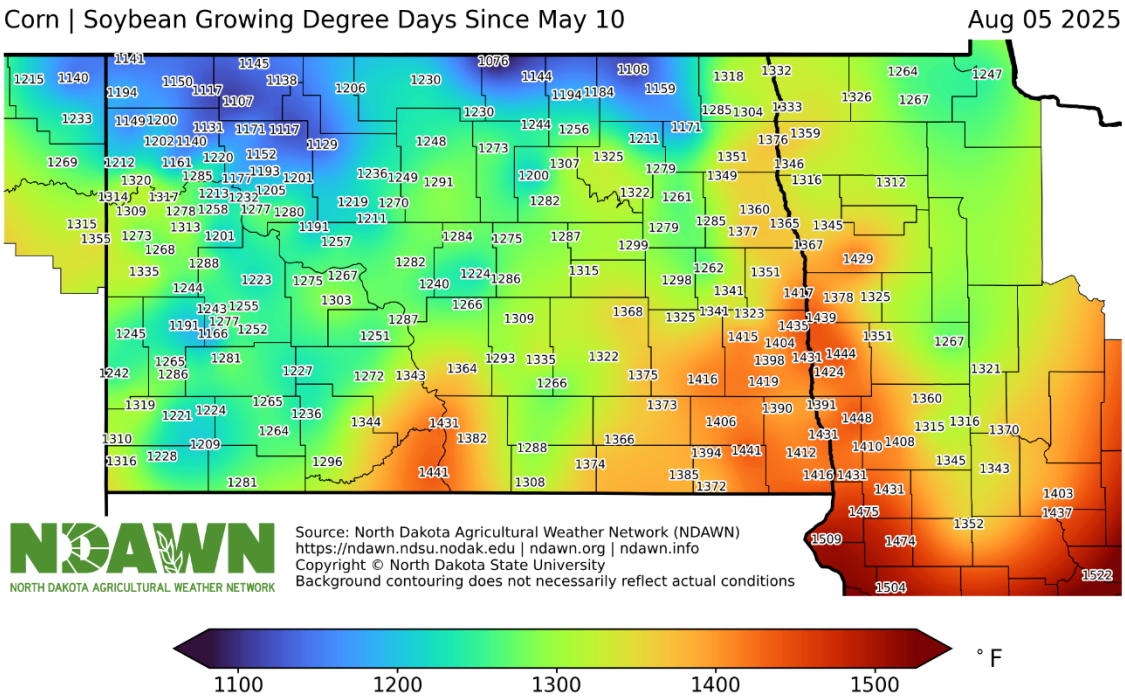


Figure 7. Corn Growing Degree Days (Base 50°) for the Period of May 10 through August 5, 2025

An update on additional new stations that the North Dakota Agricultural Weather Network (NDAWN) team has installed in the past month. This week two new stations were installed in Dunn County, one near Halliday and the other near Marshall. At some point today (Thursday) a new station is expected to go online near Taylor in northern Stark County. Last month new stations were installed near Kintyre in northeastern Emmons County and near Benedict in northeastern McLean County. Those stations like all the NDAWN stations can be found at ndawn.org or our mobile compliant website at ndawn.info

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