

No. 15 July 23, 2026

2026 NDSU FIELD DAYS

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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 take place at the Research Extension Center sites across the state and feature speakers, presentations and tours covering a diverse array of topics. The field days are open to the public.

2026 Field Days Locations & Dates

Location	Date	Time
<u>Nesson</u> (WREC)	Aug. 5	9 a.m. - 1 p.m. CDT
<u>Oakes</u> (CREC)	Aug. 6	9 a.m. - 1 p.m. CDT

CREC Row Crop Tour August 20th.

The Carrington Research Extension Center's (CREC) annual Row Crop Tour will take place August 20, 2026 with registration starting after 8:15 AM. Speakers for the Row Crop Tour include Febina Mathew, Rex Sun, Juan Orsono, Ana Carcedo, Andrew Friskop, Carrie Dottey, Michael Wunsh, Sam Markell, and Jeff Stachler. There will be a free lunch and a special afternoon event demonstrating a retroactive kit to make a tractor autonomous. CCA CEU credits will be available.



IPM INSECT SCOUTING UPDATE

Wheat stem maggot is present in about 68% of wheat fields surveyed. The percent incidence of infested 'white' wheat heads ranges from 2 to 72%. The highest percent incidence was in Slope County.



The maggot tunnels and chews on the proximal end of the wheat stem, resulting in a white head that can be easily pulled out of the boot. This damage becomes evident after flowering.

Crop rotation and destruction of volunteer grain are the most effective methods of reducing maggot populations.

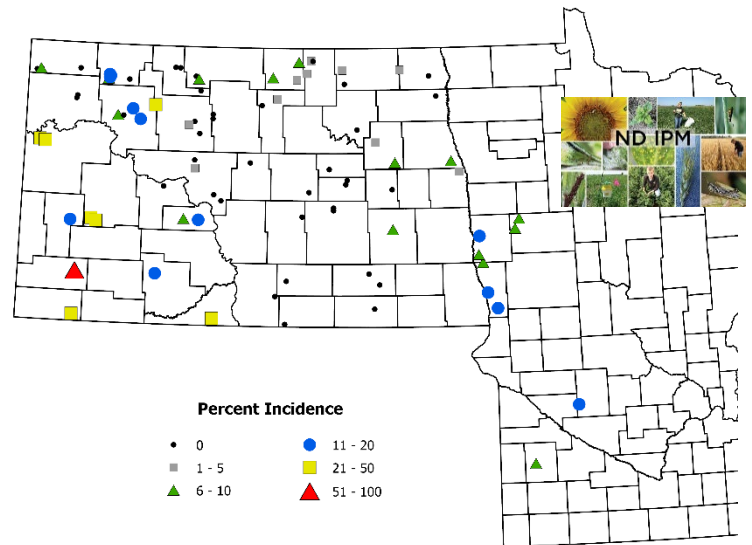
Soybean aphids remain low in North Dakota and western Minnesota, likely due to the persistent hot weather.

Hot weather slows down soybean aphid reproduction and can cause populations to decline. Ideal temperatures range from 70°F to 82°F, allowing populations to double every 3 days, but temperatures above 90°F act as a major speed bump to growth, and 95°F or higher causes direct mortality.

Soybeans range from V5 to R3. Continue scouting from R1 to R5. The economic threshold is an average of 250 aphids per plant, and when populations are actively increasing in 80% of the field.

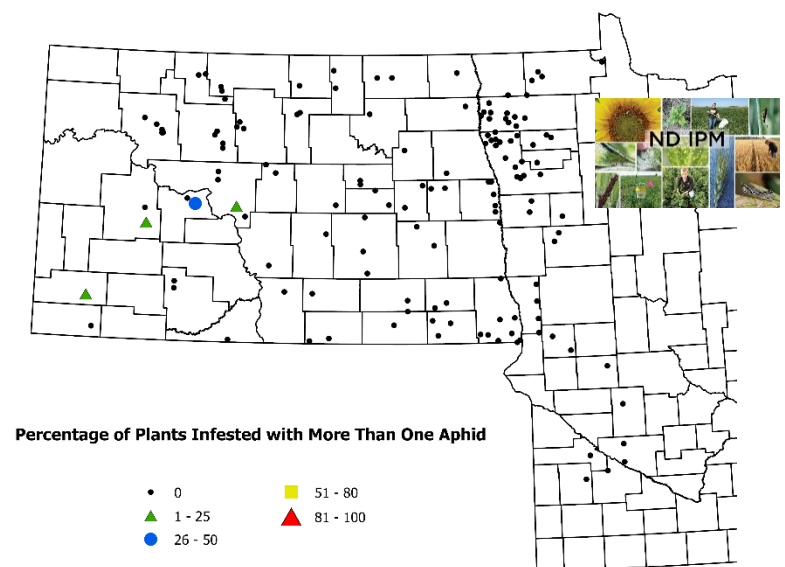
Wheat Stem Maggot Incidence

July 6 - 17, 2026



Soybean Aphids Incidence

July 6 - 17, 2026



GRASSHOPPER UPDATE

Grasshopper nymphs and adults are being observed in about 60% and 20% of the fields scouted, respectively. Grasshopper density was low at most fields, except for one field in Grant County (average of 38 nymphs per square yard). Grasshoppers were observed in wheat, barley, soybean and sunflower fields.

Weekly scouting is important given the hot, dry conditions, which favor grasshopper development and field movements.

Grasshopper Nymph Action Threshold

Field margin	50-75 nymphs per square yard
Field interior	30-45 nymphs per square yard

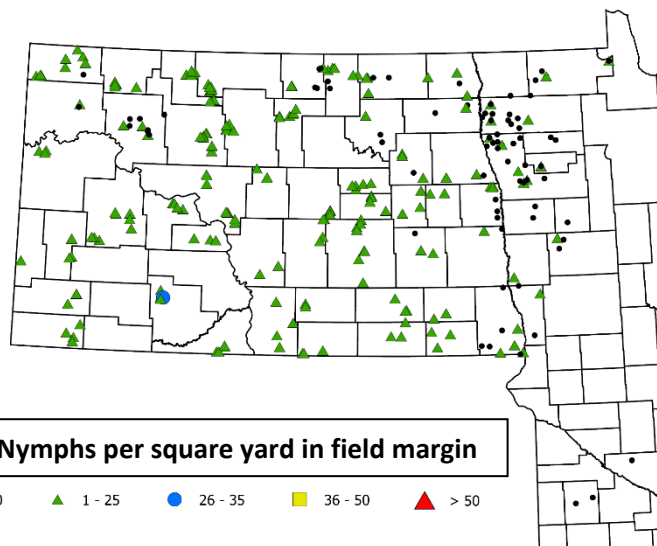
Grasshopper Adult Action Threshold

Field margin	21-40 adults per square yard
Field interior	8-14 adults per square yard

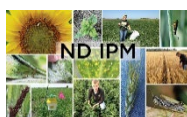
***Four 180-degree sweeps with a 15-inch sweep net = 1 sq. yard**

Grasshoppers

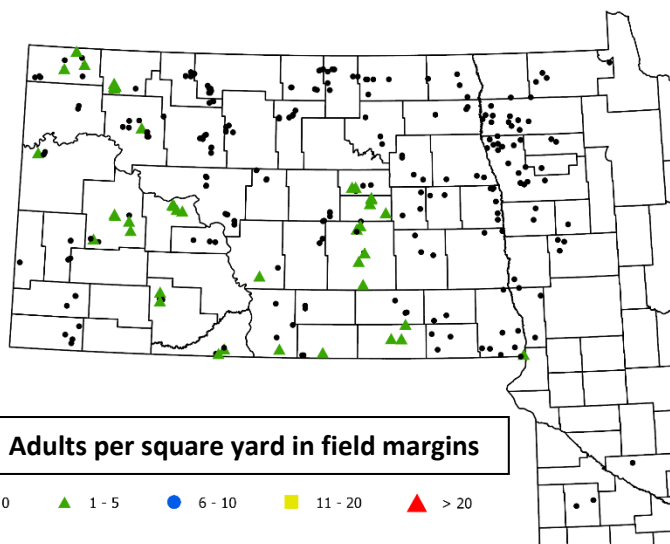
July 6 - 17, 2026



Grasshopper nymph
(P. Beauzay, NDSU)

**Grasshoppers**

July 6 - 17, 2026



Adult red-legged grasshopper (J. Knodel, NDSU)

IPM INSECT TRAP REPORT

Here are some reports from last week's IPM insect trapping (July 13-17, 2026). More insect-trapping maps are now posted on the [IPM Crop Survey map](#) website.

Sunflower crop stages ranged from R1 to R2 last week.

Banded sunflower moth and **Arthur's sunflower moth** increased from last week's trap numbers. Banded sunflower moths were detected at all trap sites (7) last week, and weekly trap catches ranged from 2 to 163 moths per trap for July 13-17, 2026.

Scouting for banded sunflower moth eggs starts at the late bud stage (R3 - distinct bud elongated $\frac{3}{4}$ inch above the nearest leaf, yellow ray petals not visible), usually during mid-July.



Banded sunflower moth
(P. Beauzay, NDSU)

Sunflower moths were detected at four of the seven trap sites, and weekly trap catches ranged from 1 to 3 moths per trap for July 13-17, 2026. In South Dakota, trap catches for sunflower moth are higher with a maximum of 116 moths per trap per week in the Pierre area. Pheromone trap thresholds are set at an average of 4 moths per trap per day or 28 per trap per week.

When scouting sunflowers, be aware of migratory sunflower moths that may be blown into North Dakota over the next few weeks. Early-flowering sunflower fields are most attractive to migrant sunflower moths. The threshold for field scouting is 1 to 2 moths per 5 plants.



Sunflower moth (J. Knodel, NDSU)

European corn borers were detected at five of the nine trap sites in southeastern North Dakota, and weekly trap catches ranged from 1 to 16 moths per trap for July 13-17, 2026. The highest trap catch was in Richland County near Galchutt.

The hot, dry weather conditions are not favorable for corn borer. The crop stage was V7 to R1.

European Corn Borer Trapping - 2026

Field_ID	County	Town	Week 1 - June 29-July 3			Week 2 - July 6-10			Week 3 - July 13-17			Cumulative Total	
			Z-race	E-race	Total	Z-race	E-race	Total	Z-race	E-race	Total	Z-race	E-race
Barnes 1	Barnes	Sibley	0	0	0	0	0	0	0	0	0	0	0
Barnes 2	Barnes	Rogers	0	0	0	0	0	0	0	0	0	0	0
Cass 1	Cass	Argusville	0	0	0	0	0	0	1	0	1	1	0
Ransom 1	Ransom	Lisbon	0	0	0	0	0	0	4	0	4	4	0
Richland 1	Richland	Galchutt	1	1	2	2	0	2	16	3	19	19	4
Richland 2	Richland	Hankinson	0	0	0	3	0	3	2	0	2	5	0
Sargent 1	Sargent	Gwinner	0	0	0	0	0	0	0	0	0	0	0
Sargent 2	Sargent	Rutland	0	0	0	0	0	0	0	0	0	0	0
Steele 1	Steele	Finley	0	0	0	0	0	0	5	0	5	5	0
Totals			1	1	2	5	0	5	28	3	31	34	4
Race %			50.0	50.0	100.0	100.0	0.0	100.0	90.3	9.7	100.0	89.5	10.5

SOYBEAN GALL MIDGE DETECTED

Soybean gall midge (*Resseliella maxima*) was detected last week in a soybean field located in Richland County, south of Hankinson, about 1½ miles from the South Dakota border. This is a new county record for soybean gall midge in North Dakota. The only other county confirmed for soybean gall midge was in Sargent County in 2022. Soybean gall midge is slowly creeping northward from its original infestation point in eastern Nebraska in 2011. It is present in seven states, including Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota. See the [soybean gall midge map](#) for counties and states with positive detections.

Identification: Mature (third instar) soybean gall midge larvae (below) are about ¼ inch in length and bright orange. The immature larvae (first to second instars) can be white to light orange. Larvae of soybean gall midge feed on plant sap, causing stunting, wilting and plant death.

Field scouting: Soybean gall midge is commonly found near soybean field edges and close to fields that were soybean fields the previous year. Scout the field edges for the presence of necrosis (darkened areas) or brown or dark discoloration at the base of the stems. If necrosis is observed, pull up the soybean plant and use your fingernail/knife to peel back the outermost layer of the stem (epidermis) to look for small white or orange larvae.

If you find soybean gall midge, please contact Extension Entomology (janet.knodel@ndsu.edu) and/or your local county extension office.



Soybean gall midge larvae under the outer epidermis of the stem (Emma Gullicks, NDSU IPM Scout)

RED HEADED FLEA BEETLE IN SOYBEANS

There have been several calls, emails and texts about the red-headed flea beetle (***Systema frontalis***) causing defoliation in soybeans. Field reports of silks being chewed in corn and of defoliation on wheat have also been observed in other years.

The red-headed flea beetle is about $\frac{1}{8}$ to $\frac{1}{4}$ inch long, dark black, with a reddish head, and readily hops around. It feeds on over 40 different host plants, including cabbage, beans, beets, corn, alfalfa, potatoes, nursery crops, cranberries and many weed species. It overwinters in the egg stage in the soil. Eggs hatch in June, and larvae feed on the roots. Larvae pupate, and then adults emerge in July-August and feed on foliage until September. Adults deposit eggs in soil, which overwinter. There is only one generation per year.

The red-headed flea beetle is not typically an economic insect pest in soybeans, corn or wheat. It has been reported in Minnesota and South Dakota. Extension reports from other states indicate that the adult stage is readily controlled by foliar insecticides registered in different crops.

An action threshold for determining the need for a rescue treatment in soybeans would be based on percent defoliation and soybean stage: 30% in vegetative stages (prebloom) and 20% in flowering to pod-fill. If pod feeding is observed, then 10% defoliation.

While there isn't a developed threshold for the red-headed flea beetle in corn, we can use the adult corn rootworm threshold of 25-50% of the plants with clipped silks during pollen shed to determine when control would be justified.

This flea beetle is becoming a common insect pest of soybeans and corn in North Dakota, but it generally does not cause yield loss.

[Janet J. Knodel](#)
Extension Entomologist

[Patrick Beauzay](#)
Research Specialist & IPM Coordinator



Adult red-headed flea beetle (P. Beauzay, NDSU)



Foliar defoliation in soybeans caused by the adult red-headed flea beetle, west of Edgley (J. Stachler, CREC NDSU)



FEATURED MATCHUP: NDSU PLANT PATHOLOGISTS VS. NORTHERN CORN LEAF BLIGHT

Players to Watch:

- Northern Corn Leaf Blight (*Exserohilum turcicum*)

Scouting Report:

- Can be observed in late vegetative stages, but more commonly observed at tasseling through reproductive growth stages
- Can begin on lower leaves, and gradually “moves up” the canopy during conducive weather conditions

Opponent's Game Plan:

- Disrupts photosynthesis and nutrient flow to the corn ear
- Early symptoms will begin as small water-soaked elliptical lesions that eventually grow into grayish-tan cigar-shaped lesions (Figure 1)
- Lesions can merge with each other leading to greater damage on leaves

Opponent's Strengths:

- Cool to moderate temperatures (64F to 81F) with prolonged periods of leaf wetness (rain and heavy dews)
- Pathogen survives on corn residue and spores can travel (rain splash and wind) to nearby fields

Opponent's Weaknesses:

- Crop rotation
- Residue Management
- Hybrid resistance
- Fungicides (not always needed)

Trick Play to Watch:

- There are different races of the northern corn leaf blight pathogen
- The 2025 corn disease survey in North Dakota reported the highest levels of northern corn leaf blight in the past 13 years



Figures 1. (Left) A single northern corn leaf blight lesion, (Right) Corn leaf with several northern corn leaf blight lesions.

[Andrew Friskop](#)

Extension Plant Pathology, Cereal Crops

[Sam Markell](#)

Extension Plant Pathologist, Broad-leaf Crops

[Eric Branch](#)

Extension Plant Pathology, Sugarbeets

[Wade Webster](#)

Extension Plant Pathology, Soybeans

WHITE MOLD UPDATE ACROSS THE STATE**Soybean:**

As most of the state is currently looking at prolonged periods of water stress and high temperatures, the risk of white mold in soybeans remains low to moderate. However, across the northern region of the state timely and in some cases heavy rainfall events have kept white mold risk high. Fungicide applications are recommended in the areas of high risk if soybeans are still flowering.

Soybean White Mold Risk (Non-Irrigated)

Jul 21 2026

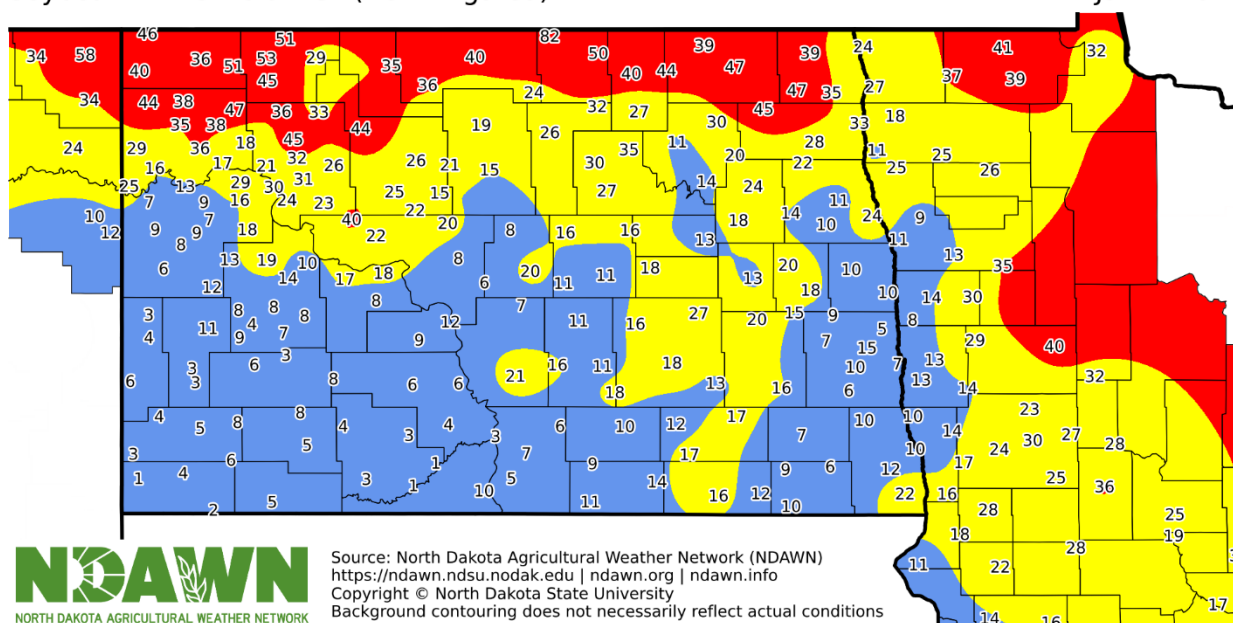


Figure 1. Soybean white mold risk maps as of July 21st, 2026.

Canola:

Risk is lower than in the past two weeks, but several locations remain high. Remember, the risk map is only relevant when canola is in bloom, with a fungicide application being most effective at or shortly after 20% flower. Much of the crop is past that growth stage.

Estimated risk of Sclerotinia stem rot development for 7/21/2026

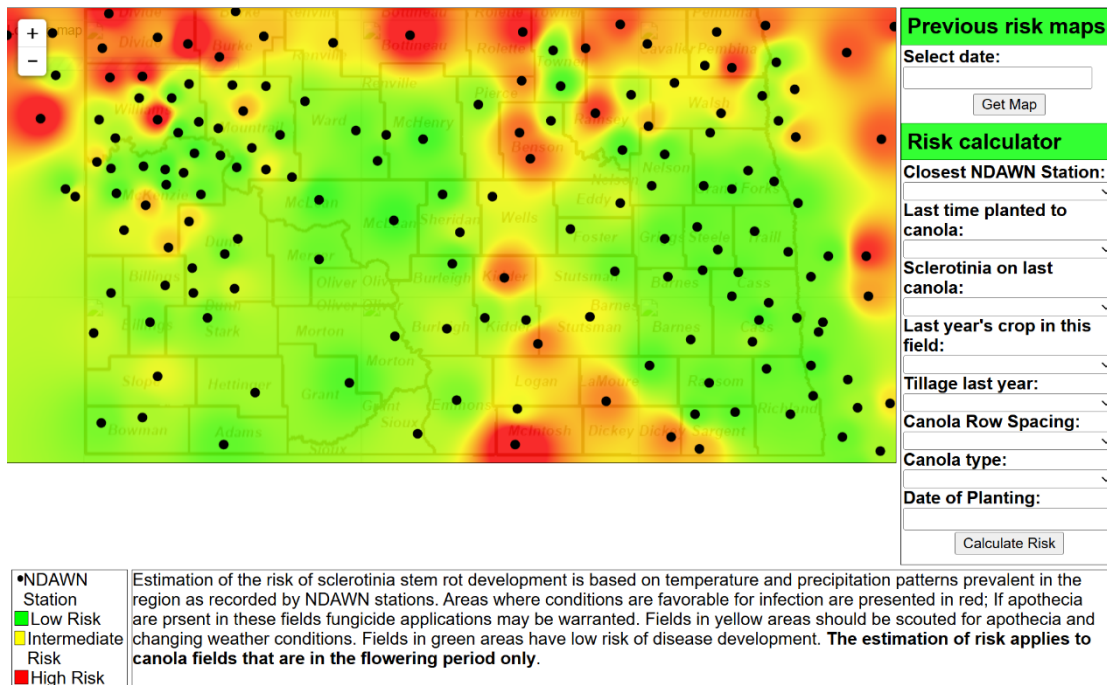


Figure 2. Sclerotinia stem rot risk in canola as of July 21st, 2026.

Dry Bean:

Many dry edible beans are flowering, and consequently, susceptible to white mold. Although neither the soybean white mold or canola white mold models have been validated on dry beans, they are useful for predicting risk in the dry bean crop as they are largely based on conditions favorable for infection by the same pathogen (***Sclerotinia sclerotiorum***).

If growers elect to apply a fungicide(s), optimization of the application is critical for yield protection and economic return. Please refer to Issue 14 ([July 9, 2026](#)) of the NDSU Crop and Pest report for an overview on optimization of fungicide application.

Sunflower:

Sunflowers will bloom until later this season, so weather conditions **of the future** will influence Sclerotinia head rot. Unlike soybeans, canola, dry beans and other crops, fungicides do not provide effective management for white mold in sunflower. Over a decade of fungicide research at NDSU (and elsewhere) have shown that fungicide applications do not confer consistent and/or economic efficacy.

[Sam Markell](#)

Extension Plant Pathology, Broadleaf Crops

[Wade Webster](#)

Extension Plant Pathology, Soybeans

KEEP ON TRACK FOR CLS MANAGEMENT

Despite drier conditions in parts of North Dakota and Minnesota, *Cercospora* leaf spot (CLS) remains a concern in sugarbeet, especially now that CLS symptoms are present throughout the regions. The best practice is to continue with planned fungicide applications at **regular intervals of 10-12 days** in order to maximize recoverable sugar by the end of the season. Lack of rain does not mean to skip or delay a spray. Instead, lack of rain simply means there is no reason to shorten the interval between fungicide applications. **Fungicides are preventative** and must be applied prior to CLS spore germination and infection. If the last fungicide was a tank mix of tin + mancozeb, two contact fungicides, it is especially important to get a translaminar fungicide (triazoles, for example) onto the leaf at the right time.

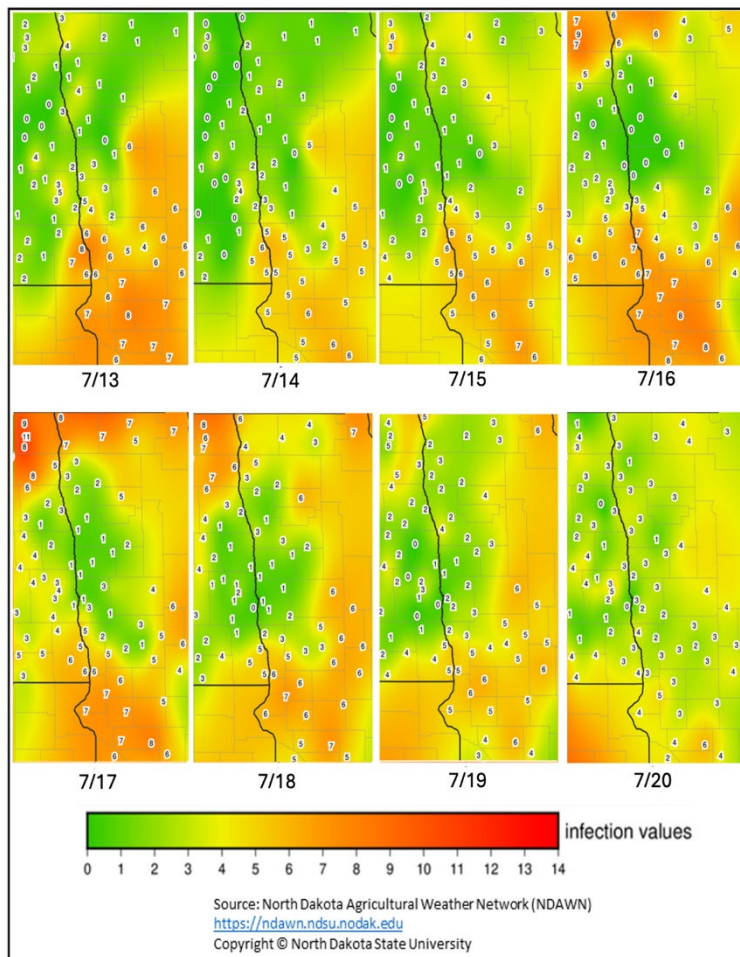


Figure 1. Two-day total daily infection values (DIVs) for eastern North Dakota and western and southern Minnesota from July 13 through July 20. Two-day totals can range from 0 to 14. 4-6 is considered moderate infection risk, 7-14 is considered severe infection risk.

CLS infection risk is determined by moisture (estimated as relative humidity) and temperature. In the field, this means that free water from either rain or dew is one of the strongest predictors of disease development. Snapshots of CLS Daily Infection Values (DIVs; Figure 1) show that increased DIVs are recorded after rain events. The Sugarbeet *Cercospora* model and risk maps provided at <https://ndawn.ndsu.nodak.edu/sugarbeet-cercospora.html> can provide important information it to help inform optimal fungicide application intervals.

However, rainfall is not required for CLS infection and development. Wet leaves from dew poses a similar risk, especially since the level of CLS inoculum is high in 2026. Primary inoculum (the fungus, *Cercospora beticola*, from last year's sugarbeet fields) poses a significant risk this year, and the inoculum load is high enough that disease outbreaks are likely following rain or heavy dew events. Even a small number of CLS lesions present at this time in the July can lead to economic loss by harvest if not proactively managed.

[Eric Branch](#)

Extension Plant Pathology, Sugarbeets



FORAGE NITRATE TESTING AVAILABLE

Weather conditions this growing season have been conducive for luxury uptake of nitrogen from the soil by forage plants. When plant growth stops or slows due to drought or some other type of plant stress, this nitrate can accumulate in the plant to levels that can cause nitrate poisoning in animals when they consume the forage. There are several plants that accumulate nitrate but the most common ones are drought stressed corn and small grains. Nitrate accumulates in the lower stem area of the plant and is usually cut with hay. Nitrate levels will not dissipate with hay drying. This year, due to some crops being hailed out early or dry weather conditions creating a need for hay, more acres of small grains are being harvested for hay. Small grains such as oats, barley, and wheat make excellent hay and it is a good management practice to test these hays for nitrate levels.

Nitrate testing can be done free of charge through the nitrate testing program. To test forage nitrate levels through this program, contact your NDSU county agent who can instruct you on sampling and get the samples to the lab. Samples will be sent to either Ward Labs or Dairyland. If nitrate levels are known, in many cases the total nitrate levels can be lowered to a safe level by blending. For additional information on nitrates, refer to NDSU Extension publication V839 Nitrate Poisoning of Livestock.



Test hays for nitrate and quality. Without a test, it is a guess.

[James Rogers](#)

Extension Forage Crops Production Specialist



PRE-HARVEST HERBICIDE APPLICATIONS IN WHEAT

The recent heat and lack of rainfall (for many, but not all areas) has pushed a lot of small grain crops closer to maturity. 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 bigger challenges is desiccating glyphosate-resistant kochia and waterhemp with pre-harvest applications. A common question this year has been around the timing of that glyphosate application in fields with varying levels of wheat maturity. The least advanced parts of the field should be at least at hard-dough stage (30% or less grain moisture). Areas of the field less mature than that risk unacceptable levels of residue in the grain as glyphosate can still translocate into maturing seed.

The Group 14 options in small grains, Sharpen (saflufenacil) and Valor (flumioxazin) have been utilized because they cause rapid necrosis and dry-down of weeds. 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. Kochia surviving the combine cutter bar has been documented to produce up to 15,000 seeds per plant when allowed to regrow after wheat harvest.

A list of herbicides, rates, when to apply, and pre-harvest interval (PHI) is found on page 19 of the Weed Guide, and 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 pt 4SL + 1 to 2 pt 4EC/SL (0.25 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.																									

Joe Ikley

Associate Professor/Extension Weed Specialist



STRESS CONCERNS IN FARMING ACROSS GENERATIONS

Mutual enjoyment and closeness are among the benefits when parents, grown children, grandchildren or other family members farm or ranch side by side. However, conflicts that arise among family members may develop into stressful situations.

It has been stated of farming across generations: ““The lifestyle in farming or ranching isn’t just about animals or crops. It’s about beliefs and values passed down through generations. Ensuring things are left better for those yet to come. It’s all about legacy.” It’s important to consider how stress might threaten working together across generations on the farm or ranch.

Stress Concerns Between Generations – Some Scenarios

When two or three generations work closely on a farm or ranch, tensions may result that require attention. Consider if any of these examples are familiar to you.

- **Older traditions versus new possibilities.**
 - Example – An older father may hold fast to a traditional farming or ranching method while his son or son-in-law may push for a new approach.
- **Family members in different generations stop talking to each other due to hurt feelings or frustration.**
 - Example – A mother in one ranching family found herself acting as the messenger between family members from different generations who had stopped talking. This lack of direct communication led to even deeper misunderstandings and erosion of trust.
- **Stress over an adult child’s needs for space, privacy or autonomy in doing their farm work or family life.**
 - Example – An adult son who began farming with his parents and moved into a small home on the property found it difficult when his mother would walk in unexpectedly, point out decisions she thought were wrong or criticize his new wife.
- **Misunderstanding about farming decisions or patterns of doing things, especially if a family member did not grow up farming.**
 - Example – A young spouse new to the farm was disappointed and frustrated when she bought the family tickets to a movie an hour away and then was told, “We can’t go then, it’s planting time!”

Steps Toward Resolving Stress Across Generations

In all of these scenarios, asking for what you want, listening well and working to resolve conflicts quickly can help with some of these problems. Clear and direct communication is always necessary to understand differences that may exist.

Also, allowing grown children the space they need to learn to function as independent adults is imperative. As long as emotional needs outweigh financial ones, separate households for married children are probably preferable. Further, the importance of defining individual boundaries – different traditions, activities and priorities – must be maintained. Finally, patience and understanding are called for with spouses who were not raised on the farm/ranch.

Access Helpful Resources

Life as a family in farming or ranching will never be totally free from stress. But through understanding potential stress concerns that occur across generations, families can recognize warning signs of stress and work to ease pressures and stay connected.

To learn more specifically about tips and tools in managing stress across generations on the farm, read the NDSU Extension publication FS286, “When Generations Farm/Ranch Together” – link: [When Generations Farm/Ranch Together | NDSU Agriculture](#)

If you or someone you know is in need of mental health or substance abuse resources, call or text the **9-8-8 Suicide and Crisis Lifeline**, or chat at <https://988lifeline.org>.

Contact your NDSU Extension county office or search the Web for **NDSU Extension farm stress** for more resources on wellness in agriculture.



[Sean Brotherson](#)

Extension Family Science Specialist

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Extension Farm and Ranch Stress Program
Coordinator



AROUND THE STATE

NORTHEAST ND

Crop conditions across the region continue to look excellent. Corn has made tremendous progress over the past week, with most fields now averaging 6 to 8 feet in height. Some of the earliest fields are tasseling and others are expected to within the next week. Soybeans have become noticeably greener, taller, and bushier. While a few fields have begun forming pods, the majority are just entering the flowering stage and still appear to

be slightly behind normal development. Soybean aphids were identified in Walsh County and should continue to be monitored.

Small grain crops, including wheat, barley, and oats, are fully headed and look outstanding. Some fields are beginning to turn color, and head size appears excellent. A small amount of scab has been observed in some fields. High humidity across the region prompted widespread fungicide applications last week on fields that were still in the flowering stage. A few fields in Pierce and Rolette Counties experienced localized lodging from strong winds, but the damage is limited to small pockets. Durum has completed flowering.

Pea fields are tall with dense canopies, and pods are beginning to form. Pastures continue to provide adequate forage, with no current concerns for livestock. Some algae has been spotted developing in water sources, but testing has not yet determined whether it is a harmful algal bloom.

Canola ranges from full flowering to nearly finished blooming, with many fields beginning pod development. Heat has been abundant throughout the reporting period. Sunflowers are currently in the bud stage.



Wheat field in Pembina County
Photos: Anitha Chirumamilla, LREC



**Wheat head showing
scab infection**
**Photo: McKenna
Schneider, NE IPM Scout,
LREC**



**Sunflowers at bud stage
in Walsh County**
**Photo: McKenna
Schneider, NE IPM
Scout, LREC**



Soybeans at pod stage
Photo: McKenna Schneider, NE
IPM Scout, LREC



Soybean aphids
Photo: McKenna Schneider, NE IPM
Scout, LREC

[Anitha Chirumamilla](#)

Extension Cropping Systems Specialist
Langdon Research Extension Center

SOUTH-CENTRAL/SOUTHEAST ND

The big stories over the past two weeks for the region are drought strengthening in the east, heat wave continuing to push all crops rapidly to maturity, observation of some diseases and insects, and variability in crop growth stages and crop condition across the region and within fields.

The drought is strengthening in the eastern part of the region and the entire western side of the region is getting quite dry as seen by lack of rainfall and a high Jensen-Haise Total potential evapotranspiration model values compared to rainfall. Based upon the 47 NDAWN stations in the region I'm monitoring this season, rainfall for the past two weeks ranged from 0.09 inch at Strasburg to 3.25 inches at Wirch with an average of 0.91 inch, 0.66 inch greater than the last report. Based upon the Jensen-Haise Total Potential Evapotranspiration Model values for the past two weeks and subtracting the amount of rainfall, creating a water deficit ranging from 0.67 inch at Wirch to 4.13 inches at Livona with an average across the 47 NDAWN stations of 3.02 inches. Ayr, Casselton, Gardener, Hillsboro, Linton, Livona, and Strasburg all had a water deficit greater than 3.8 inches. This water deficit proves crop condition will continue declining in drought and very dry parts of the region. The average 4-inch soil moisture as of July 21st ranged from 2.7% at Skogmo to 36.5% at Wirch with an average of only 14.9% and the 39-inch soil moisture ranged from 3.0% at Tappen to 51% at Cooperstown and with an average of 27%. These values are creating corn and soybean plants that likely will not produce any grain as seen in photos 1 and 2 in Griggs County.



Photo 1: Corn that will not produce grain in Griggs County.



Photo 2: Soybean plant nearly dead from drought conditions in Griggs County.

The high diversity in wheat growth stages within a field is causing concerns as to how wheat harvest will get accomplished. Within the same field wheat is ready to harvest and other plants are at the milk stage yet. Soybean stages are not so different now, but soybean height differences within a field can be very great from a very short and potentially dying R2 plant to complete row closer.

Pest problems found over the past week included red-headed flea beetles in a soybean field in LaMoure County (photo 3), spider mites getting started in the dry areas of the region as seen in photo 4 from my garden on green beans, and presence of wild four o'clock in a Griggs County soybean field (photo 5). Most pest problems are at minor levels right now. Other pest problems include ergot, fusarium head blight (scab), severe bacterial leaf streak in some HRSW research trials, but not in commercial fields, bacterial leaf blight in dry bean and soybean, corn rootworm beetles emerging in the far southeast part of the region, and waterhemp and kochia surviving herbicide applications.



Photo 3: Red-headed flea beetles and damage to soybean leaves in LaMoure County.

Of the 7 NDAWN stations below, corn growing degree days (GDD's) increased substantially since the July 7th as shown in Table 1. Based upon these 7 NDAWN Stations, Mayville saw the greatest increase in GDD's at 466 GDD's compared to the last newsletter! GDD's for the region are way ahead of schedule for all categories, except the 5-year average was still negative for Denhoff NDAWN station. Based upon the accumulated GDD's at Denhoff since May 13th, an 80-day corn hybrid should reach black layer by September 2nd, 8 days earlier than reported in the last newsletter! Based upon the accumulated GDD's at Mooreton since May 13th, a 95-day corn hybrid should reach black layer by September 19th.



Photo 4: Spider mites showing up, at least on our green beans in the garden in Griggs County.



Photo 5: Wild four o'clock plant in a Griggs County soybean field.

Table 1. Accumulated and departure from normal GDD's for seven NDAWN stations across the region.

	Denhoff	Linton	McHenry	Jamestown	Edgeley	Mayville	Mooreton
Accumulation from 5-13 to 7-20, 2026	1026	1119	1104	1093	1164	1216	1270
Departure from last newsletter	+ 315	+ 347	+ 390	+ 359	+ 317	+ 466	+ 455
Departure from normal	- 24	+ 53	+ 121	+ 83	+ 129	+ 200	+ 157
Departure from 2025	+ 183	+ 152	+ 188	+ 163	+ 198	+ 250	+ 254
Departure from the 5-year average	+ 35	+ 37	+ 76	+ 45	+ 50	+ 107	+ 100
Departure between last newsletter and July 21 st for the 5-year average	+ 62	+ 51	+ 68	+ 56	+ 50	+ 66	+ 59

Hard red spring wheat (HRSW) and barley continue to look pretty good across most of the region except those abnormally dry or in drought. HRSW within the region is from flowered to hard dough stage with most HRSW starting to turn a yellow color. Still very few leaf diseases in the region. Wheat stem maggot is still at a low enough frequency in most fields that yield will likely not be reduced.

Corn condition and growth improved over most of the region, except the eastern part where drought is happening. Corn in the region is from V12 to late R2 (silking with some brown silks showing) with most corn in the region at VT (tasseling stage).

Soybean crop improved and rows closed in many parts of the region, except in areas of lack of rainfall where rows still have not closed yet and plants are near death in the sandiest areas of fields in the east. Soybean plants in the region range from R1 (at least one flower on the plant) to R3 (at least one small pod within one of the top four nodes having fully expanded leaflets) with most at the R2 (full flower) to R3 stage.

Canola condition is in good to excellent condition in most fields of the region. Canola in the east is between flowering completed, but not ripening yet to full flower in the north central and northwest part of the region to flowering done and pods filling and plants turning colors as seen in photo 6.

Dry bean is looking pretty good across the region, but not all areas of the region. Dry bean growth stage ranges from R1 (flowering) to the R3 (pods 1 inch long) with most at the R2 (1/2 inch pods).

Sunflowers look really good across the region for the most part. Sunflower growth stage ranges from R1 (flower bud visible) to early R5 (flowering beginning) with most at the R2 (flower bud <1" from last leaf to R3 (flower bud >1").

Dry pea condition is declining in most areas of the region due mostly to root rots, especially if no seed treatment was applied. Most peas are completing flowering and podding with some starting to turn color and reach maturity.

Please stay cool over the weekend!



Photo 6: Canola at the seed filling stage and starting to turn brown and looking great in Emmons County. Photo by NDSU Extension Emmons County Agent, Nancy Deis.

[Jeff Stachler](#)

Extension Cropping Systems Specialist



WEATHER FORECAST

The July 23 to July 29, 2026 Weather Summary and Outlook

Hot and dry has summed up the weather for the past couple of weeks. A few areas did get some rain in the past 7 days, but a vast majority of North Dakota recorded very little (Figure 1). The temperatures were noticeably cooler on Tuesday and Wednesday, but the heat is returning for this forecast period. Triple digit high temperatures will once again be possible, especially this weekend. These hot temperatures in combination with most areas recording little if any rain, will increase the crop stress already present.

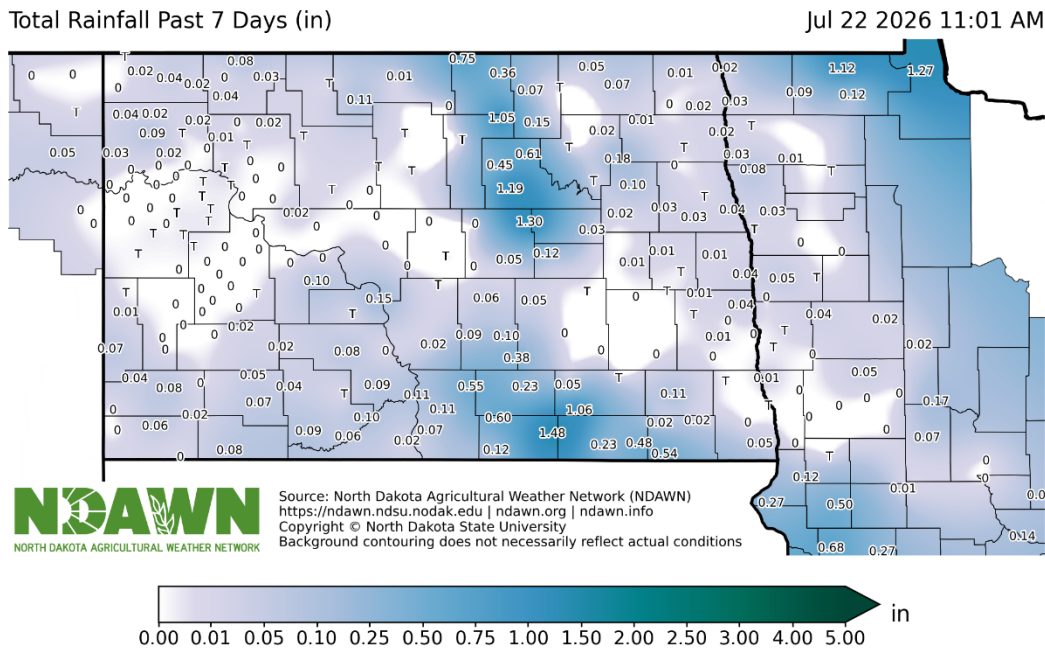


Figure 1. Total Rain at NDAWN stations from July 16 through 11:00 AM on July 22, 2026

The percentage of average rain since June 1 shows a much higher extent of dryness than it did just a couple of weeks ago. With the lack of rain, that would not surprise anyone. It is just the northern tier of counties bordering Canada that are still experiencing near or above average precipitation to this point of the summer.

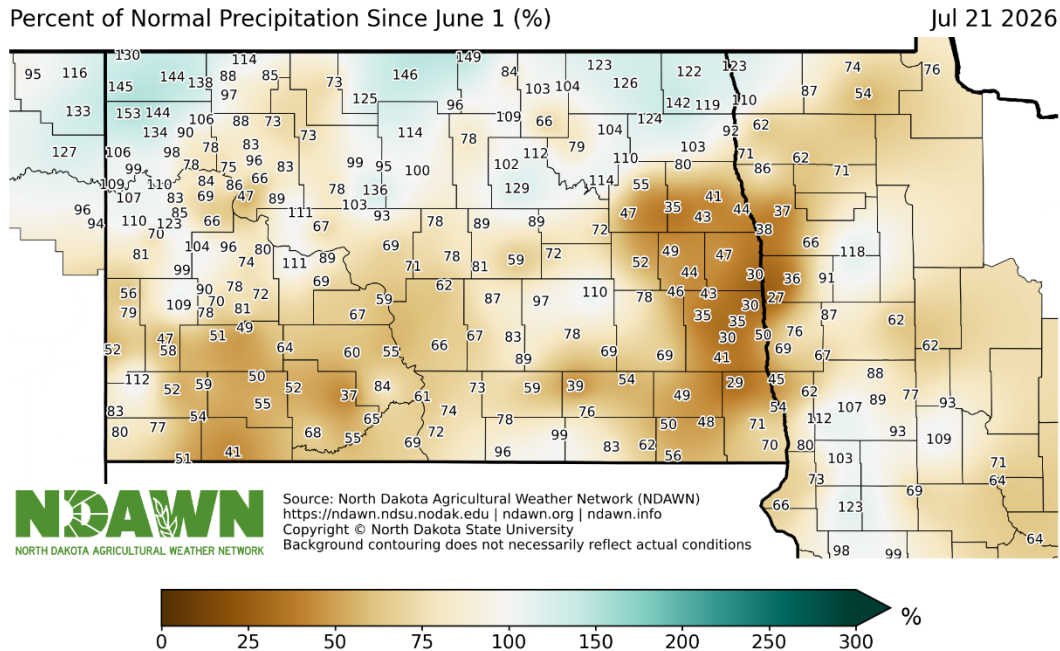


Figure 2. Departure from Average Rainfall from June 1 through July 21, 2026

Temperatures have been averaging 4° to 7° above average in the past two weeks. We are at the climatological warmest period of the year, which also equates to some of the highest evaporation rates of the year. In turn, being that far above average in July, brings the potential of 0.3 to 0.5 inches of evaporation per day. This of course, has lead to a rapid decline in vegetative health this month.

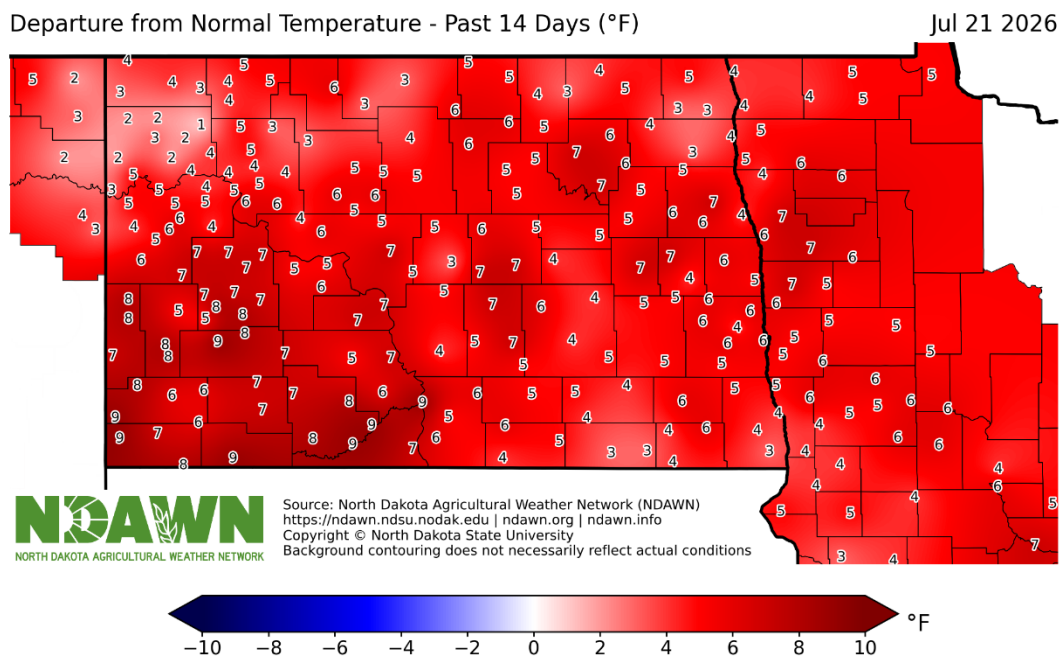


Figure 3. Departure from Average Temperatures for the period of July 15 through July 21, 2026

Figures 4 and 5 show the forecasted growing degree days (GDDs) for base 32° (wheat) and base 50°F (corn and soybeans) during this forecast period. Well above average temperatures during the next week will mean being near the theoretical maximum potential this forecast period. As a reminder, most growing degree calculations stop at 86°, meaning you don't get credit for high temperatures above that level.

Growing Degree Days (Base 32) Forecast

Jul 23 - Jul 29 2026

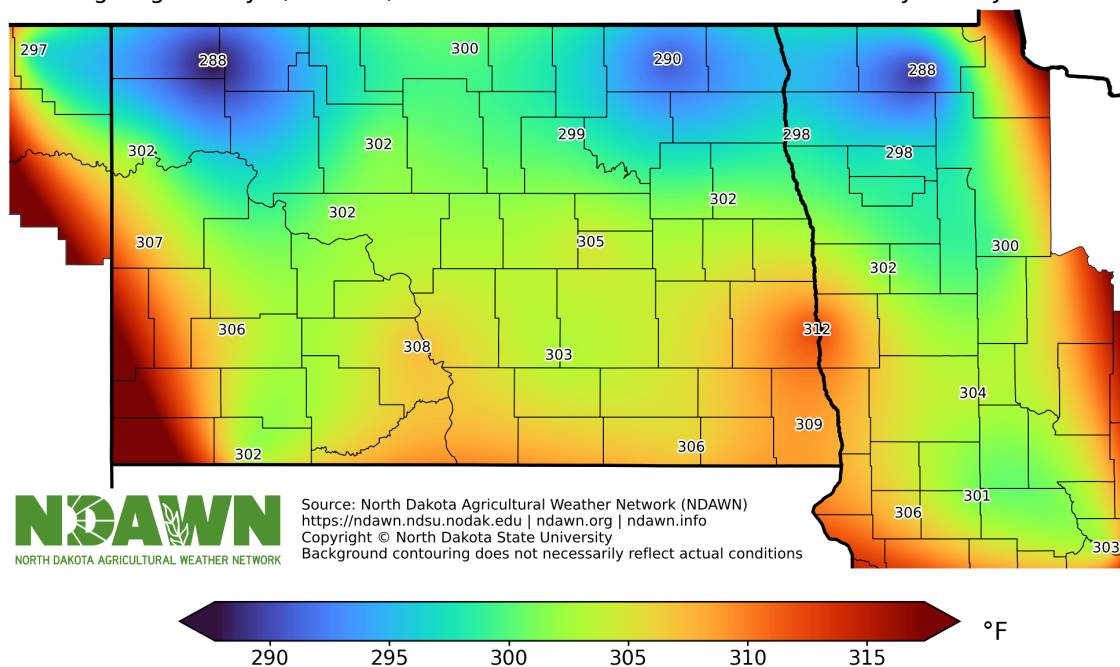


Figure 4. Estimated Growing Degree Days Base 32° for the Period of July 23 to July 29, 2026

Growing Degree Days (Base 50) Forecast

Jul 23 - Jul 29 2026

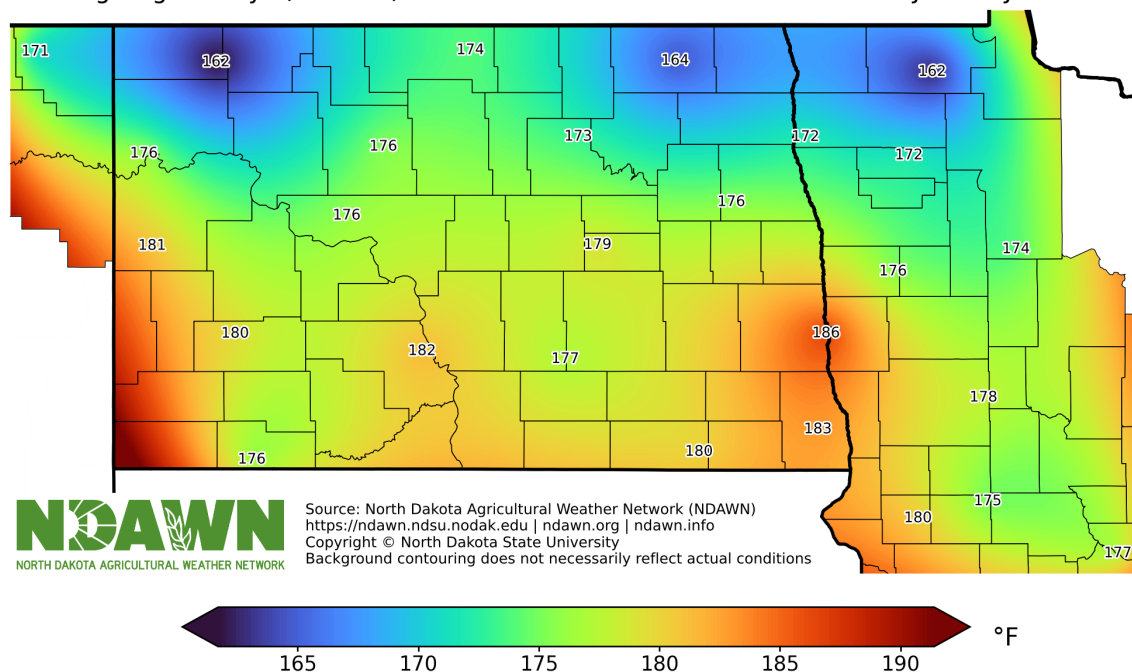


Figure 5. Estimated Growing Degree Days Base 50° for the Period of July 23 to July 29, 2026

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>

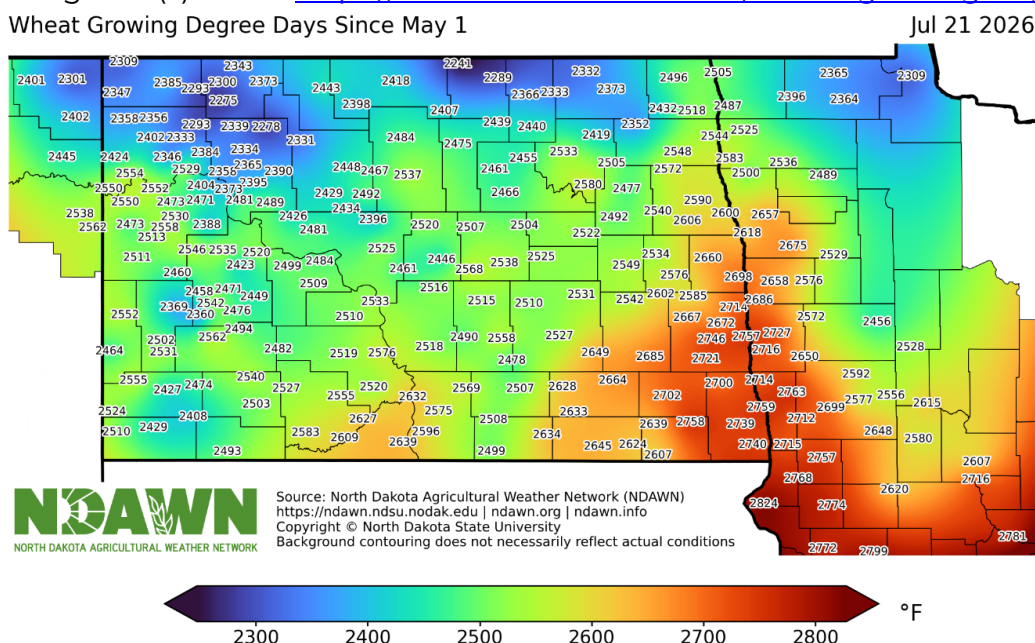


Figure 6. Wheat Growing Degree Days (Base 32°) for the Period of May 1 through July 21, 2026

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>.

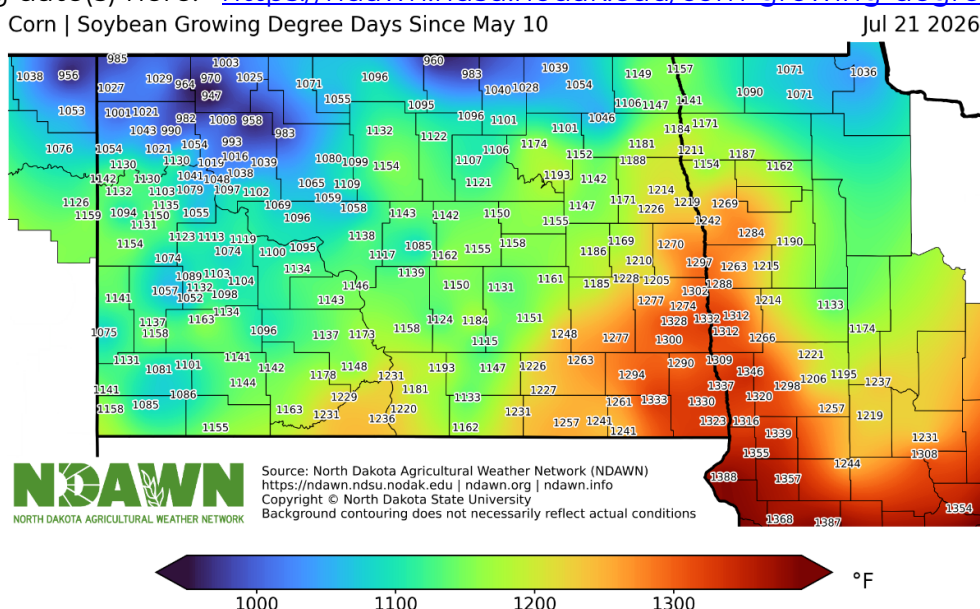


Figure 7. Corn Growing Degree Days (Base 50°) for the Period of May 10 through July 21, 2026

[Daryl Ritchison](#)

Meteorologist

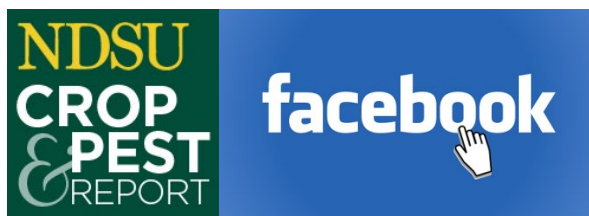
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