North Dakota State University
CROP & PEST REPORT

No. 19 September 25, 2025

Inside this Issue...

Corn Rootworm Trapping Network 1
Hessian Fly Trapping 2025 3
Wheat Midge Trapping 2025 4
Canola Insect Trapping 2025.....5
Sunflower Insect Trapping 2025 ...6
Tar Spot of Corn Found in North Dakota 8
Ecking Corn for Maturity and Dry Down in the Field.....9
Fall-Applied Nitrogen 11
Wellness Practices Can Reduce Stress During Harvest Season 12
Fall Invading Insects 14
Northern Corn Rootworm Beetles in Gardens.....15
Around the State.....16
Northeast ND 16
South-Central/Southeast ND 17
Southwest ND 22
Weather Forecast.....23

entomology

CORN ROOTWORM TRAPPING NETWORK

Here's our update for the corn rootworm monitoring network in southeastern North Dakota. Trap results are also on the IPM website.

Trap Economic Threshold (E.T.): A capture rate of **14 or more adults per trap per week** indicates a high rootworm population and high risk for corn damage for the 2026 season. *A management strategy will be needed for corn rootworm control in that field.*

We captured a total of 514 beetles from September 4 to 10 (week 6), and 2,075 beetles from September 11-17 (week 7) (Table 1, page 2). The cumulative total is 3,912 beetles for the trapping season, with the majority being northern corn rootworms (3,904 beetles). No western corn rootworm beetles were trapped in week 6.
However, low numbers (6) of western corn rootworms were detected during week 7 at Ransom County field 1 near Lisbon, Richland County field 2 near Hankinson, Sargent County field 1 near Havana and field 3 near Gwinner.

Western corn rootworm
Top photo - female (J. Knodel) and
Bottom photo - male (P. Beauzay)

Eight of the ten trapping sites (80%) were above the E.T. during week 7. The Sargent County field #2 near Gwinner was above the E.T. for the sixth week (since August 14). The other fields above the E.T. level include: Barnes County field 1 near Pillsbury, Cass County field 1 near Argusville, Ransom County field 1 near Lisbon, Richland County field 1 near Colfax, Richland County field 2 near Hankinson, Sargent County field 1 near Havana, and field 2 and field 3 near Gwinner. See the corn rootworm IPM maps on the next page.

Possible reasons for this late extended flight of corn rootworm beetles include:

1. *Cool spring or early summer temperatures* - Rootworm egg hatch and larval development are temperature-dependent. A cool spring or below-average soil temperatures in May–June can delay egg hatch and slow larval development, which delays pupation and adult emergence.

2. *Moisture conditions* - Excessive soil moisture (or prolonged flooding) can delay or stagger larval development. Conversely, very dry conditions may stress larvae and slow development.

3. *Later planting dates* - When corn is planted later than normal, rootworm development may shift because beetles emerge into a "younger" crop. Flights may seem later since adult activity is often tied to tasseling/silking stages.

4. *Extended diapause in northern corn rootworm* - If extended diapause eggs hatch later than normal, it can contribute to delayed or more spread-out adult emergence.

5. *Regional weather patterns* - The warm fall in 2024 may have extended egg laying (oviposition), while a cooler-than-normal growing season this year can stretch development.

6. *Staggered larval development* - If larval hatch was uneven (due to variable soil temperatures or moisture), adults may emerge over a longer window, giving the impression of a "later" or drawn-out flight.

We thank the North Dakota Corn Council for their support.

Table 1. Average number of adult corn rootworms (both northern and western) per trap per week in ND field corn, 2025.

Area	County	Nearest town	July 30 - Aug 6	August 7 - 13	August 14 - 20	August 21 - 27	August 28 - Sept. 3	Sept. 4-10	Sept. 11-17	Cumulative Total NCW & WCR
SE	Barnes 1	Pillsbury	0.0	0.0	1.3	1.5	1.0	3.5	**14.3**	87
SE	Barnes 2	Rogers	0.0	0.0	0.0	0.0	0.0	0.0	2.0	8
SE	Cass 1	Argusville	3.0	4.5	**20.3**	11.4	**39.3**	**40.0**	**301.5**	1687
SE	Ransom 1	Lisbon	0.3	0.5	5.3	4.1	6.5	9.5	**17.3**	176
SE	Richland 1	Colfax	3.0	3.3	9.8	**16.7**	**23.5**	**25.3**	**59.0**	573
SE	Richland 2	Hankinson	0.8	4.5	7.5	3.0	2.0	2.5	**15.3**	144
SE	Sargent 1	Havana	0.8	2.5	4.3	4.7	10.3	6.3	**22.0**	206
SE	Sargent 2	Gwinner	4.3	**16.8**	**23.0**	**13.5**	**50.5**	**30.5**	**69.5**	841
SE	Sargent 3	Gwinner 2	-	-	-	4.9	12.3	11.0	**17.0**	6
SE	Steele 1	Finley	0.0	0.0	0.0	0.0	0.5	0.0	1.0	184
		Total # corn rootworm	**48**	**128**	**285**	**279**	**583**	**514**	**2075**	**3912**
		Percentage of NCR =	**100%**	**100%**	**100%**	**100%**	**99.7%**	**100%**	**99.7%**	
		Percentage of WCR =	**0%**	**0%**	**0%**	**0%**	**0.30%**	**0%**	**0.30%**	

Economic thresholds (ET) is an average of 14 or more adults per trap per week (regardless of species).

Red highlighted text indicates that the corn field is at or above ET

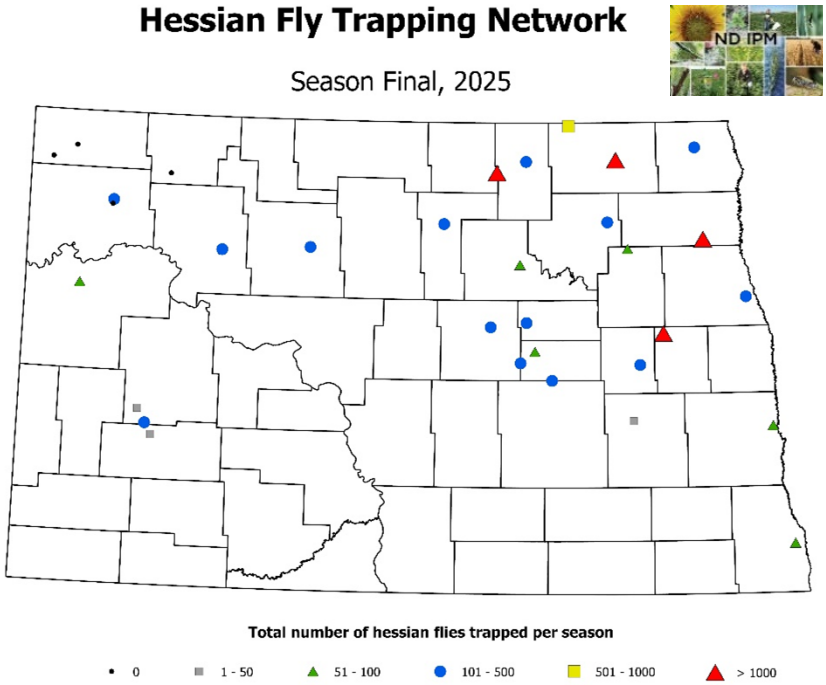
Janet J. Knodel
Extension Entomologist

Patrick Beauzay
State IPM Coordinator
Research Specialist, Extension Entomology

HESSIAN FLY TRAPPING 2025

Hessian fly is an economically important insect pest of wheat (all types – spring, winter, durum) in North Dakota. Other hosts are barley, rye, triticale, winter rye, and winter barley. The Hessian fly can also infest volunteer wheat and wild grasses (quack grass, ryegrass).

A pheromone trapping network for Hessian fly was coordinated by the IPM Crop Survey Program in 2025. The IPM scouts and insect trappers monitored 33 trapping sites in 27 counties of North Dakota (see map).



Trapping results indicated that these flies are present throughout the wheat-growing areas of North Dakota (map). A cumulative total of 16,247 Hessian flies was captured on sticky trap bottoms monitored by IPM insect trappers from June through August (near wheat harvest). Actual monitoring dates varied for each trap site. The Hessian fly populations in North Dakota continue to increase, especially in the northeast. The past two years had cumulative trap numbers at 1,527 total Hessian flies captured at 37 trapping sites in 2023, and 12,530 Hessian flies captured per season at 27 trapping sites in 2024.

The northeast and east central areas of North Dakota had the highest trap catches of over 1,000 total Hessian flies trapped per season. Counties included Cavalier, Rolette, Walsh and Steele, representing about 12% of the trap sites. About 46% of the trap sites had a moderate number of Hessian flies between 101 and 1,000 flies per trap per season. The remaining sites (about 27%) had lower numbers between 1 and 100 total flies per trap per season. Five sites (15%) had no Hessian flies in the northwestern counties (Burke, Divide, Mountrail and Williams counties).

Hessian fly trap bottom with hundreds of flies trapped (A. Chirumamilla, LREC)

Some pest management strategies include:

- **Destroying volunteer wheat in the spring before planting.**

- **Choose suitable cover crops that are not known hosts of Hessian fly.** Do not use wheat, barley or rye as cover crops since they are infested by the Hessian fly for reproduction and feeding. Oats are less favorable to Hessian fly oviposition and feeding. However, Hessian fly appears to be adapting to rye since it is commonly planted as a cover crop and is available in the fall for female egg laying.
- **Planting winter wheat and grain cover crops after the "Hessian fly free planting dates": September 15 in northern North Dakota and September 30 in southern North Dakota.** By destroying the volunteer wheat and planting winter wheat later, the life cycle of the Hessian fly can be broken. As flies emerge in late summer, there is no place for them to lay eggs.
- The high labeled rate of **insecticide** seed treatments on wheat (Cruiser and Gaucho) can be used at planting time to reduce Hessian fly infestations. A field research study at the Langdon REC is testing the efficacy of using insecticide seed treatments to control the Hessian fly.
- **Resistant/Tolerant varieties** are an effective way to reduce Hessian fly infestations/damage. North Dakota spring wheat varieties do not have any resistance. NDSU is testing spring wheat lines for resistance levels. The SDSU Winter Wheat Breeding Programs found that SD Pheasant had moderate resistance, and Winner had low resistance levels.

Bent-stems and lodged spring wheat due to Hessian fly larval feeding in late summer (A. Chirumamilla, LREC)

Thanks to the North Dakota Wheat Commission, the USDA NIFA CPPM EIP grant (#2024-70006-43752) and the North Dakota Department of Agriculture CAPS Program for support.

WHEAT MIDGE TRAPPING 2025

Wheat midge pheromone traps indicate adult emergence timing and document the distribution of the wheat midge and its parasitoids, helping to decide when to scout fields for IPM decision making.

Twenty pheromone traps were monitored in 19 counties in North Dakota in 2025. Traps showed a 5x increase in wheat midge at 23 trap sites (map on next page) from 2024.
Wheat midge was detected at all trap sites. The cumulative number of wheat midge captured was 10,842 adults (average of 471 adults per trap) in 2025, compared to 2,287 adults (average of 114 adults per trap) in 2024. The highest wheat midge counts, over 500 wheat midge flies per trap, were concentrated in the northwest, northeast and north central counties of North Dakota.

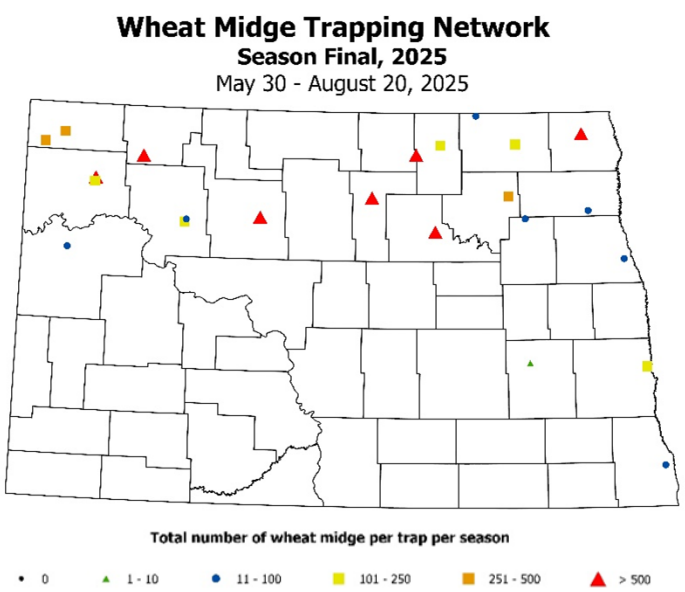
Green delta pheromone trap for monitoring wheat midge.

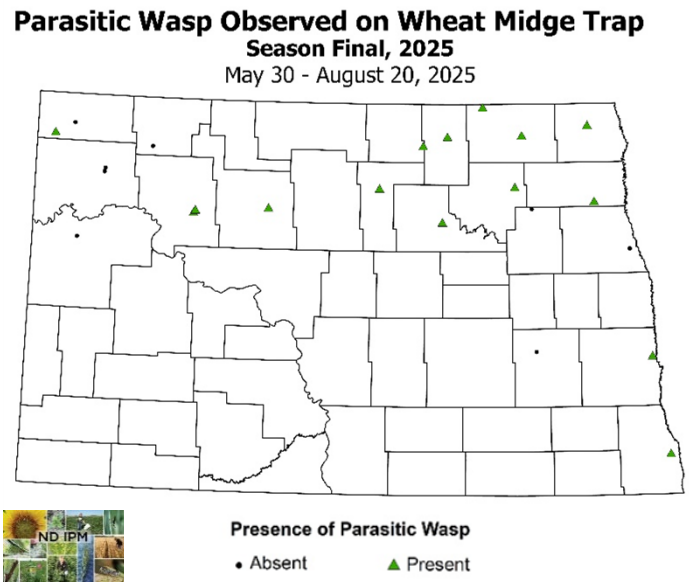
The parasitoid wasp of wheat midge, *Macroglenes penetrans,* nearly doubled and was observed at 65% of the trap sites. The wasp was observed at 37% of the trap sites in 2024, 37% in 2023 and 61% in 2022.

Trapping results indicate that wheat midge populations are slowly increasing and are widespread throughout the wheat-growing areas of the state. The negative impacts of the extended severe drought of 2019-2024, which affected midge

survival, are starting to be alleviated. The prevalence of the parasitic wasps also increased, due to higher numbers of their food source, wheat midge larvae. Trap monitoring for this beneficial insect helps to identify its distribution and potential biocontrol of wheat midge in North Dakota.

Thanks to the North Dakota Wheat Commission, the USDA NIFA CPPM EIP grant (#2024-70006-43752), and the North Dakota Department of Agriculture CAPS Program.





CANOLA INSECT TRAPPING 2025

Pheromone traps for bertha armyworm and diamondback moth were monitored by IPM scouts, insect trappers and Extension agents/Specialists through the IPM Crop Survey Program at 16 trap sites in 15 counties of North Dakota and at two trap sites in one county in Minnesota.

The season final trap counts for **bertha armyworm** indicated a low infestation risk (<300 total cumulative moths per trap per season) at all trap sites in North Dakota and Minnesota. The cumulative number of bertha armyworms captured increased 6-fold to 1,584 moths (average of 88 adults per trap) in 2025, compared to 256 moths (average of 18 adults per trap) in 2024. The highest trap catches were observed at Walsh (239 moths), Towner (214 moths), Rolette (196 moths) and Mountrail (181 moths) counties. In Roseau County, Minnesota, bertha armyworm declined to 26 and 55 moths per season.

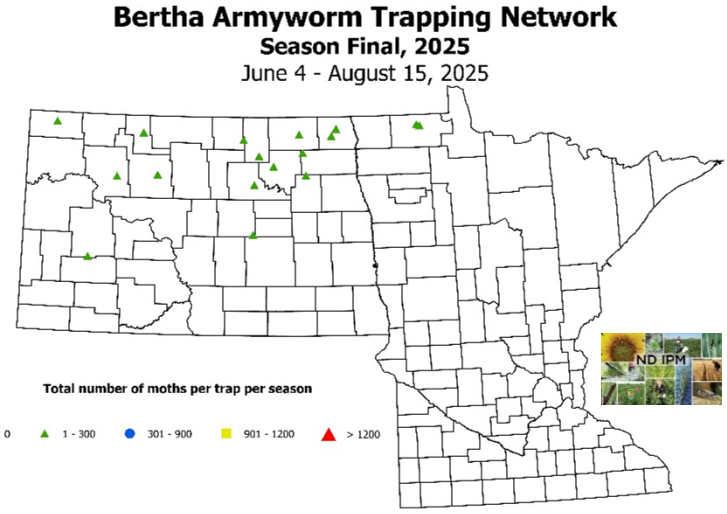
Green unitrap for monitoring bertha armyworm in canola.

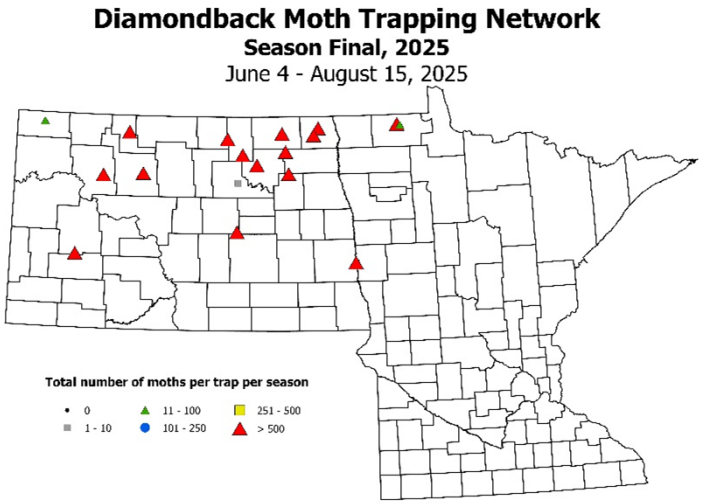
The cumulative number of diamondback moths captured increased 6-fold to 19,190 moths (average of 1,066 adults per trap) in 2025, compared to 1,345 (average of 96 moths per trap) in 2024. The highest trap catches (>1,500 cumulative moths per trap per season) were observed at Cass (2,567 moths), Ward (2,449 moths), Towner (2,159 moths) and Ramsey (1,639 moths) counties. In Roseau County, Minnesota, diamondback moth ranged from 62 to 666 cumulative moths per trap per season.

Bertha armyworm and diamondback moth are occasional insect pests of canola in North Dakota and northwestern Minnesota. Routine monitoring using pheromone traps in canola fields can help predict when scouting is necessary and when populations are economically significant to canola yield using thresholds based on larval densities in fields.

Thanks to the Northern Canola Growers Association, the USDA NIFA CPPM EIP grant (#2024-70006-43752) and the North Dakota Department of Agriculture CAPS Program for support.

Diamondback moth wing pheromone trap and closeup of moth on sticky trap bottom.

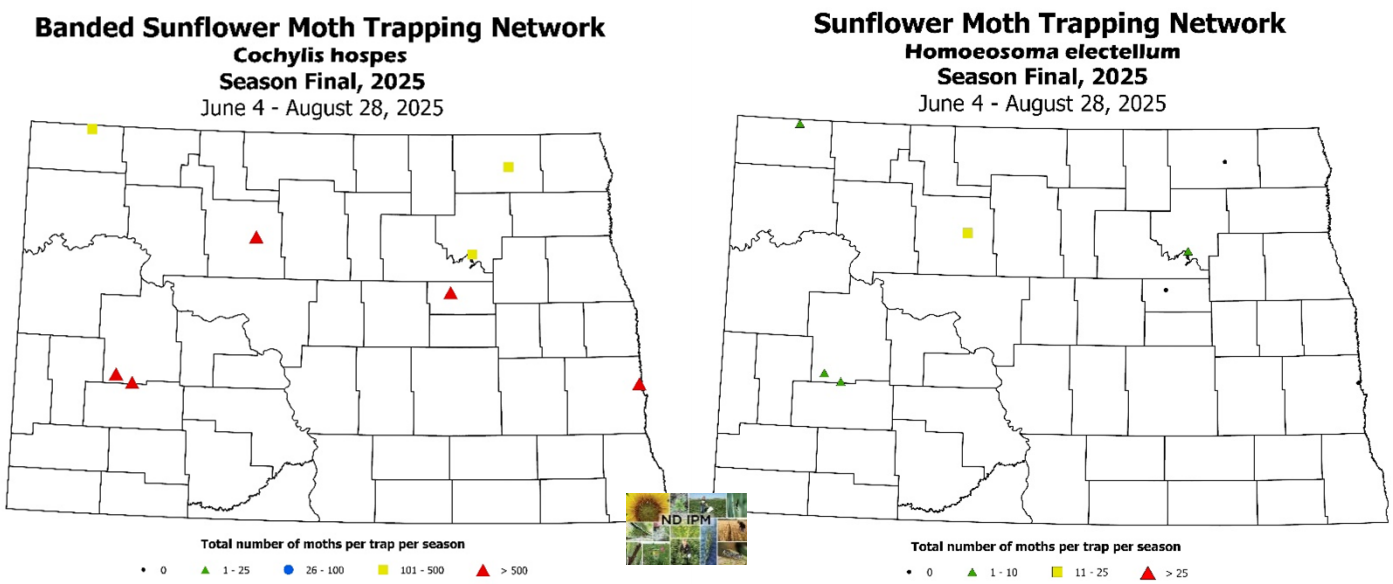




SUNFLOWER INSECT TRAPPING 2025

Banded sunflower moth was monitored using winged pheromone traps. Moths were collected at eight trap sites in 7 counties throughout the sunflower acreage in North Dakota. The first moth was trapped mid-July, and the peak moth catch occurred from late July into early August during flowering. Traps that captured more than 500 banded sunflower moths per trap per season were located in Cass, Eddy, Ward, and Dunn counties. Four thousand nine hundred thirty-four banded sunflower moths were captured among all trap sites per season.

Sunflower moth was collected at six of the eight trap sites, but only 44 moths across all trap sites per season. Ward County had the highest cumulative moths per trap per season at 20 moths. The sunflower moth migrates into North



Dakota and was first detected during early July. Peak catch occurred from late July through mid-August during peak flowering. The economic threshold for trapping is when the number of sunflower moths is > 25 moths per trap per week, but no trap site reached this level in 2025.

Thanks to the National Sunflower Association, the USDA NIFA CPPM EIP grant (#2024-70006-43752) and the North Dakota Department of Agriculture CAPS Program for support.

Special thanks to the following people who helped with all of the IPM insect trapping networks:

Victor Gomes, Ext. Cropping Systems Specialist, DREC
Ashlyn Williams, IPM insect trapper, DREC
Scott Knoke, Ext. County Agent, Benson County
Jeff Stachler, Ext. Cropping Systems Specialist, CREC
Shelby Dietz, IPM insect trapper, CREC
Chris Asmundson, Research Technician & IPM insect trapper, NCREC
Thomas Crompton, IPM Scout & Insect Trapper, Fargo
Kartheek Chapara, IPM insect trapper, LREC
McKenna Schneider, IPM Scout, LREC
Samantha Turnquist, IPM insect trapper, WREC
Scott Roseth, IPM Scout, WREC
Dave Grafstrom, Agronomist, UMN, Roseau

Janet J. Knodel, Extension Entomologist
Patrick Beauzay, State IPM Coordinator & Research Specialist
Anitha Chirumamilla, Extension Cropping Systems Specialist, LREC

plant pathology

TAR SPOT OF CORN FOUND IN NORTH DAKOTA

Our first 2025 report of tar spot in North Dakota was confirmed on September 12 (Figure 1). Since then, varying levels of tar spot have been found in four fields across Richland and Cass County. Three of the four fields had very low incidence (one or two plants) and very low severity (one or two tar spot lesions on a leaf). However, one field appears to have had a successful overwintering of the tar spot pathogen based on higher levels of incidence, and severity as high as 10% on a single leaf (Figure 2). There are several mimics of tar spot including mud, insect frass, rust telia, and sooty mold. A tar spot lesion will be imbedded in the leaf tissue, be circular or diamond shaped, appear on the upper and underside of the leaf, and cannot be scraped-off. At this point in the growing season, fungicides are not recommended as yield loss concerns associated with the late development of tar spot are minimal.

Figure 1. A single tar spot lesion on a corn leaf. Notice diamond shaped black lesion that is imbedded into the leaf surface.

Figure 2. Corn leaf in the lower canopy with higher levels of tar spot severity. Given the higher levels of incidence and severity, it is suspected the pathogen overwintered near this field. Photo by Rick Hatchett

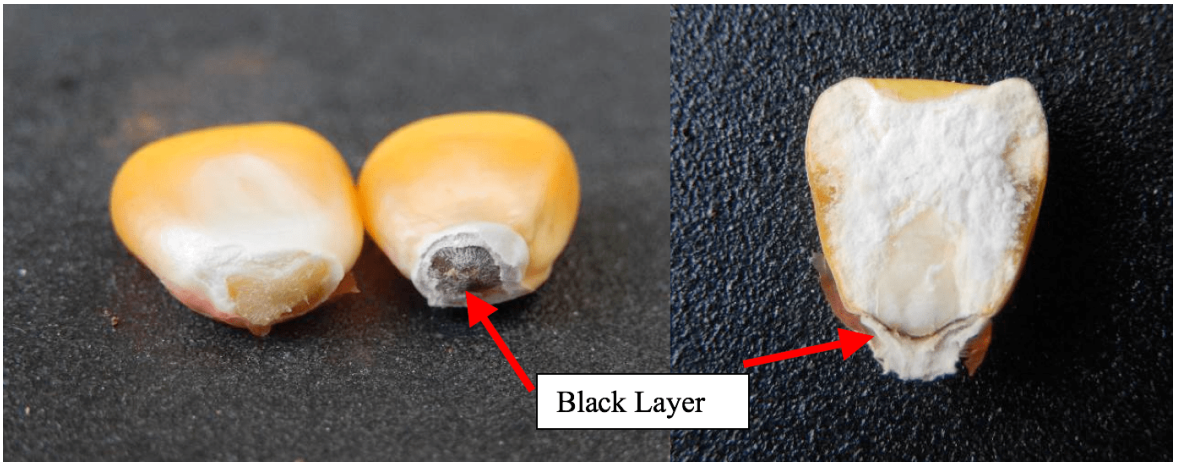
Andrew Friskop
Extension Plant Pathology, Cereal Crops

plant science

ECKING CORN FOR MATURITY AND DRY DOWN IN THE FIELD

Now is a good time for growers and crop scouts to start checking corn fields for maturity. Corn reaches physiological maturity (R6) when the kernels form a distinct black layer of dead cells at the tip where the kernel attaches to the cob. The death of these cells is indicated by the black color and indicates that the plant is no longer transferring nutrients to the seed. In the photo below, you see on the left side an intact mature kernel and to its right, the base of a mature kernel with the tip broken off, revealing the black layer of cells. The cross section of the kernel on the right shows a side-view of this layer of dead cells. Photo credit: University of Arkansas Division of Agriculture.

Corn that has reached black layer is not yet ready for harvest: corn moisture at maturity is typically 30-35%; ideal moisture for corn grain harvest with a combine is typically 15-20%, though with adjustment and practice, some producers are able to harvest corn at 25% moisture and sometimes even a point or two higher. If corn is greater than

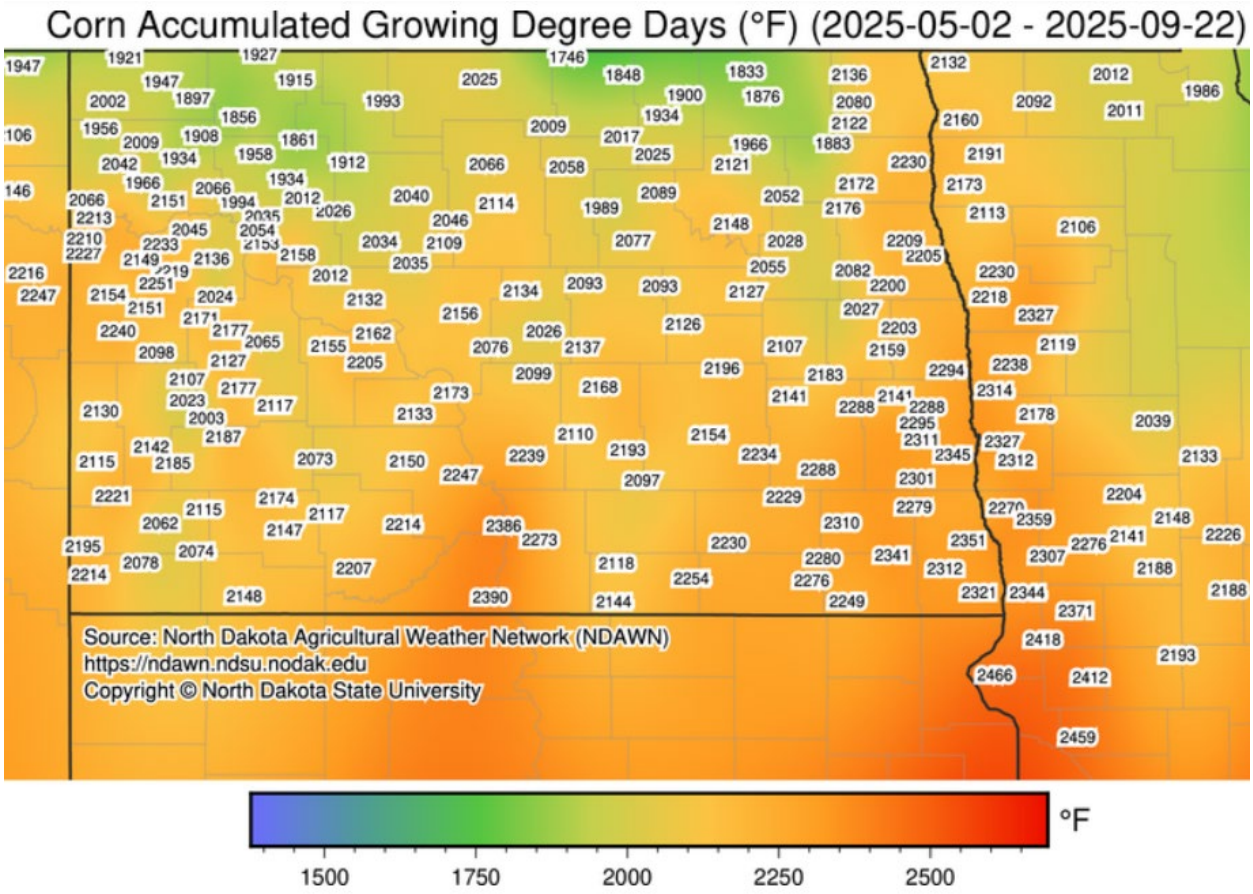


15.5% moisture at harvest, it will need to be dried prior to storage to limit mold damage and ensure safe storage. A balance must be struck between allowing the crop to dry down in the field to a harvestable and/or storage-safe moisture level, and harvest timing occurring when field conditions allow and losses due to ear drop, lodging, or broken kernels can be minimized. If a farmer has an on-farm dryer, the producer should have an idea of what it will cost per bushel to dry the crop given current propane costs and the efficiency of their equipment.

For rough rates of dry down, corn in our region typically loses 0.75-1.0% moisture per day during the first half of September, 0.5-0.75%/ day the second half of September, 0.25-0.5%/ day the first half of October, and 0-0.3%/ day the last half of October. Very little drying can typically be expected after October 31. For example, if you have a corn a corn field that reaches black layer on September 25 and is at 30% moisture, it would be at 26% on October 1, 21% on October 10th, and about 20% on October 15th. The rate at which the crop dries down will be influenced by daily temperatures, relative humidity, and wind speeds. Hybrid factors such as ear orientation, husk tightness on the cob, and kernel characteristics can also influence dry down rate.

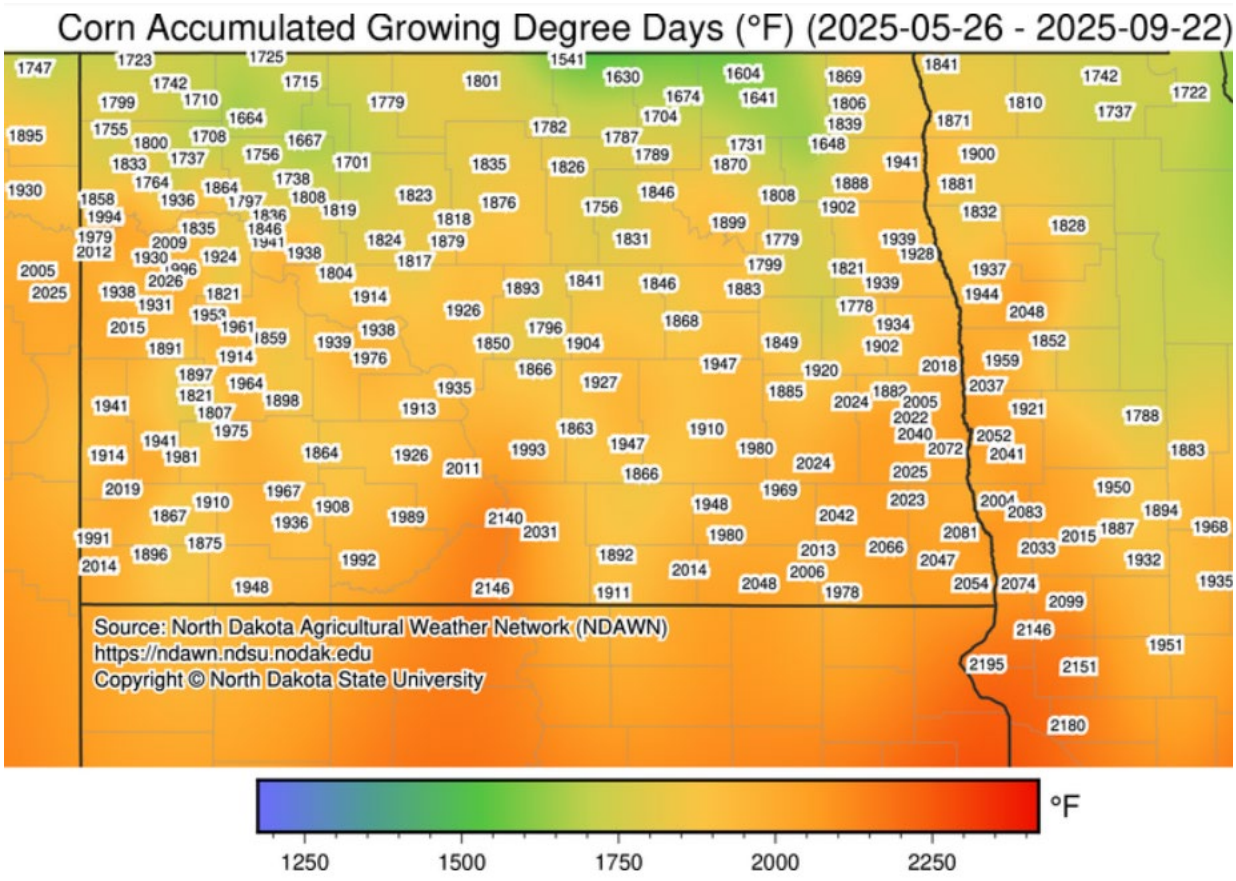
For corn fields that experienced frost or freeze damage at the beginning of the month, producers should consider segregating harvest if possible. For freeze-damaged crop that dries down more quickly, kernel moisture may be lower than 20% much earlier than undamaged crop. If this is the case, growers are encouraged to harvest the lower moisture crop (which might also be at risk of increased lodging due to stalk strength being hurt by the freeze) earlier, and come back and harvest the not-freeze damaged portion of the crop once it reaches acceptable harvest moisture levels.

The last two weeks have been helpful in adding to our corn Growing Degree Days and pushing many locations in the southern tier of North Dakota above the 2000 GDD mark and many places into the 2200-2300 range, needed for 85-90 day hybrids to reach maturity. See below for an NDAWN map with a May 1 planting date through September 22.



Unfortunately, for acres planted after the rains received in mid-May across much of the state, corn GDD's are lagging behind where we would like them to be. Below is the GDD accumulation map for corn with a May 25 planting date. As you can see in the map below, even counties along the South Dakota border have places where they have not crossed the 2000 GDD threshold and most locations are below 2100 GDD.

On the bright side, we have warm weather and sunny conditions in the forecast for the next 7-10 days in much of the state. This will aide in pushing the corn crop to maturity and drying down fields that are already at black layer.



Clair Keene
Extension Agronomist Small Grains and Corn

soils

FALL-APPLIED NITROGEN

With temperatures creeping up into the 80s this week across parts of North Dakota, is it difficult to believe we are now officially in Fall. With corn and soybeans soon to start coming off the fields, I have been receiving call from folks who are considering fall-applied N this year, especially citing concerns about the potential for increasing fertilizer costs going into next spring. While applying some or all N fertilizer in the fall for the coming crop can be a good tool for spreading out workload, it certainly comes with its drawbacks; however, through proper planning (and a little luck) some of these risks can be reduced.

Inherent risks of fall-applied N:

- The longer the timespan between fertilizer application and crop uptake, the chance for N loss significantly increases. Given approximately six months between application and meaningful crop uptake, these losses in N lead to reductions in N use efficiency (NUE), even if everything goes “right.”
- While conditions at the time of fertilizer application may be adequate, weather conditions may change prior to freeze-up leading to conditions favorable to losses.

- In the spring, saturated soils prior to planting can lead to significant losses of N to volatilization.

Maximizing efficiency of fall-applied N

- While some resources state "fall application of N may begin after October 1st," it should read "under no circumstances should fertilizer N be applied prior to attaining proper soil conditions or before October 1st." In the fall of 2024, conditions for reduced-risk N application did not occur until mid-November for most of the state, and looking at the long-range National Weather Service Climate Outlook temperatures will be above average for the foreseeable future.
- Fall N applications should be delayed until the 4-inch depth soil temperature falls below 50°F during the morning hours (6 to 8 a.m.). These temperatures can be found on the North Dakota Agricultural Weather Network (NDAWN) website or more accurately collected from your field using a simple probe thermometer. Soil temperatures below 50°F decrease the risk of nitrification of the fertilizer. If fertilizer is applied above this temperature, microbial processes will begin to transform the ammonia and urea products into nitrate, which is susceptible to leaching or denitrification, reducing overall fertilizer efficiency and economic returns.
- Fertilizer applications should be further delayed based on the product being applied and application method. Due to an inherent delay in nitrification of banded ammonia, anhydrous ammonia can be applied soon after soil temperatures fall below 50°F consistently. One week after the threshold soil temperature is reached, applications of banded urea (two inches or deeper) can begin with reduced risk of nitrification. Broadcast urea, given the proper conditions, is rapidly converted to nitrate. Applications of broadcast urea should be delayed at least two weeks after the 50°F soil temperature is reached.
- Using nitrification inhibitors help reduce risk of nitrification and subsequent loss by protecting against delayed soil freezing, which effectively stops N transformations in the soil; however, nitrification inhibitors should not be used to compensate for warm soil temperatures in an attempt to apply fertilizer earlier.
- Research has shown the most effective nitrification inhibitors are nitrapyrin when applied to anhydrous ammonia and dicyandiamide (DCD) when applied to urea products. Further, surface-broadcast or shallow incorporated (less than two inches) urea is highly susceptible to ammonia volatilization. Urease inhibitors such as NBPT have been shown to reduce volatilization when applied to surface and shallow-incorporated urea. Check out the NDSU Extension publication Nitrogen Extenders and Additives for Field Crops for more information.
- Avoid fall N fertilizer application on sandy soils or excessively well drained soils as these conditions increase the risk of nitrate leaching.
- To hedge risk, consider splitting the application of N between fall and spring/in-season, this will decrease the amount of N susceptible to loss while also providing more flexibility for in-season fertility decisions which are needed to maximize NUE and economic returns.
- As always, make sure to soil test to determine how much fertilizer is needed!

Brady Goettl
Extension Soil Science Specialist

farm health and wellness

WELLNESS PRACTICES CAN REDUCE STRESS DURING HARVEST SEASON

Harvest season is busy across the region and many farmers, farm laborers, agricultural professionals and family members are facing increased stresses linked with uncertain markets, input costs and other factors. What can assist folks to reduce stress during the harvest season?

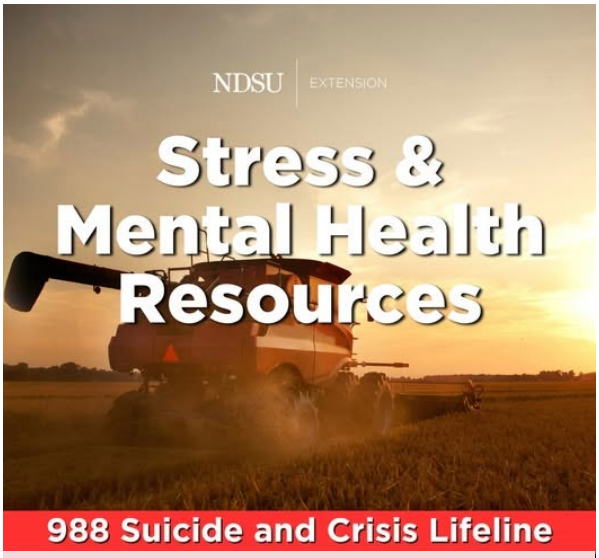
Simple wellness practices can aid in managing and reducing stresses during harvest time. Instead of just trying to push through the long hours and fatigue, taking time daily to invest in one's health through wellness practices is vital during stressful times. Here are a few tips and resources to consider for advancing your wellness:

- **Get sufficient sleep**. Sleep is the most powerful wellness practice for restoring energy and good mental health.
- **Eat well-balanced meals** as much as possible. Avoid junk food or unhealthy snacks. Plan snacks and meals, and make healthy eating a priority.
- **Set up and maintain a structured routine** if possible. Daily habits or schedules allow people to build in predictable, healthy habits to improve health and reduce stress.
- **Learn to say no** without feeling guilty during times of demand. Conserve energy for where it is most needed.
- **Take time for breaks** to rest and renew energy (5-10 minutes every hour). Just like a cell phone needs to recharge, so does one's body and brain with regular breaks.
- **Engage in daily exercise activities**. Stand up, do some stretching, walk or exercise briefly. Physical activity for 20 minutes or more daily brings robust health benefits.
- **Realize when a situation or problem requires help from others** and ask for support. Be willing to engage some support. Asking for support is not a sign of weakness, but a sign of wisdom and strength.
- **Delegate tasks to others** or call for additional support if needed. Be thoughtful about tackling tasks and engage all the resources available.
- **Be aware of energy limits** and stop when these limits have been reached.
- **Prioritize time and attention**. Planning five minutes now can save frustration later. Daily planning for 10 minutes can help with focusing when pressures rise.
- **Communicate with people who understand these tasks and challenges**. Talking with a supportive friend, family member or professional can greatly reduce stress.
- **Practice optimism and humor**. Laughter is a great source of stress relief.

Put your health first, because your health is the most important resource and what allows you to be resilient during times of stress. Take care of yourself.

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.



Caption: Call or text the 9-8-8 Suicide and Crisis Lifeline, if you or someone you know is in need of mental health or substance abuse support and resources.

Sean Brotherson
Extension Family Science Specialist

Adriana Drusini (adriana.drusini@ndsu.edu)
Extension Farm and Ranch Stress Program Coordinator

horticulture

FALL INVADING INSECTS

As nights cool and days shorten, insects such as boxelder bugs, multicolored Asian lady beetles, strawberry root weevils, cluster flies, spiders, millipedes and centipedes may move into homes to overwinter. They often hide in wall voids where temperatures stay around 40–50°F, but some end up inside, becoming a nuisance on floors, walls, and ceilings. These pests are generally not harmful to people, pets, or the home's structure. However, some invaders, like multicolored Asian lady beetles, spiders, and centipedes, can bite. Fall invaders often congregate on the sunniest sides of the house - south and west.

Multicolored Asian lady beetles are trying to get inside the house by congregating near the patio door. (P. Beauzay)

Here are some pest management tips to reduce these nuisance insects in your home:

- **Indoors:** Vacuum or physically remove insects.
- **Outdoors:** Figure out where insects are getting into the house. Most insects only need the thickness of a credit card to enter your home. Seal cracks and entry points with caulk or screen.
- **Barrier sprays:** If populations are high, apply a labeled perimeter insecticide 3–5 feet up the siding and outward from the foundation on the home's sunny (south and west) sides. Several products are registered for use in residential structures, including permethrin, pyrethroids (esfenvalerate, lambda-cyhalothrin, beta-cyfluthrin), synergized pyrethrins, and carbaryl. Always read and follow the product label—**it's the law**.

Left to Right: Boxelder bug, strawberry root weevil and multicolored Asian lady beetle (J. Knodel (left photo), P. Beauzay (two right photos), NDSU Extension Entomology)

Janet J. Knodel
Extension Entomologist

Northern Corn Rootworm Beetles in Gardens

Northern corn rootworm beetles (NCRW) are abundant this year, and NDSU Extension has received a few calls from concerned gardeners. We'll address two scenarios - NCRW in ornamental flower gardens and NCRW in vegetable gardens.

NCRW beetles are quite common in ornamental flower gardens this autumn as the beetles move out of maturing corn fields. **This is not a cause for concern**, as the beetles are on the flowers to feed on available pollen and are not doing or going to damage the flowers. NCRW beetles strongly prefer pollen from flowers in the sunflower family (Asteraceae), especially Dahlias and Zinnias, at this time of year (Figure 1). Pollen availability dwindles as autumn progresses, so these late-flowering species are critical food sources for bees, butterflies (especially migrating Monarchs), and other pollinators and beneficial insects. Consequently, do not be alarmed if you see NCRW beetles in your ornamental flowers, and above all, DO NOT attempt to control them with any insecticide.

Figure 1. NCRW beetle feeding on Dahlia pollen. Photo by Patrick Beauzay, NDSU Extension.

We also received a question about NCRW infesting pumpkins in a home garden. Rootworm beetles LOVE pumpkins and readily feed on pumpkin rinds (Figure 2). When the feeding pressure is heavy, they can destroy the value of the pumpkins they're feeding on. Scout your pumpkins for NCRW beetles, and spot treat individual pumpkins with a pyrethroid insecticide registered for use on pumpkins in home gardens, such as BioAdvanced Vegetable & Garden Insect Spray (active ingredient cyfluthrin).

Figure 2. NCRW beetles feeding on pumpkin. Photo submitted by Don Kinzler, NDSU Cass County Extension.

Patrick Beauzay, Research Specialist, NDSU Extension Entomology

Janet Knodel, NDSU Extension Entomologist

around the state

AROUND THE STATE

NORTHEAST ND

There has been limited progress in harvesting over the past two weeks due to persistent rainfall. Field conditions have remained too wet to allow machinery access. An estimated 5–10% of the wheat crop remains unharvested, waiting for suitable weather and ground conditions.

Soybeans are largely progressing toward maturity, with the majority of fields now dropping leaves. However, some fields remain green. The recent frost event across the region has impacted soybean crops, accelerating maturity in many areas. Seed development in the top 3 nodes appear to be poor.

Canola is ready for harvest, and a few fields have been successfully combined where conditions permitted. However, most of the acreage remains too wet for equipment access. Pod shattering has been reported in several canola fields, with varying degrees of severity.

Standing wheat in Cavalier County. Photo: Anitha Chirumamilla, LREC

Sunflowers continue to develop well and are currently at the R7 to R8 stages. Corn is in the early to mid-dent stages, and signs of frost damage from early September are becoming evident in several fields.

Corn at dent stage in Cavalier County. Photo: Anitha Chirumamilla, LREC

Pod shattering in canola. Photo: Hayden Anderson, ANR Extension Agent, Towner County

Soybeans in Towner County. Photo: Hayden Anderson, ANR Extension Agent, Towner County

Anitha Chirumamilla
Extension Cropping Systems Specialist
Langdon Research Extension Center

SOUTH-CENTRAL/SOUTHEAST ND

The three big stories over the past two weeks are the damage caused by the frost and freezing temperatures in early September, large quantities of rain over the last two weeks in most of the region, and hard red spring wheat harvest still not completed and quality declining.

Photo 1: Frozen corn in the Sheyenne River Valley of Griggs County on September 23, 2025.

As I've driven much of the region since the frost and freeze and listened to stories regarding the frost and freeze, it saddens me greatly. I would estimate somewhere between 5 and 10 percent of the region had crops frozen (28 degrees Fahrenheit or lower) with nearly all corn and soybeans in the region not very close to maturity at the time of the frost and freeze, but far enough along to cause minimal negative impact for most. Ranchers with cattle were able to make silage out of the frozen corn with one rancher in Griggs County reporting the crop insurance silage yield at 26 tons per acre. The most frozen crops were in Sheridan, Wells, Eddy, Emmons, Logan, Burleigh, McIntosh, Griggs (particularly in the Sheyenne River valley, but also in the Baldhill creek area), and Steele Counties. One farmer reported 26 degrees Fahrenheit for multiple hours in the Sheyenne River Valley of Griggs County. I would estimate another 10 to 15 percent of the region had frost damage and the amount of damage from the frost was highly variable due to how long the coldest temperature was reached and the developmental stages of each crop. Photo 1 shows frozen corn plants in the Sheyenne River Valley of Griggs County and the size of the corn kernels on three different cobs (photo 2) as of September 23, 2025. Corn kernels of frozen ears have already reached black layer and when shelling the corn from the cob it does not seem to have poor of test weight, but I did not measure it. There were also frozen soybean plants in the Sheyenne River Valley of Griggs County as of September 23, 2025. Notice the top soybean pods died from the freeze with the pods having no soybean seeds in them (photo 3). There will be a very small percentage of green soybean seeds (photo 4) at least in this frozen soybean

field. Overall, I would say no more than 20% of soybean yield was lost in this field. Not all dry beans were at maturity at the time of the frost and freeze, but I have heard of little freeze damage to dry bean for most farmers.

Photo 2: Visual damage from the freeze of three different ears. Two ears are at black layer and test weight seems reasonable and one is still at half milk line.

Photo 3: Shows how the top soybean pods are devoid of seeds since the plants were not close to maturity at the time of the freeze.

The numerous long foggy days, high humidity and rainfall last week have caused hard red spring wheat harvest to come to a grinding halt within the region. Hard red spring wheat quality is declining significantly in these fields.

Photo 4: A small percentage of soybean seed from the frozen plants will have some green color to them, but not as many as I had anticipated.

Corn in the region is nearly all in the R5 (dent) stage (photo 5) with a very small percentage of corn at black layer (physiological maturity). As of 9-22-25, based upon the four corners of the region, Skogmo to Mooreton and Mayville to Linton and Carrington in the center, if corn was planted May 24th, Skogmo GDD's are -144 from normal and +6 from 2024 (new station so no history before 2024), Mooreton GDD's are -57 from normal, -121 from 2024 and -180 from the 5-year average, Mayville GDD's are +32 from normal, -103 from 2024, and -171 for the 5-year average, Linton GDD's are -30 from normal, -33 from 2024, and -110 for the 5-year average, and Carrington GDD's are -36 from normal, -9 from 2024, and -134 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 will likely reach black layer on September 28th, 5 days before the average freeze (28 degrees Fahrenheit) at Skogmo for 85-day hybrids, October 2nd, 7 days ahead of the average freeze at Mooreton for 95-day hybrids, October 8th, the same day as the average freeze at Mayville for 85-day hybrids, September 26th, 9 days ahead of the average freeze at Linton for 85-day hybrids and October 2nd, 4 days ahead of the average freeze at Carrington for 85-day hybrids. Based upon the current weather forecast, all corn in the region will reach black layer before the next freeze and will be much drier at

harvest than I had thought at the beginning of September However, the corn likely will not be as dry as 2024. If corn leaves are still green in fields, please spend the time scouting fields for diseases to know which hybrids are susceptible to the disease in your fields. I found a really bad corn field having northern corn leaf blight in Griggs County. Also start scouting for ear molds, but the frequency appears to be very low in most fields. I have found ghosted plants (photo 6) at a very low frequency within many corn fields, but can be fairly frequent within a low percentage of fields.

Photo 5: Two good corn ears from a Griggs County field at the dent stage.

Photo 6: Multiple Ghosted corn plants in a Griggs County field.

Soybean growth stage in the region ranges from R6 (full seed) to R8 (full maturity) with an average stage of about R7 (1 brown pod) to R8 (most pods brown). I have been finding more Cercospora leaf blight in some fields. I have not checked fields in the past week to see if the Cercospora leaf blight will cause purple-stained soybean seeds. I believe I'm still finding Fusarium wilt in several fields, but in small patches within the field for the most part. Soybean aphids were still present last week in some fields. Now that soybeans are nearly completely mature, the green soybean plants having no pods are a magnet for the many bean leaf beetles in some fields, particularly in Emmons County (photo 7). Pod feeding is somewhat visible in this field as seen in Photo 8. See Knodel's bean leaf beetle article in the Crop and Pest Report 17, September 11 for more information.

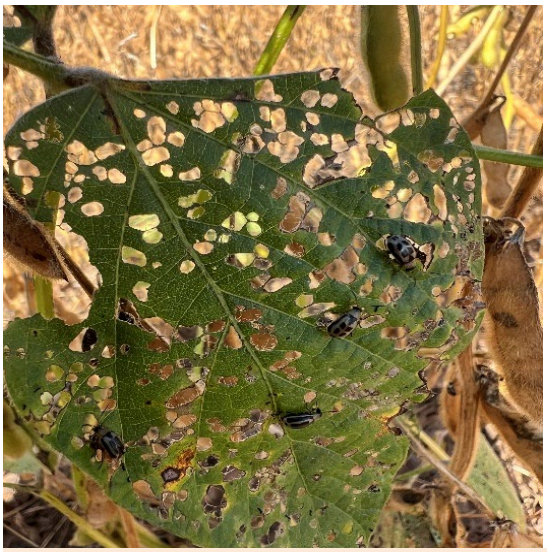


Photo 7: Numerous bean leaf beetles devouring the green leaves of soybean plants lacking pods. Photo by Nancy Dies.

Canola harvest is nearly completed in most of the region. I heard a yield report of 2,200 pounds/A in Sheridan County and good seed quality. Canola not harvested yet is getting quite black and pods have begun to shatter.

Most dry beans are very near maturity or are mature now with desiccation herbicides being applied. Harvest started in many parts of the region. I have not heard any dry bean yields or quality information yet. White mold and bacterial leaf blight are the two most common dry bean diseases in most fields in the region.

Sunflowers are in the late R7 (bracts turning yellow) to sunflowers reaching maturity and some desiccant herbicides being applied in a few fields in the eastern part of the region. While gathering data for the biennial sunflower survey, crop yields will be high in many fields, however sclerotinia head rot, Phomopsis, and lodging due to wind and Phomopsis are present in many fields across the region. Photo 9 shows moderate grasshopper damage along the edge of one sunflower field in Emmons County.

Photo 8: Pod feeding damage by bean leaf beetles in Emmons County. Photo by Nancy Deis.

Cercospora leaf spot is very bad in a significant number of sugarbeet fields in the southern Red River Valley, especially in Richland County.

Of the 27 NDAWN stations I've chosen this season across the region, the average maximum daily air temperature from September 9 to September 22, 2025 ranged from 73 degrees Fahrenheit near Finley to 78 degrees Fahrenheit near Gardner, Hillsboro, Mayville, Mooreton, Sonora, and Wahpeton, with an average of 75 degrees Fahrenheit. The average daily minimum air temperature for the past two weeks at the 27 NDAWN stations ranged from 53 degrees Fahrenheit near Bremen, Galesburg, and Harvey to 58 degrees Fahrenheit near Wahpeton with an average of 56 degrees Fahrenheit, 10 degrees warmer than reported in the last Crop and Pest Report.

Photo 9: Moderate grasshopper damage on the field margin of a sunflower field in Emmons County.

Rainfall across these 27 NDAWN stations ranged from 0.4 inch near Mayville to 4.14 inches near Livona with an average for the period of 1.6 inches, 1.32 inches greater than the 0.28 inch reported in the last Crop and Pest Report.

Average daily wind speeds were quite low again these past two weeks with an average for the region of 5.3 miles per hour.

Have a great weekend and please stay safe!

Jeff Stachler

NDSU Extension Cropping Systems Specialist
Carrington Research Extension Center

SOUTHWEST ND

Southwest North Dakota has seen considerable moisture over the last two weeks, Counties along the Missouri River (e.g., Morton, Oliver, Sioux) received between 2.15 and 5.54 inches of rainfall. With that, flooding was reported in many of those areas. Most counties have registered precipitation above the normal precipitation for September.

Figure 1. Emerged cereal rye cover crop in Dickinson, ND.

This moisture has supported strong emergence of winter crops and cover crops—a stark contrast to last year (Figure 1).

Across the countryside, many winter wheat fields now display a lush green appearance. I have also observed a few canola and spring wheat fields showing regrowth and already flowering or heading due to available moisture (Figure 2).

Figure 2. Volunteer spring wheat regrowth heading out.

Although continuous soil cover and living roots benefit soil health, they may create challenges for spring nutrient management and moisture availability. Depending on biomass accumulation, this regrowth could also interfere with planting next year's crop, as excess residue may hinder soil-to-seed contact. This canola or spring wheat regrowth will be winterkilled but will use up available moisture and nutrients and grow until it is frozen solid.

A few weeks after the early September frost, it is now possible to see the full extent of the injury to row crops. The influence of field topography on frost and freeze injury is now even more evident. The photos below show the same

corn field, but different location: A- Higher part of the field; very minor loss of leaf area, B- lower part of the field; plants with nearly 100% leaf loss. As a result, considerable activity has been observed, with at least 20% of growers across southwest North Dakota opting to chop their corn for forage.

Figure 3. Different levels of leaf area loss from frost/freeze damage earlier this month in the same field.

Victor Gomes
Extension Cropping Systems Specialist
NDSU Dickinson Research and Extension Center

weather

WEATHER FORECAST

The September 25 to October 1, 2025 Weather Summary and Outlook

Most of the rain this month occurred from just two storm systems. The first of those two storms hit the south central and northeastern part of North Dakota with heavy rain. That first storm in some instances brought two months worth of rain in a very short period of time (Figure 1). The good news is this dry stretch that started on Sunday is expected to last into October. Probably not perfectly dry for all areas, but below average rainfall, and perhaps well below average rainfall is expected for the next 10 days.

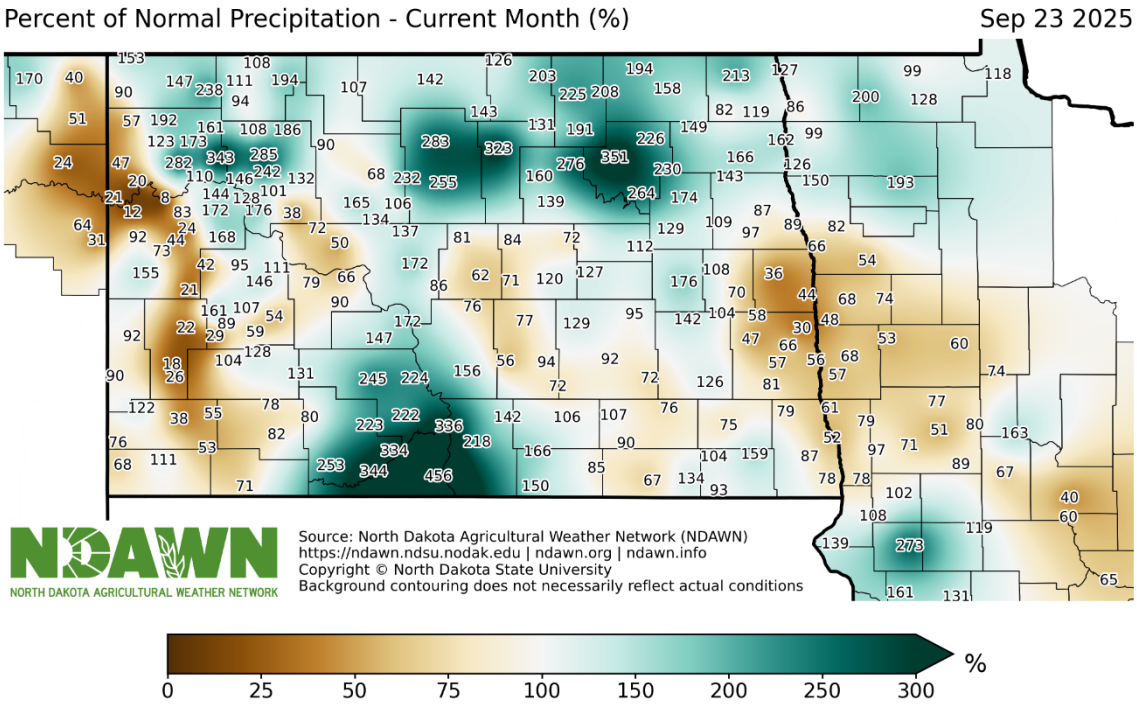


Figure 1. Percent of Average Rainfall for the Period of September 1 through September 23, 2025.

After a very cold start with an early freeze for some areas, the past couple of weeks have been warm enough that September as a whole is currently running 1 to 3 degrees above average (Figure 2). This trend should continue for the rest of the month.

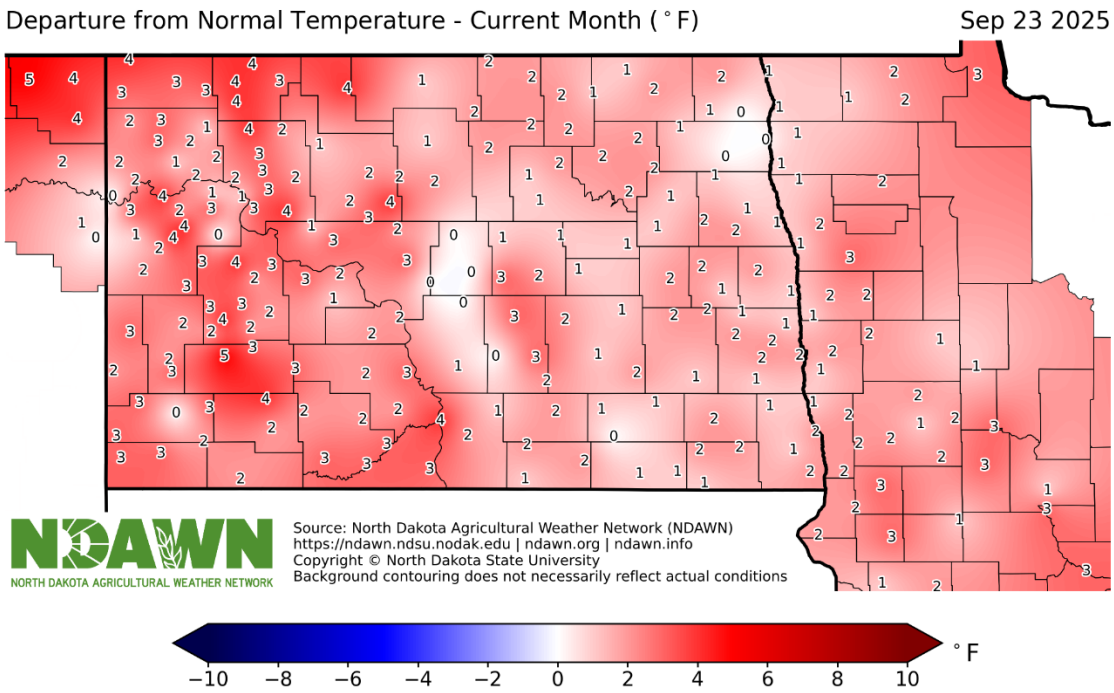


Figure 2. Departure from Average Temperature for the Period of September 1 through September 23, 2025

Figures 3 and shows the forecasted growing degree days (GDDs) for base 50°F (corn and soybeans) during this forecast period. With the warm weather continuing, well above GDDs are expected during the next week.

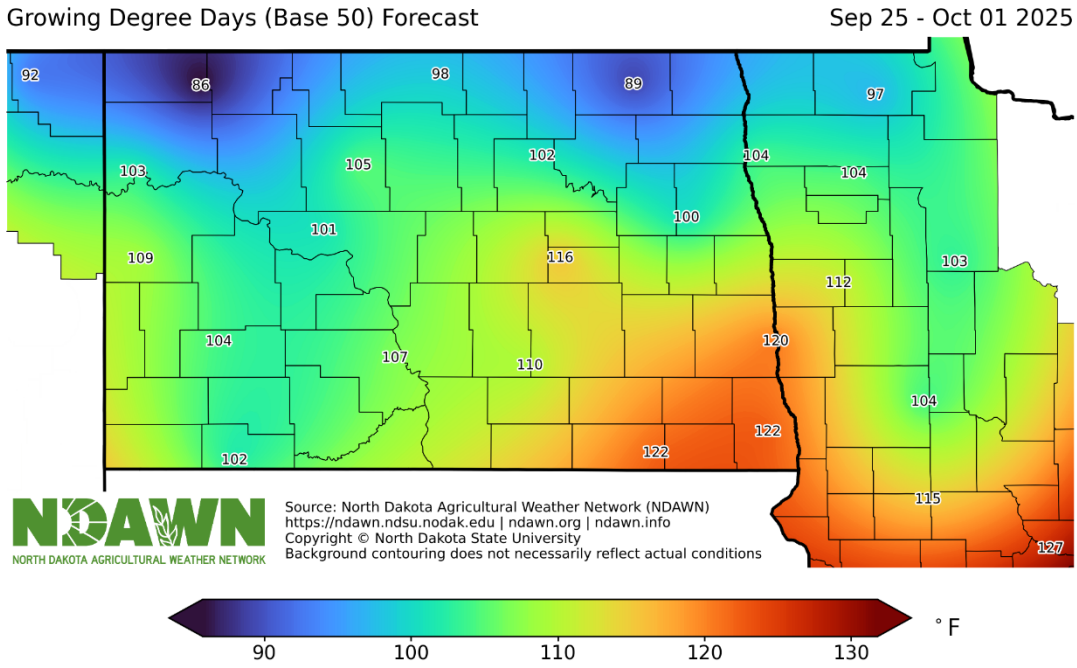


Figure 3. Estimated growing degree days base 50° for the Period of September 25 to October 1, 2025.

Using May 10 as a planting date, the accumulated growing degree days for corn (base temperature 50°) is given in Figure 4. 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.

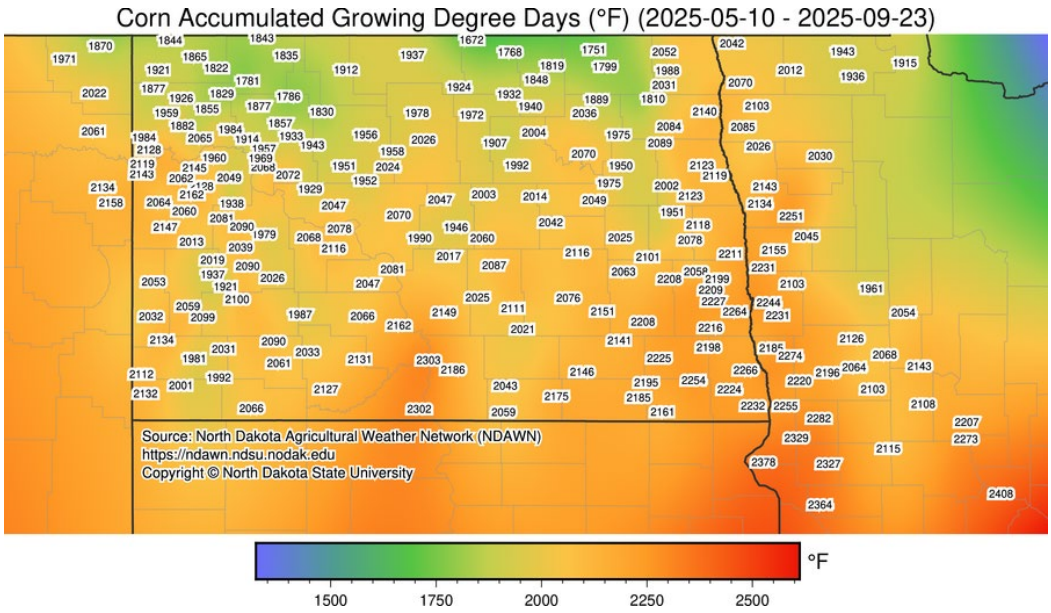


Figure 4. Corn Growing Degree Days (Base 50°) for the Period of May 10 through August 12, 2025

Daryl Ritchison
Meteorologist
Director of the North Dakota Agricultural Weather Network (NDAWN)
State Climatologist of North Dakota

North Dakota State University
CROP & PEST REPORT
NDSU Dept. 7660; PO Box 6050
Fargo, ND 58108-6050

Crop and Pest Report is on Facebook!
Ctrl + Click image below or go to www.facebook.com/ndsuextcpr to 'Like' us and receive notifications and other information.

Are you not on the list to receive this report?
Sign up now with your smartphone using the code to the right:

Janet Knodel
Co-Editor

Entomology
701-231-7915

Plant Sciences
701-231-7971

Soils
701-231-8881

EXTENDING KNOWLEDGE ❯❯ CHANGING LIVES
NDSU | EXTENSION

Sam Markell
Marcia McMullen
Co-Editors

Plant Pathology
701-231-7056

Weeds
701-231-7972

Ag Engineering
701-231-7261

This publication will be made available in alternative formats for people with disabilities upon request (701) 231-7881.
This publication is supported in part by the National Institute of Food and Agriculture, Crop Protection and Pest Management - Extension Implementation Program, award number 2024-70006-43752