# North Dakota State University **CROP PEST REPORT**

EXTENSION

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**NDSU** 

## ONE SPOT...TWO SPOTS...THESE ARE NOT DISEASE SPOTS!

We will see a significant shift in temperature and wind conditions across the state in the coming days. The hot windy days will turn into near freezing temperatures by the weekend. Small grains are very resilient and can handle these conditions, but it is likely we will start seeing "weird" spots on both wheat and barley. This article will provide images and

possible causes of abiotic leaf spots (also known as non-disease leaf spots). The occurrence and type of leaf spots will vary and be dependent on the growth stage at the time of these weather shifts. The good news is that small grains will recover and will not be impacted by early season abiotic leaf spots.



Figure 1. A constriction-point in the center of a wheat leaf due to damage from a hot soil surface temperatures.

 Heat canker will be one of the most common symptoms we observe in both wheat and barley after several days of hot temperatures. When soil surface temperatures are hot, the young leaf tissue that comes into in contact will be damaged. Symptoms will include constriction-points in center of leaf (Figure 1), brown to white spots on leaf margins (Figure 2), and eventually leaf tip death and raggedness due to high winds (Figure 3).



Figure 2. Brown to white lesions on the edge of leaf margin caused by contact with hot soil temperatures.



Figure 3. Heat canker followed by high winds will result in leaf tip death leaving a ragged look in the field.

2. **Color banding** of wheat will occur during days with warm to hot daytime temperatures followed by cold temperatures at night. It is also common to see color banding when temperatures approach freezing during the early stages of development. Symptoms will include yellow to purple discolorations along the stem of small grain seedlings (Figure 4).



Figure 4. Color banding on wheat seedlings after temperatures approached freezing a few days earlier.

3. **Physiological leaf spots in barley** is most commonly observed on the oldest (first leaves) that have been exposed to extreme shifts in temperature. Over the years, physiological spots with barley appear to be greater during years when near freezing events have occurred when the first and second leaves were emerged. Symptoms include brown irregular spots that have a dark brown center with a lighter brown margin (Figure 5).



Figure 5. Physiological browns spots on barley leaves. The irregularity and features of the spots do not match any of the common fungal leaf spots found in barley.

4. Bleach spots and irregular spots are found throughout the growing season on both wheat and barley. Lesions can be bright white (bleached) with a papery texture (Figure 6) or be yellow to brown with long irregular lesions (Figure 7). These symptoms most often occur on the oldest leaves that have undergone the most amount of stress.



Figure 6. Bleached (white) spots on a wheat leave (upper) and barley leaf (lower). Notice generally leaf health appear to be good with a random bleach spot. This is often caused by abiotic injury.

#### **Final Thoughts**

Identifying the cause of early season spots in small grains is very difficult. However, keep the disease triangle (host, environment, and pathogen) in mind as you begin to scout fields this year. If your small grain crop is in a tilled field, following a broadleaf, used a cultivar with average to above average disease resistance, and conditions have been windy with low relative humidity, it is very likely the spots you see on a leaf are not caused by a pathogen. The inverse is also true. If you have seeded wheat into no-till, following wheat, used a cultivar with poor disease resistance, and conditions have been cool with high humidity, you have a greater chance observing early season fungal leaf spots.

Andrew Friskop Extension Plant Pathology, Cereal Crops

#### WHEN WIDER ROWS HELP THE SOYBEANS GROW

As planting season progresses across North Dakota, I wonder how many farmers are considering widening rows to manage white mold. As many of us have dealt with white mold before, we are often left with a strong distaste for the disease and want to avoid it.

White mold infection in soybeans primarily occurs through dried flower tissues. During the beginning of bloom to pod development (R1 to R3 growth stages), spores released from apothecia (fungus fruiting bodies; Fig. 1) land on soybean flowers. The senescing petals provide a nutrient-dense food source for spore germination and infection into the plants. Once established, the fungus invades the plant's stem, forming lesions that girdle the stem and disrupts water and nutrient transport. This leads to wilting, pod abortion, and significant yield losses. The reliance on flower tissues as an entry point makes the timing of flowering a critical susceptibility window for soybeans.



Figure 1. Apothecia of Sclerotinina sclerotiorum, the fungal pathogen that causes white mold. Credit: Wade Webster

A key point of white mold's biology is its dependence on canopy closure for apothecia development. This pathogen requires a shaded, humid microclimate to trigger sclerotia germination and apothecia formation. Canopy closure, when soybean rows fully shade the soil surface, creates these conditions by reducing air movement and maintaining high humidity. Research shows that apothecia typically emerge only after canopy closure, often coinciding with the onset or midpoint of flowering. This synching up of canopy closure and apothecia presence maximizes the chances of white mold spore release during the crop's susceptible period.

Narrow row spacings, such as 15-inch rows or narrower, accelerate canopy closure compared to wider spacings. Studies have shown that 15-inch rows can reach canopy closure 7–14 days earlier than 30-inch rows, depending on variety, planting date, and environmental conditions (Fall et al. 2018). Earlier canopy closure in narrow rows increases the duration of favorable conditions for apothecia development, thereby elevating white mold risk. In contrast, wider rows delay canopy closure, reducing the window for apothecia formation and ascospore release, which can lower disease incidence. By delaying canopy closure, wider rows maintain greater air circulation and lower humidity within the canopy, creating a less favorable environment for white mold to develop.

However, wide row spacings are not without drawbacks. One significant consideration is the potential yield drag associated with wider rows. Yield potential can be defined by the amount of solar energy intercepted and accumulated by the crop during the growing season. Any management practice that enhances light interception increases the yield potential that we can achieve. Then, narrower rows typically maximize light interception and canopy coverage, leading

to higher seed yields in the absence of disease. This yield trade-off makes wide row spacing most suitable for fields with a known history of severe white mold pressure, where the disease's impact outweighs the potential yield reduction.

#### Wade Webster

Extension Plant Pathology, Soybeans

#### BIOTIC AND ABIOTIC FACTORS AFFECTING SUGARBEET EMERGENCE IN 2025

Almost all sugarbeet acres are now planted in North Dakota and Minnesota, and seedling emergence continues across the region. Seeds and emerging seedlings are vulnerable to multiple disease and environmental risks that can hinder stand establishment, and it is important to recognize and be aware of this possibility. Warmer and drier conditions reduce the risk of soilborne diseases causing issues, but waterlogging, wind, and even extreme heat can damage sugarbeet seedlings. At first glance, damage caused by these abiotic factors can appear similar to disease symptoms. Of course, recent weather events can point to the culprit in many cases. NDSU and University of Minnesota Extension can diagnose issues as well to rule out soilborne plant pathogens.

Ideally, plant populations should reach 175-210 plants per 100 feet. However, sugarbeet has the ability to compensate when stands are thin. Adequate yields (recoverable sugar per acre) may still be obtained at less-than-ideal plant populations. Each situation is different when replanting is considered; NDSU Extension and/or cooperative agriculturalists can assist in finding the optimal outcome for situations where sugarbeet populations are marginal.

#### Rhizoctonia damping off

The fungus *Rhizoctonia solani* causes damping off in seedlings of multiple crops, including sugarbeet, soybean, and dry edible beans. Fields with a history of Rhizoctonia diseases in sugarbeet are most at risk. Symptoms in seedlings include discolored, black lesions on the hypocotyl, leading to girdling, and seedling death. Compared to abiotic causes of seedling death, Rhizoctonia will be associated with larger and longer lesions. In contract, discoloration associated with abiotic causes often occurs after plant death and any root tissue remaining is likely to be healthy.

#### Wind damage

Similar to damping off, strong winds can bend and twist off seedlings at the soil line, severing the hypocotyl. Blowing soil at the ground level can also sever seedlings at the stem and damage leaves and cotyledons.



Figure 1. Sugarbeet seedlings affected by saturated soils in 2024. This particular field was also impacted by wind and blowing soil, increasing physical damage to seedlings. Lesions from Rhizoctonia infection were not present above or below the soil line in this case.

#### Heat canker

High soil temperatures as the seedlings pushes through and contacts the soil surface can lead to heat canker and crimping of the cotyledons during emergence. Exceptionally warm temperatures in the first half of May have already increased the risk of this occurrence.

Ana Carcedo Broadleaf Crop Agronomist

#### Waterlogging

Waterlogging may or may not become an issue in some areas—to be determined for 2025. Chlorosis and tissue discoloration can occur (Figure 1). A few waterlogged fields in 2024 even had a distinct "lake" smell, likely caused by anaerobic soil conditions. As with other stresses, waterlogging increases risk of damage from wind, or "sandblasting" if the soil surface dries, and plant pathogens.

Eric Branch

Extension Plant Pathologist and Sugarbeet Specialist



#### SOYBEAN STAND ASSESSMENTS

As planting progresses (Figure 1) and soil temperatures in most of the state are above 60°F, conditions are now more favorable for rapid soybean germination and emergence. It is important to assess soybean stands and make decisions that can directly impact final yield outcomes. Understanding how to evaluate plant stands, when to consider replanting, and the costs of action versus inaction is vital to managing a successful soybean crop.



#### How to Take a Stand Count

The most common method involves measuring 1/1000th of an acre and counting vigorous plants within that space (Table 1). Repeat this process in multiple randomly selected areas of the field to get a reliable average. Multiply the average count by 1,000 to estimate plants per acre. Look for:

- <u>Spacing consistency</u>: Uniform gaps may be normal, but frequent or repeated gaps could indicate mechanical or pest-related issues.
- <u>Plant health</u>: Dig up seedlings to examine root and stem conditions for signs of blight, wilting from ammonia burn, or insect feeding.

Table 1. Length to Measure for 1/1000th Acre. Plants in both adjacent rows should be counted.			
Row Spacing (inches)	Length to Measure for 1/1000th Acre		
7"	74 ft 8 in		
10"	52 ft 3 in		
15"	34 ft 10 in		
20"	26 ft 2 in		
22"	23 ft 10 in		
28"	18 ft 9 in		
30"	17 ft 5 in		

#### When Is Replanting Necessary?

Soybeans are remarkably resilient. Soybean plants that are cut or damaged above the cotyledonary node often survive. They can compensate for reduced populations by producing axillary branches that fill gaps and increase pod production. Even if one cotyledon is lost, the plant can typically continue growing. However, if both cotyledons or the apical meristem are damaged below the cotyledonary node, the plant is unlikely to recover and should be counted as dead. Therefore, only consider replanting when:

- Final stands are less than 70% of the target.
- Emergence is uneven and gaps exceed one square foot.
- Damage from pests or environmental factors causes widespread plant loss.
- Poor emergence results in open canopies prone to weed and insect pressures.
- Calendar date—late planting typically reduces yield potential.

Keep in mind that later-planted soybeans can sometimes outperform early-planted stands with severely reduced populations. However, the decision to replant should be based on a clear yield benefit that justifies the added costs of seed, fuel, time, and potential insurance implications.

Choosing to do nothing may save resources in the short term but risks yield loss if stand issues are significant—especially due to delayed canopy closure and increased weed pressure. On the other hand, replanting without clear need can waste time and inputs. A more balanced option is "repair planting": selectively filling in thin or bare areas rather than replanting the entire field. This strategy can help restore uniformity and protect yield potential while minimizing overall costs.

Check the soil temperature in NDAWN: <u>https://ndawn.info/soil.html</u> Want to know more about soybean replanting? Check this publication: <u>https://bugwoodcloud.org/resource/files/30385.pdf</u>

> Ana Carcedo NDSU Broadleaf Agronomist



#### HOT, DRY WEATHER AND NITROGEN FERTILIZER

While field conditions for the last week have been favorable for getting crops planted, the dry conditions, hot weather, and lack of precipitation have not been conducive for moving the N from broadcast urea into the soil profile. To simplify the situation, there are two main paths urea can take once it is broadcast onto the soil surface—one positive and the other negative, but preventable.

In an ideal situation, a gentle rain of greater than ¼ inch following the application of urea would dissolve the prill and move it into the soil profile, minimizing losses from volatilization. The other end of the spectrum would be to receive only enough precipitation, heavy dew, or high humidity to make the fertilizer "melt" but not actually move into the soil; when this process happens, the soil enzyme urease begins to rapidly convert the urea to carbon dioxide and ammonia, which is then lost directly to the atmosphere. Unfortunately, urea broadcast on fields which received the spotty rain which passed through the area last Saturday, is likely undergoing this volatilization loss as we speak—based on previous North Dakota research, 10-30% of the N is lost per week in similar situations. If a urease inhibitor was used (such as NBPT) the urea is effectively protected for 10-15 days. Those fields in which the urea has been sitting on the dry soil surface and not dissolving are of less concern, the minimal soil contact is limiting the urease enzyme from "doing its thing."

With the rain forecasted later this week, it looks favorable for moving broadcast urea safely into the soil profile where it can be used by the soon-to-be-growing crop (providing the field conditions favor infiltration as opposed to run-off during the coming rains).

#### Urea prices are climbing

Within the last week and a half, N fertilizer prices have increased sharply across North Dakota and the Upper Great Plains, citing both high local demands and shortages resulting from shipping delays. On the wholesale market, urea prices are up 9%, ammonia 3% and UAN 6% from last week. While we are unfortunately at the mercy of the market on pricing, there are things we can do on-farm to ensure we are getting the most bang-for-our-buck on N fertilizer inputs including utilizing economically-minded N rates (check out the <u>2/24/2025 Crop and Pest Report</u> for more information), using nitrification inhibitors for broadcast urea, and applying fertilizer as close to crop demand as possible.

Brady Goettl Extension Soil Specialist



#### **EXPECTATIONS FROM RESIDUAL HERBICIDES**

One of the most common questions over the last seven days has revolved around expectations for residual herbicides in dry conditions over the last two weeks. However, looking at the forecast as I write this article, many readers might receive over an inch of precipitation between my writing and the time this article comes out. So I figured it would be appropriate to highlight one particular trial conducted in Fargo in 2023 (dry conditions) and 2024 (wet conditions). This trial evaluated six different soybean herbicides or tank-mixtures by themselves, or with the inclusion of either 0.25 lb ai or 0.5 lb ai of metribuzin per acre. This resulted in 20 different treatments.

These trials were conducted at our waterhemp site near campus, which is a silty clay soil with over 5% OM. In 2023, we planted into relatively dry conditions (top 1" was dry), and received less than 0.5" of rainfall over the 14 days following herbicide application. It took 4 weeks, and 10 different precipitation events, to reach one inch of rain. In other words, we never received the 0.5" rainfall we typically quote as needed for herbicide incorporation, but we did accumulate an inch over several small rainfall events. In 2024, we received one inch of rainfall two days after herbicide application, and received a total of 6 inches of rain over a three week period before soybean even emerged.

Table 1. Herbicides tested in 2023 and 2024 for figures 1 and 2. Each treatment was applied alone, and then in combination with 0.25 or 0.5 lb ai per acre of metribuzin.				
Active ingredient	US Trade name	Product Rate (per A)		
Flumioxazin + pyroxasulfone	Valor EZ + Zidua SC	2.5 fl oz + 3.5 fl oz		
Flumioxazin & cloransulam- methyl	Surveil (Valor + Firstrate)	3.5 oz		
Flumioxazin & cloransulam- methyl + pyroxasulfone	Surveil + Zidua SC	3.5 oz + 3.5 fl oz		
Flumioxazin & pyroxasulfone & metribuzin	Fierce MTZ <sup>a</sup>	1.25 pt		
Sulfentrazone	Spartan	4 fl oz		
Dicamba	Xtendimax <sup>b</sup>	22 fl oz		
<sup>a</sup> Fierce MTZ at 1.25 nts ner A does not contain 0.25 lb ai metribuzin. So additional metribuzin was added to equal 0.25 and				

<sup>a</sup>Fierce MTZ at 1.25 pts per A does not contain 0.25 lb ai metribuzin. So additional metribuzin was added to equal 0.25 and 0.5 lb ai metribuzin.

<sup>b</sup>Xtendimax (and Engenia) are not labeled for this use in 2025. Dicamba cannot be used preemergence on soybean in 2025.

There is often a lot to discuss in a trial with 20 treatments. I typically choose to discuss the ratings on residual herbicides collected six weeks after application, as treatments differences become more apparent compared to earlier ratings. My hope is that any postemergence herbicide has been applied before this rating date. Figure 1 shows the waterhemp control in 2023 at 6 weeks after planting from the different treatments.



separatea.

Abbreviations:

MTZ1 = metribuzin at 0.25 lb ai per A MTZ1 = metribuzin at 0.5 lb ai per A DIC = dicamba (0.5 lb ae per A)



There are several key points I talked about when presenting these data all winter. One of the first things is water solubility of individual active ingredients. Two products I would often highlight during this discussion were pyroxasulfone (Zidua, others), which is considered to have low water solubility, and dicamba, which is among the most water soluble herbicides on the market. These two individual active ingredients provided vastly different waterhemp control in the dry

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and wet years of 2023 and 2024. My main message is that if we think solely about rainfall, it's risky to put all of our eggs in one basket based on water solubility alone (a much larger discussion is needed about resistance management and weed control spectrum). However, when I look at several of the treatments in the middle part of the graphs of figures 1 and 2, we were between 80 and 90% control after 6 weeks in both a wet and a dry year. We always recommend multiple effective active ingredients be applied in an application. This recommendation is driven by resistance management, however, I like to point out many commercial premixtures also contain a mix of active ingredients classified with high and low water solubility. This highlights some of the methods of developing premixtures. We can see that 2 to 3 active ingredients in combination performed well in both dry and wet conditions.

So what does this mean for 2025? If we stuck with the plan of multiple effective active ingredients in the residual program, a field will be set up for a good start to the season, regardless if you catch this rainfall or stay dry. When relying on a single active ingredient, results could vary drastically whether you catch an inch of rainfall or stay dry. It's also important to note these treatments were chosen because the active ingredients are all effective on waterhemp.... mileage will vary on other weeds like kochia and green foxtail. Finally, I also like to point out that none of the treatments presented above provided complete control, so make sure to scout fields to know when weed escapes reach 3 to 4 inches and be ready for a timely postemergence application.

Joe Ikley Extension Weed Specialist



#### **AROUND THE STATE**

#### NORTHEAST ND

#### **Field Conditions and Crop Progress Update**

A week of warm, dry weather allowed farmers to operate at full speed across the region. Fieldwork, fertilizer spreading, herbicide applications, and planting were in full swing. Small grain planting is estimated at 60–80% complete, while soybeans and dry beans are at 20–25%. Corn planting ranges from 10–15%, and field peas are around 60%. A few acres of flax and canola have also been seeded.

Early-planted wheat is emerging, with reports of good and uniform stands. However, in many areas, 40–50% of fields remain untouched. Subsoil moisture remains adequate across much of the region, but surface soils are drying out. Farmers are hopeful for the rain in the forecast to improve topsoil conditions.



Field work in Cavalier County. Photo: Venkat Chapara, LREC

High winds, combined with dry surface soils and intense field activity, have led to soil erosion and dust clouds in some areas. Windy conditions have also made herbicide application challenging.

#### Pest Update

Canola flea beetlesboth crucifer (black) and striped—have emerged from overwintering and are actively feeding on volunteer canola and weeds like shepherd's purse. While canola planting is still limited, growers should be on alert. Most planted acres are protected with insecticide seed treatments, but scouting is strongly advised, especially during early growth stages.

Canola seedlings are most vulnerable to flea beetle feeding until they



reach the 4–6 leaf stage. Research from NDSU seed treatment trials indicates that under high flea beetle pressure, seed treatments alone may not provide sufficient protection, and a foliar insecticide may be required to prevent significant injury.



A) Crucifer and B) striped flea beetles feeding on volunteer canola seedlings Photo: Anitha Chirumamilla, Langdon Research Extension Center (LREC)



Canola flea beetle feeding on shepherd's purse. Photo: Anitha Chirumamilla, LREC

Anitha Chirumamilla Extension Cropping Systems Specialist Langdon Research Extension Center

#### SOUTH-CENTRAL/SOUTHEAST ND

Planting is in full swing across the entire South-Central and Southeast (a diagonal from Sheridan to Richland and Traill to Emmons Counties) region of North Dakota with some farmers completely planted and most small grains planted in southern and western areas of the region.

As of May 12<sup>th</sup>, small grain planting ranged from 30% in Eddy County to 100% in Kidder and Sargent Counties with an average of over 84% of the small grains planted in this region of the state! As of May 12<sup>th</sup>, small grain emergence ranged from 0% in Eddy County to 100% in Sargent County with an average emergence across the region of 38%. Some agents reported excellent stands and growth while some at least reported uneven emergence. Some small grains are at the 2-leaf stage already.

As of May 12<sup>th</sup>, corn planting ranged from 10% in Eddy County to 90% in Sargent County with an average across the region of 62%. As of May 12<sup>th</sup>, corn emergence ranged from 0% in Burleigh, Eddy, Kidder, Ransom, and Steel Counties to 50% emerged in Sargent County and an average for the region of only 6%. Corn stands look good so far.

Nearly all dry peas in the region have been planted and most emerged. All potatoes have been planted and some are emerging. All sugarbeets have been planted in the region and most emerged with condition unknown. Most of the canola has been planted in the region as well.

As of May 12<sup>th</sup>, soybean planting ranged from 5% in Burleigh and Eddy Counties to 75% in Emmons, Logan, and Sargent Counties with an average across the region of 37%. As of May 12<sup>th</sup>, soybean emergence ranged from 0% across most of the region to 10% in Emmons County with an average of only 1% emerged for the region.

Sunflowers have begun being planted in Burleigh County already.

The two largest pest issues in the region are flea beetles in canola and weeds. With all of the winds the past week, the lack of seeing sprayers in fields, and the amount of weeds surviving tillage, I'm concerned about the amount of burndown and preemergence herbicides that have been applied for the region. I hope preemergence herbicides are being applied to all corn and soybean acres in the region as kochia and waterhemp are the two biggest



Soybeans starting to emerge one week after planting at the Carrington Research Extension Center



Dense kochia patch in many fields this spring.

#### **CROP & PEST REPORT**



Dense and large green foxtail plants emerged already on May 12, 2025 at the Carrington Research Extension

weed species of concern in corn and soybean, but we also need to be concerned about green foxtail and wild oat being resistant to Group 1 and/or 2 herbicides in wheat. Scout fields early and often for weeds and apply postemergence herbicides early when kochia is 2 to 3 inches tall and before axillary (branches) grow begins. I saw a 1.5-inch kochia plant starting to produce axillary growth already! More to follow next week on details, but weed control looks to be challenging at this point in time. Horseweed (marestail) has started bolting in the region already as far north as Carrington, making it more difficult to control with herbicides.

Of the 27 NDAWN stations I have chosen this season for this region, the average maximum daily air temperature from May 6, 2025 to May 12, 2025 ranged from 79 degrees Fahrenheit near Finley, Hurdsfield, and Streeter to 84 degrees Fahrenheit near Mooreton, Oakes, and Wahpeton with an average for the region this past week of 81.6 degrees Fahrenheit! Based upon historic weather data near Cooperstown, the average daily high temperature for this time period was a whopping 17.4 degrees Fahrenheit above normal and the third warmest period on record! There were two days during this period in Cooperstown it was 95 degrees! One of those days it was the second hottest day on record by only 1 degree Fahrenheit and the other day was the hottest on record by 6 degrees Fahrenheit! I assume this was similar across the region. The average daily minimum air temperature for the past week at the 27 NDAWN stations across the region ranged from 46

degrees Fahrenheit near Hope to 52 degrees Fahrenheit near Milnor with the daily average for the region for the week of 49 degrees Fahrenheit. The historical average daily minimum air temperature for last week near Cooperstown was

below the top ten warmest low temperatures, however May 11<sup>th</sup> and 12<sup>th</sup> it was the warmest daily low temperature for those days! This trend was likely the case across the region.

The greatest rainfall for these stations across the region for last week was 0.05 inch near Skogmo! Most stations had no rain this past week making it very dry and capable for everyone to conduct field work. Sheridan County is still the driest county in the region followed by portions of Burleigh County and a small portion of northwest Wells County. As of May 12<sup>th</sup>, the Skogmo NDAWN station had the lowest fourinch depth of soil moisture at 4% with the greatest station being Casselton at 39%. Also on the 12<sup>th</sup>, the Wing NDAWN station had the lowest 39-inch depth of soil moisture at only 5%! Livona, Pickardville, and Wing NDAWN stations had a four-inch and 39-inch depth soil moisture of less than 10%! These stations are too dry.



Two-leaf pigweed plants already emerged on May 12, 2025 at the Carrington Research and Extension Center.

#### **CROP & PEST REPORT**

The average daily 4-inch soil bare soil temperature for the past week ranged from 56 degrees Fahrenheit near Bremen, Hope, McKenzie, and Mooreton to 68 degrees Fahrenheit near Livona, with an average for the region from these stations for last week of 61 degrees Fahrenheit. These soil temperatures will allow any crop to germinate and grow, but lets see what next week brings.

The other big story of this past week was wind! I saw very few and some days no sprayers in the fields. I hope enough burndown and preemergence herbicides got applied this week before the rain comes! The highest daily average wind speed for these stations for the past week ranged from 10.5 mph near Hope to 14.2 mph near Wahpeton with an average of 12.8 mph across the stations for the week! That's way above last weeks average daily wind speed of 9.7 mph I reported last week.

Canola is being planted now as well with the southern region nearly all planted. For those growing canola in the region, please scout for striped and crucifer flea beetles as populations appear to be very high already in most of this region. Most of the radishes in our garden in Cooperstown have been killed by both flea beetle species since I did not control the flea beetles.

Hopefully, we get some much needed rain later this week across the entire region, but we could do without the cold weather coming with the rain!

<u>Jeff Stachler</u> NDSU Extension Cropping Systems Specialist Carrington Research Extension Center



#### WEATHER FORECAST

#### The May 15 to May 21, 2025 Weather Summary and Outlook

Last week, I noted that early May rarely sees such intense heat, driving growing degree days (GDDs) to near-record highs for this time of year. The past week averaged about 15°F above normal (Figure 1), spurring rapid germination and emergence but also bringing high winds, soil erosion, and other issues. Now, that heat is giving way to unusually cold weather for much of the forecast period. Temperatures may drop to 15°F below average over the next seven days, raising the risk of frost (36°F) or even a freeze (32°F). Sunday morning poses the greatest freeze risk, although Saturday and Monday mornings could see lows in the 30s in some areas. Locations with lighter rainfall from this storm face higher freeze potential, as wet or saturated soils tend to keep surface temperatures warmer than drier soils.



Figure 1. Departure from Average Air Temperature for the Period of May 7 through May 13, 2025.

The past week saw only scattered showers, but the storm affecting us today and tomorrow began yesterday in western North Dakota. Due to submission deadlines, Figure 2 includes data only through 11:00 AM on Wednesday, May 14, 2025. As you read this, heavier, more widespread rain should be covering the state. After this storm passes, another chance of rain is possible early next week.



Figure 2. Total Rainfall for the 168-hour period ending at 11:00 AM, May 14, 2025

Figures 3 and 4 show forecasted Growing Degree Days (GDDs) for base 32°F (wheat and small grains) and 50°F (corn and soybeans) during this forecast period. Expect very few GDDs, with most accumulation occurring today in southeastern North Dakota and toward the end of the period elsewhere. The region will likely shift from needing rain to needing warmth to advance crop growth in the coming week.







Using May 1 as a planting date, the accumulated growing degree days for wheat (base temperature 32°) is given in Figure 5. 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





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

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