

No. 15 August 11, 2022

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## SOYBEAN APHIDS INCREASING

Soybean aphids increased this past week. Temperatures in the low to mid-80s are favorable for soybean aphid reproduction and populations can double every 7 days. Field scouting is important.

IPM Crop Scouts observed soybean aphids in 31% of the 61 soybean fields scouted. Incidence of plants infested by soybean aphids ranged from 6% to 100% and the average number of aphids per plant ranged from 1-250 aphids per plant. One field was above the economic threshold and located south of Minot in Ward County. Most positive soybean fields were present in southeastern and north central areas of ND. Soybean crop stages ranged from R1 (beginning bloom) to R4 (full pod). See soybean aphid maps on next page.

**If soybean aphids reach the economic threshold of 250 aphids per plant on 80% of the plants**, avoid using pyrethroid insecticides, Group 3A, in areas where pyrethroid-resistant soybean aphids occur including *Cavalier*, *Pembina*, *Walsh*, *Nelson*, *Grand Forks*, *Steele*, *Traill*, *Barnes* and *Cass Counties*. We are recommending that growers use one of the following three insecticide products that are very effective against piercing-sucking insect pests (aphids): Transform WG (sulfoxaflor), Sefina (afidopyropen) or Sivanto Prime (flupyradifurone).

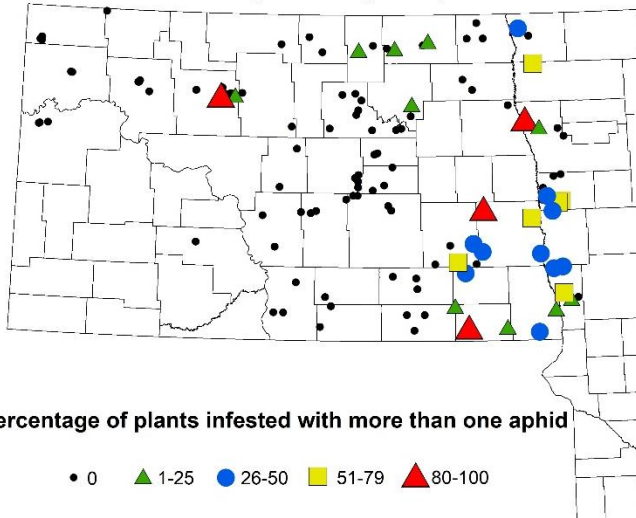
Be aware of other insect pests in the soybean field and if grasshoppers are still a concern, then select a premix insecticide that will be effective against both soybean aphids and grasshoppers, such as Ridgeback (bifenthrin + sulfoxaflor), Renestra (afidopyropen + alpha-cypermethrin), Beseige (chlorantraniliprole + lambda-cyhalothrin) or Endigo ZC (lambda-cyhalothrin + thiamethoxam).

Please see the [E1143-22](#) - **North Dakota Field Crop Insect Management Guide** for a list of insecticides registered for soybean aphids, grasshoppers and other insect pests of soybean.

**Disclaimer: Mention of any insecticides does not imply endorsement of one product versus another nor discrimination against any product not mentioned by the authors or universities.**

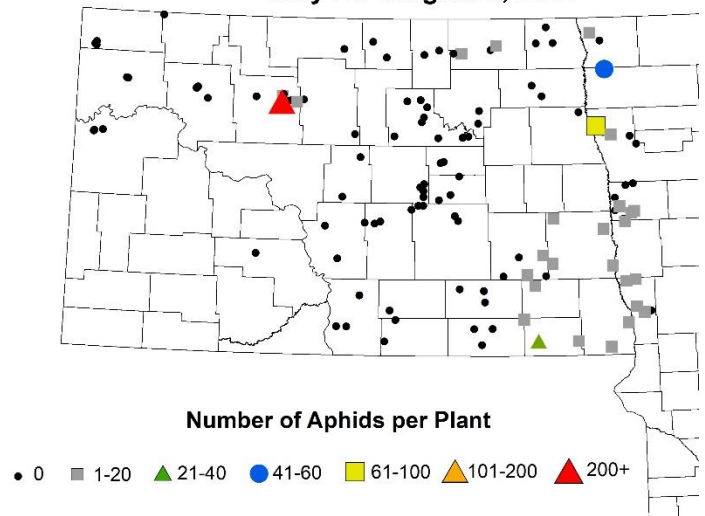
## Soybean Aphids Incidence

July 25 - August 5, 2022



## Soybean Aphids

July 25 - August 5, 2022



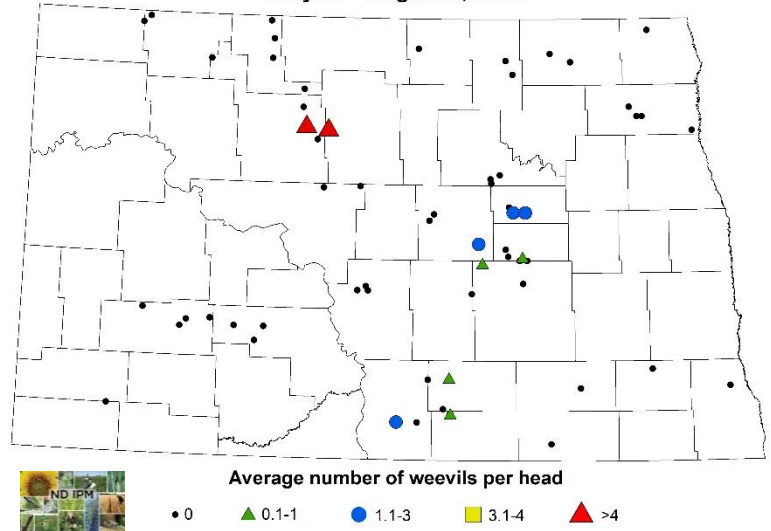
### CONTINUE TO SCOUT FOR RED SUNFLOWER SEED WEEVILS

About 49% of the sunflower are blooming, behind last year by 72% (Source: USDA NASS – North Dakota Crop Progress and Condition, August 8, 2022). **It is critical to scout sunflowers regularly for red sunflower seed weevils from the late R4 through the R5.7 (late flowering).** Research indicates that after 100% flowering plants are no longer susceptible to egg laying by female weevils due to the tougher outer seed hulls. **We don't recommend spraying sunflower fields for weevils where the majority of the heads are at R5.7 or more mature. Weevils may still be present and feeding on any late sunflower heads shedding pollen, but female weevils are not laying eggs into seeds.**

Populations have been variable in ND, for instance the southwest has observed lower densities of weevils whereas the south central and north central have higher densities (see map).

## Red Sunflower Seed Weevils in Sunflower

July 25 - August 5, 2022



IPM scouts observed increasing numbers of red sunflower seed weevils in 35% of the sunflower fields scouted last week. The average number of weevils per head ranged from 1 to 8 in central and southeastern ND. Populations above the economic threshold, >3 weevils per head, were found in Ward and McHenry Counties.

See past articles on scouting and insecticide timing for red sunflower seed weevil control: [Crop & Pest Report #12 July 21](#) and [#14 August 4](#).

## IPM INSECT TRAPPING UPDATE

We will be posting and reporting weekly trapping results for insect pests of wheat, canola and sunflower on the NDSU Extension [IPM website](#) and in the [Crop & Pest Report](#).

**Wheat:** Pheromone traps for true armyworm and black cutworm continue to be **low for both species** and traps will be pulled from the fields this week. True armyworm traps captured a total of only 45 moths from 57% of sites. Black cutworm traps captured a total of 10 moths from 36% sites. See [maps on IPM website](#). Wheat growth stages ranged from kernel watery ripe to kernel hard.

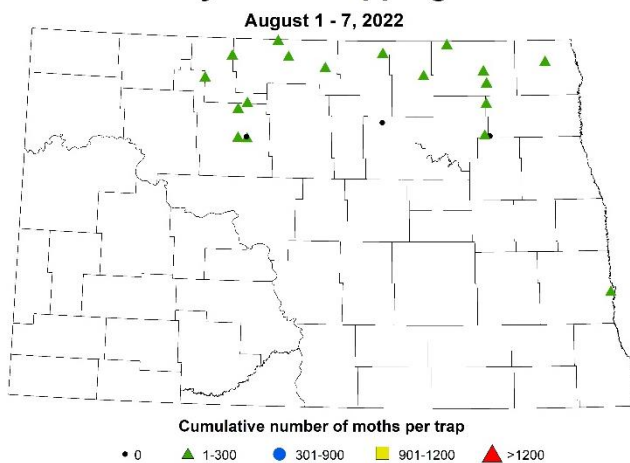
### Canola:

IPM Crop Scouts have placed pheromone traps out for bertha armyworm and diamondback moth at 21 trap sites in 12 counties, mainly in northern canola growing areas (Table 1). Canola growth stages ranged from late flowering (4.4) to pod ripening (5.2).

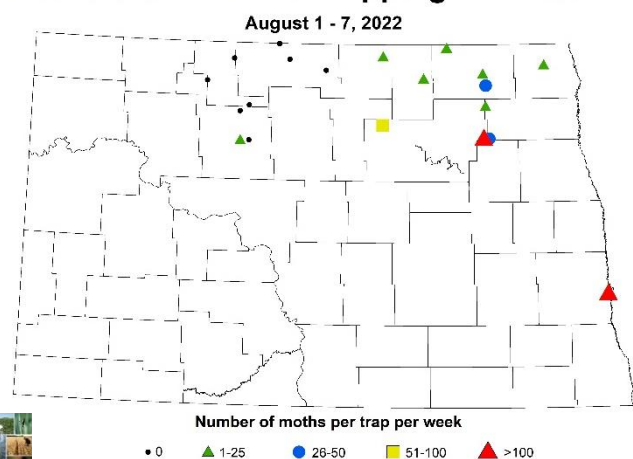
Trap catches for **bertha armyworm** continue to be very low, 0-22 moths per trap per week, with 43% of the trap sites capturing moths. Cumulative numbers of bertha armyworm moths per season are low, below the economic threshold of >300 cumulative moths per season. So, no risk of bertha armyworm in canola so far. See scouting article for bertha armyworm larvae in canola, in the past [Crop & Pest Report #11](#), July 14.

Trap catches for **diamondback moths** continued to decrease with a total of 606 moths compared to a total of 924 moths last week. Moths were captured at 57% of the trap sites, mainly in eastern ND. Two sites located in Cass and Ramsey Counties continue to be over 100 moths per trap per week. **When diamondback moth trap catches are above 100 moths per trap per week, canola fields should be scouted for larvae.** See past scouting article for diamondback moth larvae in canola in the past [Crop & Pest Report #11](#), July 14.

### Bertha Armyworm Trapping Network



### Diamondback Moth Trapping Network



### Sunflower:

IPM Crop Scouts have placed pheromone traps out for banded sunflower moth, Arthuri sunflower moth and sunflower head moth at 8 trap sites in 7 counties. Sunflower growth stage ranged from R2 (bud <1 inch from leaf) to R5.2 (early flowering).

**Banded sunflower moth** continued to increase for the second week in a row with a total of 846 moths captured compared to a total of 587 moths from July 25-31 and 371 moths from July 18-24. Trap catches ranged from 1-214 moths captured per site and were present at all of the 8 trapping sites. See maps on next page.

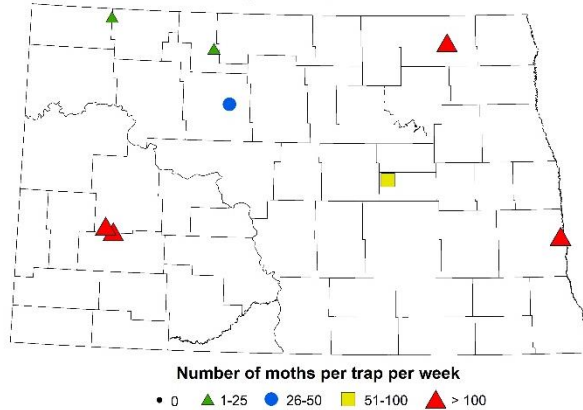
**Arthuri sunflower moth** was captured at 4 trap sites and trap catches ranged from 2-17 moths per trap per week.

Sunflower head moths, only two, were captured at one trap site in Divide County last week.

### Banded Sunflower Moth Trapping Network

*Cochylis hospes*

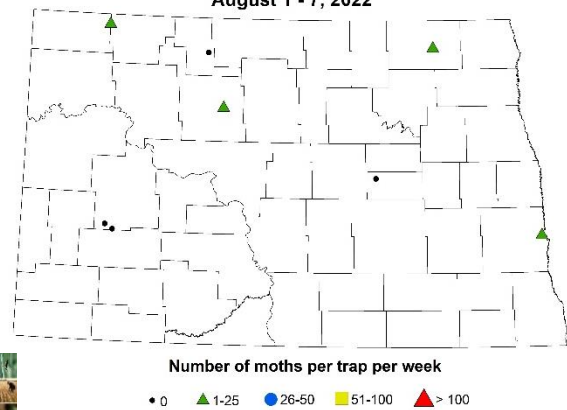
August 1 - 7, 2022



### Arthuri Sunflower Moth Trapping Network

*Cochylis Arthuri*

August 1 - 7, 2022



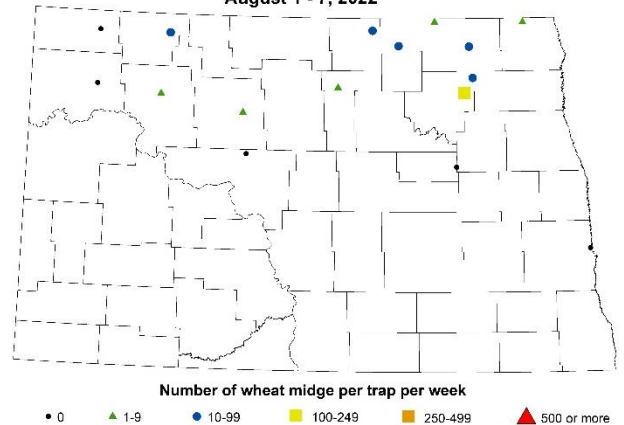
### WHEAT MIDGE RISK LOW

Wheat midge trap numbers continue to decline. Last week, wheat midge trap numbers ranged from 0-112 wheat midge captured per week at 69% of the trap sites. Only the late planted wheat is still susceptible to wheat midge infestation in the heading to mid-flowering stages. So, the overall risk to wheat midge is low now.

Parasitic wasps were observed at 44% of the trap sites in 7 different counties.

### Wheat Midge Trapping Network

August 1 - 7, 2022



### CEREAL APHID UPDATE

Cereal aphids declined and were present in only 19% of the wheat field scouted (total of 52 fields scouted). Cereal aphids are being observed on wheat heads in northeast ND (Anitha Chirumamilla, LREC). Few fields were above the economic threshold. Wheat crop stages ranged from late flowering to kernel hard (ripening).

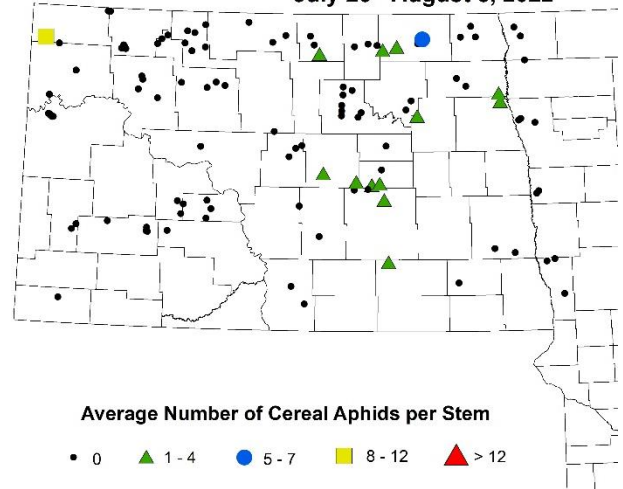
The cereal aphid threshold for late crop stages are:

- From the end of anthesis through medium milk - 8-12 aphids per stem
- From medium milk through early dough - >12 aphids per stem

Continue to scouting wheat fields through the early dough stage of wheat.

### Aphids in Wheat

July 25 - August 5, 2022





## SCOUT FOR BEAN LEAF BEETLES IN SOYBEANS AND DRY BEANS

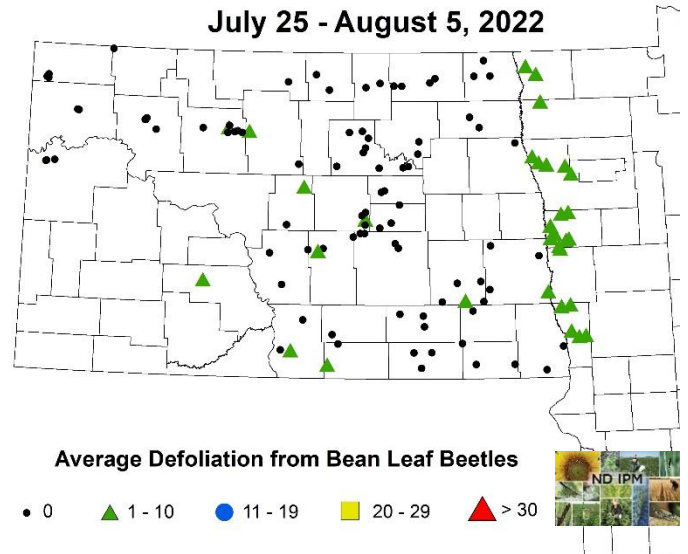
Adults of the 2<sup>nd</sup> generation of bean leaf beetles are emerging and causing defoliation and pod feeding at fairly high levels in soybeans and dry beans in southeast ND near Lisbon, and Casselton. Scouting is important as beans start to mature.

Beetles are about ¼ inch long, oval-shaped, greenish or yellow to reddish-brown beetle, with four black spots on wings (spots also can be absent) and black margin near wing edges. Bean leaf beetle always has a black triangular mark in middle and behind prothorax.

Adults feed on foliage causing small, round holes between leaflet veins or on pods. Feeding injury on the pods may increase the risk of virus transmission, such as bean pod mottle virus, and also cause secondary infections from fungi and bacteria (rotting and discoloration). **Late season feeding on the foliage and pods by the new adults that emerge in August are more important than early season feeding on foliage.**

## Soybean Bean Leaf Beetle

July 25 - August 5, 2022



*Bean leaf beetle (red phase on left and yellow-green phase on right), and leaf defoliations and pod feeding injury. (J. Kalisch, Nebraska State University)*

## Treatment thresholds are based on defoliation:

- 30% defoliation during vegetative (before flowering);
- 20% defoliation during reproductive plants (flowering to pod fill stage); or
- 10% pod feeding (or the presence of clipped pods). Treat immediately if populations are large and pod clipping is common.

Please see the [E1143-22](#) - *North Dakota Field Crop Insect Management Guide* for insecticides registered for bean leaf beetle control in soybean and dry bean.

### GRASSHOPPERS AND SUMMIT DISEASE

Dead grasshoppers are being observed on the tops of plants with their legs grabbing tightly around the stem. These grasshoppers are infected with a naturally-occurring fungus disease called *Entomophaga grylli* (commonly referred to as "summit disease"). Grasshoppers become infected from spores, which stick to the bodies as they seek food. These spores germinate and penetrate the insect cuticle. The fungus then multiplies in the blood and grows on internal organs. At about the time the grasshopper dies, its body is full of several million resting spores. As the cadaver disintegrates, these resting spores are disseminated on the ground, germinate, and produce more sticky spores, thus spreading the disease. This disease is capable of causing high mortality in grasshopper populations, but these epizootics (outbreaks) are usually sporadic and localized and generally occur late in the season after economic damage from grasshoppers has occurred.



***Grasshopper cadaver that is disintegrating from being infected with Summit disease. (Matt Baca, Taylor, ND)***

[Janet J. Knodel](#)

Extension Entomologist



### PARAQUAT INJURY AND OTHER CAUSES OF LEAF SPOTS IN CORN

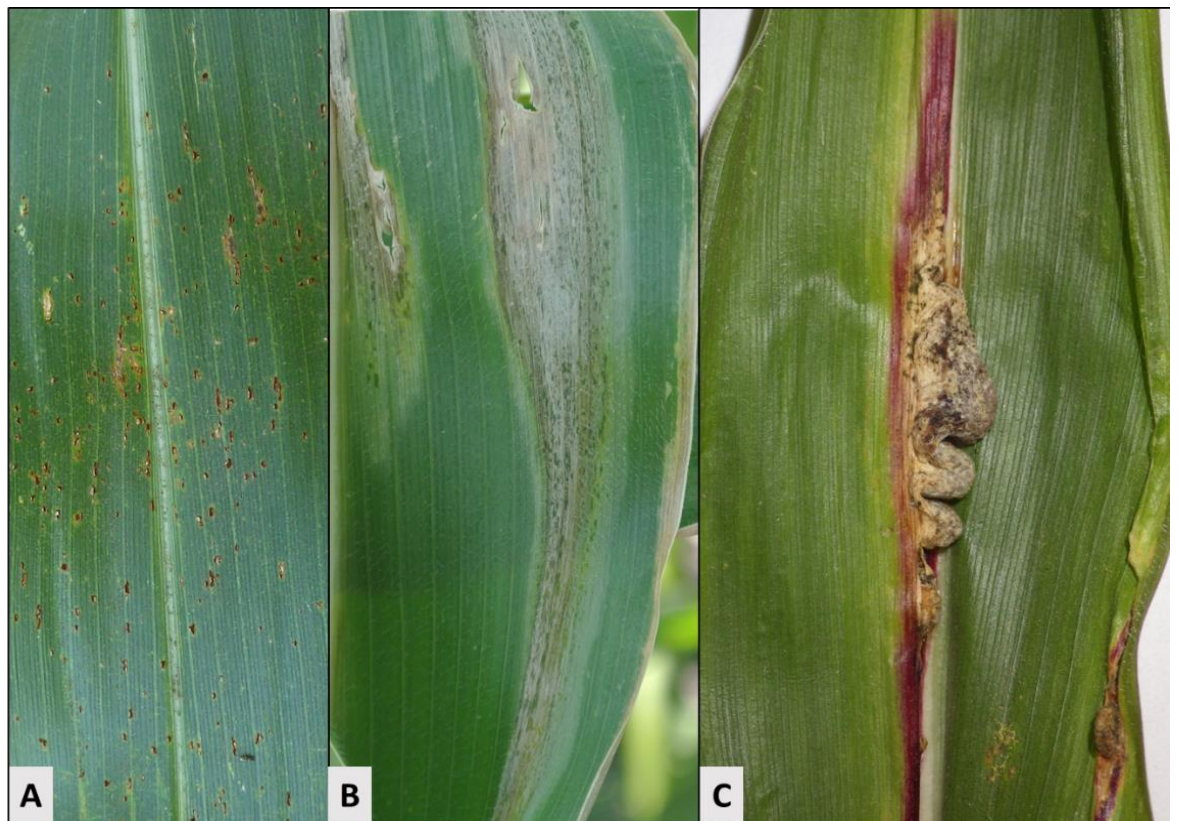
As preharvest and desiccation applications begin in many crops, we anticipate there will be several photos of leaf spots on corn in the coming weeks. Typically, the question we receive is: is this holcus leaf spot or paraquat injury (Figure 1)? Taking notes on field distribution, plant canopy distribution and onset of disease can help determine possible causes. Holcus leaf spot (bacterial disease, not economic) generally is observed early in the season and will remain on the lowest part of the canopy. Injury associated with paraquat can be observed on the entire corn plant and will likely be most severe on areas of the field associated with prevailing winds. Paraquat injury will also have irregular lesions with no definitive shape (holcus leaf spot tends to stay oval in shape). Paraquat drift onto corn from prevent plant acres has occurred in a few locations in the past several years. Paraquat drift can also occur this time of year when it is used as a desiccant or for pre-harvest weed control.





**Figure 1. Corn leaf with irregular bleached lesions associated with paraquat injury.**

Other leaf lesions that may be visible in the coming weeks include common corn rust, Goss's wilt, and common smut (Figure 2). Common corn rust will have pustules filled with brick-red spores. This disease occurs every year in ND and is not considered to be economically important. Goss's wilt is the most important corn disease in ND and is favored by strong thunderstorms and other events that cause injury to allow the bacterium to enter plant tissue. Goss's wilt symptoms include irregular shaped leaf lesions



**Figure 2. Common corn leaf diseases: (A) common corn rust, (B) Goss's wilt, and (C) Common smut.**

that are necrotic (brown) and accompanied by water-soaking (think grease spot) and “freckles”. Common smut infrequently occurs on leaves and will have white to gray colored galls often along the midrib of the corn leaf.

[Andrew Friskop](#)

Extension Plant Pathology, Cereal  
Crops

[Clair Keene](#)

Extension Agronomist Small Grains  
and Corn

[Joe Ikley](#)

Extension Weed Specialist



#### SMALL GRAINS AND CORN UPDATE

Winter cereal harvest is wrapping up around the state and yields of winter wheat are generally expected to be good. Early seedings of spring cereals are turning color and are in the late milk to dough stages. While a few early fields of barley and wheat may be ready to harvest this week or next, I expect most spring wheat won't be harvested for another two to three weeks. Corn maturity continues to vary widely across North Dakota. In the southeast, corn is filling grain with many fields in the blister to milk stages. In fields that were late getting planted due to the wet spring, corn is as far behind as late vegetative stages to tasseling. Corn that isn't silking yet could be at risk of not making it to maturity if a killing frost comes early. I have not received any calls about pests in corn in recent weeks, though have heard of areas where grasshoppers are clipping silks if populations are high. I expect grasshopper damage to corn could get worse in the coming weeks as other crops dry down and the insects move into fields that are still green. Remember that grasshopper damage is typically worse along field edges and be sure to check a few locations in the interior of your corn fields when scouting for grasshopper feeding.

[Clair Keene](#)

Extension Agronomist Small Grains and Corn



#### PREVENT PLANT, WHAT NOW?

Many prevent plant acres have been tilled to kill weeds, but what now? I hope that the growers do not think they are OK until spring.

Although memory tends to be short, a lot of soil blew away again in certain areas of the state, and tilled prevent plant acres are prime candidates for mini-dust bowls from this moment on until a crop is established, unless something is done to stop it.

The most effective method of reducing wind erosion from now until April is to establish a cover crop now. Even in the north, there should be one to two months of growth of cover crop until a freeze terminates them. If the crop intended is soybean, or a non-wheat crop, then winter rye would work well. If wheat is the intended crop for 2023, then oats or



barley would fill the gap. The NDSU Soil Health website <https://www.ndsu.edu/soilhealth/> has a number of resources to help growers determine a proper cover crop for them. NDSU county agents and the NDSU Soil Health Specialist at the Langdon Experiment station are also well equipped to answer questions regarding seeding rates and cover crop choices. If this is not done, then it should not be a surprise if soil loss is in the near future for these fields.

## FALL CHECKLIST FOR 2023 CROPS

Regarding fertilization and field preparation needs for 2023 cropping, the following are must-do's for this fall:

### Field Preparation-

- Soil blows, I think that there is no argument there. The remedy is to keep residue on the surface and no-till/strip-till/one-pass seed, anything that keeps residue on the field, and more coverage is better.
- To facilitate a no-till after corn, don't use a chopping head. Leave as much stalk standing as possible. It greatly reduces leave/residue blowing into ditches, and even in narrow rows it makes seeding into corn stalks much easier, and the soil dries and warms faster because there is minimal mulch over the 2023 intended rows.
- In highly smectitic shrink-swell clays, the soils till themselves. It is not necessary to till the soils to make a seed bed next year. The soil will do it for you.
- In soils with greater illite content, the soils do not need to be deep chiseled if there is compaction. A shank-type strip-till unit will crack the soil, leave the residue, and also leave most of the natural, helpful soil aggregation to facilitate in-season traffic.

### Future fertilization-

- **Soil test by zone.** Zone soil sampling will enable low pH areas to be identified and the soil test results will be able to differentiate between areas of high nutrients and low. The composite sample strategy mixes all the values together, and an average is seldom useful to determine the proper rate of any supplemental fertilizer.

### Fall N application-

- Soil test to determine rate
- No N application of any kind (except for what might be in the phosphate fertilizer) until October 1.
- From October 1 on, anhydrous ammonia loss risk is low if soil temperature at 4 inches, measured between 6AM and 8AM fall to 50 degrees F.
- A week after the 'safe' anhydrous ammonia date, the risk of N loss from banded urea is low enough so that application with a strip-till unit, or an air-seeder/drill can be made.
- Two weeks after the 'safe' anhydrous ammonia date, the risk of N loss from broadcast urea is low enough so that broadcast urea can be applied. If the urea is left at the surface, the urease inhibitor with technical ingredient NBPT should be applied at a proper rate. Although ammonia volatilization rate is low over winter, it still happens slowly, as both North Dakota and Montana experiments have demonstrated over the past two decades.
- Fall N should not be applied to soils which flood, or to soils with loamy sand, sand textures.
- Sulfur is not a fall fertilizer, and sulfur fertilizer should be planned for a spring application.

[Dave Franzen](#)

Extension Soil Specialist  
701-799-2565

**AROUND THE STATE****NORTH CENTRAL ND**

The warmer weather paused a bit during the past week in the region, bringing some cooler temperatures. Some rain showers were observed in north central North Dakota mostly over the weekend. At the NCREC, 0.07" of rain was observed since last Tuesday (August 2nd). The following are precipitation observations across the area as noted by local NDAWN stations from August 1<sup>st</sup> through August 8<sup>th</sup>: Bottineau: 0.06"; Garrison: 0.15"; Karlsruhe: 0.02"; Mohall: 0.17"; Plaza: 0.16"; and Rugby: 0.05". Bare soil temperatures were being observed at 71°F on the morning of August 8<sup>th</sup>.

Canola flea beetles are emerging again in small numbers, but it may be something to note over the next few weeks. Grasshoppers scouting should continue across the region as they continue to cause a headache. Soybean aphid was found in the region in numbers above economic threshold (Figure 1). Foliar insecticides may be needed if 250 aphids per plant is being observed with 80% of the plants infested.

Winter wheat harvest has begun in the region. Some oats fields planted in early April are ready to harvest. Drought stressed corn has been observed in the Parshall area. With wheat harvest underway, some farmers have begun soil sampling for next growing season.



**Figure 1. Soybean plant infested with soybean aphid in Minot.**

[TJ Prochaska](#)

Extension Crop Protection Specialist  
NDSU North Central Research Extension Center

[Leo Bortolon](#)

Extension Cropping Systems Specialist  
NDSU North Central Research Extension Center

**NORTHEAST ND**

Small grains are turning color in some counties while several of them are at flowering to early milk stages.

Soybeans are pushing through R2-R3 stages.  
Dry beans are at R4-R5 stages.

A majority of canola is still flowering while certain fields are at full pod stage.

Corn ranges from tasseling to blistering stages.

Sunflowers have started blooming and are looking very good. An incidence of dicamba drift on dry beans has been reported from Griggs County which resulted in early ripening of pods.

Cereal aphids are growing in numbers and are now moving to the heads. Soybean aphids are reaching threshold levels in some hot spots.

Grasshopper are causing damage by feeding on wheat and barley kernels and clipping corn silk.

Fall generation canola flea beetles are emerging.

Several diseases are showing up in small grains. Especially Bacterial leaf streak, FHB, Ergot, and Septoria leaf blotch.

Bacterial leaf spot is showing up in several soybean fields across the region.

Ascochyta blight was observed in field pea trials at the Research Center.



**Figure 1: Bacterial leaf spot in soybeans (Jeff Stachler, ANR Extension Agent, Griggs County)**



**Figure 2: Grasshopper feeding damage in barley (Jeff Stachler, ANR Extension Agent, Griggs County)**





**Figure 3: Fall generation canola flea beetles (*Anitha Chirumamilla*, Extension Cropping Systems Specialist, LREC)**



**Figure 4: Dicamba drift causing early maturity in dry beans (Jeff Stachler, ANR Extension Agent, Griggs County)**

[Anitha Chirumamilla](#)

Extension Cropping Systems Specialist  
Langdon Research Extension Center



**NORTHWEST ND**

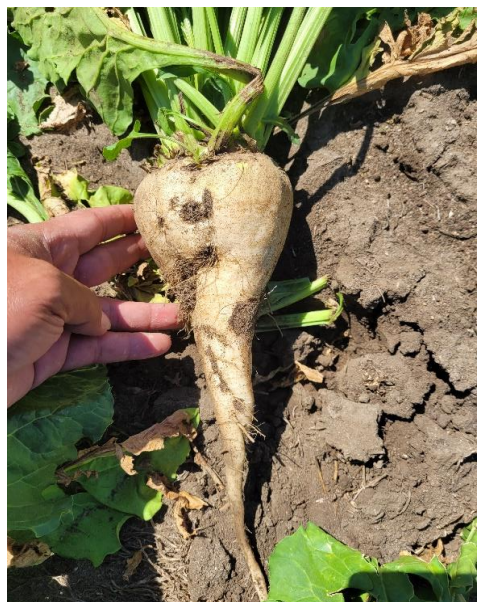
Northwest ND received very little to no rain this past week. NDAWN stations across five northwestern counties recorded 0 to 24 percent of normal rainfall or 0.0 to 0.043" of rain from August 2 to August 8. Most areas did not receive any rainfall at all. Thursday last week was a hot day in the northwest with maximum temperatures recorded in the high 90s and low 100s which did not help late planted crops.

For the most part the crops are growing well, although root rot disease in lentils and peas seem to be the common across the northwest counties (Figure 1). Winter grains are still being harvested. Despite the considerable amount of precipitation this year at the Williston REC and the green foliage observed in winter wheat, for some reason, initial harvest only yielded 34 bushels with protein content yet to be determined. Harvesting of field peas is starting to gain momentum as well. Canola fields are starting to turn yellow with some field at physiological maturity. Lentils are in the R5 to R8 with most in the R7 when leaves start to yellow. Safflowers are past peak bloom and are nearing the end of flowering. Sugar beets still have a lot of green and the roots yet to fully develop (Figure 2). Irrigation coupled with sunny days and cooler nights in the next 2 months (hopefully) can definitely be good for sugar beet. Spring small grains are anywhere from just beginning to flower to soft dough stage. Like the small grains, corn is in a wide range as well anywhere from VT to R3 with most in the blister to R3 stages. Soybeans ranged from R2 to R5. Flax are at stage 9 when most capsules already formed through 11 when capsules are brown. Most of the sunflowers are in the R3 stage. For the most part, kochia has been the dominant problematic weed for the crops grown in northwest ND since the start of the growing season, and will continue to be after harvest. The photo below has been taken a few days after winter wheat harvest last week and kochia clearly took advantage of the open canopy, and some start to show flowering parts (Figure 3). Unfortunately, kochia in this field will have to be dealt with by the grower before they set seeds.



**Figure 1. Root rot damage in lentil (A) and pea (B) in Divide County.**



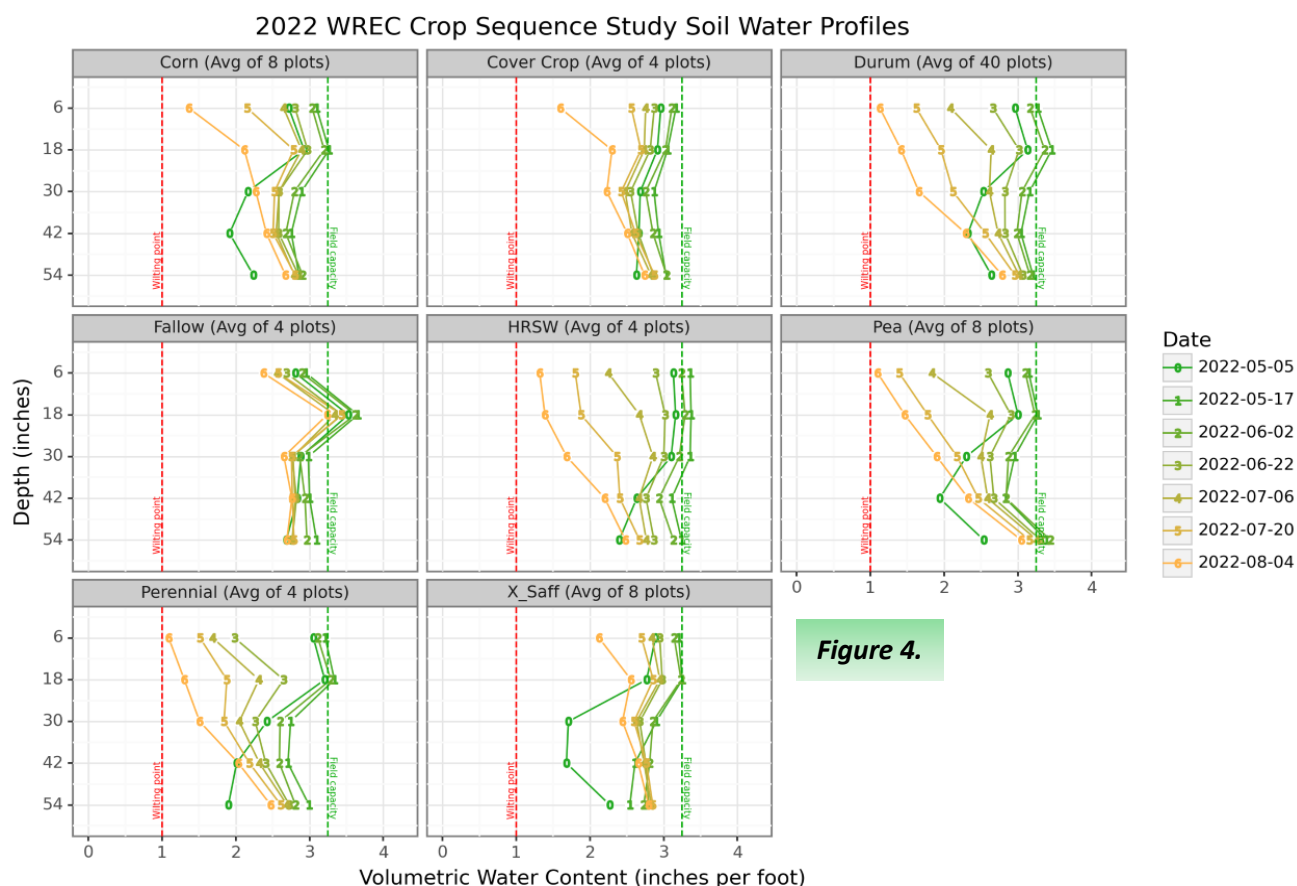


**Figure 2. Beet root about 4.5" wide and 8" long in Williams County.**



**Figure 3. Kochia regrowth after combine harvest of winter wheat.**

With very little rain we received at dry land research farm at the Williston REC in the past few weeks, Dr. Jim Staricka shared some interesting facts on soil water use of different crops. The graph below came from the Crop Sequence study conducted at the center this year which shows the soil water content at five depths on seven days for eight crops (Figure 4).



**Figure 4.**



On May 5<sup>th</sup>, all the plots were at or near Field Capacity at the 6 and 18-inch depths. Two weeks later (after the rainy period of May 11-13) all depths in all plots were at or near Field Capacity. Since then the crops have been using water and drying the soil. Durum, HRSW, and Pea have used considerable amounts of water from the 6, 18, and 30-inch depths since June 22<sup>nd</sup>. The perennial plants started using water two weeks before that. The durum, HRSW, perennial, and to a lesser extent pea, have already been using water from as deep as the 42-inch depth. There's been very little soil water change in the fallowed plots. Soil water use has been delayed and reduced in the safflower plots (labelled on the graph as "X\_Saff") due to very poor stands. The wilting point, shown by the red vertical line, is the point where crop water use will stop, which Jim referred to as, "Hitting the wall". The durum, pea, and perennial have reached that point at the 6-inch depth. Ultimately, the yield of our crops can be explained in part by soil water content and crop water use throughout the growing season given the environmental conditions this year and crop production practice. Has your crop yet to hit the wilting point?

[Charlie Lim](#)

Extension Weed Specialist  
Williston Research Extension Center

[Jim Staricka](#)

Soil Scientist  
Williston Research Extension Center

## SOUTH-CENTRAL/SOUTHEAST ND

According to NDAWN, the region received 0.65 inch (Marion; Lamoure County) to 3 inches (Zeeland; McIntosh County) during July 1 to August 8. The region's average daily water use by corn and soybean plants emerged May 31 ranged from 0.2-0.25 inch during Aug 1-8. Plant moisture stress is commonly showing in field areas with low-quality soil (Figure 1). Fortunately, subsoil moisture is reducing the reliance on timely rainfall to maintain crop yield. Plus, the short-term weather forecast is indicating more moderate daytime high temperatures.

Harvest is nearly complete with winter cereals and has commenced with early seeded spring grain. Initial reports on grain yield are conservative. However, the Carrington REC's winter wheat variety trial, consisting of 24 entries, averaged 84 bushels per acre.



**Figure 1. Soybean displaying moisture stress (Jeff Gale, NDSU Extension agent – Foster County).**

The region's corn generally ranges from silking to milk (R1-3) stages (Figure 2). Soybean planted mid-May to early June are in the pod to seed development (R3-5) stages. Timely-planted dry bean are in flowering to advanced seed development (R1-7) stages (Figure 3). The region's sunflower are blooming (R5 stage). Generally, 35-40 days will be required to reach physiological maturity for the advanced stages of the row crops mentioned above.

Haying continues including second harvest of alfalfa. Pasture conditions are declining but generally there should be adequate forage for fall grazing.

Upcoming Carrington REC crop tours:

\*Corn (Fingal) - August 31, 8 a.m.

\*Row Crop (CREC) - September 1.



**Figure 2. 82-day corn planted May 18 at the CREC in the early milk (R3) stage.**



**Figure 3. Lapaz pinto bean planted June 2 at CREC in the early R7 stage.**

[Greg Endres](#)

Extension Cropping Systems Specialist  
NDSU Carrington Research Extension Center

## SOUTHWEST ND

Some areas in the region received a small amount of moisture last weekend. Row crops could use more rain, however weather has been good for those making hay and for those harvesting winter wheat, peas, and barley. Canola and some earlier planted spring wheat is also close. There continues to be a wide range of crop maturities across the board. Grasshoppers continue to be a concern with many spraying field edges and blister beetles have been noticed in many fields. There have been pockets with ergot along field edges, especially where ditch grass was allowed to flower.

[Ryan Buetow](#)

Extension Cropping Systems Specialist  
NDSU Dickinson Research Extension Center



**WEATHER FORECAST****The August 11 to August 17, 2022 Weather Summary and Outlook**

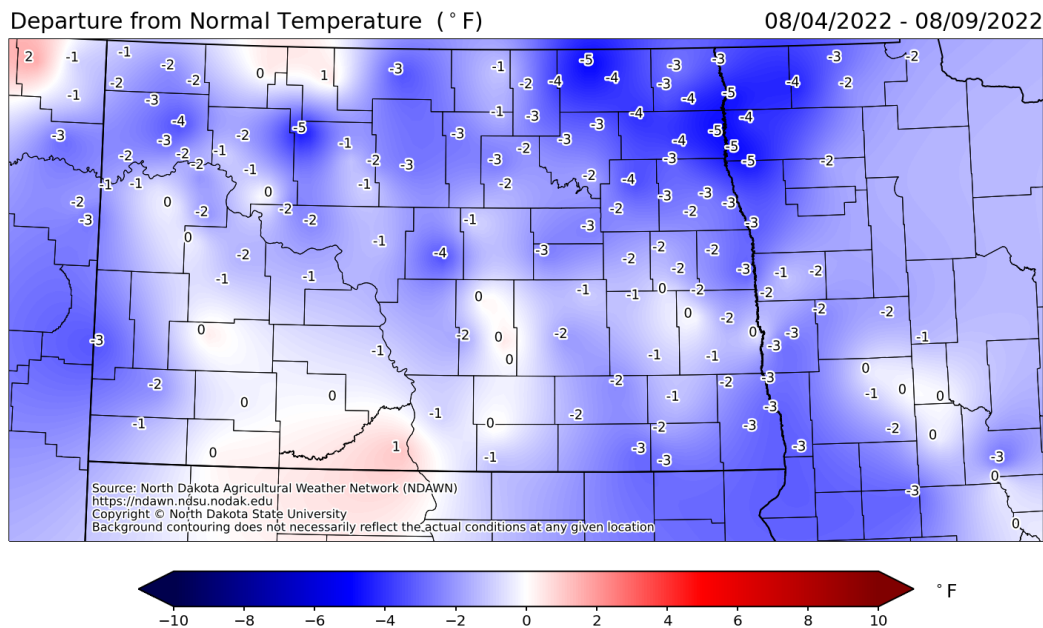
In the past week, the North Dakota Agricultural Weather Network (NDAWN) staff installed two new stations. One in northern Sheridan County just north of the former town of Skogmo. That station has a camera (Figure 1) and the images from that station plus many others can be found at [ndawn.info](http://ndawn.info). The second station that was completed is just west of Rothsay, Minnesota in Wilkin County. Several other new stations and upgrades will be occurring at other locations in the next several weeks.



**Figure 1. A View from the Camera at the Skogmo NDAWN station in northern Sheridan County.**

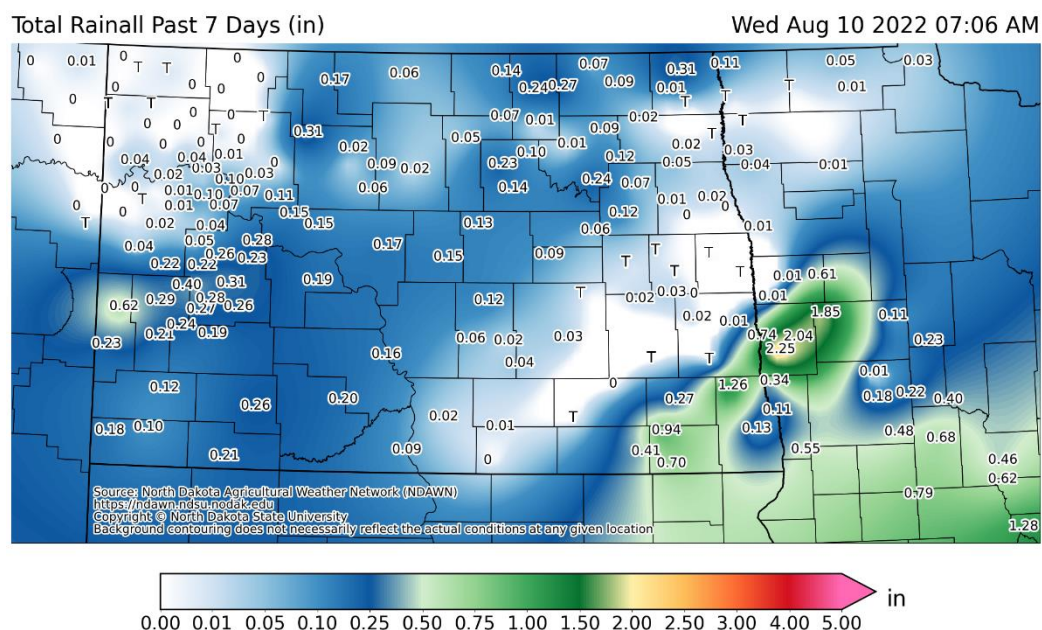
The temperatures over the past week tended to be either quite cool or quite warm. The cloudy and coolness of this past weekend offset some very warm days for a below average past week (Figure 2). North Dakota continues to be on the edge of a very warm airmass and we have tended to record some very warm days followed by cooler days. This pattern looks to continue in the next week and possibly longer. It appears that western North Dakota will be more consistently above average with eastern North Dakota into northwestern Minnesota having more noticeable swings in temperatures during this period. In turn, western North Dakota will likely record above average temperatures in the next week with eastern North Dakota recording a higher range of temperatures with the overall impact being closer to average.





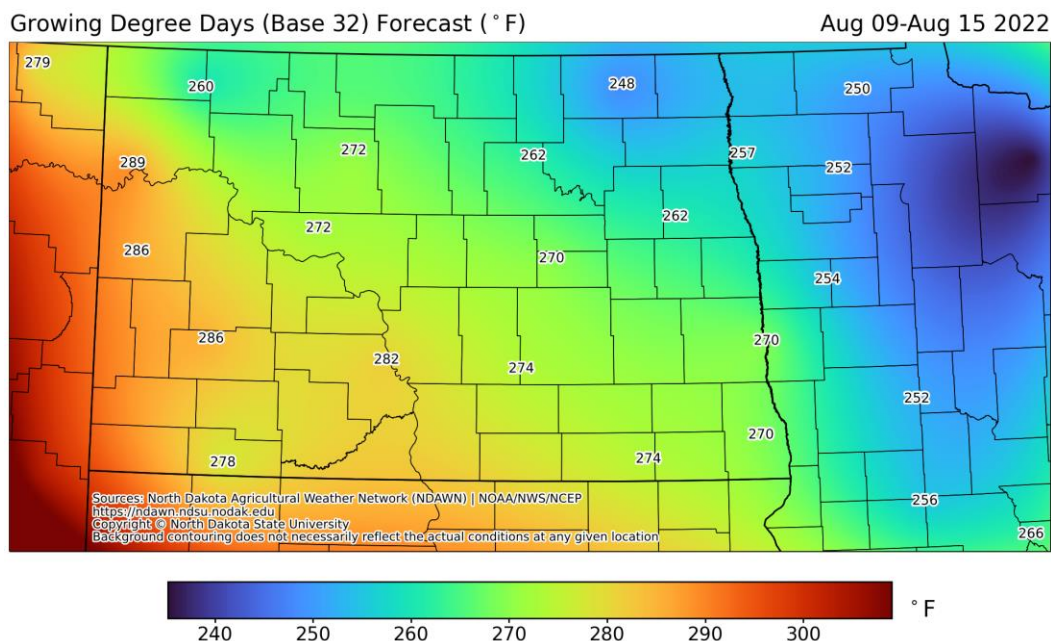
**Figure 2. Departure from Normal Temperature at NDAWN Stations for the Period of August 4 through August 9, 2022**

Most NDAWN stations recorded less than a quarter of an inch of rain in the past week (Figure 3). The big exception was portions of southeastern North Dakota into west central Minnesota where a narrow band of heavy rain fell. In that area a mile or two was often the difference between no rain and over an inch. Hit and miss storms will be present this week as well. As has been the case much of this summer, highly variable amounts are expected once again.

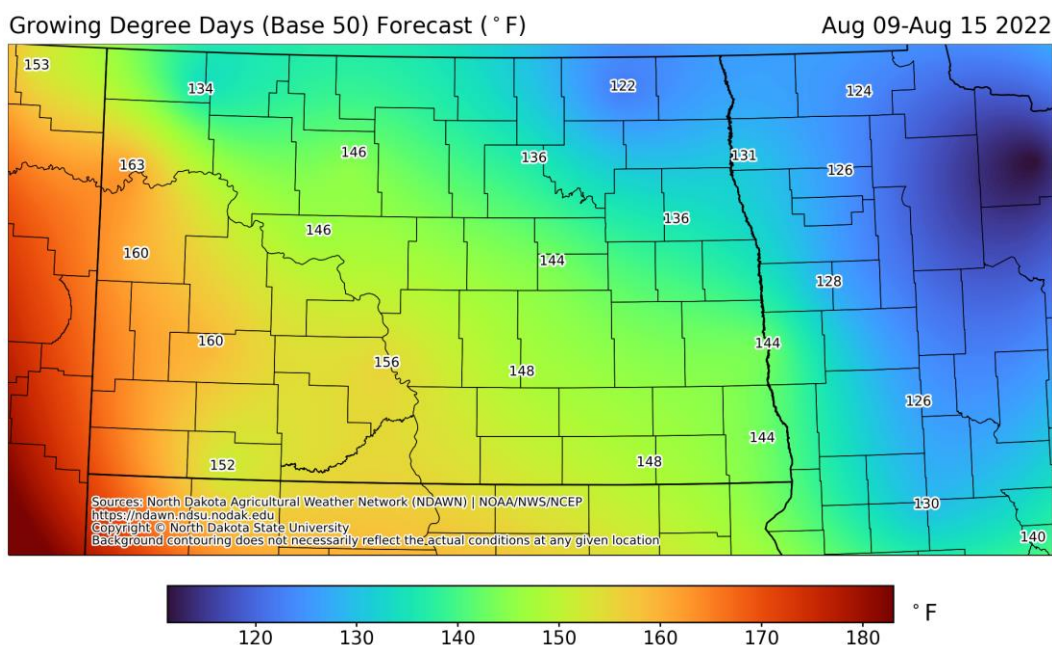


**Figure 3. Total rainfall for the 168-hour period ending at 7:00 AM on August 10, 2022 at NDAWN stations**

Figures 4 and 5 below are forecasted Growing Degree Days (GDDs) base 32° (wheat and small grains) and 50° (corn and soybeans) for this forecast period.



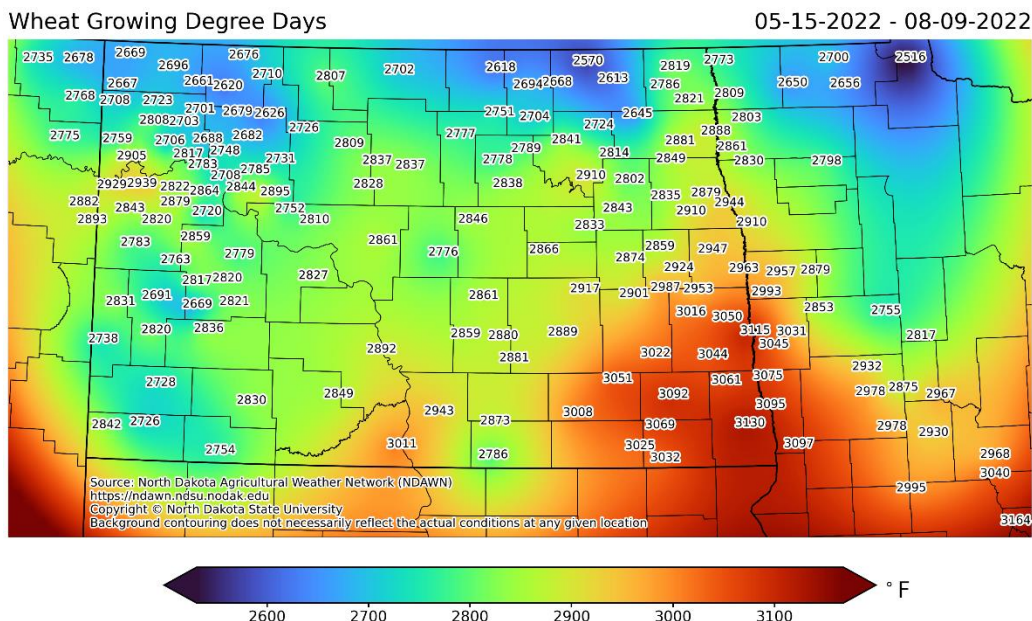
**Figure 4. Estimated growing degree days base 32° for the period of August 9 to August 15, 2022.**



**Figure 5. Estimated growing degree days base 50° for the period of August 9 to August 15, 2022.**

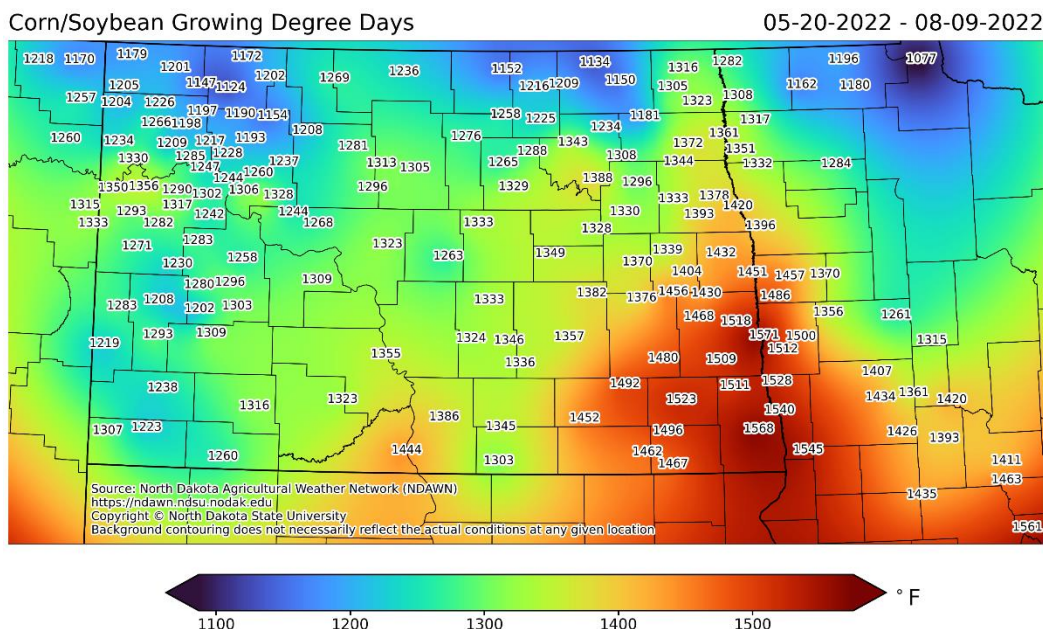
Using May 15 as a planting date, the accumulated growing degree days for wheat (base temperature 32°) is given in Figure 6. You can calculate wheat growing degree days based on your exact planting date(s) on the [NDAWN website](https://ndawn.ndsu.nodak.edu).





**Figure 6. Wheat Growing Degree Days (Base 32°) for the period of May 15 through August 9, 2022.**

Using May 20 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) on the [NDAWN website](https://ndawn.ndsu.nodak.edu).



**Figure 7. Corn Growing Degree Days (Base 50°) for the period of May 20 through August 9, 2022.**

Soybeans also use base 50° like corn, but NDAWN has a special tool for soybeans that, based on your planting date and cultivar, can estimate maturity dates based on average temperatures, as well as give you GDDs based on the planting date(s) you set. That tool can be on the [NDAWN website](https://ndawn.ndsu.nodak.edu).

[Daryl Ritchison](#)

Meteorologist

Director of the North Dakota Agricultural Weather Network (NDAWN)



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**CROP & PEST REPORT**  
NDSU Dept. 7660; PO Box 6050  
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*Janet Knodel*  
Co-Editor

**Entomology**  
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