North Dakota State University
CROP & PEST REPORT
NDSU EXTENSION

No. 09 June 4 2026

Inside this Issue...

entomology

CANOLA FLEA BEETLES

Flea beetles continue to be active, feeding in canola in the southwest, northeast and north central regions of North Dakota and in Roseau, northwestern Minnesota.

It is important to scout every other day during the seedling-to-4-6-leaf stage, the most critical period for flea beetle damage. See "Scout for Flea Beetles in Canola" in last week's Crop & Pest Report #8.

Feeding defoliation and pitting are common in canola fields with high flea beetle densities, even with an insecticide seed treatment. **When 20-25% defoliation occurs, and the forecast is for hot, dry weather, it is time to apply a foliar insecticide.**

Flea beetle feeding injury (pitting) on seedling canola near the action threshold (25% defoliation) in Roseau, MN. (P. Beauzay, NDSU)

Striped and crucifer flea beetle feeding injury (pitting) on seedling canola near the action threshold in Langdon, ND. (A. Chirumamilla, NDSU)

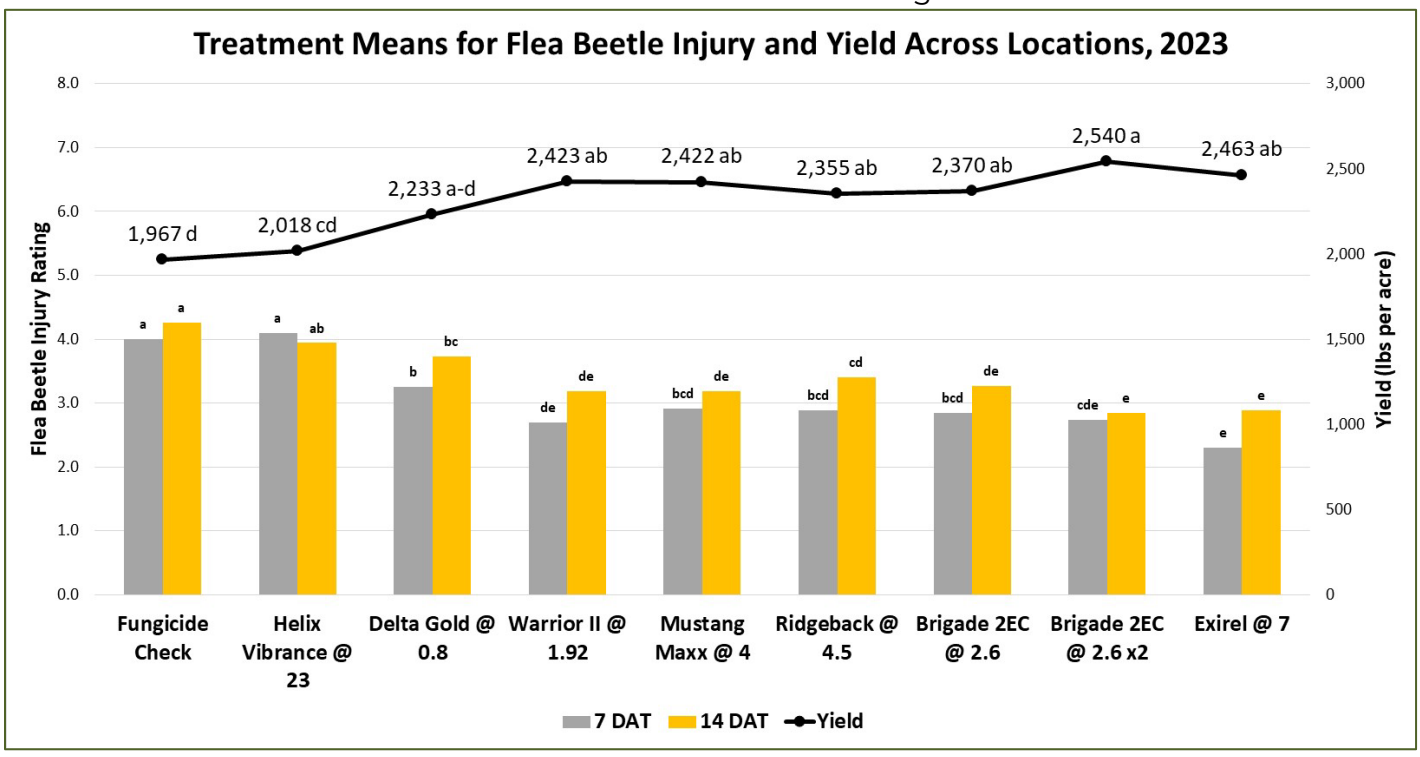
Registered foliar-applied insecticides for flea beetle control in North Dakota are listed in the Table on the right.

PRODUCT	CHEMICAL CLASS (IRAC)	ACTIVE INGREDIENT
Brigade 2EC	Pyrethroid (3A)	Bifenthrin
Ridgeback	Pyrethroid (3A) + Sulfoximine (4C)	Bifenthrin + Sulfoxaflor
Warrior II	Pyrethroid (3A)	Lambda-cyhalothrin
Mustang Maxx	Pyrethroid (3A)	Zeta-cypermethrin
Delta Gold	Pyrethroid (3A)	Deltamethrin
Hero	Pyrethroid (3A)	bifenthrin + zeta-cypermethrin
Exirel	Diamide (28)	Cyantraniliprole
Besiege	Diamide (28) + Pyrethroid (3A)	Chlorantraniliprole + Lambda-cyhalothrin

Remember to use the **highest labeled rate for each product to achieve the longest residual** and prevent the development of insecticide resistance. Flea beetle adults remain active until late June before dying.

See the ***North Dakota Field Crop Insect Management Guide E-1143*** for more information on insecticides.

Because some flea beetle populations have shown reduced susceptibility to neonicotinoid and diamide seed treatments, foliar insecticides are increasingly used as rescue treatments. In our efficacy trials, we tested foliar insecticides against flea beetles in canola (see graph below). Results demonstrated that **all foliar insecticides tested had lower feeding injury (scale 0 [no injury] to 6 [dead plants]) and higher yield than the fungicide check and Helix Vibrance Seed Treatment** (graph below). However, Brigade (bifenthrin) applied twice had lower feeding injury and higher yield than Delta Gold (deltamethrin). We need to be vigilant and watch for more striped flea beetles in fields due to tolerance to neonicotinoid and diamide seed treatments, and for the development of pyrethroid resistance in flea beetles, driven by the increased use of foliar insecticide applications. Thanks to the Northern Canola Growers Association for funding this research.



CUTWORMS ACTIVE

Cutworms are early-season pests that feed on many of the field crops grown in North Dakota. They become active when soil temperatures are above 40°F. Scout for cutworm feeding activity in fields when scouting for other early-season insects, diseases or weeds. Crops are most susceptible to cutworm damage during the early crop stages - **seedling to 6-leaf stage**. Crops with lower plant populations, such as sunflowers, field pea or lentil, are generally more susceptible to cutworm feeding injury than cereal grain crops.

Army cutworm feeding on alfalfa growth.

Cutworm feeding injury in sunflowers

Larvae (caterpillars) are the crop-damaging life stage of cutworms. Larvae remain in the soil debris during the day and come out at night to climb up on plants and cut stems or feed on leaves. Feeding activity usually extends from May through the end of June, depending on whether the cutworm species overwinters as a larva (emerges earlier) or an egg (emerges later). **Typical feeding injury symptoms include clipped-off plants with larvae (caterpillars) underneath the soil, foliage defoliation, wilted plants, or bare patches of ground in localized spots (south-facing side of the hill, low spot) in a field.** In alfalfa, field peas and lentils, seedlings with new sprouts are a good indication of cutworm feeding: the plant was cut, then tried to initiate new growth (sprouting). Excessively cool, wet soils amplify stand reduction by slowing plant growth relative to cutworm feeding. Cool temperatures will also delay cutworm development.

The key to successful cutworm control is early detection and knowing your plant population. The greater the plant population, the more damage can be tolerated without economic yield loss.

Rescue foliar treatments are warranted when cutworms exceed these action thresholds by crop:

- Alfalfa – 4 to 5 or more per square foot (new stands – only 2/sq ft)
- Canola – 1 per square foot
- Corn - 3-6% of the plants are cut, and small larvae (<3/4 inch) are present
- Peas / Lentils – 2 to 3 cutworms per square meter
- Small grain – 4 to 5 cutworms per square foot
- Soybean - one cutworm per 3 feet of row or 20% of plants are cut
- Sugarbeet - 4-5% cutting of seedlings or 3-5 larvae per square foot in late summer
- Sunflower - 1 per square foot or 25-30% of plants cut

Mature dingy cutworm larvae.
(J. Gavloski, Manitoba Agriculture

Spray timing is the most critical factor in controlling cutworms. Insecticides are ideally targeted at young larvae (< ¾ inch), which are easier to kill than older larvae (> 1 inch). **Apply foliar insecticides in the evening when cutworms are actively feeding.** Wet soil conditions will also improve insecticide efficacy, as cutworms feed near the soil surface. You can tank-mix insecticides with herbicides for early-season weed control. However, check the labels for compatibility, or do a simple 'jar test' by mixing the insecticide and herbicide. If spraying for weed burn-down and early-season cutworm activity, re-scout the field, as cutworms will continue to emerge over 2 to 3 weeks. For cutworm control, soil insecticides can also be applied as an in-furrow or a T-band application. Since cutworms often crawl on the soil surface, a 5- to 7-inch T-band application would be more effective than an in-furrow application.

For insecticides registered in North Dakota for cutworm control, please see the ***North Dakota Field Crop Insect Management Guide E-1143*** for more information on insecticides.

INSECT ID QUIZ

Is this a cutworm?

Mystery larva from Emmons County, ND. (Nancy Deis)

If you answer NO, you are correct.

These larvae are similar in size, shape and color to cutworms. However, this is the larva of the invasive European crane fly (Diptera: Tipulidae: ***Tipula paludosa),*** a major pest of turfgrass, grass and forage crops. Larvae are 1 to 1¼ inches long, legless and often called 'leatherjackets' due to their tough, gray to brown leathery skin. Larvae feed on roots, stems and leaves, causing large yellow patches or bare spots in lawns, golf courses and pastures. Birds, skunks and raccoons also enjoy eating them, digging up the turfgrass.

In contrast, cutworm larvae have a distinct head capsule, three pairs of thoracic legs (the first three segments behind the head), and typically 5 pairs of abdominal prolegs. Their skin is also smooth, hairless to scattered hairs present and pale to dark brown or black with spots, bumps and V-markings. Mature larvae are generally about 1 to 1½ inches long. See dingy cutworm larvae photo at top of page.

ALFALFA WEEVIL DD UPDATE

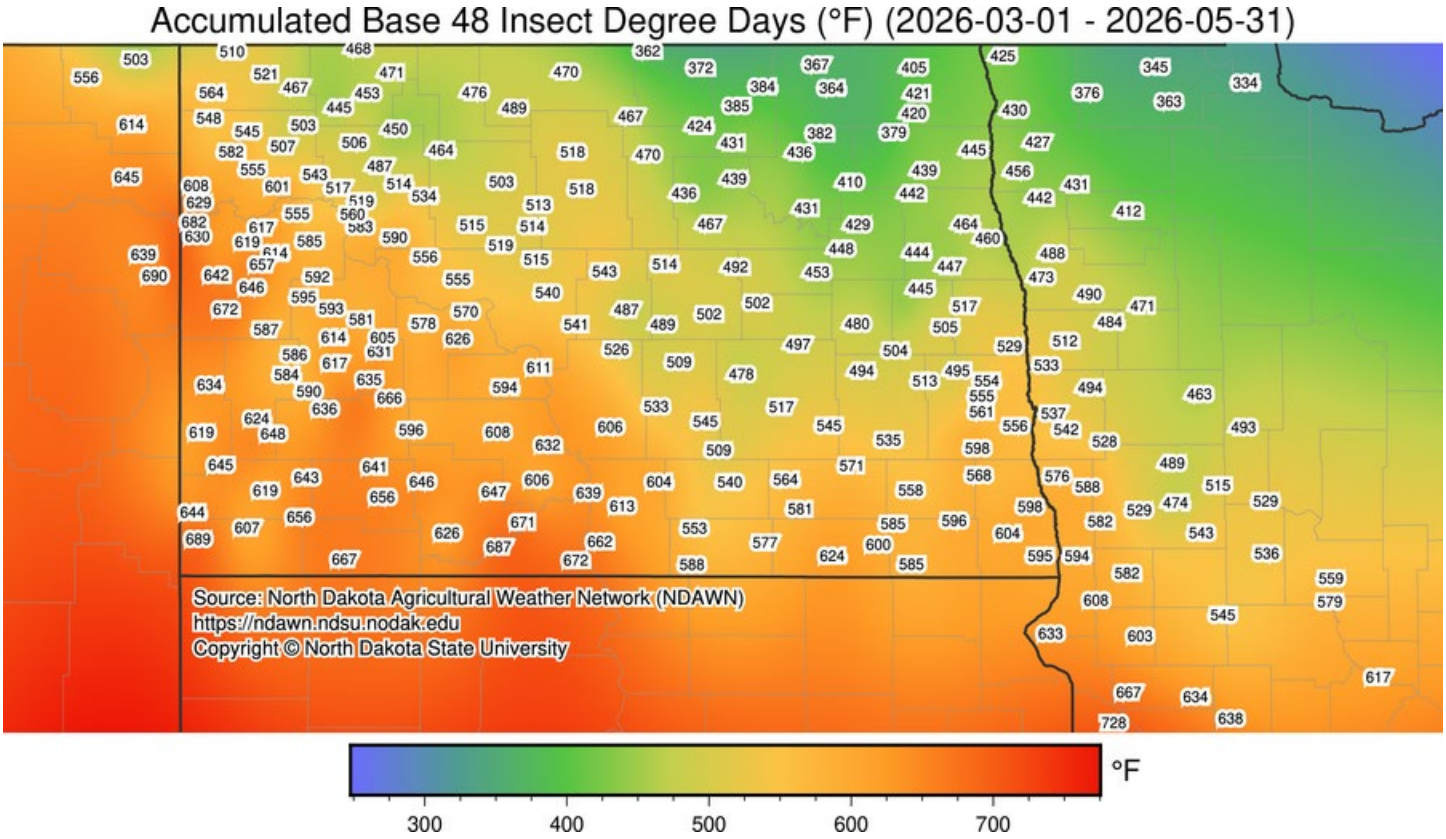
The accumulated degree days (ADD) for alfalfa weevil activity increased to 367 ADD (1st instar larvae) to 689 ADD (4th instar larvae) in North Dakota this past week (see NDAWN insect degree day map). The more mature larvae are in southern North Dakota, while northeastern North Dakota is still lagging, with young larvae. Continue to scout regularly, at least weekly, through the first cutting.

See Crop & Pest Report #7 for scouting and the economic threshold table.

Insecticides registered for control of alfalfa weevil on forage are listed in the ***North Dakota Field Crop Insect Management Guide E-1143***.

For more information, see the NDSU Extension Integrated Pest Management of Alfalfa Weevil in North Dakota (E1676, Revised March 2026).

Current Alfalfa Weevil Degree-Day Accumulations (base 48°F) as of June 1, 2026
(Source: NDAWN)



Janet J. Knodel
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Research Specialist & IPM Coordinator

plant pathology

FEATURED MATCHUP: SUNFLOWER DOWNY MILDEW VS. NDSU PLANT PATHOLOGISTS

Players to Watch:

- Downy Mildew (***Plasmopara halstedii***)

Scouting Report:

- Attacks right after planting
- May kill seedlings right away, or cause a systemic infection that kills plants slowly
- Most common in low and/or wet spots of the field

Opponent's Game Plan:

- Wait until sunflower seeds begin to germinate, then attack with massive amounts of swimming zoospores
- Kill the seedlings
- Attack sunflowers with a systemic infection, causing:
  - Chlorosis (yellowing) through the leaf veins on the top side of leaf (Figure 1)
  - Profuse white sporulation spreading from the leaf veins on the underside of the leaf (Figure 2)
  - Dramatic stunting of the entire plant (Figure 3)
  - Leave bare patches, often full of weeds, in sunflower fields (Figure 4)

Opponent's Strengths:

- Rain shortly after planting
- Low spots, flooded areas of fields
- Cool soil temperatures
- Legacy Effect! Oospore's can survive for up to ten years

Opponent's Weaknesses:

- FRAC 49 Seed Treatment is very effective (Oxathiapiprolin)
- Genetic resistance can be very effective
- Dry warm weather after planting

Trick Play to Watch:

- The pathogen causing downy mildew is adaptable and crafty. It has a history of overcoming resistance genes (adapting with new races), overcoming fungicides (such as FRAC 4), and re-appearing after being absent for many years.

Figure 1. Chlorosis spreading from leaf veins on the top of the infected leaf

Figure 2. Sporulation on underside of infected leaf, opposite the chlorosis

Figure 3. Severe stunting (bottom plant), moderate stunting (middle plant) and healthy plant (top plant).

Figure 4. Mostly bare and weed-filled area of sunflower field after severe downy mildew mortality. Note presence of limited surviving but heavily stunted plants.

Sam Markell
Extension Plant Pathologist, Broad-leaf Crops
Wade Webster
Extension Plant Pathology, Soybeans

Andrew Friskop
Extension Plant Pathology, Cereal Crops
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Extension Plant Pathology, Sugarbeets

FAQS ABOUT USING FLORYLPICOXAMID (VERPIXOTM) IN SUGARBEET

In May of 2026, both Minnesota and North Dakota approved the registration of Verpixo™ fungicide for sale and use in each state. This follows FIFRA Section 3 registration earlier in the spring. Verpixo™ is a completely new fungicide to control Cercospora leaf spot (CLS) in sugarbeet. It's a great opportunity for growers to strengthen their disease management program by utilizing the additional effective mode-of-action not previously available in sugarbeet. University and sugarbeet cooperative researchers have had the opportunity to conduct several field trials prior to registration and commercial release.

Below are a few of the most frequently asked questions about this fungicide:

Q: Is Verpixo™ ***really*** something new?

A: Yes. The active ingredient in Verpixo™ is **florylpicoxamid**, a quinone inside inhibitor (**QiI) or picolinamide.** This is different than a quinone outside inhibitor (QoI) fungicide (Quadris or Headline belong to QoI)—florylpicoxamid also inhibits fungal respiration, but at a different site than where QoIs interact with fungal mitochondria. Few U.S. specialty crops are currently on the product label. Only a few QiI products are labeled in other markets.

Q: How effective is Verpixo™ against CLS?

A: Based on North Dakota State University and University of Minnesota field research trials, Verpixo™ is just as effective as the current groups of top-performing fungicides. Similar to triazoles, Verpixo™ is **translaminar/systemic** which means fungicide is locally absorbed where it's applied and gets redistributed inside the leaf tissues.
Verpixo™ can have a strong positive impact when added to a fungicide program anywhere an EBDC alone might otherwise have been used. Especially in situations where six or more fungicide applications are necessary, utilizing this new mode of action can complement and improve disease control by adding another "heavy lifter" to the mode of action rotation.

Q: Do I need to worry about fungicide resistance?

A: Best practices to reduce the risk of fungicide resistance development are extremely important. Like other single-site fungicides, resistance development for florylpicoxamid is rated as **medium to high risk** by FRAC. The CLS pathogen ***Cercospora beticola*** is extremely well-equipped to develop resistance. With QiI fungicides, the industry is starting off with a clean slate—and it will be a team effort to keep it that way.
All applications of Verpixo™ should be:

1. **Tank mixed** with mancozeb
2. **Rotated** with other fungicide modes of action (such as triazoles, tins)
3. **Limited** to one application per year, or two applications may be made if the total number of fungicide applications is **six or more**.

Q: Where is the best slot for Verpixo™ in a CLS fungicide program?

A: Fungicide rotation and the use of effective tank-mix partners are the strength of any CLS program in sugarbeet. As long as best practices are followed, mid-season placement of Verpixo™ is a great option and leaves room for flexibility. Verpixo™ has a **21-day pre-harvest interval (PHI)**. As with any fungicide in sugarbeet, Verpixo™ will perform best—and be kept viable for many years ahead—when fungicides are **applied proactively and preventatively** in a timely manner using recommended spray volume and adequate canopy coverage.
Please consult the product label for complete regulations: https://assets.greenbook.net/20-39-31-14-05-2026-Verpixo_-_label.pdf

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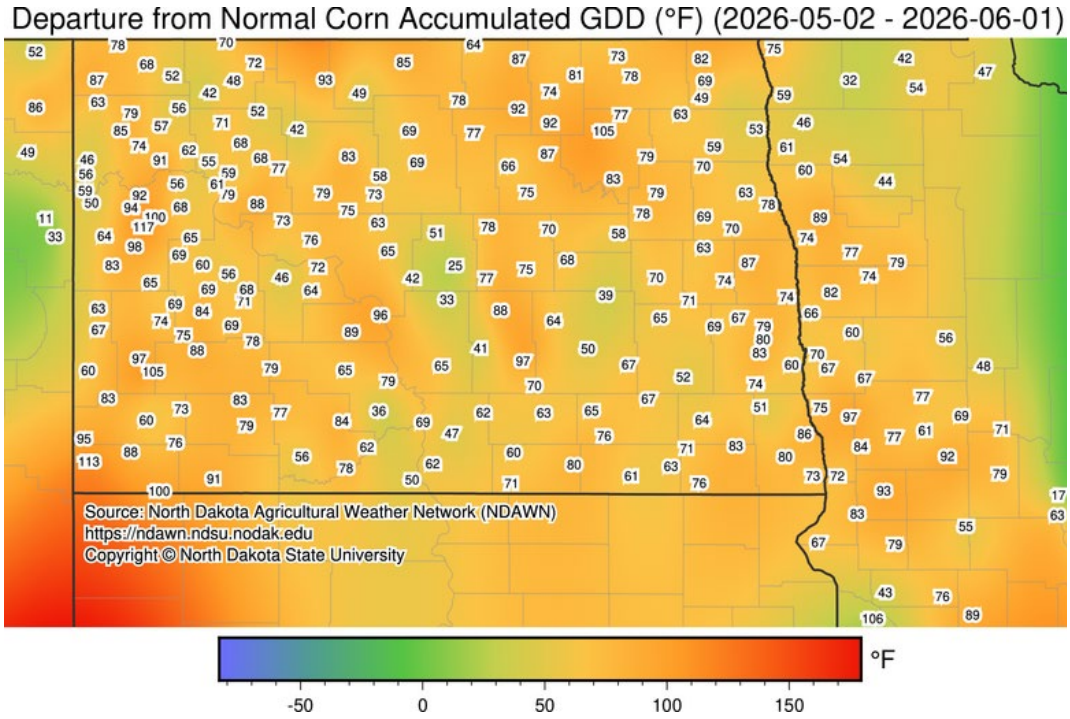
plant science

CORN GROWING DEGREE DAYS

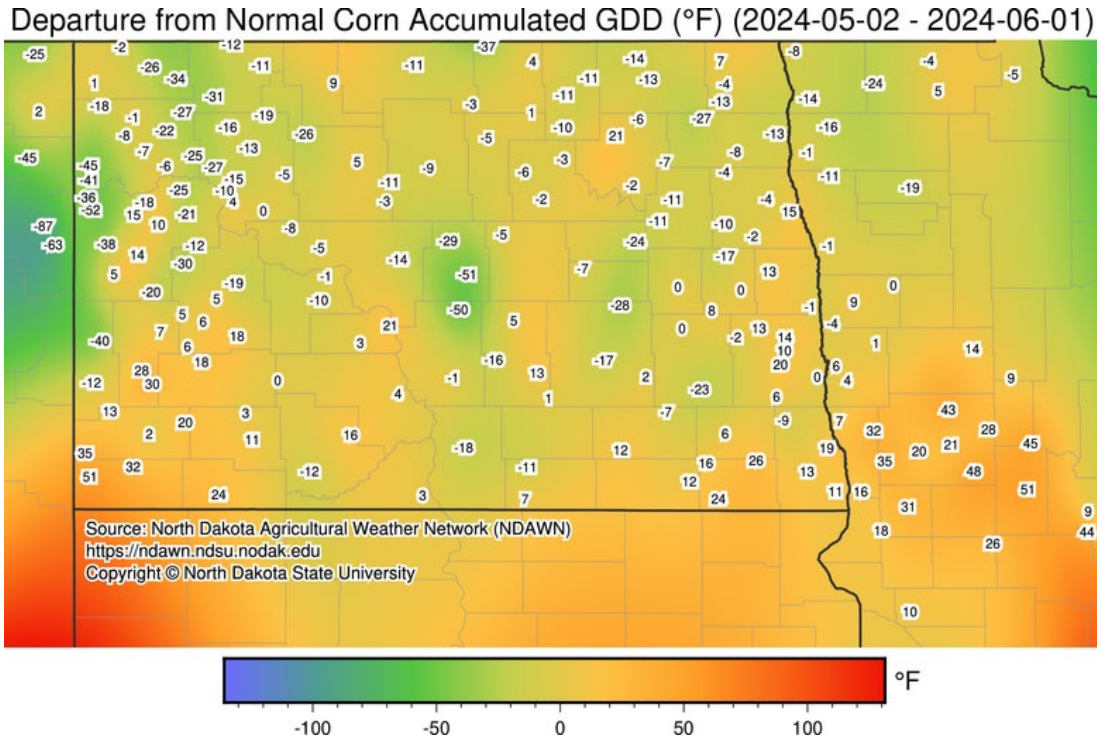
The hot temperatures the week of Memorial Day caused growing degree days to accumulate quickly for corn that was already planted in the Red River Valley. Many corn fields in the south valley now have plants big enough to be visible at highway speeds. At Casselton, corn planted on May 7th was at the V2 growth stage on June 1; corn seeded May 11th was V1, and corn seeded May 26th was just spiking, that is to say, emerging. The hot and sunny weather warmed up the soil in conventionally tilled fields, and I expect any late-seeded fields to germinate and emerge quickly as long as adequate moisture is available.

Corn growing degree days are running above average, with many NDAWN stations recording accumulated corn GDDs 60-90 degrees ahead from May 1 to June 1, see the 2026 NDAWN map below. While the hot weather last week was good for corn, it is not favorable for promoting high spring wheat yields. As a cool-season species, wheat yields are highest when we have cool, moist spring conditions that promote tillering and head development within secondary and tertiary tillers. Look at the corn accumulated GDD maps for the period of May 1-June 1, 2026 (above) and May 1-June 1, 2024 (below). Note that in May 2024, corn GDDs were at or below normal (negative values) for most of the state. Unfortunately, 2026 does not appear to be setting us up to break the statewide spring wheat yield record of 59 bushels per acre, which happened in 2024.

2026



2024



Clair Keene
Extension Agronomist Small Grains and Corn

ASSESSING CROP STANDS: WHEN SHOULD YOU CONSIDER REPLANTING?

As planting season progresses across North Dakota, many producers are evaluating crop emergence and stand establishment. Whether growing soybeans, canola, dry beans, or sunflowers, an accurate stand assessment is one of the most important early-season management decisions. A timely evaluation can help determine whether a field has sufficient yield potential or if replanting should be considered.

Start With a Stand Count

The first step is to determine the existing plant population. Take stand counts from several representative areas of the field and calculate an average population. While the exact method varies depending on row spacing, the goal is to estimate the number of healthy, vigorous plants per acre.

When assessing stands, pay attention to:

- Plant population and uniformity
- Large gaps within rows
- Seedling vigor and health
- Evidence of insect, disease, herbicide, frost, wind, or hail damage

Remember that healthy plants are often more important than simply achieving a target population.

Not All Damage Means Replanting

Many broadleaf crops can compensate for early stand loss. Soybean and dry bean plants can branch and partially fill gaps when populations are reduced. Canola can compensate through increased branching and pod production. Sunflower, however, has less ability to compensate for missing plants and may be more sensitive to stand reductions.

Before making a replant decision, determine whether damaged plants are likely to survive. Plants with healthy growing points and root systems often recover better than expected. Waiting several days after hail, frost, or other injury events may provide a more accurate picture of crop survival.

Know the Minimum Acceptable Stand

Research from NDSU indicates that relatively low populations can still produce acceptable yields under favorable conditions. Minimum stands generally considered acceptable include:

- Soybean: approximately 75,000 plants per acre
- Canola: about 4 plants per square foot
- Dry bean: 28,000–60,000 plants per acre depending on market class
- Sunflower: 8,000–11,000 plants per acre

Uniform distribution is just as important as plant population. A thin but uniform stand often outperforms a stand with severe gaps and uneven emergence.

Consider the Calendar

One of the most overlooked factors in replant decisions is planting date. Every day planting is delayed reduces yield potential. In North Dakota, soybean yield potential declines approximately 0.8% per day after mid-May, while sunflower yield potential declines about 1.8% per day after the

end of May. Canola is even more sensitive, losing roughly 1.9% of yield potential per day when planting is delayed beyond the optimum window.
As the season progresses, the benefits of replanting decrease because the replanted crop begins with a shorter growing season.

Replanting Is Both an Agronomic and Economic Decision

The question is not simply whether the stand is poor. The real question is whether replanting will generate more profit than keeping the existing stand.
Before replanting, consider:

- Expected yield from the current stand
- Yield potential of a later-planted crop
- Seed, fuel, and labor costs
- Herbicide restrictions on alternative crops
- Crop insurance implications
- Current soil moisture conditions

In many cases, maintaining the existing stand may be the most economical decision, even when populations are lower than originally intended.

Want to know about replanting decisions? Check this article: Replanting or Late Planting Crops | NDSU Agriculture

Ana Carcedo
Broadleaf Crop Agronomist

soils

FERTILIZING AFTER FIRST-CUTTING HAY

This past weekend, I spent a few days back on the farm in Wisconsin baling first crop hay. While baking in the heat stacking bales, it gives a person time to think, and one of the thoughts was getting fertilizer ordered and applied to get the second crop off to a good start. While production of grass hay and alfalfa is certainly more limited in North Dakota than in Wisconsin, they are both the same in terms of their nutrient removal. In general, forage crops remove high levels of nutrients, especially K, with nearly 50 lb K_2O per acre removed in 1 ton of alfalfa.

With the first crop typically being the highest producing cutting, this is an ideal time to fertilize the stand for the future crops. Rates of nutrients to apply depend heavily on total production/crop removal and the species grown in the field. Except for N in grass forage, other nutrients need only be applied once per year following the first crop, with P and K rates based on the previous year's forage production.

Nitrogen:

If the field is predominantly legumes (alfalfa and clover) no supplemental N fertilizer needs to be applied. For grass hay, 50 lb N per acre (soil N plus fertilizer) should be applied following each cutting.

Phosphorus:

For an established stand, if nutrient levels are in the medium or high soil test categories (8-15 ppm Olsen) at establishment, one application following the first cutting of 10 lb P_2O_5 per acre per ton of forage removed should be applied to maintain the stand.

Potassium:

Assuming soil test K levels were at the critical level at establishment (150 or 200 ppm, depending on region) 50 lb K_2O per acre per ton of forage removed should be applied to maintain the soil test levels. For rates greater than 60 lb of K_2O per acre when using potash (0-0-60), consider splitting the application and applying after future cuttings to prevent the potential for salt injury.

Other Nutrients:

If the forages are being grown on sandy or low organic matter fields, consider applying 10 lb per acre of sulfate-S to prevent S deficiency, especially on intensively managed grass-hay fields. Alfalfa can be susceptible to boron (B) deficiency; however, care should be taken to prevent toxicity—more reports of B toxicity are reported due to overapplication than deficiency symptoms. If soil test B levels are less than 1 ppm, 1 lb per acre of B may be applied maximum per year.

For more information about fertilizing forage in North Dakota, check out the NDSU Circulars Alfalfa Soil Fertility Requirements in North Dakota Soils and Fertilizing Alsike Clover, Birdsfoot Trefoil, Red Clover and Sweetclover in North Dakota.

Brady Goettl
Extension Soil Science Specialist

James Rogers
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DELTA T FORECAST WEBSITE IS LIVE FOR 2026

The Delta T forecast site is live for 2026 and now includes maps for Minnesota and North Dakota. To access this site, go to ndawn.info, then navigate to ***Agriculture***, ***Ag Tools***, ***Delta-T Forecast*** (**Figure 1**).

Delta T is relevant to pesticide applications. To review:

- Delta T describes the evaporative capacity of the ambient air
- When Delta T values exceed 14 °F, excessive spray droplet desiccation and spray deposit evaporation may result in reduced herbicide efficacy
- Impacts will be most noticeable when using FINE or MEDIUM spray qualities
- Glufosinate (Liberty) is the active ingredient most likely to be impacted

The forecast site displays:

- A map of current Delta T (from NDAWN)
- Maps of forecasted maximum Delta T for the current day and the next 5 days thereafter
- Maps of historical maximum Delta T dating back to late March
- A table of hourly forecasted Delta T from 6 am to 6 pm on the current day

The About page provides additional background information and explains my reasoning for the site. Briefly, I intend for the website to assist applicators in:

a) planning for days when Delta T is forecasted to reach the caution or unsuitable ranges, so they can appropriately schedule sensitive sprays
b) fostering a mindset where they (i) think proactively about spray weather conditions, so they (ii) check NDAWN repeatedly when spraying, and (iii) adjust operations according to changing conditions
c) using historical Delta T maps as a resource when troubleshooting instances of poor pesticide efficacy

Please contact me with any feedback or suggested improvements.

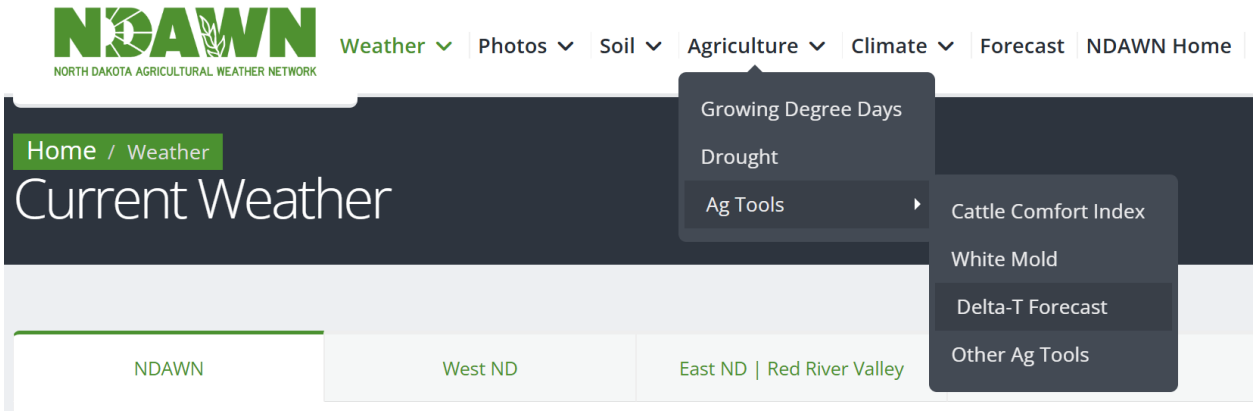

Figure 1. Navigating to the Delta T forecast site through NDAWN.info.

Rob Proulx
Ag Technology and Grain Systems Specialist

FIND AND HIRE A LICENSED AERIAL APPLICATOR IN 2026

As described in the February 19, 2026 Crop and Pest Report, the drone spraying industry has developed rapidly in North Dakota. I encourage anyone seeking to hire a spray drone operator to first ensure that they are properly licensed. The National Agricultural Aviation Association has

recently published a flyer (**Figure 1**) that outlines the benefits of hiring a professional drone operator…:

- ✓ Fewer risks from misapplication and unprofessional behavior
- ✓ Peace of mind knowing crops are sprayed safely, legally, and efficiently

…and outlines the licensing, training, and certification that a professional spray drone operator should possess:

1. FAA Remote Pilot Certificate
2. Drone Registration
3. Agricultural Aircraft Operating Certificate
4. State Pesticide Applicator License
5. Insurance
6. Application Equipment Pattern Testing
7. Local Airspace Knowledge and Safety Practices
8. Consistent Professional Development

Licensing through the North Dakota Aeronautics Commission and NDSU Extension Pesticide Certification Program addresses items 1-5 above.

Fortunately, it is easier than ever to find a licensed aerial applicator in North Dakota. The NDAC aerial applicators directory now features a map of all aerial applicators, manned or unmanned, licensed to spray in North Dakota (**Figure 2**). This map will update daily to match the list of aerial applicators found on the same webpage. Note that the map is precise to the level of 'city, state' (same as the list of aerial applicators) and does not reveal the exact location of aerial applicators' businesses.

I am responsible for the code that generates the map, so please contact me with any questions or comments.

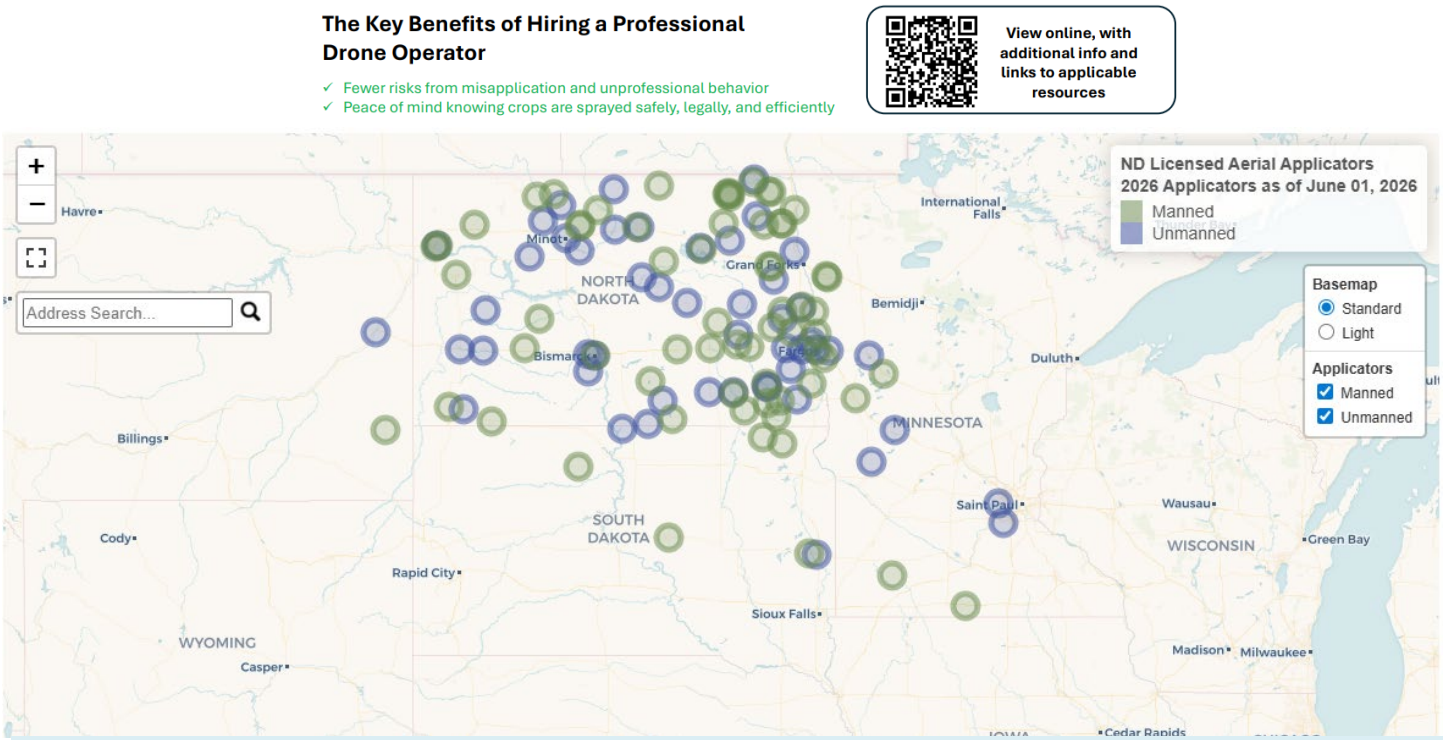

Figure 2. Screenshot of interactive map featuring licensed aerial applicators in North Dakota.

Rob Proulx
Ag Technology and Grain Systems Specialist

farm health and wellness

KEY FACTORS IN MANAGING STRESS FOR FARMERS AND RANCHERS

Working in agriculture is accompanied by managing a variety of stresses regularly. Why is it that some folks in life can handle lots of stress and others very little? What are the key factors in managing stress? Researchers who have examined differences between successful and unsuccessful stress managers have identified three key factors.

Building Stress Tolerance

First, individuals vary in their capacity to tolerate stress (known as stress tolerance). As an example, prolonged physical exertion and fatigue that would be only mildly stressful to a young farmer/rancher may prove very difficult for an older farmer/rancher or someone with a heart

problem. The key elements to increasing stress tolerance are good physical and mental health, development of coping skills, and having good social supports (friends, family, etc.).

Emergencies on the farm, delays, and other problems that one person takes in stride may be a stumbling block for one who is struggling with stress tolerance. While part of an individual's stress tolerance is inborn, most people can increase their capacity by focusing on these questions:

1. What steps can I take to improve my physical and mental health?
2. What steps can I take to improve my stress coping skills?
3. What supportive relationships can I lean on or strengthen?

Focusing On What You Can Control

Second, those who manage stress more successfully focus on what they can control. A second key factor is feeling in control. Managers and others who manage stress well learn how to accept those stressors out of their control – the weather conditions, a quick change in foreign markets or stock market fluctuations. Also, they learn how to effectively manage those stresses that are within their control – such as muscle tension, temper flare-ups or record keeping

Managing Stress Perceptions

Third, the attitudes, perceptions, and meanings that people assign to events determine a large part of their stress levels. A person has to perceive a situation as stressful or threatening in order to experience stress. For example, you will likely experience more stress if you think your dog is barking in the middle of the night because of a robber, than if you suspect a cat has wandered into your yard and set off your dog. In other words, how you perceive (or think about) a situation shapes much of your stress or anxiety about it, so managing stress perceptions is important to diminishing one's stress.

Access Helpful Resources

To learn more about available resources to assist in managing stress in agriculture, read the NDSU Extension publication FS284, "Stress Management for Farmers and Ranchers" – link: FS284 Stress Management for Farmers and Ranchers

If you or someone you know is in need of mental health support, 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.

This logo from NDSU Extension reminds each of us to "check the signal" and think about how we are functioning mentally and physically. And—let's talk about it!

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around the state

AROUND THE STATE

NORTHEAST ND

Summary:
As of last Sunday, there was concern about the dry conditions across the area. However, rainfall on Monday and Tuesday provided much-needed moisture. Most areas on the eastern side received between 0.25 and 0.75 inches of precipitation, with lower amounts reported in Rolette, Towner, Ramsey, Pierce, and Benson counties. Additional rainfall is forecast throughout the remainder of the week.

Planting of small grains and field peas is complete, and approximately 95% of fields have emerged. Plant stands are generally rated good to excellent. Planting of canola, soybeans, and dry beans is still ongoing, and many fields were being rolled yesterday.

Canola is emerging, and flea beetles are actively feeding. However, the recent rainfall has slowed their activity. With rain forecast for much of the week, it will be interesting to see whether significant flea beetle damage can be avoided this season.

Very few soybean fields have emerged to date. Most corn fields have emerged, and stands are looking good to excellent. Approximately 5% of acres remain to be planted.

Corn in Benson County
Photo: Anitha Chirumamilla, LREC

Canola emerging at the Langdon Research Extension Center
Photo: Anitha Chirumamilla, LREC

Barley at 2-3 leaf stage
Photo: Anitha Chirumamilla, LREC

Field Pea seedlings in Cavalier County
Photo: Anitha Chirumamilla, LREC

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SOUTH-CENTRAL/SOUTHEAST ND

Hot weather and quick planting due to dry conditions for most in the region allowed crops to grow rapidly and planting to progress rapidly as well.

The daily average 4-inch bare soil temperatures for the past week (May 26 to June 1, 2026) for 47 of the NDAWN stations I check weekly in the region ranged from 64 degrees Fahrenheit at Bremen, Leonard, and Robinson to 73 degrees Fahrenheit at Livona, with an average across the 47 NDAWN stations of 68 degrees Fahrenheit, a whopping 13 degrees Fahrenheit ABOVE last week's average. Based upon Cooperstown data, the average 4-inch bare soil temperature for the past week was 65 degrees Fahrenheit, the third warmest weekly 4-inch bare soil temperature for the past week. The warmer air and soil temperatures have allowed for a drastic increase in corn growing degree days (GDD) for the region as seen in Table 1.

Table 1. Accumulated and departure GDD's for 7 NDAWN stations across the region.

	Denhoff	Linton	McHenry	Jamestown	Edgeley	Mayville	Mooreton
Accumulation from 5-13 to 6-1	227	239	244	236	247	271	276
Departure from normal	+ 29	+41	+ 63	+ 48	+ 61	+ 84	+ 73
Departure from 2025	+ 86	+ 90	+ 79	+ 78	+ 89	+ 83	+ 104
Departure from 5-year average	+ 38	+ 40	+ 49	+ 37	+ 35	+ 53	+ 47

The biggest challenges this past week across the region continued to be the dryness in the northwestern part of the region, particularly in Sheridan County as the driest, but in other random parts of the region as well, non-uniform crop emergence of many crops minus peas in various parts of the region, but not in all parts of the region, severe flooding in Emmons and Logan County and even some severe hail over the past weekend in Emmons County west of Strasburg as seen in Figure 1, and lack of preemergence and/or burndown herbicides due to quick emergence of crops and windy conditions not allowing for herbicide applications leading to lots of weed emergence across the region including the recovery of weeds not killed by vertical tillage.

Figure 1. Hail damaged corn West of Strasburg in Emmons County. Photo by NDSU Extension ANR Agent Nancy Deis

The 4-inch soil moisture is below 11% at Bremen, Cooperstown, Pickardville, Robinson, Skogmo, and Wing with Skogmo continuing to have the lowest soil moisture percentage at the 4-inch soil depth at 4.3%. The 39-inch soil moisture is below 11% at Hurdsfield, Linton, Marion, Pickardville, Skogmo, Tappen, and Wing, with Tappen

having the lowest soil moisture percentage at 39 inches at 5.4%. Much needed rain is necessary for these areas, particularly Sheridan County.

With the significant rainfall in the southern parts of the region and a few other parts farther north, crop stand establishment is looking better. Non-uniform plant emergence is being observed in nearly all crops in many different pockets of the region, particularly north of Interstate 94, but also down in Emmons County. Reasons for non-uniform emergence include lack of soil moisture in sandy and well-drained parts of fields, working soil too wet, causing a cloddy seedbed that dried out, leaving seeds with poor soil to seed contact, or soil compaction from tires and/or seed furrow sidewall compaction, and improperly functioning and/or operated planting equipment. It was also reported by a farmer that soybean seed treatments were causing the soybean seed to not flow properly through the planter, causing the farmer to plant soybean seed without any seed treatments.

Figure 2. Emerged weeds in a Griggs County Soybean field

Planning ahead for proper weed management due to the lack of preemergence herbicide applications is critical to maintaining effective weed control. Tank-mixing as many effective residual herbicide sites of action in the first postemergence herbicide applications in as many crops as possible will be critical to achieving good weed control this season. Figure 2 shows some weed emergence in a Griggs County soybean field.

Nearly all spring cereal crops, peas, lentils, canola, and corn have been planted across the region. There are about 10% more soybeans to plant in the northern part of the region, with the southern part nearly completed. Maybe 50% of dry beans and sunflowers have been planted in the region, with almost none of these crops having emerged yet.

From an insect standpoint in the region, scout for flea beetles in canola, although most agents report few populations in our region, with the exception of Burleigh County. Also be scouting for alfalfa weevils, especially south of ND Highway 200.

Hard red spring wheat is still being planted and starting to joint in the region, as seen in Figure 3 in Griggs County. Corn stands overall look good as seen in Figure 4, with corn up to the V4 (4th collar) stage in the southeast part of the region. Figure 5 shows a V3 (3rd collar) stage corn in Griggs County. Figure 6 shows soybeans in Griggs County at the VC (unifoliate leaves fully unrolled) stage, the trifoliate leaves visible but not unrolled yet, but soybean plants in the southeastern part of the region are up to the V1 (first fully unrolled trifoliate leaves)

Figure 3. Early April planted wheat in Griggs County already at the jointing

Figure 4. Uniform corn emergence in Griggs County

The average daily high temperature for May 26 through June 1st at 47 NDAWN stations across the region ranged from 79 degrees Fahrenheit Streeter and Wishek to 89 degrees Fahrenheit at Gardener and Mayville, with an average for the region of 84 degrees Fahrenheit, a whopping 15 degrees Fahrenheit warmer than last week and way above normal. Based upon Cooperstown, the average daily high temperature for the past week was 85 degrees Fahrenheit, 13 degrees ABOVE the normal for this week, and was the fifth warmest weekly period with the record set in 1936 at 89 degrees Fahrenheit. The highest daily air temperature for the past week was 97 degrees Fahrenheit at Gardener. Streeter had the coolest high air temperature for the week at 87 degrees Fahrenheit.

Figure 5. V3 corn in Griggs County

The average low air temperature for these NDAWN stations across the region ranged from 57 degrees Fahrenheit at Steele to 47 degrees Fahrenheit at Casselton and Wahpeton with an average across these stations for the region of 60 degrees Fahrenheit, a whopping 16.5 degrees

Fahrenheit ABOVE last week. Based upon Cooperstown data, the average low temperature for the past week was 60 degrees Fahrenheit, a whopping 13.8 degrees Fahrenheit ABOVE the normal, and was the second warmest average low temperature for the week, with the record set in 1988 at only 60.5 degrees Fahrenheit.

Total rainfall this past week for the region at the 47 NDAWN stations ranged from 0.01 inch at Finley to 1.76 inches at Wirch, with an average of 0.6 inch across the region for these stations, which is slightly below normal for the week. Up to 3 and 4 inches of rain fell over the past weekend in Emmons and Logan Counties.

Planting is nearly completed; now it is time to start applying herbicides. Be sure to follow all label directions.

Figure 6. VC (unifoliate) stage soybean in Griggs County 6-2-26.

Jeff Stachler
Extension Cropping Systems Specialist

SOUTHWEST ND

Over the last 7 days in Western ND, some rainfall was observed, and even though moisture is always welcome, even more so considering how dry we have been this year, rain was very spotty and highly variable, with some spots receiving a little over 1 inch and other areas only receiving a few tenths of an inch. We have also embarked on a temperature roller coaster, with temperatures last week going as high as the low 90's and dropping to the 50's this week. The combination of high winds and high temperatures last week has certainly further dried up the soils and stressed-out crops, with some blowouts being reported in different parts of Williams County, drought-stressed corn at around the 3-4 leaves stage in Bowman County, as well as poor crop emergence on hill tops in Bowman and McHenry Counties. On the other hand, the high temperatures have helped move things along with a significant number of growing degree days accumulating over the last 7 days, which has resulted in a lot of emergence and development, including canola plants starting to enter the bolting stage.

Besides crop progress, the persistent high winds last week have also hindered field activities. The rains we are expected to receive throughout this week will certainly further delay field activities, but will help ameliorate crop conditions.

Reports from across Western ND account for the complete planting of small grains, canola, and corn, and about 95% of soybean complete. Sunflowers are at about 50% planted. However, given the prognostic of forages shortages due to bad forage conditions going into this season, some growers have decided to switch from sunflowers to forage mixes instead.

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weather

WEATHER FORECAST
The June 4 to June 10, 2026 Weather Summary and Outlook

Hit-and-miss thunderstorms impacted much of North Dakota over the past week. Northeastern North Dakota recorded the most widespread heavier rain as a slow-moving complex of thunderstorms impacted that area on Tuesday evening into Wednesday morning. More thunderstorms likely occurred last night, but are not shown in Figure 1.

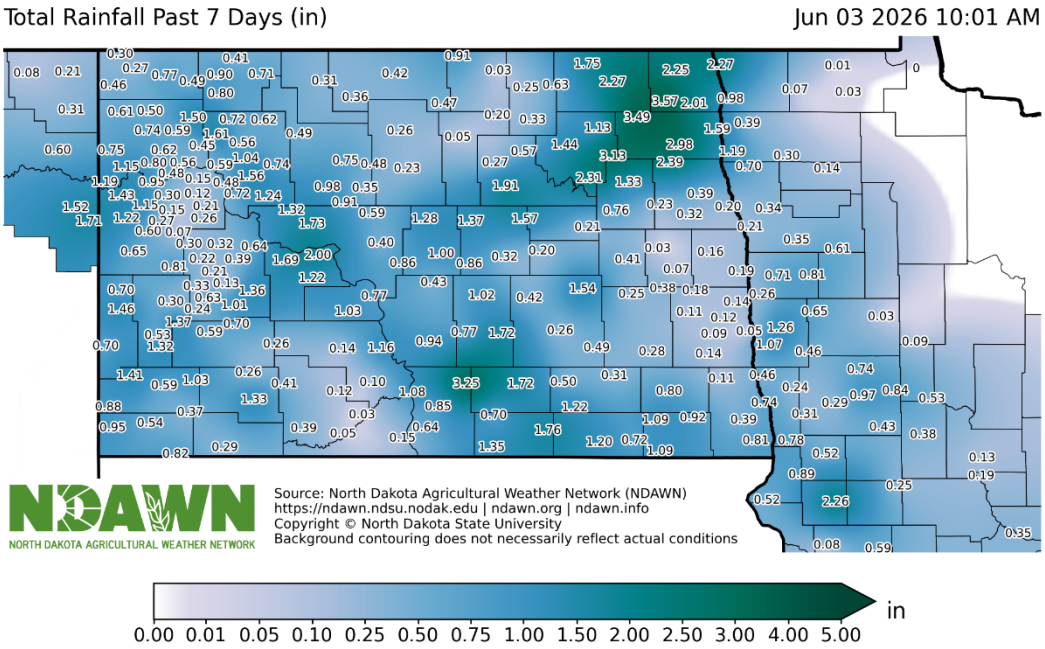

Figure 1. Total Rain at NDAWN stations from May 28 through 10 AM on June 3, 2026

Even with the excessive rainfall this past week in some parts of the state, May was so dry, that much of North Dakota into northwestern Minnesota are still well below average for rain over the past 30 days. There will be several more chances of rain in the next 7 to 10 days. It is unlikely that all areas will record average or above average rainfall during the period, but most areas should at least continue to see some rain during the first half of June.

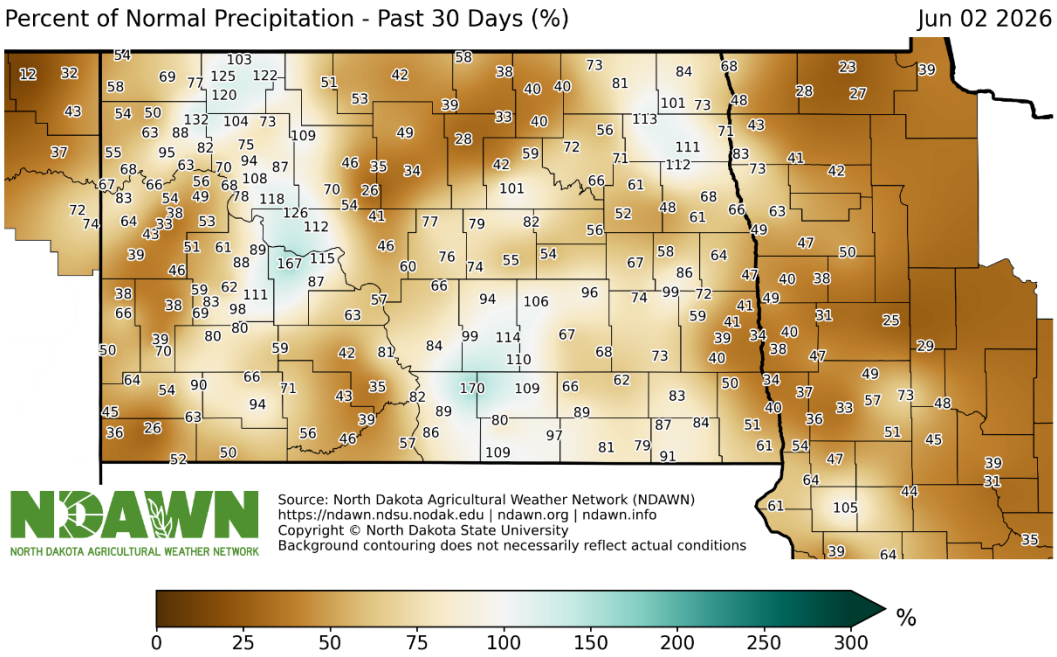

Figure 2. Departure from Average Rainfall for the 30-Day Period Ending June 2, 2026

Although the rainfall amounts varied greatly in the past week, what was very widespread was the above average temperatures. The entire state of North Dakota into northwestern Minnesota recorded temperatures well above average. In many locations more than 10° above average. Temperatures are expected to remain above average for this forecast period as well, although, likely cooler than what was experienced in the past week.

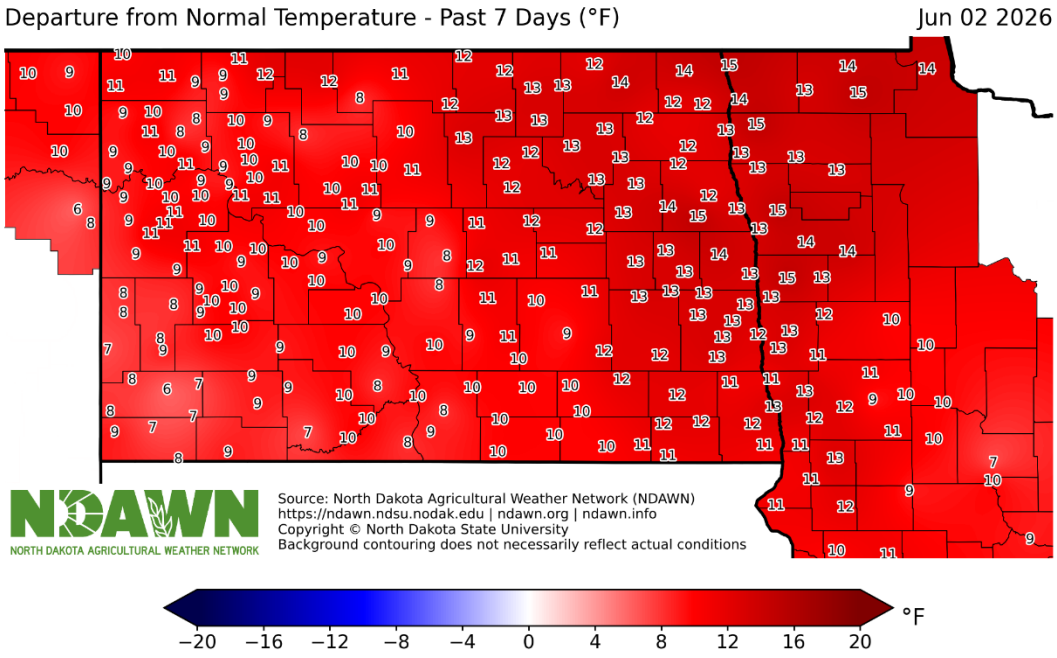

Figure 3. Departure from Average Temperatures for the 7-Day Period Ending June 2, 2026

Figures 4 and 5 show the forecasted growing degree days (GDDs) for base 32° (wheat) and base 50°F (corn and soybeans) during this forecast period. Above average temperatures are expected to continue meaning most areas will record nearly double the average number of growing degree days in the next week. A reminder that most growing degree day categories stop at a maximum of 86° F, meaning high temperatures above that are not included in the calculation.

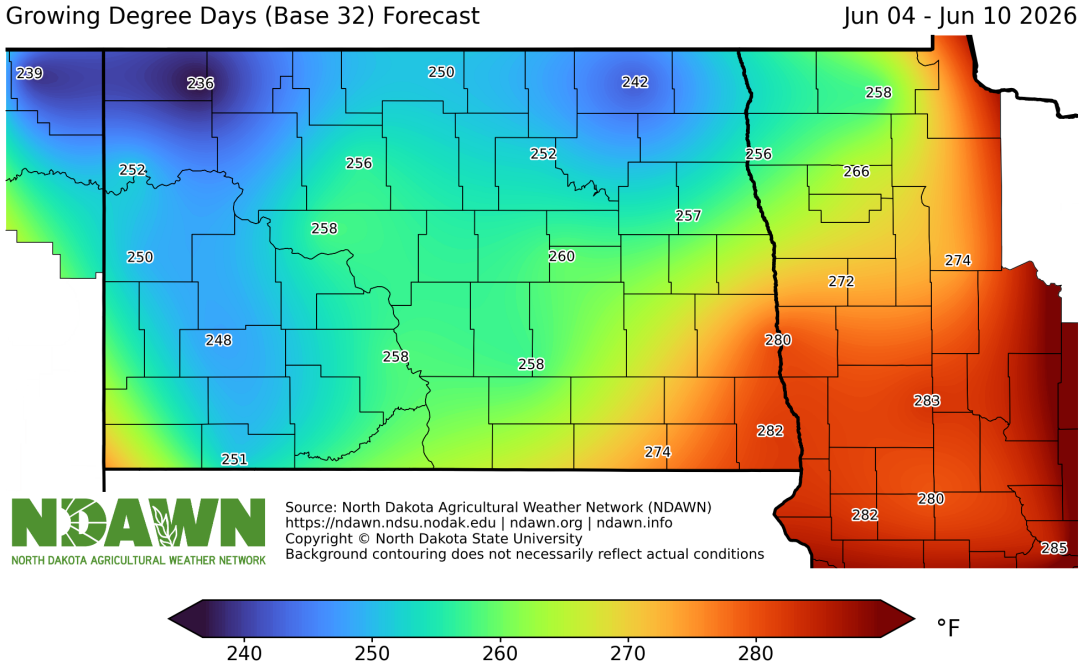

Figure 4. Estimated Growing Degree Days Base 32° for the Period of June 4 to June 10, 2026

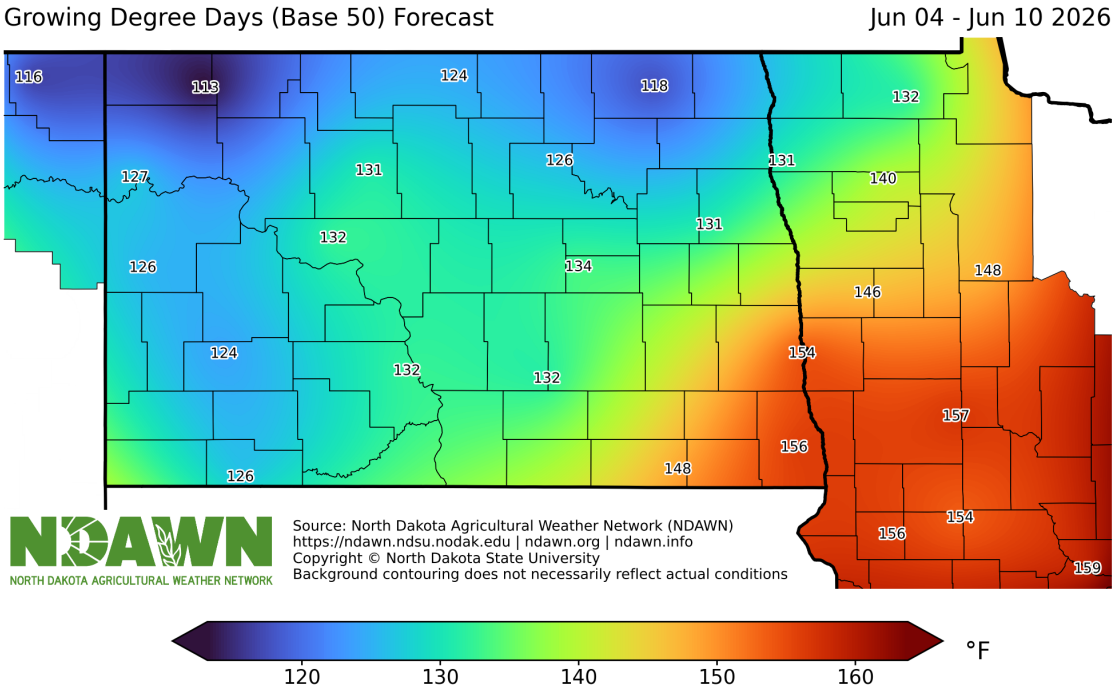

Figure 5. Estimated Growing Degree Days Base 50° for the Period of June 4 to June 10, 2026

Using May 1 as a planting date, the accumulated growing degree days for wheat (base temperature 32°) is given in Figure 6. You can calculate wheat growing degree days based on your exact planting date(s) here: https://ndawn.ndsu.nodak.edu/wheat-growing-degree-days.html

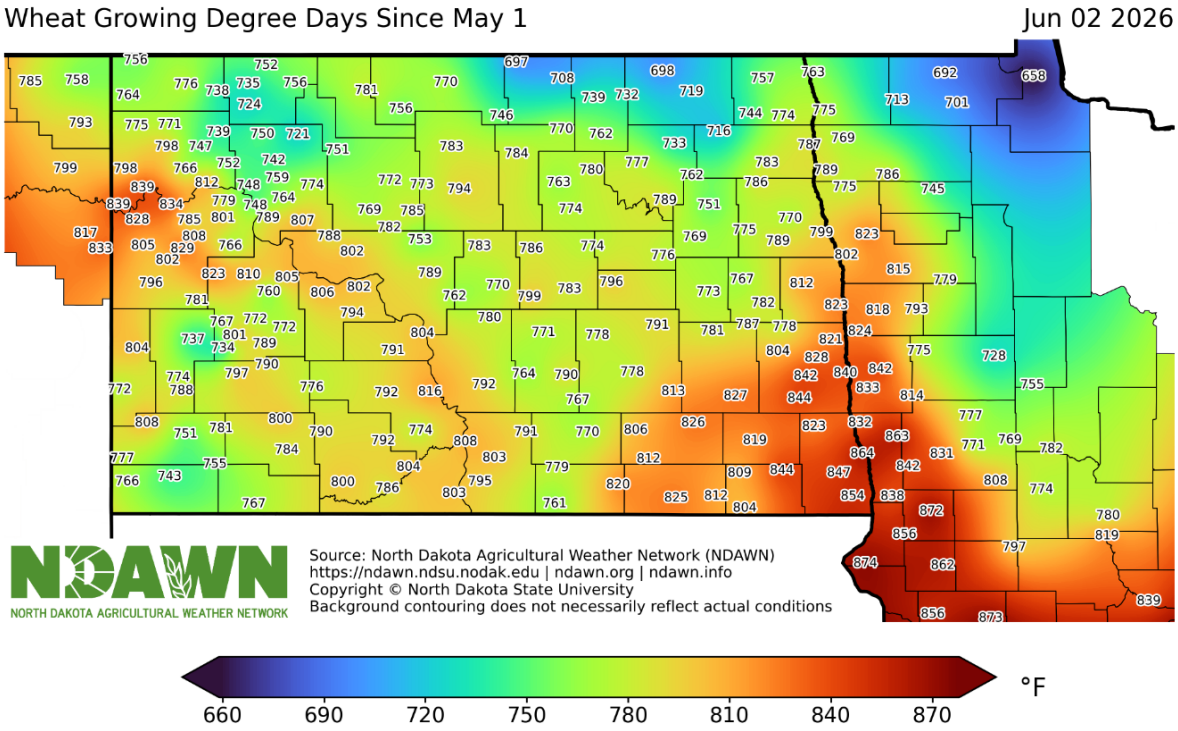

Figure 6. Wheat Growing Degree Days (Base 32°) for the Period of May 1 through June 2, 2026

Using May 10 as a planting date, the accumulated growing degree days for corn (base temperature 50°) is given in Figure 7. You can calculate corn growing degree days based on your exact planting date(s) here: https://ndawn.ndsu.nodak.edu/corn-growing-degree-days.html.

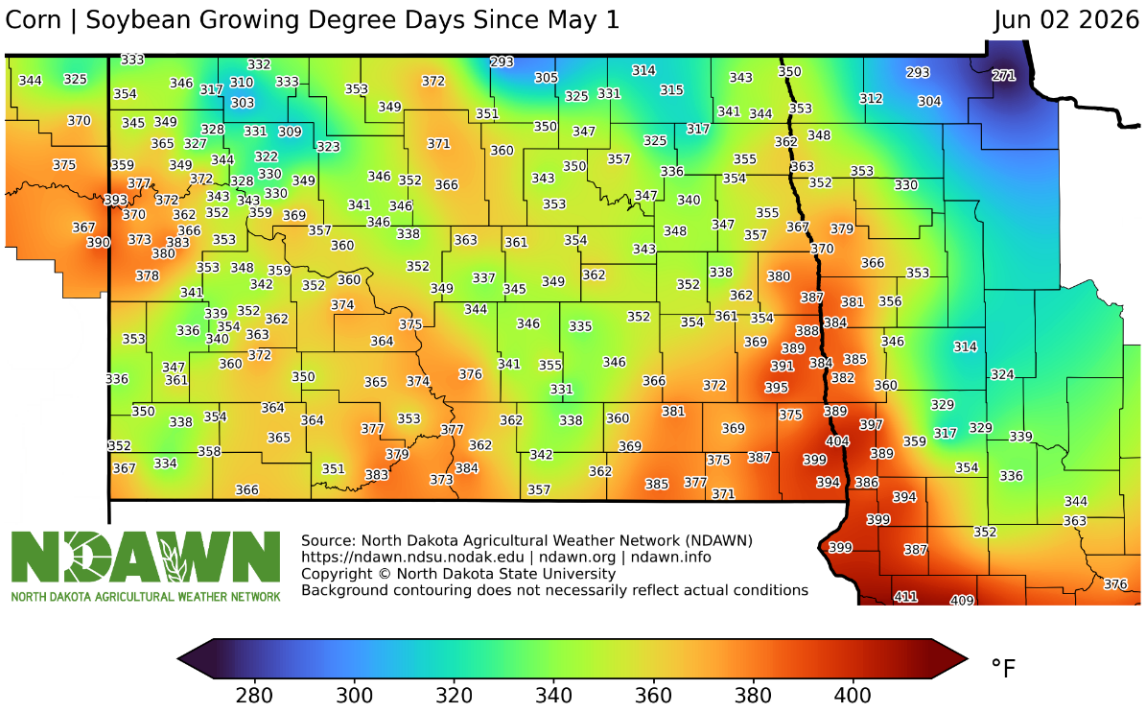

Figure 7. Corn Growing Degree Days (Base 50°) for the Period of May 10 through June 2, 2026

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