



**Inside this Issue...**

|   |    |
|---|----|
| A New Insecticide for Field Crop Insect Management.....   | 1  |
| Protecting Soybeans from Early Season Risks.....  | 2  |
| Assessing Alfalfa Production Potential .....  | 3  |
| Early Season Considerations .....   | 4  |
| Updating North Dakota Corn N Recommendations.....   | 6  |
| How Long Can My Soil Residual Herbicide Sit on the Soil Surface? .....                                    | 8  |
| Create an Integrated Weed Management Strategy on Your Farm in 2026...So We Can Get to the New Stuff ..... | 9  |
| Manage Stresses During Planting Season .....  | 10 |
| Ladybugs fly away!.....   | 12 |
| Dakota Gardener: Victory gardens are trending in 2026 .....   | 13 |
| Around the State .....  | 14 |
| South-Central/Southeast ND .....  | 14 |
| Southwest ND .....  | 16 |
| Upcoming Events .....   | 17 |

**A NEW INSECTICIDE FOR FIELD CROP INSECT MANAGEMENT**

The U.S. Environmental Protection Agency (EPA) recently approved registration of the **active ingredient isocycloseram**, Insecticide Resistance Action Committee (IRAC) Group 30, a newer mode of action, from Syngenta Crop Protection. Isocycloseram is a broad-spectrum insecticide/miticide with activity against multiple pest groups, including spider mites, Lepidopteran larvae (caterpillars), true bugs (stink bugs, plant bugs), thrips, and some beetles. Isocycloseram kills insects and mites by contact and ingestion, resulting in rapid cessation of feeding. Several products containing isocycloseram are now registered at the state level for use in select field crops.

In **Table 1**, the following products are currently labeled in North Dakota, South Dakota, Minnesota, Montana and other states (see product links for more information by clicking on the name):

**Table 1. New insecticide products of isocycloseram (IRAC Group 30)**

| Insecticide Product       | Application type    | Crops                       | Insect pests   |
|---------------------------|---------------------|-----------------------------|--|
| <a href="#">Opello®</a>   | soil-applied liquid | field corn<br>seed corn     | corn rootworm, wireworms, white grubs  |
| <a href="#">Vertento®</a> | foliar              | soybeans                    | bean leaf beetles, potato leafhoppers, plant bugs, stink bugs, caterpillars and spider mites |
| <a href="#">Equento®</a>  | seed treatment      | small grains<br>pulse crops | wireworms, seed corn maggots, white grubs  |

**Endangered species protection requirements**

Applicators are required to review the Endangered Species Act (ESA) Bulletin and must obtain any applicable Endangered Species Protection Bulletins through the [Bulletins Live! Two](#) (BLT) website for these products.

- ✓ Bulletins must be checked no earlier than 6 months before application and no later than the day of application
- ✓ Applicators must read and follow all bulletin-specific restrictions for their treatment location
- ✓ Runoff mitigation requirements

Applicators must also review runoff mitigation requirements using the [EPA mitigation menu website](#):

- ✓ A minimum of two mitigation points is required for applications

- ✓ Additional mitigation points may be required depending on crop and location
- ✓ Extra requirements will be specified in the applicable Endangered Species Protection Bulletin

**Always follow the product label, the BLT bulletin, and EPA mitigation guidelines before application to ensure compliance with all federal use requirements.**

***Disclaimer: Mention of any insecticide does not imply endorsement of any product nor discrimination against any other products not mentioned by the university or the author.***

[Janet J. Knodel](#)

Extension Entomologist



# plant pathology

## PROTECTING SOYBEANS FROM EARLY SEASON RISKS

Early-season soybean growth can be challenging in North Dakota, especially when planting occurs into cool, wet soils, as current [Climate Prediction Center](#) outlooks suggest for the coming weeks. These conditions can slow soybean germination and emergence, leaving seeds and seedlings vulnerable to infection by soilborne pathogens. Fungicide seed treatments are an important management tool that can help protect soybean stands during this early growth period and support more uniform crop establishment.

Soybean seed and young seedlings are most vulnerable from planting through emergence. When soils are cold (50°F or lower), germination is delayed, and the seedlings remain in the soil longer before emergence. This extended period, especially in cool and wet soils, increases the risk of infection by several common soilborne pathogens, including Pythium, Phytophthora, Rhizoctonia, and Fusarium. These pathogens can cause seed rot, pre-emergence damping-off, post-emergence damping-off, and root rot. Infected seedlings may fail to emerge, appear stunted, or develop brown, discolored roots and hypocotyls. In severe cases, stand loss may occur, reducing yield potential before the crop has a chance to establish. For that reason, real-time monitoring of soil temperature is critical. Resources like [NDAWN](#) offer valuable statewide data, but the most reliable approach is still to measure soil temperature directly in your field at planting depth.



**Figure 1. Post-emergence damping off of soybean seedling.**



**Figure 2. Root rot development on soybean taproot.**

Fungicide seed treatments are specifically designed to protect seeds and seedlings during this vulnerable window. Even though they do not provide season-long disease control, they can reduce early infections long enough for the plant to emerge and establish a healthy root system. This layer of protection is especially valuable when soybeans are planted early, when soil temperatures are below optimal, when soils are poorly drained or compacted, or when fields have a history of seedling disease. Fields with heavy residue, reduced tillage, or repeated soybean production may also be at greater risk because these conditions can favor the survival of soilborne pathogens.

A good fungicide seed treatment should include multiple active ingredients with activity against different pathogen groups. For example, oomycete pathogens (water molds) such as *Pythium* and *Phytophthora* require different fungicide chemistry than true fungi such as *Rhizoctonia* and *Fusarium*. Products containing only one active ingredient may not provide broad enough protection, particularly in fields where multiple pathogens are present. When selecting a seed treatment, consider field history, drainage, planting date, and soybean variety susceptibility.

It is also important to remember that fungicide seed treatments are not a replacement for good agronomic practices. Planting into suitable soil conditions remains one of the best ways to reduce seedling disease risk. Avoid planting into cold, saturated soils when possible. Using high-quality seed, selecting varieties with adequate disease resistance packages, improving drainage, and rotating crops can all help reduce early-season disease pressure.

*Additional Resources:* For a comprehensive catalog of fungicide products, check out the North Dakota Field Crop Plant Disease Management Guide [here](#). Additional info through the Crop Protection Network, including soybean seed treatment efficacy tables, can be found [here](#). Also, the University of Wisconsin–Madison has created another useful document for examining what specific active ingredients are on your seed, which can be found [here](#).

[Wade Webster](#)

Extension Plant Pathology, Soybeans

[Ana Carcedo](#)

Extension Broadleaf Agronomist



## ASSESSING ALFALFA PRODUCTION POTENTIAL

Spring is an excellent time to assess the production potential of alfalfa, especially if the stand is a few years old. Begin by looking at the roots. Damaged roots can lower alfalfa production. Looking across the field and seeing green tops does not mean there are healthy roots underneath. Dig up several plants from at least 10 spots in the field. Split the roots. Healthy roots will have a creamy white appearance. The root tissue should be firm and flexible. If the roots are grey and

water-soaked, then they have been winter-killed. Look for evidence of root disease. Look at the plant's crown as well. The crown should have numerous buds ready to initiate growth. Keep a running tally of what you see as you move across the field. If 50% or more of the roots are discolored or dead, it is time to rotate the stand out of production.



Photo credit: University of Minnesota

Estimate plants per square foot and stems per plant. Healthy alfalfa stands will average about 5 plants per square foot, with 10-15 new shoots per crown, for a total of 50-75 shoots per square foot. If there are 40 or fewer stems per square foot, then this is another indicator that this stand should be rotated out of production. If you decide that you would like to get one more year of production out of a stand, there are a couple of things that you can do. First, consider no-till drilling into the stand a spring cool-season cereal crop such as oats or triticale. This should be done in May. A full seeding rate is not needed. The goal is to thicken the stand and increase production. For oats, seeding a bushel or a little less will be adequate. Another option is to take the first cutting of alfalfa and then interseed a warm-season forage, such as a millet or sorghum-sudangrass. Do not add new alfalfa seed to an old stand of alfalfa. Established alfalfa stands have a strong allelopathic effect on new alfalfa seedlings.

[James Rogers](#)

Forage Crops Production Specialist

**EARLY SEASON CONSIDERATIONS**

In western North Dakota, soil temperatures are approaching the 50°F threshold typically considered suitable for planting (Figure 1). According to [John Rickertsen](#) at the Hettinger REC, conditions in this region are shaping up favorably for soybeans. Soil moisture going into the fall was strong, supported by timely rains in late summer. Although winter precipitation was limited, the soil profile remains in good condition, providing a solid foundation for crop establishment.

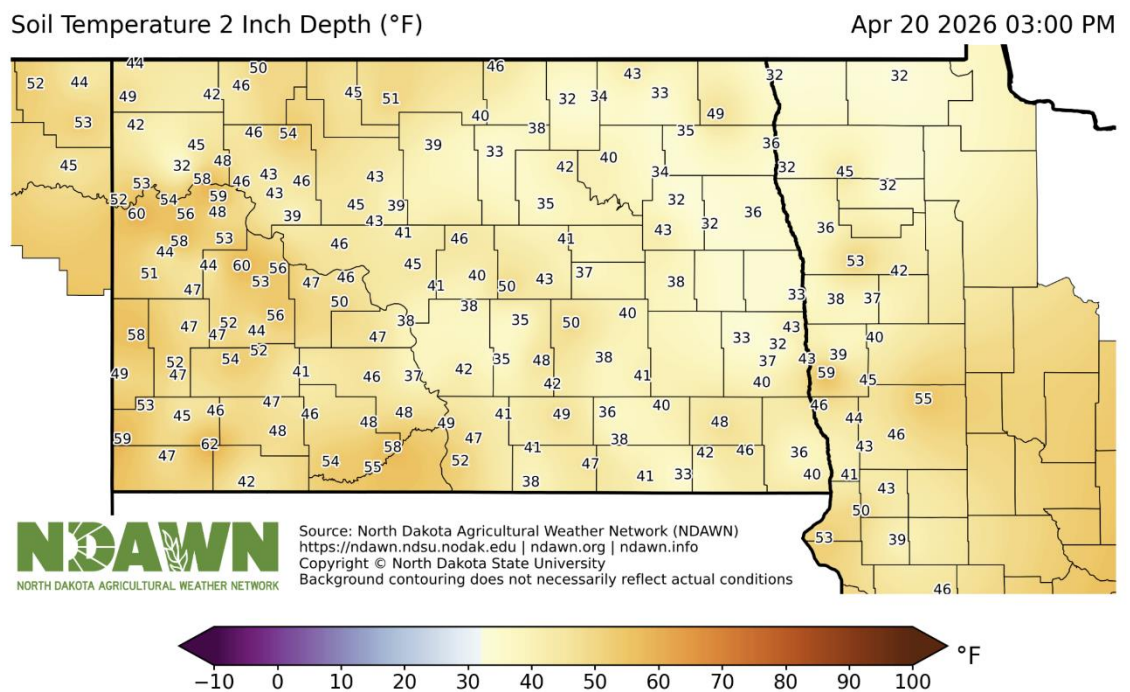
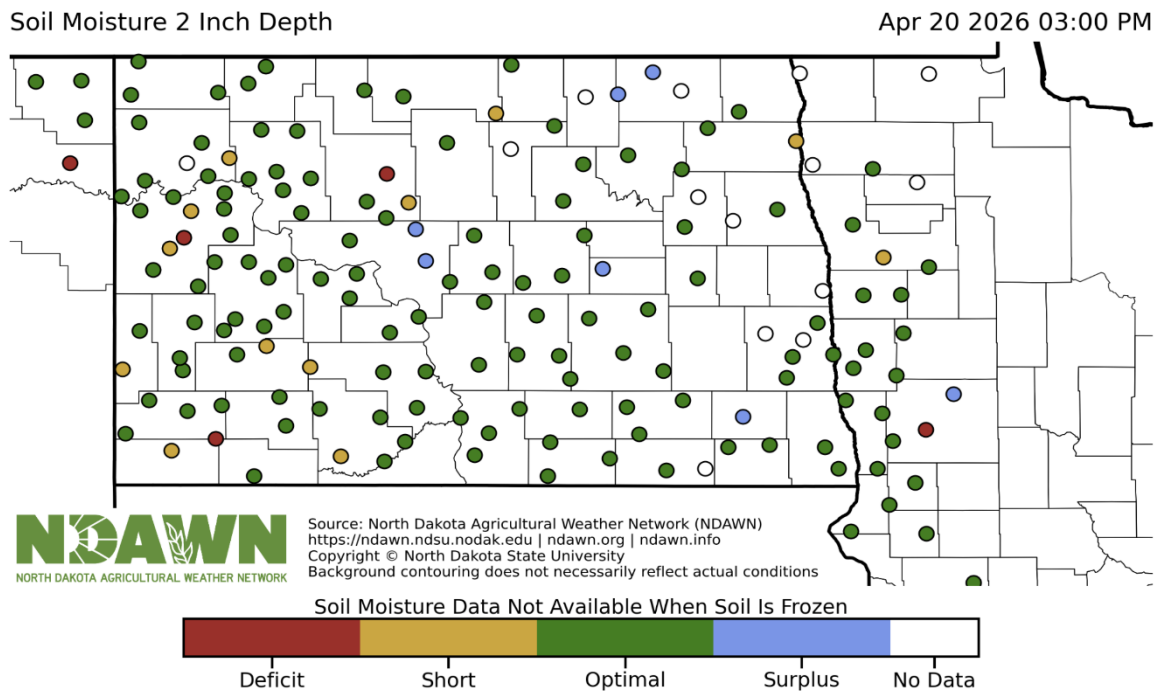


Figure 2: Soil temperature at 2-inch depth reported by [NDAWN](#) / [Soil](#)

Field activity has already begun, with small grains planted in early April. Soybean planting is expected to follow, likely beginning in early May, depending on conditions. While crop insurance allows planting as early as the first week of May, previous planting date studies at Hettinger REC have shown that the earliest planting dates do not always maximize yield. In addition, the risk of late spring frost remains a concern. A mid-May planting window—roughly May 10 through the end of the month—often provides a better balance between yield potential and risk.

In contrast, eastern North Dakota remains cooler, with soil temperatures largely in the 30s to low 40s (Figure 1). Forecasts from the [National Weather Service Outlook](#) indicate below-average temperatures over the next 8–14 days, suggesting limited field activity in the near term. Soil moisture conditions have improved compared to recent years,

although some areas may now be dealing with excess moisture (Figure 2). North Dakota is currently one of the few states not reporting drought conditions according to the [U.S. Drought Monitor](#).



**Figure 2: Soil moisture 2-inch depth reported by NDAWN ([NDAWN | Soil](#)).**

Economic conditions are also influencing planting decisions. High fertilizer costs are encouraging some producers to shift acres toward soybeans. However, this transition requires careful planning. Soybeans have specific [nutrient requirements](#), and pest pressures—particularly Soybean Cyst Nematode—remain a major concern across the Northern Plains. Knowing SCN egg counts helps guide management decisions, including variety selection and whether to plant soybeans in a given field.

Early-season weed management is another key factor for success. As Joe Ikley highlighted, ensuring a strong residual herbicide program before crop emergence is essential. Several of the most effective residual herbicides in soybeans cannot be applied after emergence. This includes Group 14 products such as sulfentrazone (Spartan) and flumioxazin (Valor). Applying these products at the correct timing helps maintain weed control during the critical early weeks of the growing season.

Want to know more? Joe and John were in “In the Pod” click here to hear their episodes: [In the Pod: Soybean Updates | NDSU Agriculture](#)

[Ana Carcedo](#)  
 Broadleaf Agronomist



## UPDATING NORTH DAKOTA CORN N RECOMMENDATIONS

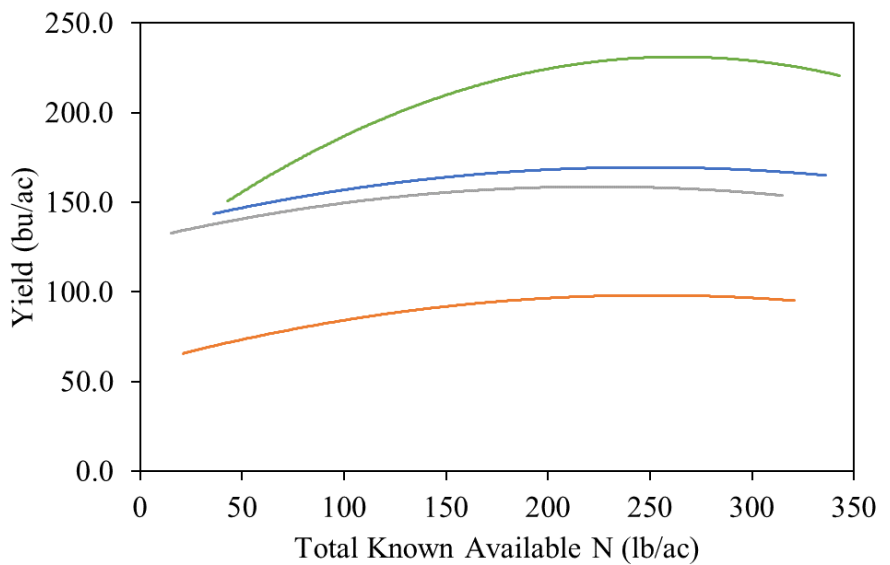
The 2025 growing season was the kick-off year for collecting data to update the North Dakota corn nitrogen (N) recommendations—a project that is going to continue for several years before you see any changes (if they are needed) to the printed [Soil Fertility Recommendations for Corn](#) or the [NDSU Nitrogen Calculator](#). In the first year, five N response sites were established across North Dakota, in Cass, Barnes, Morton, and Stark counties. In 2026, six more sites are planned in Cass, Barnes, Morton, Hettinger, and Stark counties, funded by the North Dakota Corn Utilization Council.

So, what is going on at the sites, and how are the recommendations actually created? When creating statewide fertility recommendations, it is important to collect data from across the state! Over the years of this project, sites will be located in all major (and upcoming) corn-producing areas of the state. Great care is taken to find sites representative of a larger production area and to use management practices that farmers also use (common varieties, pest control, tillage practices). The purpose of the field studies, commonly called *response trials*, is to establish N-response curves—how crop production responds to fertilizer additions, residual N, and N credits at each site (Figure 2). To facilitate crop response, multiple N fertilizer rates ranging from 0 to 250+ lb N/ac are applied to small, replicated plots. The replication, while tedious, is necessary to collect representative, unbiased, and statistically meaningful data (always be skeptical of unreplicated data!).



**Figure 1: Corn N-rate trial in Dickinson, ND. Photo credit: C. Augustin, NDSU.**

Once the corn is harvested and the yield is determined, data analysis begins. Data from each site are analyzed individually, and those without a statistically significant response to N are excluded. Data from the yearly trials is then combined with relevant past trials to create the dataset from which recommendations can be developed. Sites are organized and grouped by similar field properties, which result in similar yield responses (for example, the blue and grey lines in Figure 2). The current NDSU corn N guidelines group sites by region and tillage practice, with additional groupings possibly developed as data allow—for example, wheat guidelines include historical productivity ranges. Once the dataset is compiled and grouped by response similarity, the recommendation process begins. There are several approaches to creating recommendations, with yield goal and economic recommendations (Maximum Return to N, Economic Optimum N Rate) being the most common. For more information about the various recommendation systems, check out this 2017 paper: [Strengths and Limitations of Nitrogen Rate Recommendations for Corn and Opportunities for Improvement](#). In North Dakota, the economic models have been adopted for N recommendations. Why? Check out my article *Managing Fertility to Maximize Profits* in the [Feb 27, 2025 Crop & Pest Report](#).



**Figure 2. Corn yield response to total known available N (sum of fertilizer N, residual soil N, and N credits) from four North Dakota sites in 2025.**

### Be Curious but Skeptical

You've undoubtedly heard the old adage "if it is too good to be true, it probably is," and it rings true in the world of soil fertility. As margins tighten, products promising big results are getting a lot of attention, whether they're biological, humic, or any other type—I have been receiving many emails and phone calls about a whole host of these products over the past few weeks. While there are certainly new and upcoming products that work, you should know they work by having unbiased, third-party and university research behind them. Investing money in a product promising higher yields and reduced fertilizer use with just one pint per acre—supported only by a single side-by-side "trial" at an undisclosed location—is likely too good to be true. Through the work of land-grant universities in the North Central Region, the "Compendium of Research Reports on Use of Non-Traditional Materials for Crop Production" (<https://ncera103.org/>) has been developed. This compendium is a good first step for unbiased research on non-traditional soil amendments.

If you have a product you'd like to try on your farm, I encourage you to conduct a replicated strip trial. By putting in replicated trials, real, statistically valid, and useful data can be collected—and at a lower risk than dedicating a whole field. If you are interested in learning more about on-farm trials, reach out to your local Extension Agent or Extension Soil Specialists located across the state.

[Brady Goettl](#)  
Extension Soil Specialist



## HOW LONG CAN MY SOIL RESIDUAL HERBICIDE SIT ON THE SOIL SURFACE?

Spring rainfall is unpredictable, and 2026 is no exception. Agricultural fields in the mountain west are dry, and some areas of the midsouth and east have seen flooding. Sugarbeet farmers are planting sugarbeet in south central Minnesota and are days away from starting planting in the Red River Valley. What if we have a dry spring? How long can soil residual herbicides sit on the soil surface before they lose efficacy?

Many extension specialists have written on this topic over the years, including yours truly. The consensus is that it takes 0.25 to 1 inch of rainfall to activate soil residual herbicides, and most remain active for 7 to 10 days, maybe even 14 days. Our greatest problem is not a herbicide breaking down before rainfall activates it, but a scenario with sufficient moisture for weeds to germinate, but not enough rainfall for herbicide activation.

Let's do a deeper dive. Herbicides typically are more persistent in dry soil due to lower degradation rates. However, in some cases, herbicides may be lost from the soil surface. For example, Eptam and Treflan have relatively high vapor pressures and could be lost if left on the soil surface for more than 1 hour before mechanical tillage activation. Photodegradation can also be a source of loss for certain herbicides from the soil surface. For most products, I don't think sufficient herbicide will be lost from photodegradation or volatilization to compromise efficacy. Finally, wind erosion can also affect herbicide efficacy. It seems strong winds often accompany dry conditions. This risk will be influenced by field topography and tillage practices; crop residue on the soil surface should reduce movement. I suspect that in some years, there are areas within fields where enough herbicide is moved to limit activity until rain activates it. I suspect wind movement will be a greater concern than losses from volatility or photodegradation in most fields.

Dr. Jason Norsworthy, University of Arkansas, wrote about field research simulating herbicides that remained on the soil surface for up to 21 days before being activated by rainfall. Their results demonstrated that S-metolachlor products were still active after lying on dry soil for 21 days before receiving activating moisture. Valor was still active after lying on dry soil for 14 days.

Finally, growers ask whether they should take matters into their own hands and apply herbicides with tillage. From my research, Mother Nature does a better job of activating herbicides with rainfall than my growers do with tillage. The greatest challenge is uniform activation, especially with the modern tillage equipment growers are currently using. My advice, if you elect to use tillage, is don't get the product too deep. Remember, you are conducting tillage to activate the herbicide, not for seedbed preparation.

## CREATE AN INTEGRATED WEED MANAGEMENT STRATEGY ON YOUR FARM IN 2026...SO WE CAN GET TO THE NEW STUFF

This is my 13th field season helping sugarbeet growers in North Dakota and Minnesota control weeds in sugarbeet fields. I spoke about integrated weed management (IWM) during my first presentation as a sugarbeet agronomist in 2014. In the early days, IWM was mixing a second effective herbicide with glyphosate for weed control in RR sugarbeet. Second, I asked growers to save the Roundup 'chip' for sugarbeets and not to use Roundup on their RR corn and soybeans. Here we go again, the first spring Crop and Pest Newsletter in 2026 and more sentences about IWM. However, I have a different message this time.

It seems every time one picks up an agricultural magazine, one reads about weed resistance. And in many cases, the herbicide-resistant weed species is waterhemp. The herbicide family casualties are site-of-action groups 2, 4, 5, 9, 14, 15, and 27. And in some/many cases, waterhemp is resistant to multiple herbicide families. There are also hints about Liberty-resistant waterhemp.

I have a new message after listening to Dr. Pat Tranel, University of Illinois professor, speak recently. 2026 might mark the beginning of the end of the era of stand-alone chemical control for waterhemp. Yes, you heard me correctly, we need to implement alternatives to herbicides to control weeds, especially waterhemp. We need to develop an IWM plan.

So, what does that mean? First, we need to reevaluate the crops we grow on our farms to introduce diversity. Corn and soybeans are not a unique crop rotation; as far as waterhemp is concerned, they are one crop. We need to grow different crops, like small grains and alfalfa, where possible or crops that are planted differently and grow differently. We are managed differently, so that we can make it more challenging for waterhemp. Second, the herbicide choices we make have to be carefully planned. Weed control in 2026 and beyond needs to be a strategy, not something developed on the fly. Third, we may have to carefully use more tillage to control emerged weeds before planting or to control weeds between the rows with an inter-row cultivator during the season. Third, we need to figure out how fall-seeded cover crops or spring-seeded nurse crops might suppress weeds. I take some responsibility for this one as I haven't figured out how to make them work in the sugarbeet rotation. However, this has to be an area of short-term research emphasis. Maybe we need to go back to square one and reevaluate the cover or nurse crop we select to suppress waterhemp. Finally, we may need to pull weeds. The only way we are going to have a chance in the war against weeds is to set a goal of 95% weed control in every crop, in every field, every year.

I, for one, am really excited about the potential of AI technology to differentiate between weeds and crops and possibly use alternative strategies, like lasers, to kill weeds. In my view, these AI technologies will be integrated with our chemical control programs. However, we are not there yet. The machines on the market are too small, too slow and too expensive. We absolutely need to support government funding of public institutions for these solutions since they are not ready for sale in the private sector, at least not for the crops produced in Minnesota and North Dakota.



*The Verdant Robotics Sharp Shooter uses AI technology to differentiate between crop and weeds, aiming a dose of herbicide at target weeds.*

Gloom and doom? Absolutely not. We have been here before, and we have found solutions. I had the opportunity to develop herbicide-tolerant crops while working in the private sector. Those crops provided tremendous value for a generation. However, it's time we move to what's next. The development of biotech crops was exciting, but I anticipate the development of AI technology will be even more exciting and more impactful for agriculture. However, we need IWM approaches for the next 5 or 10 years so we can get to the new stuff.

[Tom Peters](#)

Extension Sugarbeet Agronomist  
NDSU & U of MN

[Rob Proulx](#)

Agriculture Technology Systems Specialist



## MANAGE STRESSES DURING PLANTING SEASON

Piled-up stress during the planting season can lead to physical or mental health issues among those working in agriculture. However, there are steps you can take to reduce stress and create healthy ways to manage it.

Farm and ranch families often experience pressure, fatigue, and uncertainty, especially during the planting season. If feelings of frustration or fatigue build up, they can lead to costly accidents, poor decisions, strained relationships, health concerns and other risks.

### Steps to Managing Stress During Planting Season

Farmers, ranchers and their family members and employees can learn to manage their stress effectively, even during planting season or other difficult times. The key is to be flexible and maintain a balanced lifestyle. Make time daily to take care of yourself because your work is vital to all of us. Your health is the most important asset on your farm or ranch operation.

To help manage stress, consider these steps:

- **Taking control of events by planning** – Discuss who can be available to help during key portions of the planting season. Make time to set priorities so you can focus on what needs to be done today and what can wait.
- **Taking control of attitudes that influence you** – Identify the sources of stress you have, and which ones you can and cannot change. Shift your focus from worrying to problem-solving. Notice what you have achieved rather than what you did not accomplish. Set realistic goals and daily expectations. How you view a situation is a key factor in creating or eliminating stress.
- **Controlling your responses to stressful conditions** – When feeling stressed, take a break and focus on relaxing your body and mind. Take multiple deep, slow breaths and let go of unwanted stress. Think positive thoughts, balance work and play, find someone to talk to and seek help when you need it.

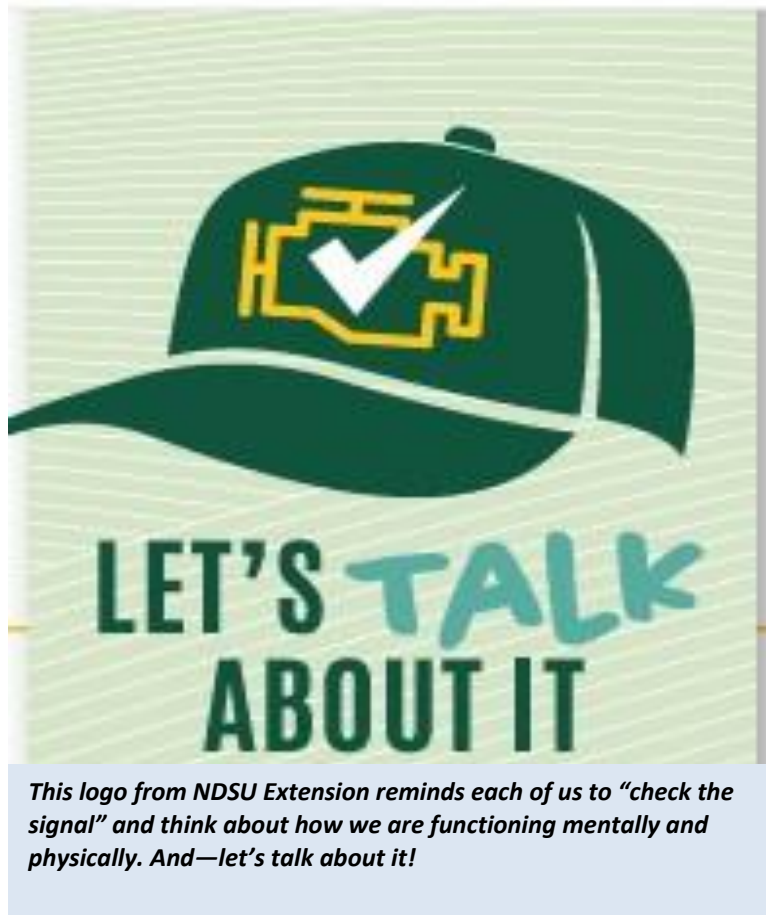
**Access Helpful Resources**

To learn more about available resources to assist in managing stress in agriculture, read the NDSU Extension publication FS282, "Farming, Ranching and Work-Life Stress" – link:

<https://www.ndsu.edu/agriculture/extension/publications/farming-ranching-and-work-life-stress>

If you or someone you know needs 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.



[Sean Brotherson](#)

Extension Family Science Specialist

Adriana Drusini ([adriana.drusini@ndsu.edu](mailto:adriana.drusini@ndsu.edu))

Extension Farm and Ranch Stress Program Coordinator



## LADYBUGS FLY AWAY!

When it warms up in the spring, Asian multicolored Asian lady beetles that entered the home in the fall will get active and fly or crawl about the house. This beetle is about 1/8-inch long and ranges from orange to red with no spots to 19 black spots on the wing covers. This lady beetle has a black “M” or “W” marking behind its head. Homeowners often find hundreds of beetles on windows where they are attracted to sunlight and want to get outside to continue their life cycle. These insects are harmless, but can be a big nuisance to homeowners in large numbers.

These insects do not breed or multiply in homes. They do not feed during the winter. If handled or squished, the multicolored Asian lady beetle can deliver a mild pinching bite and can stain curtains and other materials through reflex bleeding. This is a defensive mechanism in which insects, such as lady beetles, exude a yellowish, foul-smelling hemolymph from their joints when threatened. Even after these insects are cleaned up from a room, the room can be littered with additional dead or live insects again within days. The continuous presence of insects can be very frustrating for homeowners.

**It is best to control these insects in the fall.** Multicolored Asian lady beetles can enter attics, dormers, and usually the highest rooms of the home during the autumn months by forcing themselves through various cracks, crevices and openings. The southern and western exposures of houses are often the warmest, where most of the insects will concentrate. They hibernate and overwinter within the walls, in attics, window casings, dark corners in closets, and curtains.

Control of these insects cannot be effective until the openings through which they enter are closed. While the total elimination of insects is virtually impossible, maintaining the house in good physical condition will greatly reduce the risk of infestation. Use tight-fitting window screens, especially on the upstairs and attic windows and vents. Screen attic ventilators, attic louvers, and utility entry areas. Caulk and seal all cracks and openings near windows, doors, vents and other possible entry sites.

We do not recommend any insecticides inside the home. They can be removed with a vacuum, broom and dust pan or window fly traps. Again, it is important to find and seal or screen the entry points before insects get active and enter the home in the fall.



*Asian multicolored lady beetles on glass and in windows (Patrick Beauzay, NDSU)*

[Janet J. Knodel](#)  
Extension Entomologist

**DAKOTA GARDENER: VICTORY GARDENS ARE TRENDING IN 2026**

Three people contacted me over the last two weeks and inquired about victory gardens. At my age, I am not very trendy, but this wartime concept is gaining traction in 2026.

Victory gardens originated during World War I to encourage homeowners, schoolchildren and others to grow fresh food in backyard gardens, containers and other small plots. The purpose of these gardens was to offset domestic produce shortages as the United States shipped food to allied troops and countries. The concept was revived during World War II and, more recently, during the COVID-19 pandemic.

Victory gardens are trending on social media for several reasons. A North Dakota State University Extension Master Gardener explained that she wanted to plant a victory garden to commemorate the 250th anniversary of our nation's founding. In keeping with this historical celebration, heirloom seeds can be a relevant and fun choice. Online seed vendors sell vegetable varieties that were grown in George Washington's and Thomas Jefferson's gardens.



*Vegetables can be integrated into flower gardens (NDSU photo).*

With high fuel costs and rising prices squeezing budgets, many people plan to plant a victory garden to save money. Growing fresh vegetables at home can reduce grocery costs and be very satisfying for those seeking greater self-reliance. Potatoes, winter squash, onions, carrots and beets are nutritious, high-yield choices that can be stored to provide food beyond the growing season.

You don't need a large yard to plant a victory garden. Ornamental gardeners can integrate perennial vegetable crops such as asparagus and rhubarb into existing flower gardens. The delicate asparagus foliage could provide an interesting backdrop for flowers. Similarly, red-stemmed rhubarb can add color to a flower garden. I have been known to tuck radishes, Swiss chard, carrots and beets in between rows of flowers.

Apartment dwellers, do not despair! Tomatoes, bell peppers, basil, parsley and cilantro can be grown on sunny apartment balconies. Most vegetables need six or more hours of direct sunlight. For areas that receive less sunlight, consider growing leafy greens such as lettuce and spinach that thrive with three to five hours of sunlight. Leafy greens grow best in spring and fall.

Victory gardens can be planted to benefit those who are less fortunate. Plant an extra row or container of vegetables to donate to local food pantries. Food pantries expect increased demand this year due to economic conditions. Before donating, check whether your local food pantries accept fresh produce. Not all food pantries have enough refrigeration space to accept and store produce donations. If donating produce, keep food safety principles in mind. Wash your hands before harvesting and use clean bags or containers to transport items to the food pantry. Also, exclude animals from the garden.

[Esther McGinnis](#)  
Extension Horticulturist



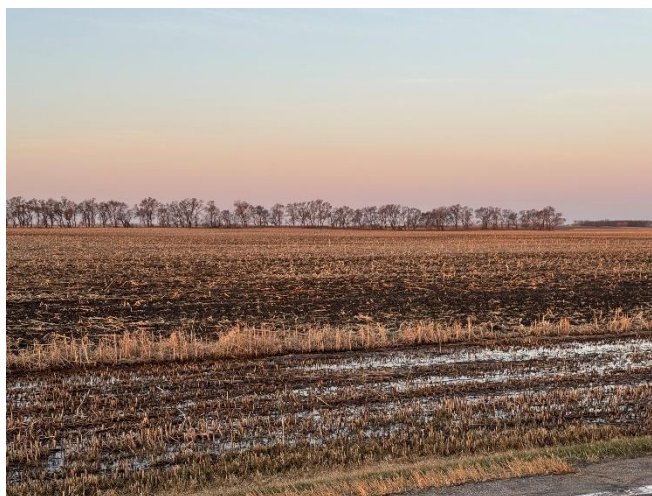
## around the state

### AROUND THE STATE

#### SOUTH-CENTRAL/SOUTHEAST ND

Soil temperatures are rising, and soils are getting drier. Little is planted in the south-central and southeastern parts of North Dakota as of April 22, 2026. A farmer in Griggs County planted 5 percent of his hard red spring wheat last week, Thursday (April 16<sup>th</sup>). The Oakes Irrigation Research Site planted hard red spring wheat on April 21<sup>st</sup>, and the seed stock farm at the Carrington Research Extension Center will be planting some field peas on April 22<sup>nd</sup>. Otherwise, almost no crops have been planted in the entire region, according to the agents on a conference call with me this Tuesday.

Soil temperatures and wet soils (Figure 1) are holding up planting. Yesterday the daily average 4" bare soil temperature at Skogmo (NW part of region), Strasburg (SW part of region), Carrington (NC part of region), Edgeley (SC part of region), Hillsboro (NE part of region), and Sonora (SE part of region) were 49, 52, 49, 51, 53, and 55 degrees Fahrenheit, respectively. This morning (April 22<sup>nd</sup>, the 4" bare soil temperatures for Skogmo, Strasburg, Carrington, Edgeley, Hillsboro, and Sonora were 44, 50, 43, 43, 45, and 46 degrees Fahrenheit, respectively, so soil temperatures are moving in the correct direction. Soil temperatures, in no-till, most likely are still quite cold, at least if you use the 4" daily average turf soil temperature. The average daily 4" turf temperature yesterday (4-21) at Carrington was only 37 degrees Fahrenheit.



**Figure 1. Soils still too wet to conduct tillage or plant in much of the region.**

Always be patient when beginning tillage or planting a field, until the majority of the field has the proper soil moisture, so as not to cause compaction or cloddy seedbeds. Compaction caused in the spring can't be fixed for that season, and if smearing of the sidewalls where the seed is planted, root development likely will not be proper, and crop yields may suffer, especially if it gets dry later in the season. Conducting tillage, especially with disk blades, in a field to "dry it out," can cause compaction near the seed placement, potentially leading to poor root development.

Be patient when planting corn, as it should be based on soil temperature. Corn can start emerging at a 4" soil temperature of 50 degrees Fahrenheit. Still, if the soil temperature stays near that level for over a week, corn emergence can be non-uniform, and non-uniform emergence can cause a 6 to 10 percent yield loss. Average 4" soil temperatures of 65 degrees Fahrenheit for multiple days before planting usually allow corn to emerge within 7 days, and likely uniformly allow maximum corn yield.

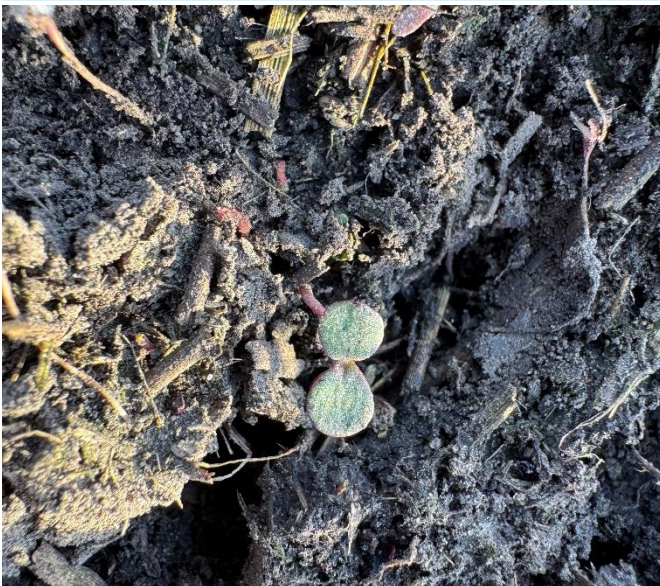
Weeds are starting to emerge around the region. At Carrington this morning (April 22<sup>nd</sup>), I observed kochia (Figure 2) and common ragweed (Figure 3) already emerged, with lots of kochia emerging based upon (Figure 4).



**Figure 2. Emerged kochia already at two-leaf expanding stage.**



**Figure 4. Dense kochia population already emerged.**



**Figure 3. Newly emerged common ragweed.**

At least based upon Skogmo, Strasburg, Carrington, Edgeley, Hillsboro, and Sonora NDAWN stations, the highest temperature for the season occurred on April 21st, with Sonora reaching 83 degrees Fahrenheit and Strasburg and Edgeley reaching 80 degrees Fahrenheit, and it might get warmer in the region today (4-22)!

Have a safe planting season, and please seek help if you are becoming depressed. A farmer friend of mine committed suicide earlier this week. Let's try to prevent future suicides. NDSU has many resources available to help you. You are valuable.

[Jeff Stachler](#)

Griggs County Extension Agent

**SOUTHWEST ND**

Field activity has been slow over the past couple of weeks, following snow and rain across much of southwest North Dakota and below-average temperatures. With temperatures reaching well into the 80s this week and soil moisture conditions favorable for fieldwork, activity has started to pick up across much of the region.

Most reports so far indicate planting of durum, barley, oats, field peas, and a small amount of spring wheat. However, with temperatures expected to drop into the 20s later this week and into next week, these crops may not accumulate enough growing degree days for rapid emergence. Despite this, weeds have been emerging readily, raising concerns about early-season weed control.

Slow early crop development and uneven emergence can increase the risk of early-season weed competition, as canopy closure will take longer to occur. In addition, burndown herbicide efficacy can be significantly reduced under low air temperatures.

For glyphosate applications, producers should avoid spraying when evening temperatures fall below 40°F. Glyphosate is a systemic herbicide that relies on active plant growth for translocation and effective weed control.

Given the widespread issue of herbicide-resistant kochia across much of the state, paraquat is a preferred burndown option. However, paraquat activity is influenced by both temperature and sunlight intensity at the time of application and following application. In general, temperatures below 55°F will slow activity, while temperatures above 60°F are more favorable for optimal performance.

To maximize burndown herbicide efficacy, avoid applications during prolonged cool periods (<40°F at night; <55°F during the day). If applications must be made under marginal conditions, using labeled maximum rates and appropriate adjuvants can help improve consistency.

On a different note, a major concern this season is input costs. Fertilizer prices have increased sharply amid the current geopolitical landscape, prompting many producers to evaluate their options. Based on conversations with growers and Extension agents in the region, many had already secured fertilizer before the recent price increases and are generally maintaining their original plans and crop rotations. However, some dealerships and cooperatives report that only about one-third of the typical fertilizer volume has been purchased for 2026 compared to historical averages for this time of year.

Under these conditions, reducing fertilizer inputs may be a viable option, but soil test results should guide decisions to avoid under- or overapplication. The relatively warm, wet conditions last fall likely increased nitrogen mineralization, potentially resulting in higher-than-normal residual soil nitrogen this spring. This could reduce nitrogen application rates in some fields. Additionally, where feasible, switching from urea to anhydrous ammonia may help reduce costs, as anhydrous ammonia is typically more economical per unit of nitrogen.

[Victor Gomes](#)

Extension Cropping Systems Specialist  
NDSU Dickinson Research and Extension Center

## UPCOMING EVENTS

| <b>Date</b>   | <b>Time</b>          | <b>Event</b>   | <b>Location</b>                            | <b>Link</b>   |
|---------------|----------------------|--|--|---|
| 4/24/2026     | 9 a.m. to 11:30 a.m. | New Crop Alert: Winter Camelina in the Northern Great Plains | NDSU Carrington REC                        | <a href="#">New Crop Alert: Winter Camelina Northern Great Plains</a> |
| 5/14/2026     | 1 p.m. to 2 p.m.     | Agricultural Market Situation and Outlook Webinar            | Virtual                                    | <a href="#">Agricultural Market Situation &amp; Outlook Webinar</a>   |
| 4/27-29, 2026 | All Day              | Farm Safety Camp - East                                      | Lake Region State College, Devils Lake, ND | <a href="#">Farm Safety Camp-East</a>                                 |
| 6/2-4, 2026   | All Day, CST         | Farm Safety Camp - West                                      | Dickinson State University, Dickinson, ND  | <a href="#">Farm Safety Camp-West</a>                                 |
| 6/10/2026     | 9 a.m. to 3 p.m.     | Fencing School   | Minot, ND                                  | <a href="https://ndsu.ag/fencingschool26">ndsu.ag/fencingschool26</a> |

North Dakota State University

**CROP & PEST REPORT**

NDSU Dept. 7660; PO Box 6050

Fargo, ND 58108-6050

Crop and Pest Report is on Facebook!

Ctrl + Click image below or go to [www.facebook.com/ndsuextcpr](http://www.facebook.com/ndsuextcpr) to 'Like' us and receive notifications and other information.



Not on the List to receive this report?

Sign up now with your smart phone using the code to the right:

*Janet Knodel  
Wade Webster  
Co-Editors*

**Entomology**  
701-231-7915

**Plant Sciences**  
701-231-7971

**Soils**  
701-231-8881

**NDSU** | EXTENSION

EXTENDING KNOWLEDGE >> CHANGING LIVES

*Sam Markell  
Eric Branch  
Co-Editors*

**Plant Pathology**  
701-231-8363

**Weeds**  
701-231-7972

**Ag Engineering**  
701-231-7261

The information given herein is for educational purposes only. References to a commercial product or trade name are made with the understanding that no discrimination is intended and no endorsement by the North Dakota Extension is implied.

NDSU encourages you to use and share this content, but please do so under the conditions of our Creative Commons license. You may copy, distribute, transmit and adapt this work as long as you give full attribution, don't use the work for commercial purposes and share your resulting work similarly. For more information, visit [www.ag.ndsu.edu/agcomm/creative-commons](http://www.ag.ndsu.edu/agcomm/creative-commons).

North Dakota State University does not discriminate on the basis of age, color, disability, gender expression/identity, genetic information, marital status, national origin, public assistance status, race, religion, sex, sexual orientation, or status as a U.S. veteran. Direct inquiries to the Vice President for Equity, Diversity and Global Outreach, 205 Old Main, (701)231-7708.

**This publication will be made available in alternative formats for people with disabilities upon request (701) 231-7881.**

**This publication is supported in part by the National Institute of Food and Agriculture, Crop Protection and Pest Management - Extension Implementation Program, award number 2024-70006-43752.**

*NDSU Crop and Pest Report*

<http://www.ag.ndsu.edu/cpr/>