PFMD UPDATE

A BULLETIN FROM THE PESTICIDE AND FERTILIZER MANAGEMENT DIVISION

APRIL 2025

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DEPARTMENT OF AGRICULTURE

Director's Notes

Joshua Stamper
Director, Pesticide and Fertilizer Management Division

Making things "stay put" is the challenge that many of the articles in this PFMD Update try to address. Each article is based on issues recently observed by PFMD staff or a resource we believe can help you keep ag chemicals on target. Whether it's managing nitrates, complying with new rules for mixers and loaders, or cleaning up point sources of contamination, keeping ag chemicals out of water and off your neighbor's property is something that Minnesota's statutes direct us to do.

Minnesota statutes provide the Legislature's directives to the executive branch for administering statutory programs. The MDA is charged with practicably preventing the degradation of groundwater from agrochemical contamination in the Groundwater Protection Statute (Minn. Stat. § 103H). The word "practicable" or one of its derivations, appears eight times in that chapter - a point not lost on anyone at the Minnesota Department of Agriculture (MDA).

We need the Minnesota farm community to remain actively engaged in identifying practicable solutions to localized water quality issues. From promoting ag chemical best management practices through coop boards and serving on local advisory teams, to representing grower organizations on committees or working with your soil and water conservation district (SWCD) to partner on programs, farmers play a critical role. Their engagement is essential not only from a legal standpoint but also for safeguarding our natural resources.

A Message from Commissioner Thom Petersen

Staying the Course to Improve Water Quality

Minnesota is known as a leader in many areas. One of them is our water quality efforts. Nowhere in the U.S. is a state tackling nitrate issues like Minnesota.

Nitrate is one of the most common contaminants in our state's groundwater. Most Minnesota households have access to safe drinking water supplies. However, in areas vulnerable to groundwater contamination, some public and private wells have nitrate levels that exceed the health risk limit for nitrate. Public water systems regularly test for nitrate and ensure levels meet the Environmental Protection Agency standard, while it is the responsibility of private well owners to test their well. Human activities such as sewage disposal, livestock production, and crop fertilization can elevate the level of nitrate in groundwater.

In southeast Minnesota there are unique geologic features that make the groundwater more vulnerable to contaminants like nitrate. The underlying bedrock deteriorates when exposed to mildly acidic water, creating sinkholes, sinking streams, caves, springs, and other features. These features dictate the speed and direction of water moving from the surface through layers of soil and rock below.

The Minnesota Department of Agriculture (MDA) is concerned about nitrate in groundwater, and we have taken significant actions to address these concerns.

For instance, we've seen positive outcomes when it comes to reducing nitrate loss and improving nutrient management, which is particularly important with the geology of southeast Minnesota and other parts of the state. Those outcomes are thanks in part to the Minnesota Ag Water Quality Certification Program, Root River Field to Stream Partnership, Nutrient Management Initiative, and other MDA programs. Active participation by farmers is critical to the success of these programs.

In areas with vulnerable groundwater and where nitrate is elevated, it is critical for farmers to keep accurate records, follow best management practices, and consider additional practices. The MDA and local Soil & Water Conservation Districts (SWCD) can help. The MDA's nitrate reduction strategy is built on farmer participation, and our success relies on farmers being involved and, in some cases, adopting new practices.

Farmer participation in voluntary programs demonstrates support and reinforces the value of a voluntary approach. How can you get involved? Participate in the Ag Water Quality Certification Program, participate on a local advisory team, participate in a field walkover, adopt practices through your SWCD, or work with a farmer-led group. Farmers know their fields best and can identify where improvements could be made to benefit groundwater.

It took decades to create the current nitrate conditions in Minnesota, and it will take a concerted effort over many years to significantly improve our water resources. It may take time to see the benefits of farming practices that utilize fertilizer more efficiently, improve soil health, and decrease nitrate losses. Staying the course on our work means Minnesota can continue to lead and make progress on this important issue.

PFMD Update

The PFMD Update is published by the Minnesota Department of Agriculture, Pesticide and Fertilizer Management Division,
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The purpose of this newsletter is to provide comprehensive, accurate information about the MDA Pesticide and Fertilizer Management Division's events, programs, policies and regulations. No endorsement is intended or implied of products or companies mentioned within. Printing and postage is paid for by the Pesticide Regulatory Account.

The PFMD Update is, and will continue, to be mailed to all licensed pesticide and fertilizer applicators. Use the QR Code to sign up to receive electronic copies of the PFMD Update newsletter.

www.mda.state.mn.us/chemicals/pfmdupdate

In accordance with the Americans with Disabilities Act, this information is available in alternative forms of communication upon request by calling 651-201-6000.
TTY users can call the Minnesota Relay Service at 711. *The MDA is an equal opportunity employer and provider.*

Prevent Leaks with Required Safeguards for Aerial Application Equipment

Tha Cha, Agricultural Advisor

If you plan to use aerial equipment like helicopters, planes, or drones to apply pesticides, you must follow safety rules to prevent spills and leaks. Please note the requirements for mixing and loading pesticide containers is dependent upon the container size and your location.

When working with small pesticide containers (55 gallons or less), you should use tools like drip pans, dry disconnects, or curbed load pads to stop spills and leaks.

Extra Safety for Larger Containers: If you're working with mini-bulk containers (56 to 499 gallons) at airports:

- You must use a curbed load pad for mixing and loading.
- If you use a dry disconnect system, a curbed load pad is not required.

Curbed Load Pad Requirements:

- Containers with a capacity of 56 to 249 gallons need a curb that is at least 3 inches high. The pad must hold at least 250 gallons, plus the space for other tanks.
- Containers with a capacity of 250 to 499 gallons also need a 3-inch curb. The pad must hold at least 500 gallons plus any additional displacement.

If spills happen, report it immediately by calling the Minnesota Duty Officer at 800-422-0798.

For additional information, please visit the Mini-bulk Pesticide Storage Requirements: **mda.state.mn.us/pesticide-fertilizer/mini-bulk-pesticide-storage-requirements**.

If you have questions, please contact Matt Parins or Tha Cha at 651-201-6274.

Degradate of Chlorothalonil Found in Central Minnesota Groundwater

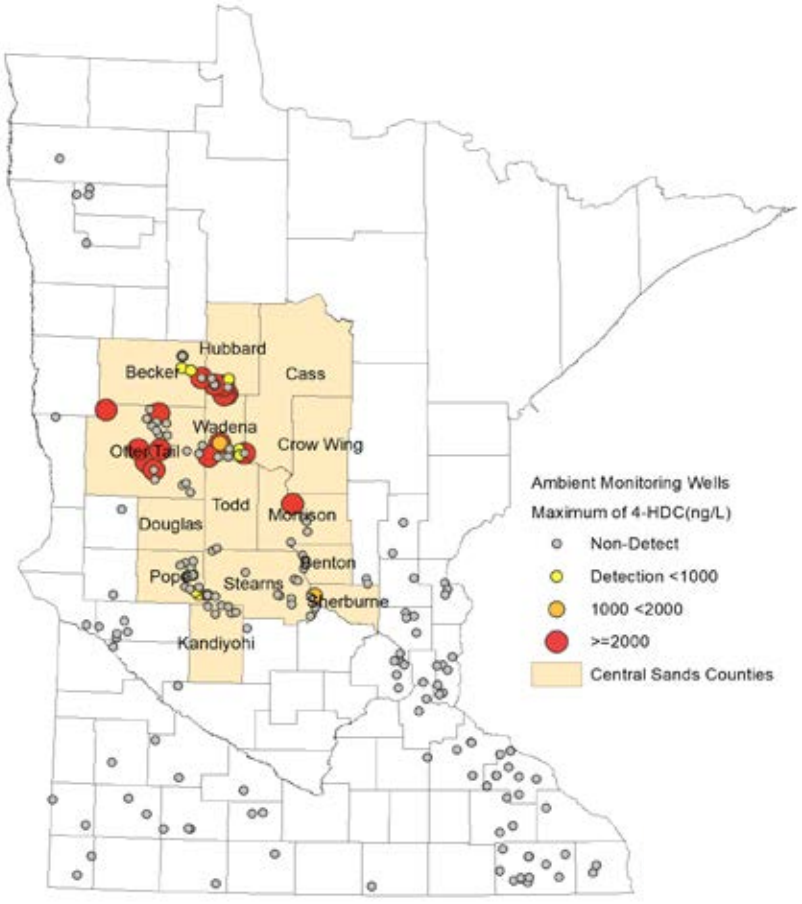
Kimberly Kaiser, Groundwater Monitoring Unit Supervisor

Chlorothalonil is a fungicide that is typically used on agriculture crops and turf grass in Minnesota. Chlorothalonil breaks down quickly and is rarely found in groundwater.

In 2020, the MDA added 4-hydroxychlorothalonil (4-HDC), a breakdown product (degradate) of chlorothalonil, to the monitoring program. Since monitoring began, 4-HDC has primarily been detected in the Central Sands area of Minnesota where groundwater is vulnerable due to the sandy soils and shallow groundwater (see map below). From 2020 through 2023, 28% of the groundwater samples collected from Central Sands monitoring wells had measurable amounts of 4-HDC. Of these, approximately 12% had levels above the Minnesota Department of Health's Risk Assessment Advice reference value of 2,000 ng/L.

Since the MDA has detected 4-HDC at levels of concern in shallow groundwater monitoring wells, sampling has now been expanded to include private drinking water wells in the same areas. In 2023, the MDA sampled 19 private wells and found that six of those had detections of 4-HDC. The MDA will continue to test private wells and monitoring wells in areas of concern to gain a better understanding of the extent and magnitude of 4-HDC in groundwater.

For more information, please contact Kimberly Kaiser at 651-392-5038 or **Kimberly.Kaiser@state.mn.us**.



Maximum concentration of 4-hydroxychlorothalonil (4-HDC) in monitoring wells, 2020-2023

Chlorpyrifos Products and Use in Minnesota

Haley Johnson, Pesticide Management Unit Supervisor

The insecticide chlorpyrifos has faced many rule changes over the past several years. In December 2024, the Environmental Protection Agency (EPA) proposed revoking most tolerances for chlorpyrifos. These tolerances establish the amount of pesticide that is allowed on food and feed. In addition, there are location-specific restrictions, restricted application rates, and required protections for farmworkers and vulnerable species. In Minnesota, only alfalfa, soybeans, sugar beets, and winter wheat are expected to retain approved uses.

The following dates are key regulatory deadlines that impact the sale, distribution, and use of chlorpyrifos:

April 30, 2025 – Sale and distribution of certain chlorpyrifos products must cease, except for export or disposal.

June 30, 2025 – Use of existing chlorpyrifos stock will be prohibited for food and feed purposes. Non-food uses may continue during a set two-year period after the cancellation unless additional EPA restrictions are made into law.

In Minnesota, the MDA has conditionally registered several chlorpyrifos products for use in 2025. During this transition period, users must ensure proper application in accordance with labeling requirements:

Products with old labeling – After June 30, 2025, these may only be used for non-food purposes.

Products with new labeling – These may still be used for food purposes, provided they comply with updated EPA guidelines.

For the most up-to-date information on chlorpyrifos, visit the **EPA's Chlorpyrifos FAQs page** (**www.epa.gov/ingredients-used-pesticide-products/frequently-asked-questions-about-current-status-chlorpyrifos**).

PFAS in Pesticides: Final Report to the Legislature

Claire Hartwig Alberg, Research Scientist

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are chemicals that take a long time to break down and can be harmful to our health and the environment. These chemicals, also called "forever chemicals," have been used in many everyday products like makeup and waterproof coatings. Because of their potential harm, Minnesota passed new laws in 2023 to regulate products that contain PFAS.

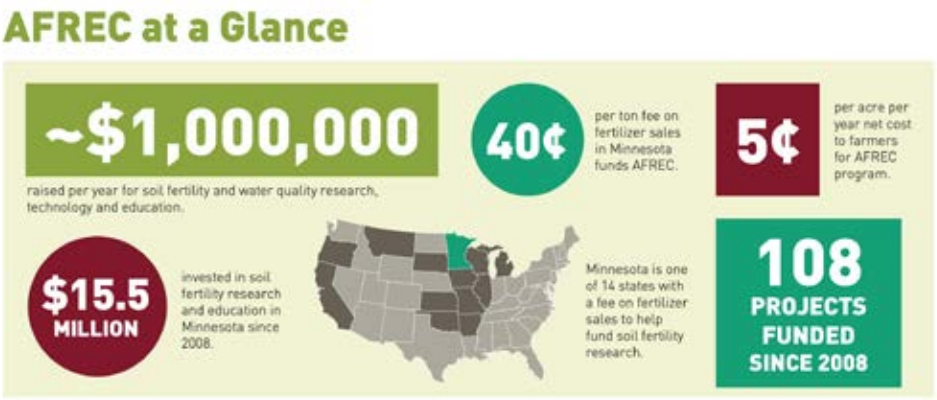
As part of this law, the MDA was directed to write two reports on PFAS in pesticides used in the state. The final report is now available online. It includes information about the regulation and risks of PFAS in pesticides, a list of pesticide active and inert ingredients considered to be PFAS, and considerations for determining the risk and need for PFAS in these pesticide products used in Minnesota.

For more information, please contact the MDA's PFAS in pesticides team at **PFAS.MDA@state.mn.us**.

View the PFAS in Pesticides report (**www.lrl.mn.gov/docs/2025/mandated/250302.pdf)**

New Members Join the Agricultural Fertilizer Research and Education Council

Margaret Wagner, Nonpoint Fertilizer Section Manager



The Agricultural Fertilizer Research and Education Council (AFREC) welcomed four new members in February 2025. These new positions are a result of legislation passed in 2024 (**Chapter 126 - MN Laws, Article 2, Sec. 37-43**) and will bring new expertise and perspective to the Council. We are happy to welcome James Checkel (public health expert), Warren Formo (water quality expert), Craig LaPlante (Minnesota Soil Health Coalition) and Craig See (Minnesota Institute for Sustainable Agriculture). As council members, they will participate in meetings, set research priorities, evaluate research projects, and make funding decisions. New members are being onboarded and will attend their first AFREC meeting this summer. Information about the Council as well as funded research projects is available on the MN Soil Fertility page (**mnsoilfertility.com**) and the MDA's AFREC page (**www.mda.state.mn.us/business-dev-loans-grants/agricultural-fertilizer-research-education-council-afrec**).

Learn About Herbicide BMPs in New Short Videos

Neal Kittelson, Research Scientist

The MDA has made three new, short videos to highlight Herbicide Best Management Practices (BMPs) for protecting water quality. The first video explains the BMPs and why they are important for protecting Minnesota's waters.

The second video talks about how conservation practices recommended in the BMPs can help reduce herbicide run-off. It also includes information from the Minnesota Agricultural Water Quality Certification Program about resources and support available to producers for using these practices.

The last video shows some of the new technology producers are using to apply herbicides more precisely. These tools help reduce the amount of herbicide used while still being effective.

Take a couple minutes and see why Herbicide Best Management Practices are so important for protecting Minnesota's water.

Herbicide BMPs Review (**youtu.be/_glJD8QiikU**)

Land Management (**youtu.be/llcvJf8GPR8**)

New Technologies (**youtu.be/jx5yobn6YAs**)

For more information, please contact Neal Kittelson at 651-201-6325 or **Neal.Kittelson@state.mn.us**.

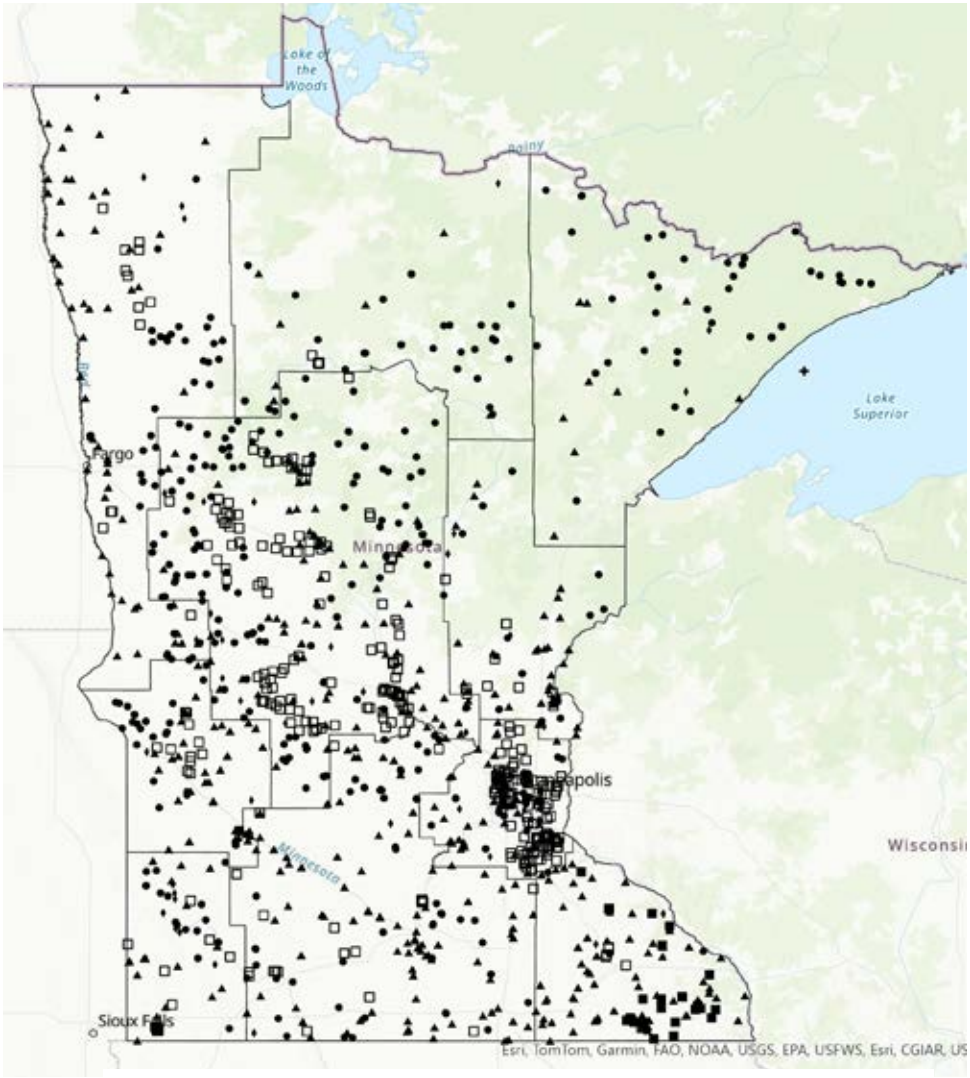
Pesticides in Water: New Easy-to-Use StoryMaps

Neal Kittelson, Research Scientist

Minnesota has one of the best water quality monitoring programs in the country. For over 30 years, the MDA's Monitoring and Assessment Unit has collected water quality data, resulting in nearly two million data points. Each year, the MDA publishes an extensive report that summarizes the main findings of their water quality monitoring. While the data is available to the public, it hasn't been easy to access. The MDA has created interactive StoryMaps to make it easier to explore. These StoryMaps let users learn about the MDA's monitoring efforts and explore the pesticide data through maps, graphs, and tables. The tools are mobile-friendly and can also be used outside the StoryMap website.

These StoryMaps can be used to:

- See where pesticides and their breakdown products (degradates) have been detected in Minnesota
- See which pesticides were detected at specific monitoring sites
- Compare pesticide levels to water quality standards and guidance to understand possible risks
- Explore how the list of chemicals monitored has changed over time



View the MDA Pesticide Water Quality Monitoring StoryMaps (arcg.is/1On59S0)

For more information, please contact Neal Kittelson at 651-201-6325 or Neal.Kittelson@state.mn.us.

Select MDA Pesticide & Fertilizer Management Division Enforcement Actions

Lynnette Hook, Enforcement Advisor

Hastings, MN

An agricultural facility with an MDA fertilizer license and anhydrous ammonia (NH3) permit paid a $3,875 penalty for multiple NH3 storage and equipment violations, including failing to maintain gauges, failing to lock main container shut-off valves and riser hose end valves.

Cottage Grove, MN

An agricultural establishment paid a $1,500 penalty for applying a pesticide to a non-labeled site.

Barrett, MN

An agricultural facility with a Minnesota pesticide dealer license paid a $500 penalty for selling a restricted use pesticide to an unlicensed or non-certified applicator.

Paynesville, MN

An agricultural facility paid a $250 penalty for using a restricted use pesticide without a valid Minnesota pesticide applicator license or certification.

Litchfield, MN

An agricultural operator with a Minnesota private pesticide applicator certification paid a $500 penalty for applying a pesticide inconsistent with the label resulting in drift.

Le Sueur, MN

An agricultural operation with a Minnesota private pesticide applicator paid a $500 penalty for applying a pesticide inconsistent with the label by failing to maintain a 30-foot downwind buffer zone from sensitive areas.

Friendship, WI

A lawn care facility paid a $1,000 penalty for applying pesticides not registered for use in Minnesota and applying pesticides and fertilizers for hire in Minnesota without a Minnesota commercial pesticide license and a Minnesota fertilizer license.

Lester Prairie, MN

An agricultural operation with a Minnesota private pesticide applicator paid a $500 penalty for applying a pesticide inconsistent with the label resulting in drift.

Danube, MN

An agricultural operator with a Minnesota private pesticide applicator certification paid a $500 penalty for applying a pesticide inconsistent with the label resulting in drift.

Rose Creek, MN

An agriculture facility paid a $250 penalty for applying pesticides for hire without a Minnesota commercial pesticide applicator license.

Hutchinson, MN

An agricultural facility with a Minnesota commercial pesticide applicator paid a $750 penalty for applying a pesticide inconsistent with the label resulting in drift.

Montevideo, MN

An agricultural operator with a Minnesota private pesticide applicator certification paid a $500 penalty for applying a pesticide inconsistent with the label resulting in drift.

Zilla, WA

A vegetation management facility paid a $3,250 penalty for applying a pesticide to a non-labeled site and a repeat violation of making commercial pesticide applications without Minnesota commercial applicator licenses.

Water Quality Certification Program's New Technology Platform

William Fitzgerald, MAWQCP Tech Unit Supervisor

Throughout 2024 and early 2025, the Minnesota Agricultural Water Quality Certification Program (MAWQCP) has been working on a new Risk Assessment and Planning Tool. This new tool has improved and modernized the existing risk assessment tool. Its expanded features create efficiencies and improve the prescribed practices and/or changes to reduce water quality risks on farm operations, especially those in areas with vulnerable groundwater.

In addition, the new tool connects all program data and provides georeferenced links. This allows users to connect images, practices, soil data, and more to a specific location on the field.

As this moves forward, these changes will allow the MAWQCP to report the impacts certified producers are having on water quality and climate by using best management practices. This new platform also makes it easier for private sector partners to join the farm certification process and formalizes roles for other public sector partners.

Over-the-Top Dicamba Products -Not Available for Use in Minnesota in 2025

Naworaj Acharya, Research Scientist

On February 6, 2024, the U.S. District Court of Arizona cancelled the federal registrations of XtendiMax®, Engenia®, and Tavium®. Previously registered for over-the-top (OTT) use on dicamba-tolerant (DT) soybeans and cotton, these dicamba products can no longer be sold, distributed, or used in the United States.

As a result, these products are no longer registered for use in 2025. Under Minnesota's Pesticide Control Law, sale, distribution, or use of unregistered pesticides is prohibited and may result in enforcement actions. Other dicamba products registered with the MDA are not affected.

Existing stock of XtendiMax®, Engenia®, and Tavium® also cannot be sold, distributed, or used. They can only be returned to the registrants or properly disposed of. Check with your dealer, co-operative, or ag retailer for return options. If no return program is available, use the MDA's waste pesticide collection program for proper disposal. For disposal of over 300 pounds, contact Jane Boerboom at 612-214-6843.

In Minnesota, OTT dicamba was used to control broadleaf weeds, including glyphosate-resistant species, in DT soybeans. The loss of this tool underscores the importance of diversified weed management, including a combination of pre-emergence residual and post-emergence herbicides with multiple sites-of-action. Consult your local crop extension educators or University Extension crop and pest management guides for various weed control options.

For more information about OTT dicamba use, contact us at **PTU.MDA@state.mn.us**.

Pesticide Exams are Available in Spanish

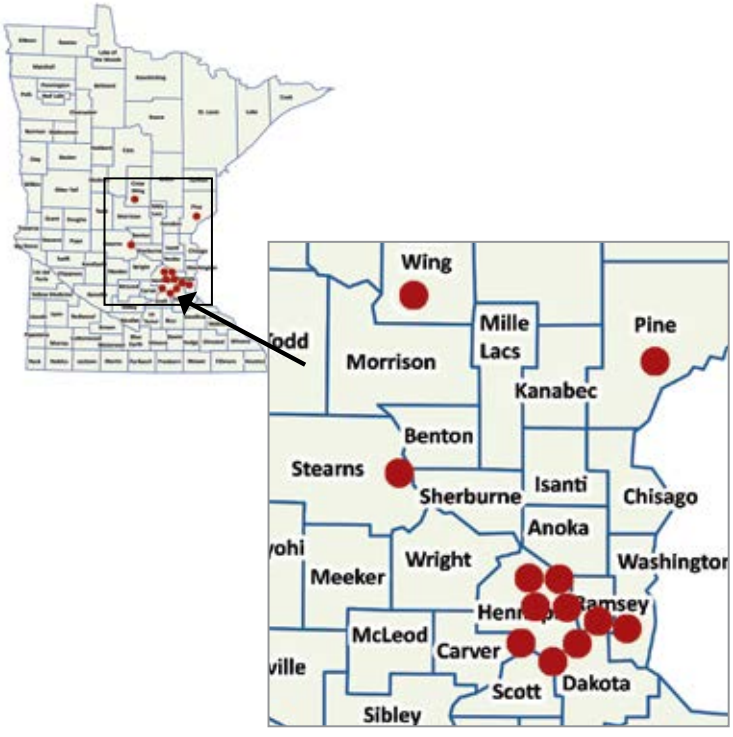
Marissa Behr, State Program Administrator

If you're looking to get a Minnesota Pesticide Applicator License, you can now take computerized pesticide exams in Spanish at Metro Institute locations. This addition was made because of changes to the Pesticide Control Law (Chapter 18B) during the 2024 legislative session. Pesticide exams in Spanish became available starting January 2025.

The MDA is planning to work with county testing partners to offer pesticide exams in Spanish at more locations in the future. You can find a full list of the MDA's pesticide testing partners at Pesticide Testing Locations (**www.mda.state.mn.us/pesticideapplicator/examcontacts**)

Right now, the study manuals for these exams are only available in English. The translation of study manuals to Spanish is a very long and costly process. If you need a study manual, you can buy one online at the UMN Extension Pesticide Manual Store (**umnstudymanuals.com**)

If you have questions, please contact Marissa Behr at 651-201-6621 or **Marissa.Behr@state.mn.us**.



Metro Institute locations that offer pesticide exams

Changes to RUP Reporting for Pesticide Dealers

Jessie Rahmeyer, Pesticide Dealer Compliance Officer

The MDA updated the certification standards in the state rule for licensed pesticide dealers (MN Rule 1505.1100). The changes were made to follow the new requirements made by the U.S. Environmental Protection Agency (EPA) in January 2017. To meet the new federal certification standards, the Minnesota rule includes important record-keeping requirements for pesticide dealers who sell Restricted Use Pesticides (RUP) to Minnesota end users. Here are the changes made to RUP record-keeping requirements:

1. Minnesota special local need registration number (if it applies)
2. Minnesota emergency exemption registration number (if it applies)
3. Address of the person applying the pesticide
4. Categories of use listed on the applicator's license
5. Applicator license number if it was issued by a tribe or federal agency

The MDA will work with pesticide dealers to bring them in compliance with the new changes over the next three years.

If you have questions, please contact Jessie Rahmeyer at 651-201-6188 or **Jessie.Rahmeyer@state.mn.us**.

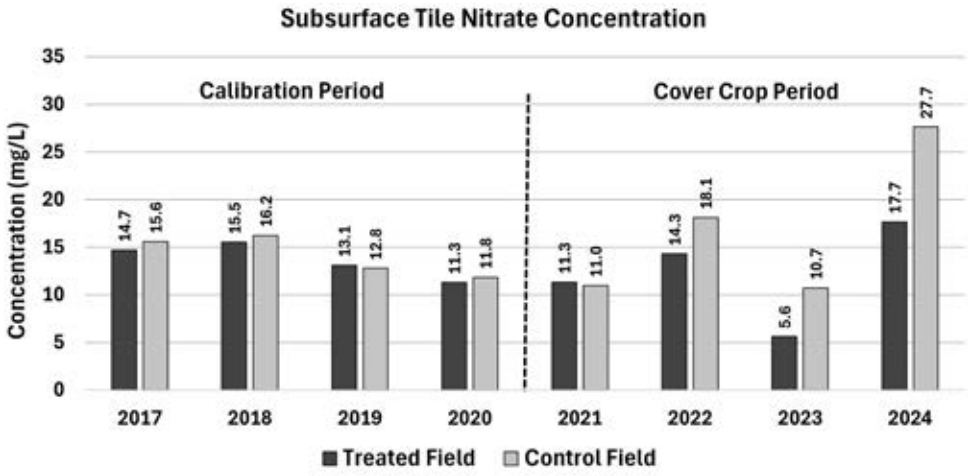
Nitrate Levels Reduced in Subsurface Drainage Tile with Use of Cover Crops

Scott Matteson and Katie Rassmussen, Hydrologists

In the spring of 2017, Discovery Farms Minnesota started a water quality study in Redwood County. The study looked at water flow and quality in subsurface tile drainage on two fields, each about 10-12 acres in size. Both fields were managed the same way from 2017 to 2020, and during this time, the nitrate levels in the tile drainage were very similar between the two fields, with differences of no more than 6%.

In the fall of 2020, they began adding cover crops to one of the two fields. Winter rye was used before soybeans and mixed species were used before corn. Limited cover crop growth was observed in the fall of each year; however, more growth occurred each spring. Before the cover crops were terminated each spring from 2021 to 2024, the dry biomass (plant material) was measured in the cover crop field. Results from the biomass surveys were 812, 177, 351, and 667 pounds per acre.

In 2021, nitrate levels in tile drainage were similar between both fields because drought conditions limited drainage. However, from 2022 to 2024, the field with the cover crops had nitrate levels that were 21%, 48%, and 36% lower than the field without cover crops.



This study showed that cover crops successfully reduced nitrate levels in tile drainage by an average of 25% per year.

For more information, please contact Scott Matteson at **Scott.Matteson@state.mn.us** or Katie Rassmussen at **Katie.Rassmussent@state.mn.us.**

Introducing the MDA's New Climate Coordinator

Kajsa Beatty, Climate Coordinator

Greetings! My name is Kajsa Beatty. I am the Climate Coordinator at the MDA. This position is a new role in the department. The climate coordinator supports the MDA's mission by overseeing the department's programmatic operations and policy development as they relate to climate change mitigation, adaptation, and innovation.

I work closely with the Commissioner, Deputy Commissioner, and Assistant Commissioners to support state efforts to meet the Minnesota Climate Action Framework goals related to agriculture and working lands.

The MDA is already leading the country with climate adaptation and mitigation policies with soil health grant programs and increased data monitoring networks to help farmers make informed decisions. As unpredictable weather continues to happen, the MDA will continue supporting farmers to help them adapt and stay resilient.

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