



PFMD UPDATE

A BULLETIN FROM THE PESTICIDE AND FERTILIZER MANAGEMENT DIVISION

MAY 2021

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Director's Notes

Joshua Stamper, Director, Pesticide and Fertilizer Management Division

One of the things that makes the Pesticide and Fertilizer Management Division within the Minnesota Department of Agriculture (MDA) unique is that we are one of the few states in the country with truly comprehensive pesticide and fertilizer programs. We register the products, license applicators, investigate complaints, permit facilities, monitor groundwater and surface water, develop best management practices, and oversee cleanups of ag chemical spills or incidents to protect human health as well as groundwater and surface water.

One of the ways that we promote this is through the Agricultural Chemical Response and Reimbursement Account (ACRRA).

The ACRRA account reimburses up to 80% of the investigation and clean-up costs for each incident, after the first \$1,000 up to \$350,000 of response costs. An eligible party may seek this reimbursement if the incident is reported to the MDA, and if the work is conducted as part of an MDA-approved corrective action plan.

As you prepare for the 2021 season, take the time to think about how your enterprise would respond in the event of an ag chemical spill or incident. After everyone is safe, your first step is to report the incident by calling the Minnesota Duty Officer at 1-800-422-0798. The Duty Officer will connect you to PFMD staff who will advise you on the next steps in the clean-up so that your costs can be eligible for ACRRA reimbursement. We hope that you have a safe and prosperous 2021 growing season.

A MESSAGE FROM COMMISSIONER THOM PETERSEN

One Million Acres for Water Quality



Life is a series of goals – both personally and professionally. We have many goals at the Minnesota Department of Agriculture. However, there's one particular target we've established that we need your help to achieve. It's improving our water quality while also enhancing our ag economy.

In December 2020, Governor Tim Walz announced a goal of enrolling one million acres in the Minnesota Agricultural Water Quality Certification Program (MAWQCP) by the end of 2022.

The MAWQCP is a voluntary program for farmers and landowners that protects the state's water resources. Since the program's inception in 2014, over 725,000 acres have been certified across Minnesota. A one-million-acre goal is not out of the question.

The Ag Water Quality Certification program helps improve our water quality by putting farmers in touch with local conservation district experts to identify and mitigate any risks their farm poses to water quality. Producers going through the certification process have priority access to financial assistance. After being certified, each farm is deemed in compliance with new water quality laws and regulations for 10 years.

How does this also enhance our ag economy? According to a study by AgCentric and the Agricultural Centers of Excellence, the average net income of ag water quality certified farms is 26% higher, or \$19,000 more per year, than non-certified farms. Other key financial metrics are also better, such as debt-to-asset ratios and operating expense ratios. The study also indicated increased yield for corn, soybeans, and alfalfa on certified land. For more information visit: <https://agcentric.org/wp-content/uploads/2020/05/MN-Water-Quality-Sort-First-Look.pdf>.

We know this one-million-acre goal is a lofty one, but we will reach it by working together, and our land and water will be better off for it. Help us spread the word. Farmers and landowners interested in becoming water quality certified can contact their local Soil and Water Conservation District or visit MyLandMyLegacy.com.

Pesticide Recertification Update

Brian Clark, Recertification Project Manager

To continue recertification during the COVID-19 pandemic, MDA staff worked closely with recertification workshop sponsors to maintain requirements outlined in the Minnesota Pesticide Law. Sponsors were allowed to offer online (live and self-paced) or limited in-person recertification workshops. In 2020, 32 online commercial and non-commercial recertification workshops were conducted. These workshops covered categories A (Core), C (Field Crop Pest Management), E (Turf & Ornamental), F (Aquatic), H (Seed Treatment), J (Natural Areas, Forestry, and Rights-of-way), L (Mosquito, Black Fly, and Tick Pest Control), and P (Vertebrate Pest Control).

To date, in 2021, eight online commercial and non-commercial recertification workshops have been completed, and an additional nine online live or Canvas-based (self-paced) workshops are scheduled. These workshops cover categories A, B (Aerial), C, E, F, H, J, L, M (Food Processing noncommercial), P, S (Structural noncommercial), and SPCA (Structural Pest Control Applicator). Since March 2020, approximately 2,600 applicators attended either online live or Canvas-based recertification workshops.

For more information, please contact Brian Clark at 651-201-6146, Brian.Clark@state.mn.us.

PFMD Update

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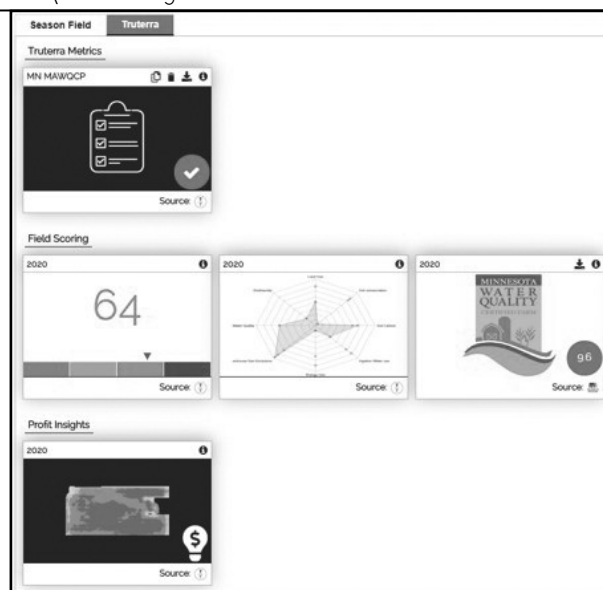
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New Software Developed to Help MAWQCP Certification

Brad Jordahl Redlin, MAWQCP Manager

The Minnesota Agricultural Water Quality Certification Program (MAWQCP) uses a rigorous Risk Assessment Tool to determine a field's eligibility for certification. Access and use of this tool just became easier for many farmers. MAWQCP



Display of the Truterra Insights Engine with the MAWQCP certification score in the middle row

has partnered with Land O'Lakes Inc. to integrate the tool into their Truterra Insights Engine precision agriculture software platform using an Application Programming Interface (API). The interface maintains the complete rigor and standards of the MAWQCP assessment process and benefits from the highly detailed data collected through the Truterra Insights Engine. This highly-sophisticated analytic system offers generally greater data to the assessment tool.

Clientele of Land O'Lakes' Truterra-licensed retailers--currently including leading regional agricultural cooperatives Central Farms Service and Centra Sota--can now automatically receive a MAWQCP risk assessment score for the MAWQCP-certification eligibility of all fields in the Truterra Insights Engine. Land O'Lakes Truterra-licensed retailers have and will continue to serve hundreds of thousands, even millions, of acres of Minnesota farm fields. With the API automatically scoring and enabling output files for the MAWQCP Risk Assessment tool, any of the retailers' Truterra clientele seeking MAWQCP-certification will already have the strictly-private assessment of their data completed. At the same time, it enables direct access to MAWQCP for the retailers' farmer clientele who may be curious about MAWQCP-certification by automatically reporting on-screen eligibility scores for their fields without having to apply for certification, or MAWQCP personnel ever needing to know.

For more information contact Brad Redlin at 651-201-5307 or Brad.JordahlRedlin@state.mn.us.

New Scholarship Available to MAWQCP Certified Farmers

Danielle Isaacson, MAWQCP Operations Coordinator



In January, the Minnesota Agricultural Water Quality Certification Program (MAWQCP) launched a new

scholarship for certified producers enrolled in the Farm Business Management Program.

The Farm Business Management Program is a one-on-one, student-led program designed to provide education to farm owners and operators. The program helps students meet their business and personal goals and focuses on using quality records and sound business decisions with tools and other resources.

The MAWQCP is a voluntary opportunity for farmers and agricultural landowners to take the lead in implementing conservation practices that protect our water. Those who implement and maintain approved farm management practices will be certified and in turn obtain regulatory certainty for a period of ten years, access to dedicated financial assistance, and statewide recognition.

The MAWQCP Farm Business Management Scholarship awards \$140 per credit (approximately 75% of the cost of tuition) for new Farm Business Management students in their first and/or second semester of the program and \$90 per credit for returning students in their third semester or beyond. The application for the 2021-2022 academic year is now open. To qualify for the scholarship, applicants must be Minnesota Agricultural Water Quality Certified. To apply, contact a Farm Business Management instructor.

For more information, please contact Danielle Isaacson at 651-319-1832, Danielle.Isaacson@state.mn.us

2020 Surface Water Pesticide Update: Impairments and Chlorpyrifos

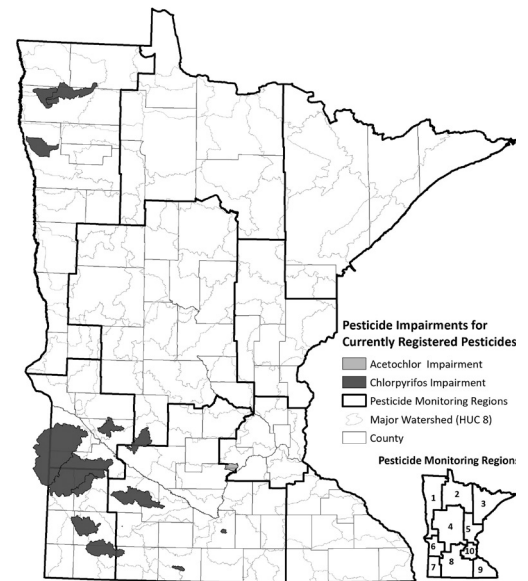
David Tollefson, Hydrologist

The MDA has an extensive surface water monitoring program that collects samples in agricultural and urban rivers and streams and analyzes for up to 178 different pesticides.

Most of the detections in surface water are low when compared to reference values developed to protect aquatic life; however, there are instances where pesticides are detected at concentrations that result in a waterbody impairment. These impairments require a plan to be developed to reduce pesticide concentrations in the waterbody.

Based on pesticide data collected over the last ten years by the MDA and assessed by the Minnesota Pollution Control Agency, there is currently one waterbody impaired for the herbicide acetochlor, and 13 waterbodies designated as impaired for the insecticide chlorpyrifos. Four of the chlorpyrifos impairments were identified on the 2020 Impaired Waters List including Double Lake (Cottonwood County), Dutch Creek (Martin County), Three Mile Creek (Lyon County), and Yellow Medicine River (Yellow Medicine County) based on data collected in 2017 and 2018. A waterbody impairment can be removed following several years of monitoring that shows reduced concentrations. On a positive note, statewide surface water chlorpyrifos detections dropped to three in 2019 and to two in 2020, following a high of 17 in 2017.

For more information, please contact David Tollefson at 507-206-2882, David.Tollefson@state.mn.us.



New Surface Water Pesticides of Concern: Clothianidin and Imidacloprid

Kathleen Hall, Research Scientist

The MDA is committed to protecting Minnesota's water resources from pesticide contamination and monitors groundwater and surface water around the state. When a pesticide is found in surface water at levels of concern due to its normal use (not spills), the Commissioner may classify it as a "surface water pesticide of concern." On December 7, 2020, the MDA announced the designation of two new surface water pesticides of concern: clothianidin and imidacloprid. Both are neonicotinoid insecticides widely used to manage insect pests in agricultural crops. They are also used on residential lawns, golf course turf, and nursery plants, among other sites.

When a pesticide becomes a surface water pesticide of concern, the MDA takes preventative actions to protect waters from further contamination. One such action is the development and promotion of voluntary pesticide-specific best management practices (BMPs). The MDA will work with stakeholders to develop pesticide-specific water quality BMPs for clothianidin and imidacloprid, and drafts will be made available for public comment in the coming months. BMPs for all insecticides in the neonicotinoid class have previously been developed with a focus on pollinator protection and are available online: www.mda.state.mn.us/pollinatorbmps. While directed toward pollinator protection, many of the promoted practices also serve to protect water quality.

More information can be found in the state Pesticide Management Plan and at www.mda.state.mn.us/surface-water-pesticides-concern.

If you have additional questions, please contact Kathleen Hall at 651-201-6267, Kathleen.Hall@state.mn.us.



Anhydrous Ammonia (NH3) Safety Checklist

Ed Kaiser, NH3 Program Consultant

To Wear and Not Wear:

- ☐ Wear NH3-rated PPE:
 - ☐ Goggles
 - ☐ Gauntlet style gloves (cuffed)
 - ☐ Fully clothed; long sleeve shirt, pants (not shorts)
- ☐ NEVER wear contact lenses

Accessible, Clean Safety Water:

- ☐ Required
 - ☐ 5 gallons on each nurse tank
 - ☐ 150+ gallons in low profile-open top tank
- ☐ Recommended
 - ☐ In tractor cab
 - ☐ Personal eyewash bottle

Handling, Maintaining, Inspecting:

- ☐ Wear PPE
- ☐ Have accessible safety water
- ☐ NEVER assume NH3 components/lines are empty
- ☐ Be flow-away when
 - ☐ Connecting, disconnecting, bleeding lines
 - ☐ Transferring
 - ☐ Performing maintenance
- ☐ Handle valves by the body, not wheel/latch
- ☐ Close, bleed, disconnect, secure valves/transfer lines when
 - ☐ Equipment is unattended
 - ☐ Over-the-road transport
- ☐ Park NH3 equipment – flow-away from dwelling, people, livestock
- ☐ Maintain NH3 equipment/facility according to manufacturer's instructions
- ☐ Inspect NH3 equipment/facility using inspection checklists at www.mda.state.mn.us/nh3

Transporting:

- ☐ Speed Limits
 - ☐ 30 mph towing one full nurse tank
 - ☐ 35 mph towing two empty nurse tanks
- ☐ Slow moving vehicle (SMV) emblem visible from the rear of towed assembly

For more information, please contact Ed Kaiser at 651-201-6275 or Ed.Kaiser@state.mn.us.

Pesticide Testing Update

Brian Maile, State Program Administer

In 2020, due to the COVID-19 pandemic, the MDA made changes to ensure testing could continue. In our St. Paul office (Orville Freeman Building), the testing space was reconfigured to include two rooms to safely accommodate 16 testers 6 feet apart. Strict cleaning guidelines were implemented, and testers were mandated to wear masks and socially distance themselves in the building. A new test proctor role was created to greet testers at the front door, ask COVID-19 health screening questions, and escort testers to the testing stations. In addition, 360-degree cameras were installed in the new testing areas to ensure all testers were adhering to the rules.

During the peak testing season in 2020, the MDA had two additional testing locations open in St. Cloud and Mankato. Prior to COVID-19, 64 counties throughout Minnesota proctored exams. Currently, 42 of these locations are open, with the remaining 22 counties planning to reopen later this year. The St. Paul location administered 4,211 tests in 2020 and 3,890 tests in 2019.

For a list of all testing locations in Minnesota, visit: www.mda.state.mn.us/pesticideapplicator/examcontacts

For more information, please contact Brian Maile at 651-201-6621, Brian.Maile@state.mn.us.

Private Well Pesticide Sampling Update

Brennon Schaefer and Ben Bruening, Hydrologists

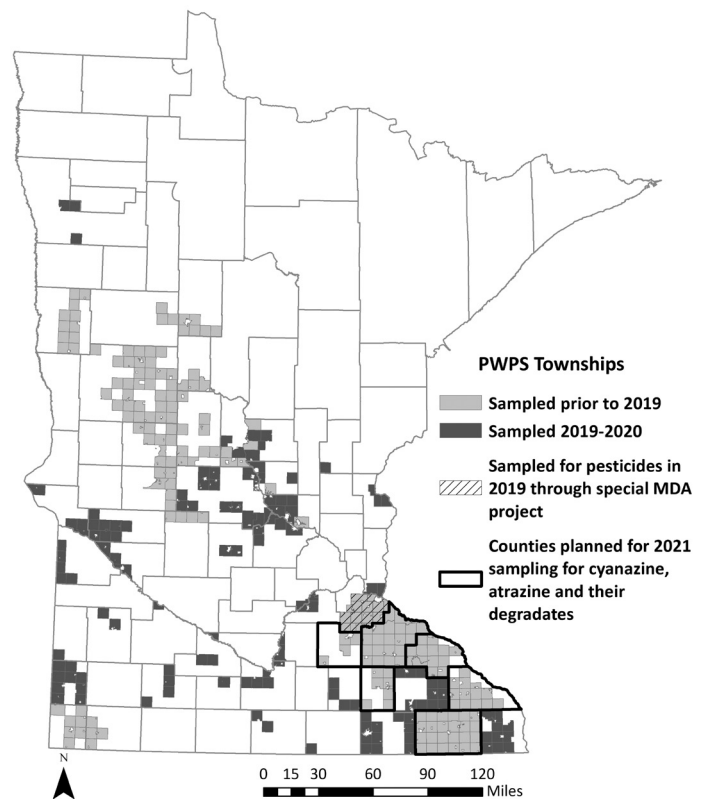
The MDA has been collecting pesticide and nitrate samples from private wells through the Private Well Pesticide Sampling (PWPS) Project since 2014. Funded by the Clean Water Land and Legacy Amendment, the PWPS Project

targeted areas in Minnesota with vulnerable groundwater and row crop agriculture. From 2014-2020, the MDA sampled nearly 6,350 wells in 50 counties for pesticides and nitrate as shown in the map.

After lab updates in 2016, less than 0.1% of approximately 3,800 samples had pesticide concentrations above drinking water health reference values. Following the addition of cyanazine degradates to the analysis list in 2019, the percentage of samples with pesticide concentrations above reference values increased. From 2019-2020, 3.3% of approximately 1,800 samples had total cyanazine concentrations (cyanazine plus its degradates) above the health reference value. Cyanazine is a corn herbicide that was used through 2002, when the registration was voluntarily canceled.

Starting in 2021, sampling will focus on cyanazine, atrazine, and their degradates. Based on evaluation of the previous sampling data, wells sampled during 2016-2018 will be revisited based on a targeted approach. When complete, the sampling results will improve our understanding of the extent and magnitude of cyanazine degradate detections in private wells in areas of the state most vulnerable to pesticide impacts.

For more information, please contact Brennon Schaefer at 651-201-6491, Brennon.Schaefer@state.mn.us, or Ben Bruening at 651-201-6560, Ben.Bruening@state.mn.us.

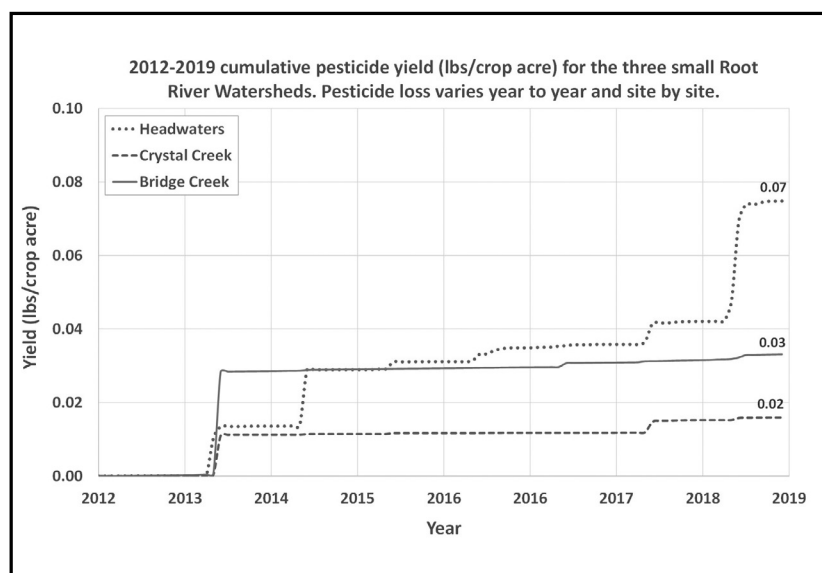


Assessment of Pesticides Across Three Small Watersheds in Southeast Minnesota

Katie Rassmussen and Matt Ribikawskis, Hydrologists

To better understand the movement and timing of pesticides in agricultural streams, the MDA added pesticide monitoring to the Root River Field to Stream Partnership (RRFSP) in 2012. The RRFSP is a unique water monitoring project in southeast Minnesota that monitors the water quality of three streams or subwatersheds of the Root River (each less than 5,000 acres). Samples were taken at the outlet of each stream (2012-2019), and producers in each area shared their pesticide application information (2012-2017). From 2012 through 2019, 11 different pesticides or pesticide degradates were detected in the three streams. On average, the total pounds of pesticides lost via the streams was greatest in June (75%), followed by May (14%) and July (5%), with the remaining 5% coming from August through April. Cumulative yields for all pesticides ranged from 0.02 to 0.07 pounds per crop acre. Pesticide losses were generally low on a per acre basis and tended to occur from large post-application rain events in June. Over the eight years, 28 pesticide detections were measured above the applicable aquatic life reference values. Most of the elevated concentrations occurred over a relatively short period of several hours. The MDA is currently developing a project report that will be available in June at: www.mda.state.mn.us/pesticide-monitoring-reports.

For more information, please contact Katie Rassmussen at 651-201-6331, Katie.Rassmussen@state.mn.us or Matthew Ribikawskis at 507-206-2884, Matthew.Ribikawskis@state.mn.us.



Alternative Management Tools

Jeppe Kjaersgaard, Research Scientist

The concept of Alternative Management Tools (AMTs) was introduced in the Nitrogen Fertilizer Management Plan and is part of the Groundwater Protection Rule. AMTs are crop management practices, other than nitrogen fertilizer best management practices (BMPs), that help reduce nitrate leaching losses to groundwater. Examples of AMTs include cover crops, precision agriculture, and advanced fertilizer management, or new technologies that increase the crop nitrogen use efficiency. AMTs may include practices and programs that farmers have used for years as well as new technologies that are undergoing broader adoption.

The MDA will continue to promote existing nitrogen fertilizer BMPs, but in some cases, BMPs may not be enough or practicable to meet water quality goals. In these situations, the MDA encourages producers to adopt AMTs, as they provide flexibility and options. The MDA will work with the local agricultural community to encourage and incentivize the use of AMTs.

The MDA is developing a process to approve AMTs. It includes a scientifically rigorous process to document expected nitrate leaching loss reductions. The process includes review of the scientific literature, consultation with Land Grant university experts, input from the agricultural industry and commodity group leaders, computer modeling, and other relevant information, such as research trial data. The MDA will maintain a list of approved AMTs at: www.mda.state.mn.us/nitrogenamts.

For more information, please contact Jeppe Kjaersgaard at 651-201-6149, Jeppe.Kjaersgaard@state.mn.us.

Incidents of Interest: Causes, Cleanup, and Prevention

Patrick Kelly, Agricultural Chemical Consultant

A few incident summaries are shared below to highlight parts of a spill response. Report all incidents to the MDA by calling the Minnesota Duty Officer at 1-800-422-0798.

- In August, a pilot landed his plane with a 365-gallon tank mix of flumioxazin. The plane tipped over and released the entire load out the top of the aircraft tank. The firm excavated a 10-foot by 10-foot area to a depth 12 inches below where the tank mix had reached. The excavated soil was later spread over the appropriate acreage and to a crop labeled for flumioxazin.
- In October, a truck hauling urea tipped over while avoiding oncoming traffic on a narrow road. The entire load of 15,000 pounds of urea released into the ditch. The urea was easily recovered and spread over the intended acreage.
- In November, dual 1,000-gallon nurse tanks were being towed when they were broadsided by another vehicle. The tanks tipped over causing damage to the outer shell and running gear. No release of ammonia occurred. The nurse tanks were emptied, and the MDA required that both tanks be inspected and tested by an R-stamp firm.

For more information, please contact Pat Kelly at 651-201-6387, Patrick.Kelly@state.mn.us or Lucy Hunt at 651-201-6637, Lucia.Hunt@state.mn.us.

Got Rinsate?

Jane Boerboom, Facility Management Unit Supervisor

Pesticide rinsate is the mixture of pesticide with water, solvents, oils, commercial rinsing agents, or other substances. It is produced during the washing of pesticide spray equipment, changing of spray mixes, pesticide container rinsing, cleaning out of pesticide storage tanks and other similar activities.

Please be aware that dumping pesticides, pesticide rinsate, and pesticide tank mixtures on the ground, into a manure pit, or down an open drain is illegal. The MDA investigates illegal disposal of rinsate and, in some cases, assesses financial penalties and/or requires costly disposal as a hazardous waste.

MDA Recommendation: Do NOT create rinsate. If minimal amounts are generated, dispose of it per the label directions. Pesticides must be used, handled, stored, distributed, and disposed of in accordance with the pesticide label. This includes pesticide rinsate.

PESTICIDE RINSATE DISPOSAL

1. Rinsate can be used as “makeup” water in the pesticide spray mix so it can be applied to a target site per label directions.
2. If rinsate can’t be used per label directions, it must be disposed of as a hazardous waste. Contact your county household hazardous environmental department or a hazardous waste disposal company.

The MDA routinely conducts inspections to determine compliance with pesticide use, handling, disposal, and distribution requirements. It is critical that employees are properly trained.

For more information, please contact Jane Boerboom at 651-201-6540 or Jane.Boerboom@state.mn.us.

On-Farm Fertilizer Storage Requirements

Matthew Parins, Agricultural Chemical Adviser

The MDA permits dry and liquid bulk fertilizer differently. Bulk storage permits are required for any amount of dry bulk fertilizer; however, farmers are allowed to store up to 6,000 gallons of bulk liquid fertilizer without a permit. Permitting includes installation of a proper secondary containment adequate to hold potential spills. Containment areas usually consist of concrete, metal, or synthetic lined earth, metal, wood, or concrete. In addition, tanks storing bulk liquid fertilizer must follow all well setback requirements. Ultimately, the farmer is responsible for any environmental damage caused from a fertilizer spill to the environment and must immediately report the release to the Minnesota Duty Officer at 1-800-422-0798.

An MDA permit is required to store more than 6,000 gallons of liquid fertilizer or to store fertilizer for distribution. The permit must be reviewed and approved by the MDA before construction or storage can begin. A permit application requires drawings of the secondary containment and an application fee of \$100.

The MDA permit application is available online: www.mda.state.mn.us/bulk-fertilizer-storage.

For more information, please contact Matthew Parins at 651-201-6587, Matthew.Parins@state.mn.us.



Bulk fertilizer storage structures with a permitted containment area

Minnesota Agricultural Weather Network Update

Stefan Bischof, Hydrologist

Access to real-time, local weather information is key to many farming decisions.

To help Minnesota producers, the MDA is working to improve and grow this access through a partnership with the North Dakota Ag Weather Network (NDAWN). This established network offers free online tools for quick, real-time data. A total of 29

Minnesota ag weather stations throughout Central and Northwestern Minnesota will be in the NDAWN by the end of the year. The Central Minnesota stations were added in 2020, and this year a new station in Dakota County will be added.

In addition to current weather data, the stations are integrated into the NDAWN crop modeling, air temperature inversion, potato blight, and mapping applications to bring more tools to Minnesota producers. The two mobile applications include “NDAWN Inversion” providing basic real-time weather information and air temperature inversion alerts and “NDAWN Potato Blight” providing an early and late blight prediction tool.

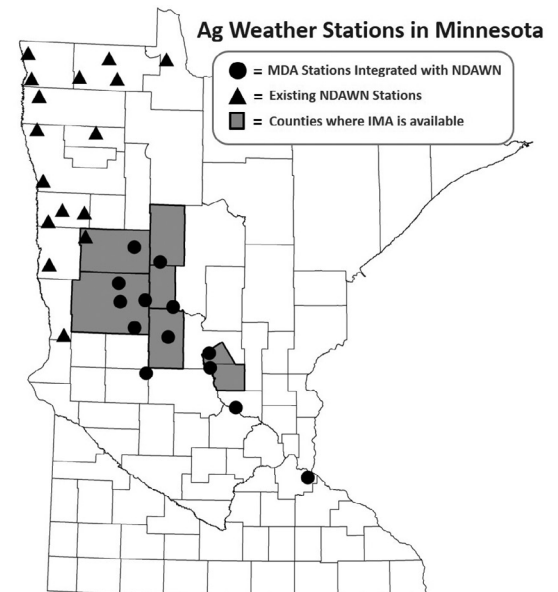
The Minnesota ag weather stations are also an integral component to an online Irrigation Management Assistant (IMA) that provides field-specific irrigation scheduling recommendations to irrigators. Access to the IMA tool is free but limited to certain counties in Central Minnesota.

Real-time weather data is available at: ndawn.ndsu.nodak.edu

Irrigation management assistant tool is available at: ima.respec.com

Free mobile applications are available at the App Store (iOS) and Google Play (Android).

For more information, please contact Stefan Bischof, at 218-396-0720, Stefan.Bischof@state.mn.us.



Select MDA, Pesticide & Fertilizer Management Division, Enforcement Actions

Corinne duPreez, Agricultural Adviser

New Prague, MN

An agricultural operator with a Minnesota private pesticide applicator certification paid a \$2,000 penalty for applying FeXapan herbicide inconsistent with the product label, including application more than 45 days after the planting date, application without dicamba or auxin-specific training, use of an unapproved tank mix partner, and without the addition of an approved drift reduction agent.

Worthington, MN

An agricultural operator with a Minnesota private pesticide applicator certification paid a \$500 penalty for applying XtendiMax herbicide with an unapproved tank mix partner.

Holdingford, MN

An agricultural operator with a Minnesota private pesticide applicator certification paid a \$2,500 penalty for applying Dicamba DMA Salt herbicide post-emergence to soybeans. The pesticide was not labeled for use on soybeans.

Moorhead, MN

A lawncare facility paid a \$850 penalty for disposal of pesticide rinsates in a manner resulting in adverse effects on the environment and for reusing a pesticide container in violation of label directions. Pesticide application equipment was washed outside, and the rinse water was allowed to drain on the ground toward a storm drain.

Franklin, MN

An agricultural facility with an MDA fertilizer license and anhydrous ammonia (NH₃) permit paid a \$4,200 penalty for NH₃ storage and equipment violations and for improperly handling pesticides and burning pesticide containers resulting in adverse effects on the environment.

Milbank, SD

An aerial applicator company with an MDA commercial pesticide licensed applicator paid a \$1,750 penalty for applying pesticides to a site that was not requested and in a manner that caused damage. The application was made to a scientific and natural area.

Plato, MN

An agricultural facility with an MDA commercial pesticide licensed applicator paid a \$750 penalty for applying XtendiMax herbicide inconsistent with the label when the wind was blowing toward an adjacent non-dicamba sensitive crop and nozzles were above the maximum operating pressure.

Cold Spring, MN

A lawn care company with MDA commercial pesticide licensed applicators paid a \$5,000 penalty for broadcasting a pesticide inconsistent with the label to multiple lawns, and to a site that was not requested which resulted in exposure and poisoning of a dog.

Farmington, MN

A sod farm paid a \$1,100 penalty for not training agricultural workers and for not posting the 30 day pesticide application record and hazard information as required by the Worker Protection Standard.

Le Sueur, MN

An aerial applicator company with an MDA commercial pesticide licensed applicator paid a \$6,000 penalty for applying pesticides to a field that resulted in pesticide drift and endangerment to individuals working in the field at the time of application.

Montrose, MN

An agricultural facility with an MDA pesticide dealer license paid a \$250 penalty for making a restricted use pesticide (XtendiMax) available to an individual who was not certified or licensed by the state of Minnesota to apply restricted use pesticides at the time of application.

The Groundwater Protection Rule and Point Source Investigations

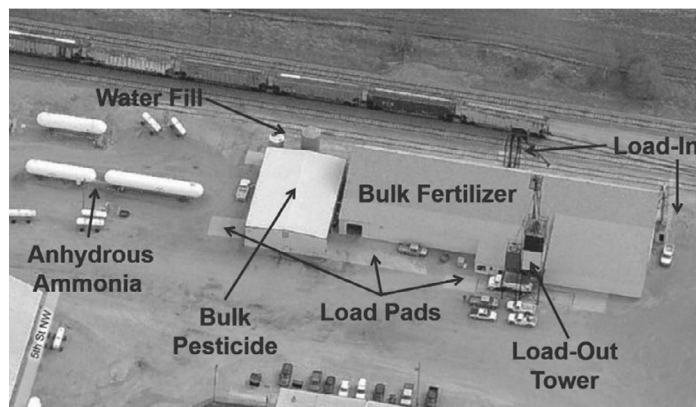
Cathy Villas-Horns, Incident Response Unit Supervisor

The Groundwater Protection Rule minimizes potential sources of nitrate pollution to the state's groundwater and protects our drinking water. It contains two parts. Part 2 of the rule responds to Drinking Water Supply Management Areas (DWSMAs) with elevated levels of nitrate. A DWSMA is the protected area around a public well. The goal of Part 2 is to take action to reduce nitrate in groundwater before a public well exceeds the health standard for nitrate.

The MDA identified several agricultural chemical facilities that are potential point sources of nitrate within 10 different DWSMAs. The MDA will be following up on each potential point source.

Groundwater investigations are often required at agricultural chemical facilities depending on soil contamination, site hydrogeology, and the risk to receptors. Downward vertical migration of contaminants can potentially impact deeper wells and formations. To protect human health and the environment, the vertical extent of contamination from agricultural chemical incidents must be determined as well as the horizontal extent. Therefore, the MDA will be putting more emphasis on determining the vertical extent of agricultural chemicals in groundwater. In addition to water table wells, the MDA will request deeper temporary and permanent monitoring wells.

For more information, please contact Cathy Villas-Horns at 651-201-6697, Cathy.Villas-Horns@state.mn.us.



Aerial view of an agricultural chemical facility

Best Management Practices for Neonicotinoid Insecticide-Treated Seed

Theresa Cira, Research Scientist

A large percentage of the seed planted in Minnesota is treated with neonicotinoid insecticides. Neonicotinoids, even when they are coated on a seed, can pose a risk to pollinators and water quality. It is important to take reasonable steps to minimize those risks as much as you can by following best management practices (BMPs) when planting treated seed. Some important BMPs for neonicotinoid insecticide-treated seed are listed below.

1. Be aware of and consider using integrated pest management (IPM) practices that apply to your cropping system. If the risk of pest damage is low, consider seeds not treated with a neonicotinoid insecticide.
2. Follow directions and pay attention to hazard statements on the bag, especially regarding pollinators.
3. Reduce dust-off during planting by ensuring your planting equipment is functioning and calibrated, and by using appropriate lubricants.
4. Reduce dust drift by planting when wind speeds are low.
5. Prevent spillage of seeds and dispose of unused seed properly. Follow the stewardship steps developed by the American Seed Trade Association (ASTA) for managing treated seed spills: <https://seed-treatment-guide.com/wp-content/uploads/2018/03/Treated-Seed-Stewardship-for-Handling-Spills.pdf>
6. If you have questions about these practices, contact University of Minnesota Extension or the MDA.

You can find the full list of BMPs for neonicotinoid insecticide-treated seed on the MDA's website (www.mda.state.mn.us/pollinatorbmps#treatedseed).

For more information, please contact Theresa Cira at 651-201-6237, Theresa.Cira@state.mn.us.

Monitoring Nitrate in Drinking Water Supply Management Areas

Nikol Ross and Kimberly Kaiser, Hydrologists

As the ground thaws, MDA hydrologists will be dusting off their hard hats to get ready for the field season. This spring, the MDA will begin installing groundwater monitoring networks in three Drinking Water Supply Management Areas (DWSMAs). The monitoring well networks will be used to monitor nitrate in shallow groundwater within the Hastings, Rock County Rural Water System, and St. Peter DWSMAs.

Under the Groundwater Protection Rule, the MDA has designated these three DWSMAs as Mitigation Level 2. A total of 17 DWSMAs have this designation statewide. Mitigation Level 2 DWSMAs have had nitrate detections in the public well at or above 8 mg/L at some point in the last 10 years.

These groundwater monitoring networks will be used to evaluate changes in nitrate concentration. Each network will target locations with row crop agriculture in areas of the DWSMA where groundwater is vulnerable to leaching. Under the rule, producers within the DWSMAs are asked to implement nitrogen fertilizer best management practices (BMPs) to reduce nitrate leaching. The groundwater monitoring wells will be installed in the uppermost portion of the aquifer, which will allow the MDA to measure the changes to water quality in response to the implementation of BMPs.

For more information, please contact Nikol.Ross@state.mn.us, or Kimberly.Kaiser@state.mn.us.



Groundwater monitoring well