PFMD UPDATE

A BULLETIN FROM THE PESTICIDE AND FERTILIZER MANAGEMENT DIVISION

FEBRUARY 2018

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Director's Notes

Joshua Stamper, Director, Pesticide and Fertilizer Management Division

Greetings from the Department. We hope that you enjoyed the holiday season with family and friends.

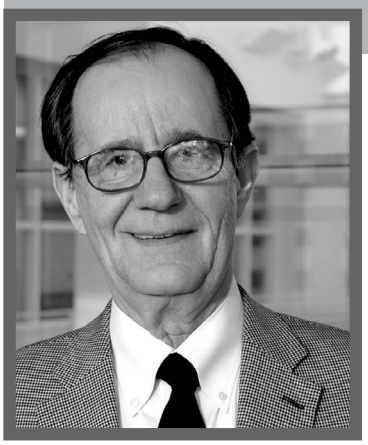
We know that growers and producers have little downtime and that the 2018 season is rapidly approaching. We encourage you to take time to read your pesticide labels now. Everything that you need to know about a pesticide is contained on the product's label. While these labels are not exactly pleasure reading, they contain valuable information about how the product must be used. The label contains more than just instructions about how to apply the product. It contains information about how to store it, how to mix it, how to dispose of unused product, and even what adjuvants can be mixed with it.

There are many products that have "do not" provisions on the label. A couple examples; dicamba has a "do not" tank mix with unapproved products (namely AMS) provision and Mesotrione labels contain a "do not" mix with an EC (Emulsifiable Concentrate) provision on the label. These provisions are designed to minimize off target movement, prevent crop injury, prevent illegal residues, etc.

Now is the time to read labels for the specific products that you intend to use in 2018. Standing next to the spray rig with a full tank of water is not the time to start thumbing through a complex label. If you have questions about what a label requires, feel free to contact PFMD staff to ask questions. PFMD staff would much rather answer your questions now; instead of having to issue enforcement actions after a label violation.

Be safe and take care.

A Message from Commissioner Dave Frederickson



One of the central tenets of government is to listen to the will of the people. It's something I take seriously each day, whether through phone calls, emails, or meetings. Engaging Minnesotans and our ag community is important.

Over the past year, the MDA has heard from many people throughout the state. Through a series of agriculture town halls held in conjunction with the Governor Mark Dayton's 25 by 25 water quality meetings and our listening sessions on the Nitrogen Fertilizer Rule, we covered a wide range of topics.

I am continually impressed with the level of discussion and conviction that we find as we work our way around the state. Even when the dialog becomes intense, everyone maintains a healthy dose of "Minnesota Nice."

I'm also impressed with the agriculture industry's drive toward progress. Water quality can be a divisive issue. However, farmers understand and are positioning themselves to be active participants in the search for solutions.

As we move into a new year, it is critical that we all gather at the table to examine the challenges we collectively face, and come up with solutions that are for the greater good. Let us listen to science to pinpoint our problems, research to help determine which solutions will work, and technology that provides better ways to get the job done.

ACRRA Rates to Decrease

Jennie Hodgeman, ACRRA Administrator

The Agricultural Response and Reimbursement Account (ACRRA) pays for cleanup of eligible agricultural chemical spills and incidents. Surcharges on pesticide and fertilizer licenses, pesticide registrations, pesticide sales, and fertilizer tonnages generates fund revenue. The Commissioner has ordered a surcharge decrease effective January 1, 2018 as summarized below:

1. Commercial and Noncommercial Pesticide Applicator Licenses, $14 per license;
2. Structural Pest Control Company, $55 per license;
3. Pesticide Dealers and Agricultural Pesticide Dealers, $41 per license;
4. Fertilizer companies, $28 per license;
5. Retail Pesticide Dealers will pay 0.17% on agricultural pesticides sold in or into Minnesota;
6. Retail Fertilizer and Soil/Plant Amendments distributors will pay $0.17 per ton on products sold in or into Minnesota;
7. Pesticide registrants will pay 0.17% of sales on non-agricultural pesticide sold in or into Minnesota.

If you have questions or want more information, contact Jennie Hodgeman at 651-201-6490 or at jennie.hodgeman@state.mn.us.

PFMD Update

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625 Robert St. N.,
St. Paul, MN 55155-2538
Telephone 651-201-6121

Editor: Joe Spitzmueller Manager, Facility, Licensing & Emergency Response Section
joseph.spitzmueller@state.mn.us

Assistant Editor: Jen Schaust
jen.schaust@state.mn.us

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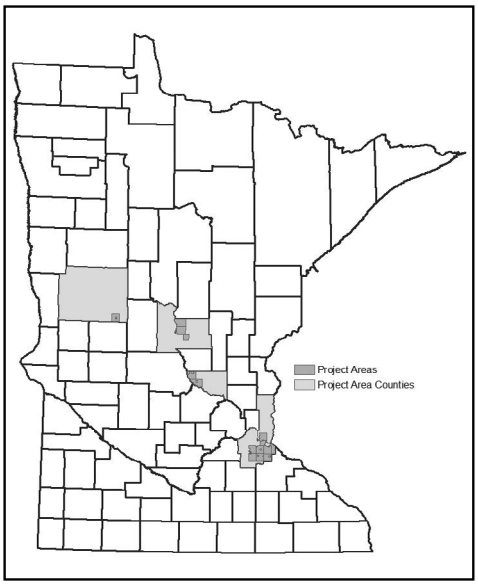
DEPARTMENT OF AGRICULTURE

First Township Nitrogen Fertilizer Management Projects Start This Winter

Ron Struss, Fertilizer Field Unit Supervisor



Local advisory teams are being formed for the first five projects under the MDA's revised Nitrogen Fertilizer Management Plan. The projects are scheduled to start this winter with a goal to implement nitrogen fertilizer best management practices (BMPs) that help protect groundwater from nitrate contamination. Townships were selected for the project if more than 10% of private wells tested through MDA's Township Testing Program were over the drinking water health standard for nitrate.

COUNTY	TOWNSHIPS IN PROJECT AREA
Dakota	Nininger, Empire, Coates (city), Vermillion, Marshan, Ravenna, Castle Rock, Hampton, Douglas
Otter Tail	Parker's Prairie
Morrison	Agram, Belle Prairie, Ripley
Sherburne	Clear Lake, Haven
Washington	Cottage Grove

The projects scheduled to start this winter are listed above and will vary from one township to eight townships in size. Each is located in areas of coarse-texture soil prone to nitrate leaching.

The local advisory teams will advise the MDA on selection and promotion of nitrogen fertilizer BMPs. Team members will include farmers, dealers, and crop advisors in the project area. An assessment of BMP adoption will be made three crop seasons after the nitrogen fertilizer BMPs are rolled out in the area. The goal is BMP adoption on 80% or more of cropland acres in the project area.

If you have questions or want more information, contact Ron Struss at 651-201-6269 or ron.struss@state.mn.us.

Anyhdrous Ammonia Safety Workshops

The 2018 MDA anhydrous ammonia safety workshops for farmers, cooperatives, safety officers, insurance agents, public safety, and others have been scheduled from 8:30 a.m. to 12 p.m. for the following dates and locations:

DATE	LOCATION
March 6th	Dodge Center
March 7th	Lamberton
March 8th	Winthrop
March 13th	Morris
March 14th	Warren

The workshop will include hands-on demonstrations, instructional videos, and PowerPoint presentation with handouts. Please send an email to jane.boerboom@state.mn.us or call 651-201-6540 for more information about workshop time and locations.

Complying with Pollinator Protection Language on Pesticide Labels

Trisha Leaf, Research Scientist and Rajinder Mann, Pesticide Non-Point Technical Unit Supervisor

Insecticides usually do not discriminate and harm the targeted "bad" insects as well as beneficial insects, like pollinators. Neonicotinoids are a type of insecticide used on crops that attract pollinators. In an effort to reduce the amount of unintended harm to pollinators, the EPA put new language on neonicotinoid labels that have foliar or ground spray application use. The language includes a "bee box" and safety precautions that focus on the timing of application.

This language means that applicators cannot spray when bees are foraging and not until all flowering is complete to protect pollinators from harm unless conditions described on the label are met. The MDA is working on guidance documents to help applicators understand the pollinator language. Pollinator protection is incorporated in applicator certification and training. Also, the MDA Agricultural Chemical Investigators will offer compliance assistance visits, which are educational and not regulatory, with applicators to help them understand the neonicotinoid product label language. See the bee box and pollinator protection language below.

For food Crops and Commercially Grown Ornamentals Not Under Contract for Pollination Services but are Attractive to Pollinators

Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless one of the following conditions is met:

- The application is made to the target site after sunset
- The application is made in accordance with a government-initiated public health response
- The application is made in accordance with an active state-administered apiary registry program where beekeepers are notified no less than 48 hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying
- The application is made due to an imminent threat to significant crop loss, and a documented determination consistent with an IPM plan or predetermined economic threshold is met. Every effort should be made to notify beekeepers no less than 48 hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.

Restrictions for Use of New Dicamba Products in Dicamba-Tolerant (DT) Soybean Crops

Matt Sunseri, Pesticide Management Unit Supervisor, and Joseph Spitzmueller, Facility, Licensing and Emergency Response Section Manager

Persons that use the new dicamba products in Minnesota during 2018 must adhere to three sets of legal requirements: 1) the new federal label, 2) new additional use restrictions set forth in the Special Local Needs Registration by the MDA, and 3) the applicator requirements specified in the Minnesota Pesticide Control Law. Users must take care to ensure they follow all three sets of legal requirements.

The affected formulations are only the dicamba products labeled for use while the DT soybean crop is in the field: XtendiMax by Monsanto, Engenia by BASF, and FeXapan by DuPont. Visit the MDA website at www.mda.state.mn.us/dicambafaq for current information.

In October 2017, the U.S. Environmental Protection Agency (EPA) announced making these products restricted-use and adding special training and record keeping requirements. To learn more about these changes, please visit the EPA website at www.epa.gov/ingredients-used-pesticide-products/registration-dicamba-use-genetically-engineered-crops.

For information about upcoming dicamba training sessions, including a Dicamba Training Sessions Calendar, visit the Minnesota Crop Production Retailers website at https://mcpr-cca.org/dicamba-information-trainings.

In addition, on December 12, 2017, the MDA announced new restrictions on the use of these dicamba products in DT soybean crops in Minnesota for the 2018 growing season. The decision follows the MDA's ongoing investigation into reports of crop damage from alleged dicamba off-target movement.

The Minnesota label restrictions for the 2018 growing season are:

- Cutoff date: Do not apply after June 20, 2018.
- Cutoff temperature: Do not apply if the air temperature of the field at the time of application is over 85 degrees Fahrenheit or if the National Weather Service's forecasted high temperature for the nearest available location for the day exceeds 85 degrees Fahrenheit. Local National Weather Service forecasts are available at www.weather.gov/phi/localclimate.

Given each product is a Restricted Use Pesticide, they are subject to the requirements specified in the Minnesota Pesticide Control Law. An applicator must first hold a Commercial or Noncommercial Pesticide Applicator License or a Private Pesticide Applicator Certification to purchase and apply these products. Additionally, licensed Commercial/Noncommercial applicators must meet the record keeping requirements specified in the Minnesota Pesticide Control Law. The MDA maintains samples of these records online. These requirements differ from the EPA label restrictions. Applicators must meet the state and federally mandated record keeping requirements for Restricted Use Pesticides.

If you have questions, contact Matt Sunseri at 651-201-6292 or matthew.sunseri@state.mn.us.

Structural Leave Behind Notice in Apartments

Alice Waller, Licensing Consultant

As of August 1, 2017, Structural Applicators that apply a pesticide in an apartment must post a leave behind notice in a conspicuous place inside the apartment. The notice has specific posting, content and format requirements. Notices must:

- Be placed inside an apartment;
- Be put in a conspicuous location;
- State that a pesticide application occurred;
- Name the Pest Control Company responsible for the application;
- Include the date and time of the pesticide application; and
- Include any and all post-application precautions found on the label of the pesticide used.

Companies that do not post leave behind notices, or leave notices that do not meet content or format requirements are in violation of the Pesticide Control Law.

If you have questions or want more information, please contact Alice Waller, 651-201-6284 or alice.waller@state.mn.us.

How to Get Your Pesticide License Faster

Gary Edwards, Licensing Supervisor

The MDA issues thousands of licenses, certifications and permits annually. However, less than 25% are submitted online. Online application reduces the turn-around time to receive a license for new licenses and renewals.

Passing certification exams on the first try is another easy way to get your license faster. Certification exams are not easy and it is surprising how many applicants take the test before they have studied the material. A license is not issued until the applicant passes the exam. Failing an exam means rescheduling and retesting and significantly delays when you get a license.

Schedule exams at a location that offers computer-based testing. Managing paper answer sheets slows the process. If you test on a computer, you get instant results and your license faster.

Finally, missing and inaccurate information on an application is another common cause for delay. Make sure your application form is complete. Simple omissions mean that your application is put on hold until the problem can be corrected.

Remember, the MDA receives thousands of license applications and during the heaviest periods, it may take three weeks or more to mail a license. Use of the online features reduces this time.

If you have questions or want more information, contact Licensing at 651-201-6615 or pesticide.licensing@state.mn.us.

Electronic Testing in Greater Minnesota

Alice Waller, Licensing Consultant

The MDA is implementing computerized testing for Pesticide Applicators, Structural Pest Control and Commercial Animal Waste Technicians (CAWT) at locations around the state. Persons that take their exam at one of these locations will receive their results instantly. Persons must complete an application, pay the appropriate fees, and pass the exams to get a license. Currently, test locations with computer based exams can be found in these counties: Becker, Marshall, Meeker, Pipestone, Pennington, Rock, Stearns, Steele, and Yellow Medicine. There is also a test center in the Minnesota Department of Transportation office in St. Cloud. Additional counties will be added as resources allow.

Conditions Necessary to Maintain a Pesticide Applicator License

Gary Edwards, Licensing Supervisor

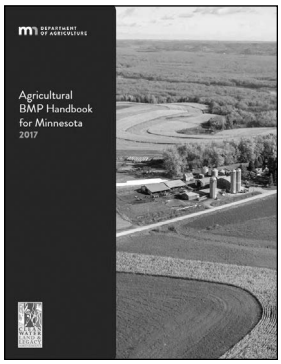
A person must have a valid license identification card to purchase, apply pesticides for hire, or purchase a restricted use pesticide. A license is valid when the license type and categories match the scope of work, the date is current, the correct employer is listed, and financial responsibility and workers compensation requirements are met (when applicable).

A person must notify the MDA immediately if any of these conditions change in order to maintain a valid license.

If you have questions or want more information, contact Licensing at 651-201-6615 or pesticide.licensing@state.mn.us.

NEW Updated Ag BMP Handbook for Minnesota

Margaret Wagner, Clean Water Technical Unit Supervisor



The Ag Best Management Practices (BMP) Handbook is a great resource for anyone installing conservation practices on agricultural lands. It is easy to read and includes a comprehensive review of research conducted in Minnesota and the Upper Midwest. Updates include new data, an expanded list of conservation practices and economic considerations. The second edition of the handbook is now available in the Minnesota Water Quality Digital Library: http://water-research-library.mda.state.mn.us/pages/application/filedownload.xhtml?recId=361800

Survey Results from Pesticide Applicator Training

Clarissa Levi, Minnesota Ag Water Quality Certification Principal

Most applicators attend a recertification workshop in order to be eligible to renew their license. The MDA surveyed participants in 2015 and 2016 to better understand the impacts of training. Six questions were asked of persons holding different license types and attending workshops for different categories.

The questions were composed and worded to broadly assess the impacts of the MDA approved training. The questions focused on key training topics including: the pesticide label, applicator responsibilities, personal protective equipment, integrated pest management and applicator safety. Those persons that attend workshops will recognize these as typical components of a workshop agenda.

The poll was conducted using an interactive tool that surveyed participants in real time. All responses were collected anonymously. The table below totals the responses of approximately 2,800 participants (Respondents) across several category groups and two years. Not all participants answered all questions. The six questions asked are listed in the left column. Participants had three answer options – Yes, Not Sure or No – to each question. Participant responses in the middle three columns are listed as a percent of the total responses captured.

PARTICIPANT RESPONSES				
Survey Question	**Yes**	**Not Sure**	**No**	**Respondents**
Are you more likely to read pesticide labels as a result of the information provided in this workshop?	75%	5%	20%	2799
Did the information provided in this workshop help you better understand pesticide application regulations?	84%	4%	11%	2808
Did the information provided help you understand PPE as a way to reduce your risk?	83%	3%	14%	2837
Are you more likely to use pesticides safely and properly as a result of the information provided in this workshop?	82%	5%	13%	2844
Will you be a better pesticide applicator as a result of the information provided in this workshop?	76%	10%	15%	2851
Are you more likely to use an integrated pest management approach to pest control as a result of the information provided in this workshop?	66%	15%	19%	2845

The "Yes" response option was selected by a large majority of respondents for every question. This result is very encouraging and characterizes the information provided at workshops as useful and helpful, and equally important that the training may result in safer applicator practices and more responsible use of pesticides among applicators.

The MDA partners with numerous industry groups as well as the University of Minnesota Extension to plan and implement dozens of these training sessions each year. These results speak well of the efforts of our partners. Not all participants answered "Yes" and we recognize the need to strive to do better; participant suggestions for improvements to organizing staff are always welcome.

If you have questions or want more information, contact Licensing at 651-201-6615 or pesticide.licensing@state.mn.us.

Minnesota Ag Water Quality Certification Program

Marcie Weinandt, MAWQCP Operations Coordinator

The Minnesota Ag Water Quality Certification Program's (MAWQCP) grants for certification are off to a great start.

Up to $5,000 in financial assistance is available for those Minnesota farmers seeking Agricultural Water Quality Certification. These dollars are used to support conservation practices or management changes to bring the producer into eligibility for certification. In the first 12 months of availability, these funds supported over 70 applications totaling more than $280,000 and leveraged twice as many funds from other sources. Some of the practices supported include cover crops, grade stabilization structures, prescribed grazing, and irrigation water management.

MAWQCP is designed to accelerate adoption of on-farm practices that protect Minnesota's waters. Producers who implement and maintain approved management practices will be certified and, in turn, obtain regulatory certainty for a period of ten years. Under the program, MAWQCP-certified growers receive a ten-year certification and are regarded as in compliance with any new water quality regulations that occur in those ten years.

The MDA is accepting applications for the MAWQCP and the Financial Assistance Grant. To get started, contact your local Soil and Water Conservation District (SWCD). A listing of SWCDs and more program information can be found at: www.mylandmylegacy.com.

If you have questions or want more information, contact Marcie Weinandt at 651-201-6481 or marcie.weinandt@state.mn.us.

Facility Permit and Substantial Alteration Reminder

Greg Harding, Agricultural Chemical Consultant

Persons who hold a Bulk Pesticide/Fertilizer Storage Permit are reminded that they must obtain a permit from the MDA before substantial alterations are made to their existing permitted bulk ag chemical storage facility. A substantial alteration is defined as: changing the capacity of a safeguard; adding storage containers in excess of the capacity of a safeguard as required by rule; or, increasing the size of the single largest storage container in a safeguard as approved or permitted by the MDA. An application to substantially alter a permitted bulk storage safeguard can be obtained at: www.mda.state.mn.us/about/~/media/Files/licensing/chemicals/ag03312bulk.pdf.

When making any tank or dike change, it is advised that you contact either Greg Harding or Matthew Parins to review those changes with you and determine what information needs to be submitted to the MDA to make those changes.

Though some tank additions or replacements to a dike may not be considered a substantial alteration to the permit, the MDA wants to track and update all changes so your permit reflects those changes.

If you have questions or want more information, contact Greg Harding at 651-201-6274 or greg.harding@state.mn.us, or Matthew Parins at 651-201-6587 or matthew.parins@state.mn.us.

Conditions Necessary to Maintain Chemigation Permits

Jim Freilinger, Chemigation Program Consultant

Chemigation permits are issued by the MDA to operators who apply fertilizer and/or pesticide through an irrigation system that is connected to a water source. To obtain a chemigation permit, the operator must submit a permit application to the MDA, pay the required application fee, and meet the permit requirements that include installation of the required antipollution device(s).

In a center pivot chemigation system, another name for an antipollution device is a check valve. Two (2) MDA approved check valves in a series must be installed for operators with a pesticide-only or a combination pesticide/fertilizer permit. A single MDA approved main line check valve is required for a fertilizer-only permit. A check valve must also be installed on the injection pump or line. The fertilizer and/or pesticide must be injected into the irrigation stream after the main line check valve(s).

Visit www2.mda.state.mn.us/webapp/erenewal/apply.jsp to apply on-line for a chemigation permit. Fees are $50.00 for a fertilizer-only; $250.00 for a pesticide-only or combination pesticide/fertilizer permit.

For more information or for a list of MDA approved check valves, please contact the Chemigation Permit Line at 651-201-6057 or visit: www.mda.state.mn.us/chemicals/fertilizers/chemigation.

If you have questions or want more information, contact Jim Freilinger at 320-243-7382 or jim.freilinger@state.mn.us.

Is it Time to Update Your Incident Response Plan?

Lucia Hunt, Emergency Response Unit Supervisor

Now is a great time to check your Incident Response Plan for updates to personnel, contact information, maps, and product lists. Legislation requires your Plan be updated every three years or whenever there is a change to its contents. Download a sample plan at www.mda.state.mn.us/agchemspills and fill in the information required. You may opt to use your own template, just make sure that your plan includes all of the components of the sample plan in order to be compliant.

Not sure whether you need an Incident Response Plan? It is good business practice for everyone to prepare for a pesticide or fertilizer spill, but it is required for:

- Pesticide dealers
- Commercial Pesticide Applicator, Noncommercial Pesticide Applicator, or Structural Pest Control Companies
- Persons required to be permitted to store or produce bulk (containers greater than 56 gallons or greater than 100 pounds) pesticides
- Persons who store fertilizers, soil amendments, or plant amendment products in bulk (nonpackaged)

Once your plan is updated, remember to train employees and let the first responders who serve your facility know about those changes. Don't forget to document the dates of your plan updates, training events, and first responder contacts. If you have questions or want additional information, please contact Pat Kelly at 651-201-6387 or patrick.kelly@state.mn.us or Lucy Hunt at 651-201-6637 or lucia.hunt@state.mn.us.

Recent MDA, Pesticide & Fertilizer Management Division, Enforcement Actions

Stephanie Ende, Inspections and Enforcement, Consultant

Duluth, MN

A garden center paid an $800 penalty for failure to comply with Worker Protection Standards by not providing workers with pesticide safety training, and maintaining and posting a thirty day pesticide application record at the central location.

Minneapolis, MN

A structural pest control company paid a $5,250 penalty for applying pesticides in a residential setting that was inconsistent with pesticide label directions and in a manner that resulted in animal endangerment.

Princeton, MN

A city paid a $250 penalty for failure to have a Minnesota Department of Health approved backflow prevention device installed on the water supply used to fill pesticide application equipment.

Arlington, MN

A farmer paid a $5,000 penalty for storing bulk dry fertilizer at two locations in a manner resulting in adverse effects to the environment, and for failure to follow MDA Orders.

Duluth, MN

A structural pest control company paid a $1,500 penalty for improper disposal of pesticides on company property resulting in adverse effects to the environment.

Eden Valley, MN

An agricultural chemical retailer dealer paid a $500 penalty for selling a Restricted Use Pesticide (RUP) to an unlicensed/uncertified applicator and failure to maintain distribution RUP records.

Brooks, MN

A farmer paid a $1,000 penalty for burning containers and for improper disposal of unrinsed pesticide containers.

Glyndon, MN

An agricultural facility paid a $2,250 penalty for failure to drain, depressurize, and secure an anhydrous ammonia (NH3) liquid withdrawal hose located in the bottom of a NH3 nurse tank before it was moved on a public road, resulting in a release and endangerment to the public.

New Albin, IA

An out-of-state agricultural facility paid a $250 penalty for failure to obtain a Commercial Pesticide Applicator License before commercially applying a pesticide in Minnesota.

Otsego, MN

A lawn and landscape company paid a $1,750 penalty for failure to hold a Fertilizer License and a Commercial Pesticide Applicator License before commercially applying fertilizer and pesticides, and for failure to have a Minnesota Department of Health approved backflow prevention device installed on the water supply used to fill pesticide application equipment.

Montgomery, MN

A pool operator paid a $500 penalty for failure to follow instructions on a pesticide label by adding a pool chlorination product into the wrong container resulting in a chemical reaction and release.

Rochester, MN

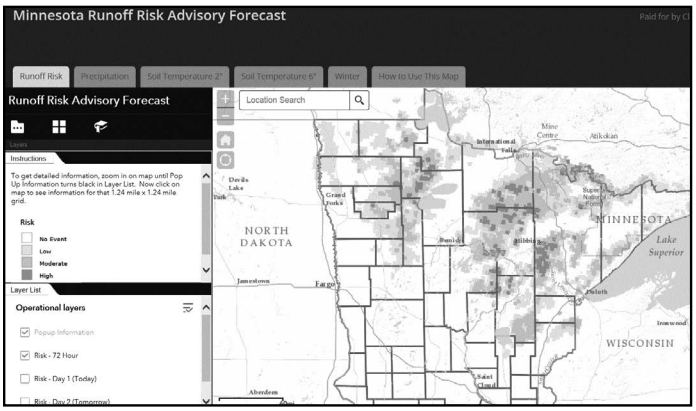
A nursery operation paid a $1,500 penalty for failure to provide workers pesticide safety training, maintain and post a thirty day pesticide application record at the central location, provide early entry training to workers before entering a pesticide treated area during a restricted-entry interval, and provide decontamination supplies adjacent to pesticide mix/load sites.

Litchfield, MN

An agricultural operation paid a $4,500 penalty for routine anhydrous ammonia equipment and storage violations.

NEW Website for Managing Your Runoff Risk

Heather Johnson, Monitoring Hydrologist



The MDA and the National Weather Service have teamed up to develop the Minnesota Runoff Risk Advisory Forecast (RRAF) system to provide farmers and applicators the most current forecast information about the potential for runoff in coming days. This site will allow manure applicators to plan applications at times when the risk of off-site movement is lowest.

The RRAF is part of a regional project aimed at reducing manure runoff. The states of Wisconsin, Michigan, Minnesota and Ohio have partnered with several federal agencies and educational institutions to develop these decision-support tools. The Minnesota project is funded with Clean Water Funds and is a collaboration of the MDA, the National Weather Service, and other state agency and industry partners.

The RRAF map is based on output from the National Weather Service's Sacramento Soil Moisture Accounting model used for flood forecasting. This model takes into account soil moisture content, forecast precipitation and temperatures, and snow accumulation and melt to predict the likelihood of daily, next day and 72 hour runoff events. The website went live in January 2018, and is located at www.mda.state.mn.us/rraf.

If you have questions or want more information, contact Heather Johnson at 651-201-6098 or heather.johnson@state.mn.us.

Incidents of Interest: Causes, Cleanup, and Prevention

Pat Kelly, Emergency Response Consultant

These incident summaries are provided as examples of spill response. Remember, all incidents must be reported to the MN Duty Officer at 1-800-422-0798.

- A tender truck tipped and spilled a fertilizer blend while turning into a field. Conditions were dry. Firm vacuumed the fertilizer and spread it on the field. The cleanup effort was minimal because the firm recovered the fertilizer so quickly.
- A pesticide sprayer caught fire traveling on a road. The driver drove onto a field and phoned emergency responders. The fire melted the 1000 gallon tank, and 100 gallons of an atrazine/metolachlor tank mix was released. Approximately 40 yards of contaminated soil was excavated and land spread. Samples of the excavated soil confirmed cleanup.
- A semi tipped while turning onto a highway. Approximately 4,500 gallons of fertilizer spilled from two poly tanks. The fire department sprayed the road thereby diluting and expanding the spill. As a result, hundreds of yards of soil was contaminated and needed excavating. Spraying water on a spill spreads contamination thereby increasing the amount of cleanup work needed. Local responders determined in this case that spraying water alleviated public safety concerns. However, a response focused on recovery and containment will reduce cleanup time and costs.

If you have questions or want more information, contact Pat Kelly at 651-201-6387 or patrick.kelly@state.mn.us or Lucy Hunt at 651-201-6637 or lucia.hunt@state.mn.us.

DEPARTMENT OF AGRICULTURE

Minnesota Department of Agriculture
Pesticide and Fertilizer Management Division
625 Robert St. N.
St. Paul, MN 55155-2538

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New Guidance for Sampling at Golf Courses for Contamination

Jim Seaberg, Hydrologist and Greg Hanson, Ag Chemical Consultant

The conversion of golf courses to other land uses, especially residential, requires that land is safe for development. Past pesticide use has led to heavy metal contamination of some golf course property. The MDA has new guidance for soil sampling at golf courses. These procedures are different than sampling procedures at properties with other types of contamination.

An investigation should begin with a thorough assessment of past pesticide use. Good historical records and interviews with available grounds keeping staff can be invaluable. Greens and tee-boxes are the most likely areas of contamination and their locations may have changed, so historical air photographs must be carefully reviewed.

Contamination investigations include sampling for arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and other pesticides including no longer used pesticides such as DDT, heptachlor and chlordane. Contamination typically extends to the outer margins of greens and tee-boxes and is shallow. Other locations of concern are the product loading, storage and mixing areas, and, in some cases, the dedicated dumping areas for grass clippings.

Soil Sampling at Golf Courses for Contamination guidance can be viewed at: www.mda.state.mn.us/chemicals/spills/incidentresponse/guidelist.

Contact the Incident Response Unit for assistance through the Agricultural Voluntary Investigation & Cleanup (AgVIC) program at 615-201-6681 or visit: www.mda.state.mn.us/chemicals/spills/incidentresponse/agvic.