DEPARTMENT OF AGRICULTURE

Pesticide Management Plan Committee 2025 Member Comments

Minnesota Department of Agriculture

Pesticide and Fertilizer Management Division

MINNESOTA POLLUTION CONTROL AGENCY

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July 16, 2025

VIA EMAIL

Commissioner Thom Petersen
Minnesota Department of Agriculture
625 Robert Street North
St. Paul, MN 55155

RE: Meeting of the Pesticide Management Plan Committee, June 2025

Dear Commissioner Petersen:

Thank you for the opportunity to participate in the Minnesota Department of Agriculture's (MDA) Pesticide Management Plan Committee (PMPC) meeting on June 10, 2025. My staff and I have reviewed the meeting materials, including the 2023 Water Quality Monitoring Report, and are happy to provide the following comments.

Specific to the responsibilities of the PMPC, the MDA has asked members to consider the following:

As a result of your review of pesticide and water quality data,
1. Is there a need for new MDA determinations (i.e., common detection or surface water pesticide of concern) that would trigger development of pesticide water quality best management practices (BMPs) or related actions for groundwater or surface water?

2. Is there a need for pesticide product restrictions to protect water quality as a condition for registration?

The Minnesota Pollution Control Agency (MPCA) commends the annual work of the MDA to monitor and report pesticides detected in surface and groundwater throughout the state. We strongly support MDA's efforts to maintain both its monitoring efforts and analytical capabilities; these are critical to all our ongoing work to protect human health and the environment from any adverse impacts of pesticides. Currently, we do not see a need for new determinations of common detection pesticides or surface water pesticides of concern or need for any changes to product registration.

The MPCA is working closely with MDA staff to address delisting of sites impaired by chlorpyrifos. The next draft impaired waters list is anticipated to be public noticed in November 2025 and submitted to the U.S. Environmental Protection Agency for approval in April 2026.

Regarding impairments, the MDA implementation of the Chlorpyrifos Response Plan that serves to address existing impairments and detects of chlorpyrifos, and a plan for outreach to address an acetochlor impairment in the Silver Creek watershed are great efforts to deal with these issues. Neonicotinoid pesticides may be one group of insecticides considered to be used in lieu of chlorpyrifos, and the MPCA remains concerned about the increased detection in surface waters of these pesticides, both individually and as a class. The MDA's decision to designate imidacloprid and clothianidin as "pesticides of concern" and implementing BMPs for surface water provides an important means for addressing the increased detections of these chemicals. The MPCA is considering development of water

quality standards for both imidacloprid and clothianidin and has assigned staff to this effort. The on-going monitoring work done by MDA to evaluate the occurrence and trend of these neonicotinoids in surface water will be an important element in prioritizing water quality standards development. Thank you again for the opportunity to comment. If you have any questions about our comments, please contact me at 651-757-2788 or william.cole@state.mn.us.

Sincerely,

Bill Cole

This document has been electronically signed.

Bill Cole
Supervisor
Water Quality Standards Unit
Environmental Analysis and Outcomes Division

BC:kj

Attachment

cc: Kathleen Hall, MDA (w/attachment)
Paul Pestano, MPCA (w/attachment)
Phil Monson, MPCA (w/attachment)

Kathleen Hall
Minnesota Department of Agriculture
625 Robert Street North
St. Paul, MN 55155
Kathleen.Hall@state.mn.us

Thank you for the opportunity to be a part of the PMPC process and be involved with these valuable discussions. The steps the MDA and this group have taken over the years continue to provide successes. The data and monitoring report from this year was well done and extensive.

I encourage the MDA to prioritize education to the community and industry partners, as it is vital for future successes. As an industry, they need to be aware of this data and fully consider alternative products and practices. As a small part of the agriculture industry, turf managers continue to highlight the professionalism and stewardship efforts our industry demonstrates.

The new interactive maps will be helpful, as we need more information and data on the sampling locations. It's hard to compare these numbers when we are only assuming the current land use of each site, based on PMR location. Especially in regard to 4-hydroxy, and its prevalent use on potatoes. As we discuss its use on turf further, we need to differentiate between the use sites as we analyze degradate numbers. As we analyze this data each year, understanding the sampling sites further is crucial to making more appropriate comments.

The two questions we were charged in addressing are:

1. Is there a need for new Minnesota Department of Agriculture (MDA) determinations (i.e., common detection or surface water pesticide of concern) that would trigger development of pesticide water quality best management practices (BMPs) or related actions for groundwater or surface water?

2. Is there a need for pesticide product restrictions to protect water quality as a condition for registration?

Based on the most recent data, there is no need to add any new Common Detection or Surface Water Pesticides of Concern. Overall, most data show levels below reference values, apart from already identified analytes, of which trend data seems consistent and without large trend changes upward. Analytes above the 10% threshold still maintain relatively low maximums relative to reference values. One concerning product is 2-4 D, due to its prevalence. With nearly 100% detection rates, this product could be reviewed further and considered for a new status. With its longevity in the market, why has this product not been designated before? A status change could initiate a market correction to other products.

4- Hydroxychlorothalonil: With it only being found in PMR 4, and still not enough data for a trend analysis, no further status need be considered as of yet. Also, it seems laboratory testing procedures need to be improved to better analyze this degradate. Expanded sampling is necessary, especially since this is not yet found in other PMR's.

Thank you again allowing me to represent the turf industry throughout this review process.

Sincerely,

Chris Aumock
Executive Director
Minnesota Golf Course Superintendents Association
Maple Grove, MN

DEPARTMENT OF HEALTH

Protecting, Maintaining and Improving the Health of All Minnesotans

July 31, 2025

VIA EMAIL

Commissioner Thom Peterson
Minnesota Department of Agriculture
625 N. Robert Street
St. Paul, Minnesota 55155

RE: Meeting of the Pesticide Management Plan Committee, June 2025

Dear Commissioner Peterson:

Thank you for the opportunity to review and comment on the data and findings in the Minnesota Department of Agriculture's (MDA's) 2024 Water Quality Monitoring Report (the "Report") and the information provided to the Pesticide Management Plan Committee (PMPC) during the committee meeting on June 10, 2025. I prepared the following responses to MDA's charge questions on behalf of the Minnesota Department of Health (MDH).

I. Groundwater

Charge Question 1: Is there a need for new determinations (i.e., common detection status) that would trigger development of pesticide water quality best management practices (BMPs) or related actions for groundwater?

According to Minn. Stat. §103H, "Common Detection" means "the detection of a pollutant that is not due to misuse or unusual or unique circumstances but is likely to be the result of normal use of a product or a practice". MDH reviewed the 2024 groundwater data for pesticides and/or their degradates that are commonly detected in groundwater and currently do not have a "Common Detection" designation using the guidelines in the Pesticide Management Plan (PMP)[1]. To select pesticides for review, MDH used MDA's threshold of >15% detection frequency overall or in pesticide monitoring region (PMR) 4 (Section 2.4 of the Report: "Analysis of additional pesticides"). The following pesticides and pesticide degradates met the >15% detection frequency threshold: bentazon, 4-hydroxychlorothalonil, clothianidin[2], dimethenamid ESA, dimethenamid OXA, fomesafen, imazamox, imidacloprid, sulfentrazone, sulfentrazone-3-carboxylic acid, and thiamethoxam. Since

[1] Cyanazine and its degradates were excluded from this exercise since cyanazine use was cancelled in 2002.
[2] Clothianidin is an active ingredient as well as the major degradate of thiamethoxam.

precipitation was above average in 2024, data from both 2023 and 2024 were considered in MDH's evaluation (2023 was a relatively dry year).

Response to Charge Question 1

Bentazon, 4-hydroxyclorothalonil, clothianidin, total dimethenamid, fomesafen, and sulfentrazone meet the definition of "Common Detection" pesticides and the PMP guidelines for Common Detection consideration. In 2023 and/or 2024, they were commonly detected (>30% detection frequency in at least one PMR), are used on major crops, showed statistically significant increasing trends in detection frequency and/or concentration, and have available health-based guidance values (HBGVs) resulting from MDH full chemical review. Recognizing that practicability and resource constraints may be limiting factors, MDH recommends that MDA prioritize the placement of the following two pesticides in Common Detection status:

Chlorothalonil: In PMR 4, chlorothalonil's major degradate, 4-hydroxychlorothalonil, was found at levels above its HBGV of 2,000 ng/L in both monitoring wells and private drinking water wells. In monitoring wells, 4-hydroxychlorothalonil's 90th percentile concentrations (2,380 and 2,312 ng/L for 2023 and 2024 respectively) are above its HBGV and higher than the 90th percentile concentrations of all Common Detection pesticides except metolachlor ESA. Maximum concentrations in 2023 and 2024 (12,700 and 16,300 ng/L respectively) are 6-8 times the HBGV. There are statistically significant, increasing trends in both detection frequency and 90th percentile concentration in PMR 4. In 2023 and 2024, MDA conducted small-scale monitoring of 4-hydroxychlorothalonil in PMR 4 private wells.[3] Of 45 wells, 10 (22%) had detections, 4 wells had detections >50% of the HBGV, and one well water concentration was nearly 3x the HBGV (5,840 ng/L). While the 4-hydroxychlorothalonil HBGV is classified as "Risk Assessment Advice" (RAA), it is based on the No Observed Adverse Effects Level (NOAEL) in a rat developmental study on the degradate itself, rather than the parent compound. The endpoint and Lowest Observed Adverse Effect Level (LOAEL) in this study were consistent with results from another 4-hydroxychlorothalonil developmental study, increasing MDH's confidence in the NOAEL on which the short-term RAA is based.

Fomesafen: In PMR 4, 90th percentile concentrations in 2023 and 2024 (616 and 569 ng/L respectively) are the same order of magnitude or 1-2 orders of magnitude higher compared to pesticides currently in Common Detection status except for metolachlor ESA. The 2024 fomesafen maximum concentration in PMR 4 (15,900 ng/L, or 80% of the HBGV) is also 1-2 orders of magnitude higher than the maximums for pesticides currently in Common Detection status except metolachlor ESA. There are statistically significant increasing trends in fomesafen detection frequency and 90th percentile concentration in PMR 4. Current levels reflect fomesafen's persistence and mobility in soil. A prospective groundwater monitoring study in North Carolina confirmed that fomesafen moves through the soil profile into medium and deep groundwater[4], which poses a risk for private drinking water well contamination. The MDA Private Well Pesticide Sampling Project has documented cases of

[3] 4-hydroxychlorothalonil was not analyzed in Phase I of the MDA Private Well Pesticide Sampling Project.
[4] USEPA. 1990. Review Additional Data Submitted from Small-scale Prospective Study of Fomesafen. DP Barcode 158320.

elevated fomesafen levels in private wells (max=7,000 ng/L, or 35% of the HBGV). MDA's 2024 sampling of 26 PMR 4 private wells found a detection of 2,090 ng/L, which is over 10% of the HBGV.

B. Charge Question 2: Is there a need for pesticide product restrictions to protect water quality as a condition for registration?

This question pertains to the mitigation goal of the PMP. This goal is primarily applicable to pesticides in Common Detection status because MDA has the option to exercise regulatory authority through mandatory use changes, water resource protection requirements, or the restriction or cancellation of product registration if voluntary measures (e.g., BMPs) are determined to be ineffective.

Response to Charge Question 2

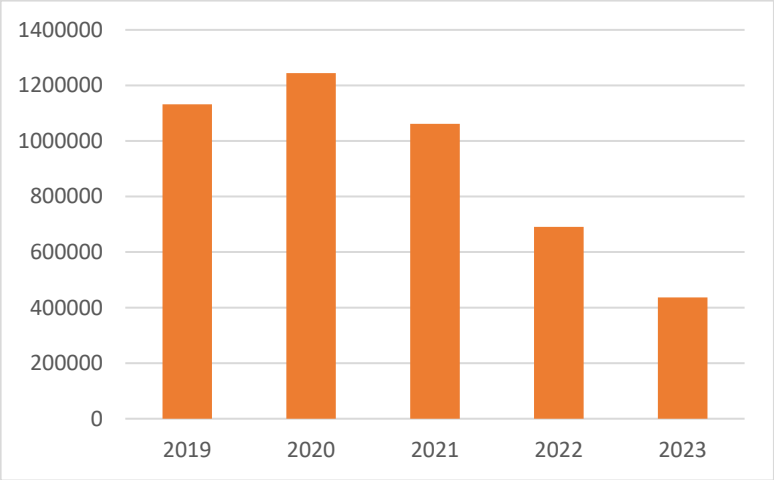
Based on the extent of 4-hydroxychlorothalonil contamination in monitoring wells and private wells in PMR 4, MDH recommends that MDA use its regulatory authority to require the use of the federally mandated, lower chlorothalonil application rates[5] in Minnesota by next growing season. It is unknown when the process to approve the revised labels with these lower rates will be completed at the federal level and EPA will include a subsequent twelve-month existing stocks provision after approval.

The Report states that there were no decreasing trends in detection frequency, median concentration, or 90th percentile over the last 10 years for metolachlor ESA and OXA. Rather, Table 2-9 of the Report shows statistically significant increases in metolachlor degradate detection frequency and/or concentration in every PMR over the last decade. This suggests voluntary measures have been ineffective. However, the use of metolachlor, as indicated by sales[6], has been consistently decreasing over the past few years, from >1.2 million pounds active ingredient sold in 2020 to 426,794 pounds active ingredient sold in 2023 (Figure 1). This makes it challenging to determine if additional actions are needed to reduce or eliminate the continued movement of metolachlor degradates to groundwater. MDH recommends assessing metolachlor next year to see if and how recent decreases in sales are reflected in the monitoring data.

[5] Application rates detailed in: U.S.EPA. Chlorothalonil Interim Registration Review Decision. December 2024. Available: https://www.regulations.gov/document/EPA-HQ-OPP-2011-0840-0363

[6] All sales data referenced in this letter are from https://www.mda.state.mn.us/minnesota-pesticide-sales-information

Figure 1: Metolachlor sales in pounds of active ingredient sold by year



Additional Groundwater-related Recommendations

The guidelines in the PMP that serve as the basis for the PMPC's common detection evaluations were created in the 1990s. At that time, MDA analyzed for only a few dozen pesticides. Starting in 2010, MDA added many new analytes to its monitoring program through a new LC-MS/MS method. MDA also revised its previous GC-MS method to include additional chemicals. As part of these new methods, MDA also gained the capability to measure concentrations down to the part per trillion level. Currently, MDA's ability to monitor for over 180 pesticide analytes (Figure 1-4 of the Report) at low concentrations results in many pesticides meeting the definition of, and evaluation guidelines for "Common Detection" pesticides. Even so, no chemical has been designated as a Common Detection pesticide by MDA since 2003, suggesting that additional criteria are used by MDA in decision making. MDH recommends that MDA update the guidelines in the PMP and/or its guidance to the PMPC on evaluating pesticides to ensure committee members are making informed and meaningful recommendations. As a related transparency effort, MDH recommends that MDA post its response to PMPC member comments on the PMPC website.

MDH commends MDA for its decision to contract out analysis of ethylene thiourea (ETU), a major mancozeb degradate. As stated in MDH's 2024 PMPC letter, mancozeb is in the top 10 pesticides currently sold in the state, and ETU has a relatively low rapid assessment value and the ability to leach to groundwater. According to EPA, impending restrictions in use of chlorothalonil on potatoes will result in an increase of mancozeb use[7]. Therefore, MDH recommends that MDA continue to conduct targeted monitoring for ETU in PMR 4 monitoring wells if initial detections are found.

The "Assessment of Additional Pesticides" section of the Report allows PMPC members to evaluate the need for new determinations of common detection status. If comparison to HBGVs is an important factor in MDA's decision making and prioritization related to placing pesticides in Common Detection status, PMPC members would benefit from additional data in this section on the number

[7] U.S. EPA. Memorandum: BEAD Response to Public Comments on the Chlorothalonil Proposed Interim Decision. September 19, 2024. Available: https://www.regulations.gov/document/EPA-HQ-OPP-2011-0840-0365

and percent of pesticide results that have exceeded 10%, 50%, and 100% of their corresponding HBGVs over time as well as comparisons of 95th percentile concentrations to HGBVs. This additional information would allow members to conduct a more comprehensive review. While the focus on PMR 4 in this section is warranted, MDH also recommends including the same level of information on pesticides that were found in >15% of samples in any PMR.

MDH strongly supports MDA's decision to conduct continued, targeted monitoring of private wells for 4-hydroxychlorothalonil in PMR 4. The monitoring of the additional pesticides in private wells listed in Table 5-6 of the Report are also valuable and should be included in future monitoring reports.

As described in Chapter 7 of the PMP, MDH treats degradates and their parent compounds as though they cause the same toxic effect and have the same potency in the absence of degradate-specific HBGVs. In these situations, MDH recommends including the sum of parent+degradate concentrations in the Report in all cases where this applies (e.g., bentazon, pyroxasulfone, sulfentrazone).

In 2024, MDA contracted with local entities in southeast Minnesota and the south metro region to provide reverse osmosis treatment systems to owners of wells with an exceedance of atrazine and/or cyanazine HBGVs (Report section 5.1.5). MDH applauds MDA on this new effort and recommends that it be extended to private well owners with HBGV exceedances of any pesticides identified through MDA's targeted PMR 4 private well monitoring and future private well sampling projects.

Surface Water

A. Charge Question 1: Is there a need for new MDA determinations (i.e., surface water pesticide of concern) that would trigger development of pesticide water quality best management practices (BMPs) or related actions for surface water?

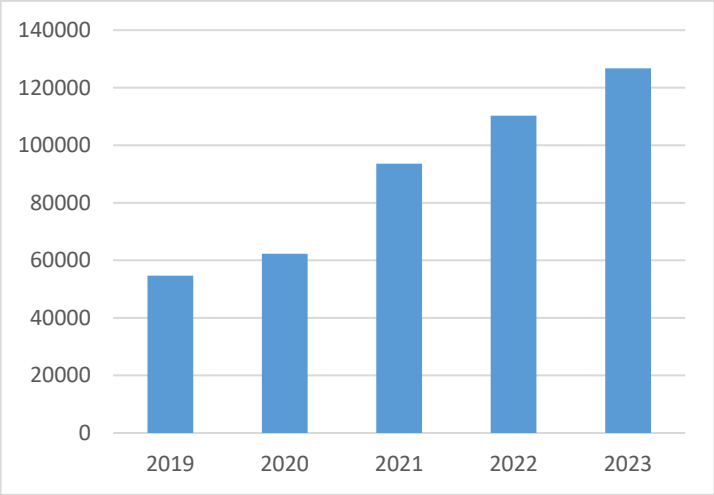
"Surface Water Pesticide of Concern," is defined in the PMP as "the detection of a pesticide in surface water at concentrations of concern relative to a water quality standard, water quality criterion or water quality advisory value (i.e., a "reference value"), not due to misuse or unusual or unique circumstances, but likely to be the result of normal use of product or practice." The PMP states, "Preventive actions will be considered when surface water monitoring results for a pesticide exceed 10-50% of its reference value." Therefore, MDH's review focused on pesticides in Section 3.5 of the Report, which provides information on pesticides with detections ≥10% of their lowest numeric reference value over the past five years. A five-year period is a useful timeframe to assess due to year-to-year fluctuations in precipitation.

Charge Question 1 response

MDH recommends that MDA designate pyroxasulfone as a Surface Water Pesticide of Concern. Of pesticides not currently designated as Surface Water Pesticides of Concern, pyroxasulfone has the most detections ≥50% of its reference value and the most detections greater than its reference value over the past five years. While pyroxasulfone has a lower detection frequency compared to current

surface water pesticides of concern (9% overall and 32% during stormflow in 2024), every detection of pyroxasulfone over the past five years has been >10% of its reference value and 21% of detections were >50% or over the reference value. Pyroxasulfone is classified by EPA as mobile and persistent and sales have been steadily increasing, as shown in Figure 2 below.

Figure 2: Pyroxasulfone sales in pounds of active ingredient sold by year



Metolachlor is another pesticide of interest in Section 3-5 of the Report, as it is commonly found in surface water samples (71% detection frequency) and 167 detections (9%) were ≥10% of the reference value over the past five years. However, only 12 detections (<1%) have been ≥50% of the reference value, with no concentrations over the reference value. As shown in Figure 1, sales of metolachlor appear to be consistently decreasing. MDH recommends assessing metolachlor next year to see if and how recent decreases in sales are reflected in the monitoring data.

Charge Question 2: Is there a need for pesticide product restrictions to protect water quality as a condition for registration?

This question refers to the mitigation goal of the PMP. To respond to this charge question, MDH mainly considered the need for product restrictions to protect surface water quality for the pesticides that are currently designated as “Surface Water Pesticides of Concern”.

Charge Question 2 response

Neonicotinoid pesticides stand out as having a high frequency of detections above their chronic benchmarks, including a high number of 21-day periods with average concentrations greater than the chronic benchmarks. Neonicotinoids (including imidacloprid, clothianidin, and thiamethoxam which degrades to form clothianidin) should be a primary focus of MDA’s efforts to mitigate potential adverse ecologic impacts to surface water bodies. Previous MDA analysis determined that reference value exceedances are largely driven by use of treated seed. As growers have limited control over selection of treatments on seed they purchase, it is unlikely that voluntary measures (i.e., neonicotinoid BMPs) will effectively reduce concentrations in surface water to below levels of concern. MDA has general authority to take regulatory actions to prevent unreasonable adverse

effects on the environment, which includes protection of surface waters. Minnesota Statute 2022, §18B.01 states that "unreasonable adverse effects on the environment means any unreasonable risk to humans or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide *or seed treated with pesticide*." MDH recommends that MDA conduct a special review of the risks, costs, and benefits of neonicotinoid-treated seed with a focus on surface water impacts. If the review finds unreasonable adverse effects on the environment, MDA should exercise its regulatory authority by implementing use restrictions on neonicotinoid-treated seed.

While pyroxasulfone is not a "Surface Water Pesticide of Concern", moving forward with requiring vegetative buffer strips on product labels is expected to be a more effective approach than developing BMPs to address pyroxasulfone detections >10%, 50%, and over the lowest aquatic plant reference value. EPA already identified unacceptable risks to vascular and nonvascular aquatic plants in its own risk assessments for all use scenarios[8]. Although the EPA ecologic risk assessment states that risk to aquatic plants "is expected" from normal use, EPA did not require vegetative buffer strips as a condition of registration[9]. While no vegetative buffer strips between pyroxasulfone application areas and surface water features like lakes, rivers, and wetlands are required on U.S. product labels, a quick scan of labels outside of the U.S. (e.g., Canada and Australia) found buffer strip/set-back requirements from freshwater habitats on all product labels checked.

In closure, MDH commends MDA on its rigorous monitoring program which continues to be valuable in identifying water quality concerns and protecting Minnesota's water resources. Thank you for the opportunity to provide comments. If you have questions about the comments, please contact me at (651) 201-4922 or deanna.scher@state.mn.us.

Sincerely,

Deanna Scher, Ph.D.
Environmental Surveillance & Assessment Section
Environmental Health Division
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cc: Tannie Eshenaur, Manager, MDH Water Policy Center
Steve Robertson, Manager, MDH Source Water Protection Section
Tom Hogan, Division Director, Environmental Health Division

[8] U.S.EPA. New Chemical Registration (Section 3) Ecological Risk Assessment, Pyroxasulfone. Available: https://www.regulations.gov/docket/EPA-HQ-OPP-2009-0717

[9] U.S.EPA. Registration of the Herbicide Pyroxasulfone on Corn and Non-Crop Areas. Available: https://www.regulations.gov/docket/EPA-HQ-OPP-2009-0717

DEPARTMENT OF NATURAL RESOURCES

Jason Garms, Agricultural Program Liaison
DNR Government Relations Unit
500 Lafayette Road
Saint Paul, MN 55155

July 15, 2025

Commissioner Thom Petersen
Minnesota Department of Agriculture
625 Robert Street North
Saint Paul, MN 55155

Dear Commissioner Petersen,

The Minnesota Department of Natural Resources (DNR) appreciates the opportunity to provide comments on the Minnesota Department of Agriculture's (MDA) 2024 Water Quality Monitoring Report. We would also like to acknowledge the significant effort that goes into monitoring Minnesota's ground and surface waters for agricultural chemicals. Understanding and managing the potential risks to Minnesota's water resources is essential for the quality of life for all who live, work, and enjoy the outdoors in this state.

The DNR would like to support the ongoing implementation of the State Pesticide Management Plan. To that end, there are a couple areas of collaboration worth noting:

1) Recognizing that another DNR observation well (Fillmore County) was added as a new monitoring site in 2024, there may be additional opportunities to share resources. The DNR is open to considering how DNR observation wells and other DNR administered resources can contribute to MDA's network of sampling locations.
2) Neonicotinoid insecticides have garnered significant attention due to the implications for pollinators and other wildlife. This concern seems reinforced by the widespread 2024 detections of clothianidin and imidacloprid in rivers and streams, often with concentrations exceeding the EPA Aquatic Life Benchmarks. With explicit responsibilities for managing the health of Minnesota's fish and wildlife populations, the DNR remains concerned about the potential impacts of neonicotinoids. It may behoove our agencies to occasional share updates on any emerging research or monitoring efforts. I would be more than willing to coordinate such updates when the opportunity and interest presents itself.

I appreciate the opportunity to serve on the PMPC and plan to renew my application when the time comes. As always, I am available to help coordinate any collaborative efforts between the DNR and MDA.

Sincerely,

Jason Garms

DNR Agricultural Program Liaison
Minnesota Department of Natural Resources

Kathleen Hall
Minnesota Department of Agriculture
625 Robert Street North
St. Paul, Minnesota 55155

Dear Kathleen,

Thank you for the opportunity to comment on the MDA's Pesticide Management Plan and the 2024 Water Quality Monitoring Report. As a new member of the PMPC, I believe the annual report was well prepared and presented. The increased monitoring of our surface water and groundwater is especially important for all of us to understand what is happening in our environment.

Groundwater is one of the most vital areas to monitor for human health and the overall protection our natural systems. Once our aquifers are penetrated with chemicals, it could take decades for those products to leave those water systems.

Is there a need for new designations of pesticides as common detection or surface water pesticide of concern? Are pesticide product restrictions to water quality as a condition for registration? As a citizen, I would say yes for high-use herbicides. The major products and their breakdown products are being found in aquatic areas not listed on the label for application. It is known that these products can leach through the soil into groundwater. As a member of an organization that uses pesticides, I have difficulty in believing we would choose or would be able to use a product according to its label and have it continually detected in a non-target surface water or groundwater.

From my point of view, how can an applicator of herbicide (i.e., Acetochlor) with major environmental warnings listed on the label, not have some responsibility in the product being found off-site in the public aquifers or waters? If best management practices cannot control these off-site infiltrations, how is change going to occur if applicators are not held accountable for their product choices? It is state agencies' responsibility to protect public waters.

The Minnesota Department of Agriculture can regulate the products used in our state and our communities. Further regulation and/or restrictions may be a method to reduce use of these products and lessen these chemicals in our waters. I am not an agricultural expert, but it is concerning that many of the products that are being detected in our groundwater will continue to be used for years to come. These persistent chemicals will continue to be present in MDA testing and in our environment. What will be the factors that will be able to change this alarming trend?

Manufacturers of these products need to be part of the solution. They know of the environmental hazards of their products. It is not enough to just print the environmental dangers on the label and not hold some responsibilities for the protection of our earth's groundwater.

Regarding the data found in the report, I found it hard to relate due to no real reference to the overall use patterns of these products in the respective regions. With that said, I have no idea of the number of farms, co-ops, types of farming, highway departments, or who is contributing and/or responsible for these water-related issues.

It is difficult to understand where the large detections were noted if the products are being overused, if all pre-emergence treatments are justified, if less persistent rotational options are not being utilized, if physical buffers zones are used/recommended, or if enforcement and/or re-educational programs are active. I can only assume that these products are used according to the label and that the people using these products are good stewards of the environment. Therefore, is further regulation and/or restrictions on products the best method for reducing groundwater pollution, I cannot say without additional context.

Tracking these aquifers and determining where the chemicals are being introduced are the first steps to holding people & companies accountable for these chemical infiltrations. These products may be beneficial to agriculture, but they are not entering the environment by themselves.

It is my hope that people will voluntarily work together to reduce the use of these persistent chemicals found in our environment for the good of humankind and our natural systems.

Thank you for the opportunity to comment and to serve on this committee.

Best regards,

Mark E. Smith
Integrated Service Manager
Metropolitan Mosquito Control District
2099 University Avenue W.
Saint Paul, Minnesota 55104

WHITE EARTH RESERVATION

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July 15th, 2025

Commissioner Thom Petersen
Minnesota Department of Agriculture
625 Robert Street North
St. Paul, MN 55155

RE: Minnesota Pesticide Management Plan Committee 2025 Water Quality Monitoring Report Comments

Dear Commissioner Petersen,

As the Tribal Representative for the Pesticide Management Plan Committee, I would like to thank you for the opportunity to participate in the committee and the invitation to provide comments regarding the State of Minnesota's pesticide management in relation to the Minnesota Department of Agriculture's 2024 Water Quality Monitoring Report. I would like to commend the Minnesota Department of Agriculture on the significant effort that goes into monitoring the ground waters, surface waters, and rain waters for agricultural chemicals.

The Minnesota Department of Agriculture specifically asked the committee members to address the following questions:

1.e Is there a need for the Minnesota Department of Agriculture (MDA) determinations (i.e., common detection ore "surface water pesticide of concern) that would trigger the development of pesticide water quality beste management practices (BMPs) or related actions for groundwater or surface water?e

2.e Is there a need for pesticide product restrictions to protect water quality as a condition for registration?e

In response to the first question of is there a need for new MDA determinations?

Recommendation to consider placing bentazon, clothianidin, fomesafen, fulfentrazone, and thiamethoxam under "Common Detection Status" to provide an avenue to establish BMPs for these products. These analytes have been detected frequently in numerous annual reports and it has been recommended previously to list these analytes as

common detection for groundwater because they are commonly detected. To decrease detection frequency, BMPs must be established and the avenue available to establish BMPs is through listing them as common detection. Without BMPs for these analytes, the trend of detection will continue to increase.

Recommendation to add 2,4-D to the list of "Surface Water Pesticides of Concern". 2,4-D had a detection frequency of 88% in the river and stream monitoring and 4% detection frequency in ground water in 5 of the PMRs. There has been a trend in the water quality data, not just this year but in prior years as well, of 2,4-D being detected in 100% of the rainfall samples. It has been detected at every rainfall station and during every sample collection. The environmental fate and transport of this analyte is significant. The product does not stay where it is applied and moves freely through the environment through run-off, evaporation, and atmospheric deposition. 2,4-D currently does not have a designation but it is the third top selling pesticide that is frequently detected in the ground water and surface water and rain.

Given the increase in rainfall sampling and detection of analytes in the rainfall samples, there is a need for a development of a new designation for analytes detected in rainfall to allow for the implementation of best management practices for analytes that move through the environment more freely and do not stay in the areas that the product was applied. Products that are moving through the atmosphere through evaporation are not helping the crops they were applied to but impacting the environment.

Recommendation of Metolachlor being added to list of "Surface Water Pesticides of concern". Metolachlor was detected in 83% of the surface water samples, Metolachlor ESA had a detection frequency of 91%, and Metolachlor OXA had a detection frequency of 92%. The maximum concentration did not exceed the reference level for the parent compound or the metabolites but the parent compound had a maximum level of 17,400 ng/L which is close to the reference value of 23,000 ng/L. Without a designation of being a Surface Water Pesticide of Concern, there is a risk of increased levels. With a majority of the samples having metolachlor, metolachlor ESA, and Metolachlor OXA, there is a need for BMPs to be established to protect Minnesota's water resources, the environment, and human health. Metolachlor is currently listed as "Common Detection Status" for groundwater. Adding Metolachlor to the Surface Water Pesticides of Concern would allow for addition BMPs to be implemented such as reduced agronomic rates of application or limitations on when the product may be applied such as 48 hours before a rain event.

In response to the second question, is there a need for pesticide product restrictions to protect water quality as a condition for registration?

Tracking of the sales and use of pesticides used in treated seed. It is understood that treated seed is regulated differently than the pesticides that are used to treat the seed. Treated seed falls under the "Treated Article Exemption" but there is a need to track the use of treated seed. The most common pesticides used to treat seed are neonicotinoids and various fungicides. Some of these products include imidacloprid, thiamethoxam, clothianidin, azoxystrobin, and metalaxyl. These products are used to control seed-borne and soil-borne diseases but we are seeing analytes in the ground and surface water.

Clothianidin and Imidacloprid are both on the surface water Pesticide of Concern. Neonicotinoids move with water. Seed treatment is a large source of neonicotinoids in the environment. Even after planting, these analytes move with the water that is in the soil. Tracking the sales and use data of treated seed may help to implement Best Management Practices that are more suitable to address this source than those that are already in place for these analytes. This is especially true for clothianidin. The reporting limit for clothianidin was reduced from 25 ng/L to 5 ng/L which increased the detection frequency.

Clothianidin has an 80% detection frequency in surface water and detected in 49% groundwater samples and is almost 10 times above the EPA Chronic reference level. It is recommended for the MDA to collaborate with the MPCA and develop Water Quality Standards for clothianidin and imidacloprid.

There is a need for product restrictions for Chlorothalonil in PMR 4. 4-hydroxychlorothalonil, the metabolite of chlorothalonil, had a detection frequency of 11% with the highest detection at 163,00 ng/L which well exceeds the reference value of 2,000 RAA23. It is only detected in PMR 4. This is an increase from last year where there was a detection frequency of 10% and the maximum concentration was 11,000 ng/L. As this is the only PMR it is detected in, restrictions for use in this area should be incorporated on the product label during product registration. Restrictions could include decreased application rates, prohibiting applications within a certain amount of time prior to a rain event, or prohibiting the use of this product in this specific areas such as areas like PMR 4 that have a sandy soil. It is recommended to apply a health-based reference value for the chlorothalonil degradant.

Thank you again for the opportunity to be involved in the Pesticide Management Plan Committee and submit recommendations for the protection and monitoring of Minnesota's valuable water resources.

Miigwech (Thank you),

Renee Keezer
Water Resources Manager
White Earth Natural Resources
Pesticide Management Plan Committee Tribal Representative

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July 13, 2025

Kathleen Hall Ph. D.

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Re: Pesticide Management Plan Committee Comments:

First, I would like to take this opportunity to thank you for allowing me to participate in the MDA PMPC. I have been very impressed with your level of detailed testing activities throughout the state's regions and the protocol that all involved follow for ground water as well as surface water. It didn't surprise me to hear during the report that your research is the most extensive in the country. You should be proud of that and all those involved with the research! And thank you for developing the public portal that can be found on the MDA website

Question 1.

Is there a need for new determinations; (common detection status or surface water pesticide of concern) that would trigger development of pesticide water quality best management practices or related actions for ground water of surface water?

Based on the data that was shared with the committee on June 17th, I don't think there is a need for new determinations of detection status. But I am not a research scientist, I am a farmer, so that answer has to come from those involved.

Question 2.

Is there a need for pesticide product restrictions to protect water quality as a condition for registration?

This question needs to have a determined amount of data that can support the product restrictions using BMPs. All though, my understanding is the

PMPC is an advisory committee and can only make recommendations to the commissioner.

Steven L. Anderson

Steven L. Anderson

Farmer, Benton County MN