



September 3, 2024

Minnesota Pollution Control Agency  
ATTN: George Schwint  
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**RE: Christensen Farms (CF) comments for the National Pollutant Discharge Elimination System (NPDES) Permit**

Thank you for the opportunity to comment on the proposed Minnesota Pollution Control Agency (MPCA) Feedlot NPDES permit. We appreciate the outreach and conversation held throughout this process to provide input from those who hold NPDES permits. However, as was the case in previous NPDES permit reissuances, there is much disappointment that these productive conversations did not provide for any incorporated changes in the proposed NPDES permit. Further, the delay in providing important factsheets and demonstrations of the software to be used by permittees was disconcerting.

Our comments are related to the issues around the requirements to use agency forms and programs with no allowance for individual companies' programs, restrictions on manure application, transfer of manure ownership recordkeeping requirements, and land application inspection requirements.

With regards to permit lines 9.4, 10.2, 13.5, 24.7, and 31.40, CF has concerns regarding MPCA's mandate that permittees must use the "Nutrient Management Tool" (NMT) for development and maintenance of the manure management plan (MMP), and recordkeeping of manure transfer, application, and best management practices (BMP) being used. Specifically, CF is apprehensive about how changes in crop field management will be handled including changes to crop rotations such as the increased prevalence of multiple crops per crop year, alternative crops, and changes in field boundaries. Previous versions of the MPCA Manure Management Planner have not allowed for the selection of multiple crops nor the temporary change in field boundaries. CF has developed a comprehensive reporting system that allows for the development of MMPs, planning of manure applications, recordkeeping, and operation of our facilities. The requirement to utilize the NMT will increase the regulatory burden on CF while providing no environmental benefit. The agency has not demonstrated nor provided previous notices or recommendations that the current reporting is not meeting requirements. Further, the requirement to use NMT is a significant departure from the previous NPDES permits and Chapter 7020 rules. MPCA has provided no access to the NMT and the overview MPCA did provide for review by affected permittees was so limited it prevents permittees from making substantive comments and understanding the impact of these requirements. Based on the overview, while the program is online, all data entry is manual, including ongoing manure samples, soil samples, and amounts of manure. MPCA has provided no guidance on how to maintain compliance if the NMT would become unavailable due to MPCA web service or other programmatic issues. It is important to recognize that the permit and environmental compliance are determined by the data and not by the format in which the data is provided. MPCA requires the

addition of electronic storage of manure transfer recipient (MTR) contact information including phone numbers and email address. MTRs are not parties to the permit and there are many cases where contact between CF and recipients may not be conducted by email. The requirement to have an email is excessive and evasive to MTRs. MPCA has not provided any assurances to permittees or MTRs regarding the security of the stored contact information. CF proposes to amend the permit to allow permittees to either provide the required information in their own format or to use the NMT but amending the MTR contact information to require a mailing address only with the option to provide a phone number and/or email. Finally, CF recommends that the MPCA should not mandate the use of a computer program that has not been thoroughly vetted or adequately reviewed by permittees before being incorporated into a regulatory permit. If MPCA requires the use of a specific form, it should be provided as an unprotected word document to allow permit holders to streamline data entry efficiently.

With regards to permit line 12.6 there is a requirement to use MPCA fact sheet "Land Application of Manure: Minimum State Requirements" (wq-f8-11) for determining crop phosphorus removal rates. However, the current fact sheet from MPCA's web site does not include crop phosphorus removal rates and has not been updated since February 2011. Permittees should be allowed to use reputable sources of data that represent current realities and permit referenced documents should have the information and not require further links to other sources. CF proposes to change 12.6 to include data for crop removal rates from land grant colleges or other sources such as the Fertilizer Institute or the International Plant Nutrition Institute. Permittees need to be allowed to utilize the most current science in making decisions and outdated fact sheets will likely be problematic for determining compliance.

With regards to permit line 13.4, 13.5, and 13.6 CF has general concerns with the restrictions on land application of manure. Agricultural production is unique due to the individuality of fields and localized weather conditions, which often do not align with specific calendar dates; each year and location has its own distinct characteristics. Simply stated, applying calendar restrictions does not guarantee better environmental outcomes. Manure provides a local low carbon fertilizer for crop production and has demonstrated results of increasing soil health. Restricting manure utilization, which would lead to increased use of commercial fertilizers, will not only raise greenhouse gas emissions (GHG) but also hinder soil health improvement, directly contradicting the State of Minnesota's soil health goals. MPCA has provided limited research related to the effectiveness of the restrictions proposed to mitigate nitrogen loss. At a public meeting, MPCA referenced the Iowa Nutrient Reduction Strategy, which cites only two studies related to manure where both indicated that timing of application was not significantly related to nutrient loss. In addition, MPCA has not accounted for the impact to rural infrastructure by shifting manure application to the spring of the year. Additional, significant, challenges exist with spring application versus fall application such as spring road weight restrictions imposed by the State and local governmental units that would only increase the number of trips, miles driven by applicators and their equipment, and fossil fuel used. Utilizing drag hose does not mitigate this risk as there are situations that would prevent the use of drag hoses or other equipment, including locations of wind tribunes, application rates, and distance to the field from the manure storage area.

It's currently unknown if MPCA has considered the availability of approved cover crop seed, especially limited alternatives in certain areas. Supply chain challenges will be exacerbated by planting cover crops late in the year (October and November) with limited hope for growth. Other research documents referenced by MPCA including the research study "*Nitrogen Application Rate Effect on Nitrate-Nitrogen Concentration and Loss in Subsurface Drainage for a Corn-Soybean Rotation (Lawlor et al., 2008)*" addresses results from other nitrogen timing studies including one

related to swine manure stating *“Results from this study indicated that timing of nitrogen application had little differential effect on nitrate-N concentrations in subsurface drainage (table 1).”* Further it states, *“While not different on an annual basis, these results suggest fall fertilizer nitrogen application may be slightly “riskier” than spring application.”* It’s important to acknowledge the conclusion of this research that recognizes *“Relative to timing of nitrogen application, i.e. moving from fall to spring application, studies conducted in north-central Iowa and south-central Minnesota have documented little to moderate potential to decrease nitrate-N concentrations. Likely the largest factor when looking at the effect from fertilizer application timing is when precipitation and associated nitrate-N loss occurs.”* The research study *“Cover Cropping to Reduce Nitrate Loss through Subsurface Drainage in the Northern U.S. Corn Belt, Stroock et al., 2004”* also states that *“Not every farm operation or every production field will require or benefit from the use of cover cropping. There are cost and logistical obstacles to overcome before widespread adoption and implementation of cover cropping.”* The research study *Managing nitrogen from manure with a winter rye cover crop: Results of on-farm trials in Minnesota (Everett et al., 2018)*, referenced by MPCA, does not demonstrate the ability to establish a cover crop in Minnesota in November. Rather, the study only looked at spring soil nitrates and not tile line nitrates. While MPCA may have the position that reduced soil nitrates are equal to reduced tile line nitrates, this study does not conclude that. In addition, the research was conducted in a Mollisol dominated region but mollisols would not be found in vulnerable groundwater areas. This, once again, highlights the lack of relatability between the research and the action the MPCA is proposing. In the study, the cover crop was only measured in the spring for growth and not in the fall as it specifically states that *“aboveground biomass of rye in the fall was limited, especially with the later seeding dates, and therefore was not measured”*. Pictures used in the study on page 7 were based on cover crops planted in September and therefore are not representative of the requirements for October and November. If rye is not used as a cover crop the study’s validity for this application should be challenged as many cover crops experience winter kill. Further using rye as a cover crop requires additional management including tillage and/or spraying to terminate the growth. This, again, would increase emissions of GHG which is not believed to be accounted for in MPCA’s analysis. Finally, the study points out that in the second year there were delays in cover crop planting due to weather conditions and that the spring of 2016 had above normal precipitation from May through October.

MPCA’s referenced research supports CF’s position in three distinct ways: First, it recognizes that weather has a greater impact on the environmental results than calendar days. Second, it’s demonstrated that application based on calendar days limits when manure can best be applied. Finally, it acknowledges that requirements based on calendar dates or dates limited to the spring are not reasonable. In the referenced material it is estimated that cover crops are about 25% effective. Nevertheless, MPCA indicates this is still sound strategy. This begs the question if MPCA would allow a farmer to use the highest yield they obtain to determine the yield goal for a field and determine the nitrogen rate? Would a 25% success rate be reasonable to assume as adequate for other decisions? CF believes it is reasonable to expect MPCA to provide the full list of research studies considered in the writing of these proposed rules so that permittees can review and better understand what has been considered when making comments.

With regards to permit line 13.4 CF shares concerns that MPCA has removed previous language “to harvested fields”. By removing this language, the MPCA is effectively restricting the application of manure in June before crops are planted. However, there are situations where manure application in June is necessary, such as due to specific weather conditions or crop rotations. During this time, no actively growing crop would be present since planting has not yet occurred, and there might not be a cover crop because field conditions could have prevented planting. Additionally, planting a cover

crop after manure application is not advisable, as the primary crop would be planted as soon as conditions allow. Furthermore, double cropping involves applying manure after one crop is harvested but before another is planted. Under the current language, manure application would not be feasible in these situations because there would be no actively growing crop or cover crop, and no cover crop would be planted before the primary crop.

Based on this CF proposes to amend the language to include a field that was harvested that crop year and to add option d) that an additional crop is proposed to be planted that will utilize the applied nutrients.

With regards to permit line 13.5 CF has significant concerns regarding the proposal to restrict manure application prior to October 15<sup>th</sup>. There is notable variability and risk around the proposed best management practices (BMPs). For example, if a permittee utilizes soil temperature as a BMP, is it the temperature of their own field or is it based on University of Minnesota Research and Outreach Centers' (MROC) data? Would permit holders have to measure the temperature over the day or just the beginning of the day? MPCA provides no guidance on determining compliance nor data to show that October 15<sup>th</sup> is significantly more protective than October 1<sup>st</sup>. Furthermore, based on CF's experience planting cover crops for manure application, requiring cover crops in October is incredibly problematic. The individual year and the geographic location's weather will dictate if planting a cover crop will provide the desired benefit to the environment. There are some years where the weather and field conditions would not be conducive to planting a cover crop in October. The use of nitrification inhibitors is problematic as well. Currently available nitrification inhibitors are not allowed for use in organic crop production including those that are put into manure. Limiting the ability to utilize manure in organic cropping systems is troublesome both from encouraging organic production and from a manure utilization standpoint. In addition, the use of split application of manure would have a negative impact on GHG emissions from both soil disturbance and additional fossil fuel use. Further certain manure types would not be able to be split applied as the rate applied is too low for equipment to achieve. CF proposes to remove line 13.5 as the reasonableness of the requirements is questionable. The risk of negative environmental results is far greater and better understood than the purported benefits.

As it pertains to line 13.6 and 31.58 CF raises important considerations regarding the proposal to restrict manure application in the fall in the proposed vulnerable groundwater areas. MPCA has provided no clarity on the criteria for land to be labeled "vulnerable". During feedback sessions when concerns were expressed about vulnerable areas restrictions, a request was made to allow for field verification of conditions to remove the field as a vulnerable area. This was not included in the proposed rules. MPCA has not provided a reason for the lack of inclusion. The application to an actively growing perennial crop would limit which manure this would apply to or how it could be applied to the fields. Irrigation is not allowed for swine manure; in addition, the perennial crop would limit the amount of incorporation that could be done to reduce odors and loss of nutrients from volatilization. The use of cover crops as referenced in 13.5 is limited by the weather conditions, including utilizing cover crops in late October to November. MPCA has provided no research to demonstrate that leaching is occurring in November or that planting a cover crop in November will bind up nitrogen. CF is worried that the MPCA is proposing a permit condition that will have no environmental impact and may use this as a precedent for future permit conditions. CF proposes to remove line 13.6 and 31.58 based on the lack of reasonableness in the requirements and the level of uncertainty surrounding the purported benefits versus the environmental risks. Should MPCA find that proposal not well taken, they should, at a minimum, be required to provide the exact criteria that is used to determine "vulnerable groundwater areas" and share the pathway to use onsite field conditions to remove the designation.

With regards to line 13.7 CF raises a concern with the application rate cap of 3,500 gallons per acre. Already, the permit limits application based on the amount of P2O5 and to preclude runoff or ponding. This makes the rate cap of 3,500 arbitrary, as it is not related to any environmental condition. The risk with this restriction is that it could force a permittee to use less desirable land for emergency application. This begs the question, if the P2O5 and the runoff restriction can be met at a higher rate, would it not make sense to use less land versus forcing a wider area to be used which might have steeper slopes than the first field? Based on the arbitrary nature of the restriction and considering the adequate restrictions in the permit CF would propose to remove the 3,500 gallons per acre restriction.

Line 14.3 raises questions from CF about the vagueness as to what an inspection entails and how compliance would be determined. Further permittees are required by line 11.4 to ensure that land application of manure will not exceed the hydraulic loading capacity of the field based on soil conditions. This would be done throughout the field and the additional inspection requirement provides no additional benefit as it is a redundant requirement. Many manure application companies operate 24 hours per day. In such an operation what would constitute the end of each day? How is down gradient determined on flat fields, if there is a tile intake that is part of a large public drainage system, is the inspection required at the outlet or is the inspection at the intake adequate? Requiring an inspection at the outlet is difficult as that can be located many miles away from the field on private ground which could prevent access. MPCA has not provided guidance on how compliance would be determined. Based on the vagueness of the requirement, the existing controls in the permit, and the barriers to determined compliance with the requirement as written CF proposes to remove this line from the permit. If the requirement is not removed CF proposes that it be changed to require certification that the hydraulic loading capacity of the application field is not exceeded.

For line 25.2, CF is concerned about the MPCA requiring permittees to use only their programs, particularly when these programs have not been sufficiently shared with permittees for public comment. Online processes that may or may not allow for the uploading of information would increase the burden on permittees by requiring the multiple entry of data. CF proposes to amend the permit to allow permittees to either provide the required information in their own format or to use the Feedlot Annual Report online service. CF also renews its significant concerns requiring a computer program, that has not been vetted nor reviewed by permittees, before mandating its use as part of a regulatory permit. If MPCA mandates that a specific form is used, the form should be provided as an unprotected word document for use by the permittee to allow for the streamlining of data entry.

For line 27.2 CF would ask for clarification on the requirement to report any discharge, spill, or overflow to the State Duty Officer and MPCA. Requiring 2 separate notices to State Agencies is duplicative. In addition, permittees have experienced issues with phone number changes and staff turnover which makes such communication nearly impossible. Currently, the State Duty Officer is always staffed with a consistent phone number. In the event of an emergency ease of contact is important so that focus can be placed on addressing the incident. Finally, previous NPDES permits have indicated that notification could be provided to either (2011 NPDES Permit Section IV.E.6.a). Based on this information CF proposes to change line 27.2 to State Duty Office or MPCA.

For line 28.1, 28.2, 28.3, & 28.4 CF has concerns regarding the requirement for permittees to take samples of water in the event of a discharge. Requiring sampling of waters of the state at the location of a discharge presents several logistical challenges including access to the water of the state without trespassing, access to appropriate sample bottles, access to a certified laboratory, and the ability to meet required holding times to complete the sampling within 6 hours of discovery and get a to a certified laboratory. In addition, proper sampling techniques are required to minimize the risk of contamination of the sample. Expecting permittees to have that level of expertise in an uncontrolled



setting is unreasonable. CF proposes to remove this requirement from the permit as any results would have limited value based on the challenges presented.

Agriculture is a connected ecosystem with significant synergies between crop production and livestock production. The use of manure as a local organic source of fertilizer that increases soil health is imperative to meet Minnesota's goals for soil health and GHG emissions. The restriction proposed in this permit will unreasonably burden manure application and utilization with no demonstrated cumulative environmental benefit. For over 25 years, Minnesota livestock producers and permittees have demonstrated their commitment to environmental stewardship within the framework of the current NPDES program. MPCA has not demonstrated nor documented that the existing regulations on NPDES sites are resulting in environmental impact. It seems as if the decision to increase restrictions is a reaction to specific issues that are not properly addressed in a general permit. Our concern remains that if the proposed changes are made to the NPDES permit, permittees will make different application decisions, and those decisions will likely not result in improved environmental results.

Thank you for your consideration of our comments and concerns regarding the NPDES Permit. If you need further clarification or have questions, please feel free to contact me.

Thank you



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