Michael Happ

Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, MN 55155

To whom it may concern,
Thank you for the opportunity to help shape Minnesota's biosolids strategy. We are thankful for the work you do, for gathering input from the community, and for working to manage a problem that has at times seemed intractable: PFAS.
The Institute for Agriculture and Trade Policy (IATP) has existed for over 35 years to advocate for a fair, just, and sustainable food and farm system. We advocate for policies that benefit farmers and the environment alike, at the local, national, and international level. We are based in Minneapolis and have small offices in Washington, DC and Berlin, Germany.
IATP has worked on issues related to PFAS, as well as the risks to food safety from sewage sludge (also known as biosolids) for many years, working in coalition with groups in Minnesota, Maine, and nationwide on identifying the scope of PFAS contamination on farms with historic sludge spreading, as well as legislative responses and aid for impacted farmers.
In that vein, we submit the following comments to MPCA on its Biosolids PFAS Strategy for land application, with a focus on preventing PFAS pollution wherever possible.

Thank you,

Michael Happ
Program Associate for Climate and Rural Communities
Institute for Agriculture and Trade Policy

MPCA's guiding principles on PFAS pollution are laudable ones, and they are principles that we agree should be pursued:
Prevent PFAS pollution wherever possible.
Manage PFAS pollution when prevention is not feasible or pollution has already occurred.
Clean up PFAS pollution at contaminated sites.
The comments we submit today are focused on preventing PFAS pollution. Any amount of PFAS in soil is dangerous, for a number of reasons.
Do not spread biosolids with any PFOA or PFOS on farmland: find ways to store safely while reducing waste
All four tiers of concentration levels proposed by MPCA are too high for PFOA and PFOS. The Environmental Protection Agency and other federal government agencies such as the Department of Health and Human Services have said there is no safe level of ingestion of PFOA and PFOS, which is why the maximum contaminant level goals (MCLGs) for drinking water are zero. Until MPCA can demonstrate that no PFOA or PFOS will enter food (whether for humans or animals) grown on a sludged site, sludge with any measurable level of PFOA or PFOS should not be land applied. The same for demonstrating that no PFOA or PFOS will enter ground or surface waters after land application.
MPCA has said it is looking to Michigan as a model for its strategy. Michigan's interim biosolids strategy establishes concentrations levels for PFOA and PFOS at which biosolids cannot be applied and levels for notifying the state and landownerbefore application, much like the proposed MN PFOA and PFOS rules. These do not seem to be based on any health risk analysis, nor are they based, like Maine's 2018 strategy, on the potential for groundwater contamination. These levels and actions seem to be based on what wastewater treatment plants can achieve. While these plants will be important partners in implementing any biosolids strategy, we must have higher standards when it comes to human and animal health. The current strategy is not sufficiently protective of human health, animal health, or farmer livelihoods.
Sampling frequency and thresholds
Sampling one time per year is inadequate. Studies have shown that PFAS concentrations can change with seasonal variations and other factors at wastewater treatment plants (Helmer et al). Instead of sampling once a year, we encourage MPCA to sample at least once every quarter.
Extractable organic fluorine (EOF) values should also be determined quarterly. The EOF parameter provides a good overview of the amount of PFAS in sewage sludge, though other analyses may be needed to identify specific PFAS

compounds.
PFAS concentration numbers should be the sum of all compounds, not individual thresholds. If PFOS is 100 ug/kg and PFOA is 50 ug/kg, the concentration level regulated should be 150 ug/kg. This should apply to all 40 PFAS compounds, not just the two outlined in MPCA's strategy.
Which compounds should MPCA sample?
Sampling should include all 40 PFAS compounds for which EPA has analytical techniques. At a minimum, the 6 compounds tested in drinking water for the National Primary Drinking Water Regulation should be included in the testing:
• Perfluorooctanoic acid (PFOA)
• Perfluorooctane sulfonate (PFOS)
• Perfluorohexane sulfonate (PFHxS)
• Perfluorononanoic acid (PFNA)
• Perfluorobutane sulfonate (PFBS)
• Hexafluoropropylene oxide dimer acid (HFPO-DA)
In addition to the 6 PFAS compounds tested in community drinking water systems, MPCA should add two additional analytes that are known to partition to sewage sludge:
• Perfluorodecanesulfonic acid (PFDS)
• Perfluorodecanoic acid (PFDA)

Sewage sludge contains many more PFAS than just PFOS and PFOA. These other PFAS behave in our bodies like PFOS and PFOA, causing harm. Regulating just two PFAS is not protective of animal or human health.
Protecting Farmers
With the amount of information we currently have on risks to human and animal health from PFAS, we as a state cannot in good conscience pass sludge containing PFAS onto farmers and landowners. Even informing these farmers and landowners of the PFAS concentrations in the sludge they are receiving is too little action. Most people do not know what 50 ug/kg of PFOS means. If the state insists on allowing PFAS levels in fertilizer sludge, information on PFAS contamination should convey the true risks associated with a toxin whose risks increase cumulatively.
Under the proposed strategy, we are setting farmers up for litigation in the future. As more is learned about the risks associated with PFAS, levels in food will likely be regulated more strongly in the future. As PFAS cannot be removed from soil and application of PFAS-impacted sludge results in cumulative concentrations of the compounds, it is likely that farmers will not be able to comply with regulations, putting their livelihoods at risk. This information should be clearly shared in multiple languages with farmers as a part of acknowledging all risks associated with biosolid application.
MPCA should enact a moratorium on land application of biosolids
PFAS contamination is not the only risk associated with the land application of sludge. Sludge often contains large concentrations of microplastics, which carry risks of damage to water, soil, and human and animal health. In the absence of regulation of microplastics, we should not be knowingly spreading sludge that has multiple risks associated with it.
Additionally, sewage sludge is known to contain unregulated short-chain PFAS, which attaches to water, creating risks to those who use local groundwater. Additional steps that should be undertaken before land application is allowed include:
(1) Human health risk assessments are conducted for microplastics and PFAS in sludge;
(2) Animal health risk assessments for microplastics and PFAS are completed, with a focus on livestock;
(3) PFAS contamination levels for food have been established by the federal government;
(4) Remediation of PFAS-contaminated land is available and affordable for farmers and landowners;
(5) and MPCA can prove that the land application of sewage sludge will not contaminate groundwater or surface waters with PFAS.
Conclusion
Thank you again for the opportunity to comment on MPCA's strategy for applying biosolids and PFAS. If you have any questions, I am happy to discuss our suggestions further. We urge a precautionary approach going forward in regards to biosolids contaminated with PFAS. As we learn more about PFAS, we learn more about how damaging it is to human and animal health, as well as the environment. We should not inadvertently create a worse environmental crisis than we already have by rushing contaminants onto the same land where we grow our food and where our farmers live. We have provided additional reading on PFAS, sludge, and associated issues at the end of these comments.
With appreciation,
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Relevant Literature

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