From:	Leslie Everett
To:	Felix-Gerth, Annie (MDA)
Cc:	Stoddard, Dan (MDA)
Subject:	Comments on the draft Nitrogen Fertilizer Management Plan
Date:	Thursday, October 03, 2013 11:28:26 AM

My comments on the draft Nitrogen Fertilizer Management Plan are as follows:
The plan needs to differentiate between a "pollutant" and a "health risk limit", and align the phases (or levels) of the plan to reflect that differentiation in the law.

In the Groundwater Protection Act, 103H (https://www.revisor.mn.gov/statutes/?id=103h)
Quoting from the section on definitions:
"Pollutant" means a chemical or substance for which a health risk limit has been adopted.
"Pollution" means degradation of groundwater by a pollutant.
"Degradation" means changing groundwater from its natural condition by human activities.
"Health risk limits" means a concentration of a substance or chemical adopted by rule of the commissioner of health that is a potential drinking water contaminant because of a systemic or carcinogenic toxicological result from consumption.

The Minnesota Department of Health (MDH) has set a standard of 10 milligrams per liter for nitrate in drinking water. see:
http://www.health.state.mn.us/divs/eh/hazardous/topics/sacnitrate.html
The Federal drinking water standard is 10 mg/l
10 mg/l is the Health Risk Limit (HRL) (confirmed by MDH staff).

Therefore, the threshold for pollution (degradation) is lower than that for an HRL and voluntary action to prevent a rise to the level of the HRL should be exhausted well before reaching that level (5% of the wells at or above 10 mg/l). I would suggest that the intensive BMP promotion begin when 5% of the wells exceed 7ppm or some lower level.

If the nitrate level reaches the HRL (5% of the wells at or above 10 mg/l), then a first level of required practices should be immediate. For corn production, this should include preclusion of fall N fertilizer application prior to soil temperatures lower than 50 degrees F at six inch soil depth, require application with a nitrification inhibitor if fall applied, and follow UM rate guidelines. Similar first level required practices (e.g. slow-release N-fertilizer and following rate guidelines) should be determined for other crops.

Where the HRL continues to be exceeded, then fall application for corn should be precluded. None of these required practices would be out of the norm for best management practices in vulnerable groundwater areas and are not a significant burden for agricultural producers. We should recognize that under the state feedlot rules, nitrogen rates are already regulated for fertilizer wherever manure is applied.

For areas above the HRL when the plan goes into effect, then one cycle (maximum of four years) of voluntary BMP promotion and monitoring may be necessary before moving to mandatory practices, since that appears to be a requirement of the law.

A first line of enforcement through the licensed commercial fertilizer dealers and

applicators should be considered.They could be required to follow the required practices as a condition of the license in areas declared by MDA to be above the 10 mg/l limit.

As stated in the Roseville public meeting, there will be cases where row crop best practices will not be adequate to lower nitrate levels below the drinking water standard. At that point, if alternative cropping systems are refused, then purchase of an easement to change the plant cover, or provision of an alternative drinking water source may be necessary.

Finally, I agree with the comment of Linda Meschke in the Roseville public meeting that MDA should not continue to build a parallel Extension service with yet more agronomist hires for BMP promotion. MDA should contract with UM Extension for that work, as it did in the 1990s and early 2000s.

These are my personal observations, not a University of Minnesota position.
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