From: Peter Anthony
To: Gunderson, Larry (MDA)
Subject: Nitrogen Fertilizer Rule Comments
Date: Friday, August 25, 2017 2:00:04 AM

Dear Supervisor Gunderson,

Thank you for the opportunity to comment on the proposed MDA Nitrogen Fertilizer Rule. After reviewing the proposed rule along with the draft vulnerable groundwater map, I am concerned that the proposal has serious flaws that would lead to future problems of all sorts, ranging from headaches to misallocation of resources and economic loss for the public, for farmers, and for the Department of Agriculture.

First, there are scientific problems of scale. One, the proposed rule states that University of Minnesota rate guidelines should be implemented on a township scale. These rate guidelines have been developed by averaging nitrogen response curves over many locations and many years. They are not designed to state the correct nitrogen rate every year on a township scale, let alone a site-specific scale. Second, the draft vulnerable groundwater map identifies many areas that are only fractions of an acre in size as being vulnerable groundwater areas. The soil surveys for most of the state of Minnesota were created at a scale of 1:20,000, and the precise identification of vulnerable groundwater areas of such small size is a misapplication of the NRCS soil maps.

Second, there are scientific problems of method. One, 1573.0050 A (4) (b) i. calls for use of nitrogen for corn using, at a minimum, the 0.10 N/corn price ratio as defined in Fertilizing Corn in Minnesota. This is arbitrary and a complete misuse of these authors' scientific work. Two, the details of the township well testing program indicate that wells testing high in nitrate, triggering a site visit from MDA personnel, will be flushed for 15 minutes prior to sampling. This flush time has been found to be appropriate in some cases for high-capacity wells but inadequate in others (Zlotnik et al., 1993, Sampling of Non-Point Source Contamination in High-Capacity Wells). In most Minnesota rural households, 15 minutes is unlikely to completely purge the pressure tank and plumbing, let along the well and the water in the aquifer surrounding the casing. The result is over-estimation of groundwater nitrate levels.

Third, a very serious problem is a problem of the unknown. 1573.0010 Subpart 12 defines Nitrogen fertilizer best management practices as "practices for nitrogen use developed and adopted by the commissioner…." It is extremely troubling that not only are these practices unstated, but that the procedures for establishing them are unstated as well.

There are a number of other details that are confusing or appear to be worded without much care. For example, 1573.0030 Subp. 2. E. appears to limit fall application of nitrogen for research purposes in vulnerable groundwater areas to 20 acres or less. Twenty acres of research on fall-applied nitrogen in vulnerable groundwater areas will not get us very far. As another example, 1573.0050 A (4) (b) i. reads, as currently written, that nitrogen rates below the University of Minnesota acceptable range are equally as non-compliant as rates exceeding the acceptable range.

In summary, the proposed rule has serious flaws and should not be finalized. The Department of Agriculture has not provided evidence linking private well nitrate levels to agricultural nitrogen fertilizer use, nor has it shown that implementing the proposal can have any effect on private well nitrate levels. Some of the flaws in the details of the rule have been listed above, and I will not tire you with a more exhaustive list.

Sincerely,
Peter Anthony
Ph.D., Soil Science
Farmer, Nicollet County, MN

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Peter M. Anthony
42505 County Road 15
Saint Peter, MN 56082
peteranthony100@hotmail.com