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RE: Comments on the draft 2013 Nitrogen Fertilizer Management Plan.

The undersigned appreciate the opportunity to comment on the draft 2013 Nitrogen Fertilizer Management Plan (NFMP) that the Minnesota Department of Agriculture (MDA) is proposing. After reviewing the draft 2013 NFMP, questions arise as to the need for a revision of the 1990 plan. The 1990 NFMP is as valid today as it was in 1990. The 1990 plan was written with significant input from agriculture stakeholders and was designed to accommodate future changes in agricultural practices. Nitrogen fertilizer use in Minnesota has been flat for the last 25 years, while yields have increased significantly. Nitrogen fertilizer use efficiency today is probably as high as scientific processes and technology allows. Minnesota farmers are not interested in using more nitrogen fertilizer than is needed to optimize economic yields for the crops they produce. Competitive pressures prevent them from doing otherwise.

Farmers in Minnesota use lower rates of nitrogen per acre than farmers in any of the surrounding states with similar yield levels. This is due to the soil and climatic conditions that exist in Minnesota, as well as, the need to maximize economic returns. Both over and under application of nitrogen have a negative impact on yields and quality of crops grown in Minnesota; and therefore, there is no economic incentive to over apply nitrogen. If anything, nitrogen fertilizer rates are below optimum for the yields that are now being produced. In fact, a five year MDA study indicates this. Higher economic yields were obtained from rates that were 30-40 lbs/acre higher than the existing University of Minnesota nitrogen fertilizer guidelines.

There was no evidence provided in the draft 2013 NFMP to indicate that groundwater nitrate problems are increasing due to the use of nitrogen fertilizers. Therefore, we question the MDA motives in redoing the 1990 plan with the inclusion of a phased approach to regulation of nitrogen fertilizer that is outlined on pages 10, 76, 78 & 130 of the draft. The Phase Approach being proposed was adapted from an approach that is used in Nebraska. The Nebraska situation is unique and there are not areas in Minnesota that are comparable to the Nebraska region which has high nitrates in groundwater. Irrigation wells in this Nebraska region are in very shallow groundwater aquifers, and an established linkage between the irrigation well high nitrate levels versus past intensive irrigation and excessive nitrogen fertilizer usage had previously been documented. The type of irrigation management and nitrogen use that helped create the Nebraska situation has never existed in Minnesota. In Nebraska, irrigation well concentrations are the triggering mechanism for phasing in regulation, not unrelated drinking water wells, as is being proposed in Minnesota.

The draft NFMP (on pages 10, 76, 78 & 130) addresses mitigation phases and criteria that are part of the proposed regulatory process. Private drinking water wells tests will be used to trigger the various phases of the process. Serious concern exists over the lack of scientifically established Cause & Effect linkage of high nitrate wells to nitrogen fertilizer usage. There are other well-established causes of wells testing high in nitrates. These causes include contamination from other nitrogen sources, such as, nitrates produced from soil organic matter mineralization, septic systems, manure, atmospheric deposition, etc. The recently released

Minnesota Pollution Control Agency (MPCA) Nitrogen Report indicates that more than 75-80% of the source nitrogen, which can impact ground or surface waters, is from non-fertilizer nitrogen sources. Most of this comes from soil organic matter mineralization. The MDA does not have statutory authority over the naturally occurring soil organic matter mineralization process.

There can be other causes of high nitrates in wells, in addition to all the non-fertilizer nitrogen sources, that can cause high nitrates. These causes include poor well construction, improper well placement, cracked or rusted out casings, dug wells and many other possible causes. Trying to relate drinking water well nitrates levels to nitrogen fertilizer use is a flawed concept. Existing drinking water well nitrate levels should not be considered as an indicator of groundwater nitrate levels because of the site-specific problems that exist with them. We are very concerned that the use of existing drinking water wells in the Phased Approach, as is being proposed in the 2013 NFMP, is likely to trigger nitrogen fertilizer regulations when nitrogen fertilizer is not the problem.

There are better approaches to monitoring groundwater nitrate levels. One approach would be to install properly constructed and designed monitoring wells in various groundwater aquifers around the state. These monitoring wells would need to be constructed and properly placed in order to account for all the nitrate-nitrogen sources and various pathways of nitrates to the monitoring well.

In summary, the township well testing program being proposed in the draft 2013 NFMP which would be used as part of the phased approach to regulation of nitrogen fertilizer has serious technical and scientific flaws and is likely to result in serious economic harm to Minnesota agriculture. It is also unlikely that this program would have any positive impact on groundwater quality. The MDA needs to rethink whether the 1990 NFMP needs to be revised and if so, it needs to fully engage the agricultural community as part of that revision similar to what was done in 1990.

Sincerely,