From:	Gyles W. Randall
To:	Felix-Gerth, Annie (MDA)
Subject:	NFMP comments
Date:	Tuesday, October 08, 2013 5:26:49 PM

Annie;

After attending the public comment session at Rochester on Sept. 23, and reading much of the 2013 draft NFMP, I am providing some comments that may be helpful as you revise the plan.

First, let me say THANKS for the outstanding presentation by the MDA folks at Rochester. The slides and oral presentation were superb. No one should have been confused because the clarity and explanations were first class. I also feel the 130-page plan was very well written and organized.

The comments below are in no particular priority order:

1) Nitrogen application rates used for corn in Minnesota have been increasing (the report used "slightly") rather steadily in the last 20-30 years as shown in Figs. 22 & 27. The rate of increase was greater than IA, IL, and WI (Fig. 22). This seemed to be down played in the presentation. If source reduction is the primary and most effective method to reduce nitrate concentrations in water (excluding switching from corn to perennials), the fact that N rates are steadily increasing can't be excluded. Remove ND from Fig. 27 because no ND data are shown.
2) Figures 14 & 29 are bothersome. These figures suggest farmers are producing more corn from each pound of fertilizer N used and NUE is increasing with time. That is good, but that is not the whole story. These data imply to the uninformed that more N is being used by the corn crop and is being removed/exported in the grain, resulting in less N left over and available for leaching and loss to groundwater. Unfortunately, with higher grain yields, N concentration in the grain has decreased. We used to get 1.5 to 1.6% N in the grain (9.4 to 10.0% protein), and Iowa used a standard value of 1.53%. With today's high yields, we are fortunate to get 1.2% N. A few years ago, with very high yields at Waseca, we didn't even get 1.0% N. So in reality, just because more grain is being produced, doesn't mean we are removing more N from the field. Thus, from a WQ standpoint (N available for loss) the issue today is similar to the years when grain yield potential was lower. I feel this fact has to be pointed out to growers so they don't come away with the interpretation "if I grow greater corn yields, my N loss potential will be less".
3) The prevention action seems to be the weakest of the four actions. It relies on the adoption of BMPs and on educational programs to accomplish prevention. After more than 20 years of BMP education since the 1991 efforts, it appears that we have not made a lot of headway. Much time can pass when trying to measure the effects of BMPs on nitrate concentration in well water >100' deep. Shouldn't prevention be measured on the basis of the amount of nitrate percolating beneath rooting depth --- maybe nitrate losses at 8 to 10' instead of nitrate concentrations in deep wells? Furthermore, using the 4R's may not meet nitrate goals, especially when corn follows corn or is in rotation with soybeans and where livestock manure is commonly produced/used.
4) Can't the movement to phases 3 and 4 be averted or at least delayed substantially by just drilling deeper wells? In Nebraska, I don't believe drilling deeper wells occurs in their irrigated corn production area because of the nature of the water source. However, in SE Minnesota this could be a tool to be used to circumvent the process.
5) Based on the Rochester meeting, I'd like to see a bit more emphasis on linking surface water concerns to groundwater, especially with respect to the BMPs. I got the feeling that producers felt they were "off the hook" if they did not live in the Karst area. This also relates to fall application in SE MN. Seems as though dealers, farmers, and even MDA feel okay about fall N applied to "heavier" soils in SE MN. These soils are generally well drained and susceptible to leaching in the top 3 to 4 feet of soil before reaching the underlying Illinoisan till. With respect to well water, maybe so. But WRT to surface water, fall application is not a sound practice on these soils. Moreover, MDA and others are reporting escalating nitrate concentrations in SE

MN Rivers fed by groundwater springs.

6) The NFMP dwells a lot on prevention, assessment, monitoring, and mitigation but does not emphasize regulations enough. Regulation is mentioned but is not emphasized. Going back to the 1991 plan, much attention was given to BMPs. But when it came to Water Resource Protection Requirements, which were to implement restrictions when BMPs did not protect the water, very little was done. The current plan has many of the same similarities as the 1991 plan. We don't want the same to occur again. Even though regulating N usage is very difficult (except for time of application) and could contain significant bureaucracy, I hope that restrictions and regulations are clearly viewed as "sticks" to protect our ground and surface waters.

Thanks for the opportunity to share my thoughts. If you have questions, please do not hesitate to contact me.

Gyles

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