



“Building a Culture of Conservation ~ Farmer to Farmer: Iowan to Iowan”

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OPINION ARTICLE

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Iowa Nutrient Reduction Strategy: A Farmer’s Perspective

By Tim Smith

In recent years, I have become acutely aware of the role agriculture plays in the nutrient loading of Iowa’s waterways. Throughout my 35 years as an Iowa grain farmer, I had wondered what the source of nitrate was that affects the Gulf of Mexico so adversely. I thought I was doing everything “right” on my land.

I learned that I wasn’t after I participated in an Iowa Soybean Association on-farm drainage tile water monitoring program. The project demonstrated to me through monitoring that the tile water that passes through my farm and drains into the stream was considerably higher than the 10 mg/L standard the EPA deems as safe drinking water.

After that, I started following other sources of nitrate monitoring that are available to the general public through online USGS (United States Geological Survey) real time nitrate monitoring stations located in 15 of Iowa’s streams and rivers. Tracking nitrate levels from my own farm and those nitrate levels both upstream and downstream in the Boone River, I have to agree there is strong reason for alarm.

In May of 2013, nitrate levels in the Boone River at Webster City, Iowa, peaked at nearly three times the safe EPA level for drinking water. From April 1 through July 3, 2013, over 157,000 tons of nitrogen entered into nine of Iowa’s watersheds according to USGS nitrate data. These nine watersheds represent about half of the land in Iowa.

It was clear that Iowa's agricultural lands were the primary source of nitrogen found in our waterways. What I was doing on the land was a part of the problem. However, sounding the siren does little good without offering farmers viable solutions to help clean Iowa's waterways.

We need look no farther than the Iowa Nutrient Reduction Strategy (NRS). The strategy offers multiple solutions for helping farmers like me solve these decades-old problems. This science-based strategy demonstrates how individual farmers can collectively help reduce the nitrate load in our waterways, benefiting not only Iowans but also those affected by the Gulf of Mexico hypoxia problem.

Being silent on this issue, or pretending that farmers are doing everything they can, would be a disservice to fellow Iowans who may not have a grasp of the problem. If farmers don't decide to reduce nutrient losses under their own volition, people outside of agriculture will choose not to be silent and push hard for unproven regulations that will affect farming in adverse ways we haven't yet imagined.

While multiple commodity and agricultural groups have come to farmers' defense against regulations, nothing will defend farmers as much as their meaningful widespread participation in adopting the various practices in the Iowa NRS.

Through a Mississippi River Basin Initiative program offered to growers in the Boone River Watershed, I have implemented several of the practices that are outlined in the NRS. Through strip tillage, nutrient management, over-wintering cover crops and a woodchip bioreactor, I've seen firsthand that the goal of reducing nitrates by 41 percent in Iowa's waterways is attainable with widespread farmer participation.

That first year in the program, the tile water leaving my farm had higher nitrates than the stream where it drained. This was my baseline measurement to compare future data. There were no practices in place on my farm prior to the first year of nitrate data. After using cereal rye cover crops and delaying my nitrogen application to springtime or sidedress time, my peak nitrate levels were half of the stream's peak nitrate levels when comparing to upstream and downstream sampling points for two successive years. The cereal rye, while adding a living plant in my fields for additional months, also sequesters nitrates that would otherwise leave the fields. The woodchip bioreactor further reduces nitrate leaving the farm.

The benefits of the Iowa NRS go far beyond water quality. The practices I have implemented on my farm will conserve soil, improve soil health, and restore wildlife habitat. An added benefit is that farmers will be recognized as real stewards of the land!

The non-farming population expects us to do our part to protect our precious waterways. They are doing their part by tax dollar-supported funding of conservation practices. We need to do our part: produce food in a

positive sustainable manner. We should do that, not just because it is expected, but because it is the right thing to do for the health and long-term viability of Iowa's land.

Additionally, farmers and landowners must not ignore the economic costs of erosion to Iowa's valuable farmland. In a 2012 study, *The Value of Soil Erosion to the Land Owner*, by Dr. Mike Duffy, one can see the accumulated toll of soil erosion is considerable. In that light, I view cover crops as a type of "soil insurance." Farmers protect many areas of production with insurance, crop insurance, liability, fire and wind, etc. Why not use cover crops to protect our most valuable asset—soil—from loss due to erosion?

The same degree of widespread efforts that were made 40 years ago to curb soil erosion by leaving more residue on the surface must now be made in order to keep valuable nutrients from leaving our farm fields. Farmers, landowners, farm managers, agricultural suppliers, agricultural equipment companies, and legislators must all push, and push hard, for our Nutrient Reduction Strategy to succeed.

Right now the choice is in the hands of the farmers. If we do little or next to nothing, it is clear that new regulations will take away our choices. There are many who don't think farmers and the agricultural industry will voluntarily implement the practices we need to reach that 41 percent reduction of nutrients in our waterways. I think we can if everyone does their part. What do you think?

Tim Smith is a farmer partner in Wright County with Iowa Learning Farms.