

Proposal is Next Step to Improve Water Quality

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The Iowa Department of Agriculture and Land Stewardship and Iowa State University have been looking at ways to reduce nutrient loading in our state's waterways for the past 22 years. After these years of study, it's time to move forward on a pilot project now.

To provide a little background, north central Iowa has a significant amount of tile drainage, which is a system of pipes running underneath farm fields that drain standing water from the field and allow agricultural production.

Research to understand the environmental impact of this drainage has shown both positives and negatives. It has shown that tile drained fields have less surface runoff, and as a result allow less phosphorus to leave the field. However, the water that leaves the field through the tile lines has a higher nitrate concentration.

This nitrate loading is a concern to us in Iowa as it impacts our water, but is also a concern downstream in the Gulf of Mexico, where there is a large hypoxic area, or "Dead Zone," that is attributed to the nitrogen and phosphorus from the Mississippi watershed flowing into the Gulf.

Research by ISU shows that the level of nitrates in tile drainage water can be dramatically reduced if that water is allowed to enter a wetland before being released to our state's rivers, lakes and streams. Research also suggests that updated drainage designs could substantially reduce surface runoff and field-to-stream phosphorus loading.

The proposed pilot projects would build up to 25 of these wetlands as part of the state's existing drainage infrastructure. Scientists at Iowa State and other agencies and institutions will then monitor these wetlands and the impact of drainage to evaluate the environmental and ecological benefits and the impact on surface runoff and sub-surface flow from rainfall events.

Existing research shows that these types of wetlands reduce nitrate loading by more than 50 percent and when combined with drainage systems both surface water runoff and phosphorus loss to Iowa streams are projected to be cut in half. Significant reductions in nitrous oxide gas emissions are also expected.

This proposal has been recognized by the EPA and also the Farm Foundation as the leading national model to address hypoxia in the Gulf of Mexico.

If the benefits from these pilot projects are confirmed, there is the potential for them to be incorporated into many of the more than 3,000 tile drainage systems throughout the state. And, once the pilot project is over, they would be installed with money from the landowners, not the government.

Iowa is a national leader in agricultural production, and now we are leading the nation in the development of new technologies to address environmental issues. We need to continue to move

forward with proven technologies that allow our farmers to work and continue to better protect our natural resources.

If you have questions about the science being used as the basis for this proposal we hope you will visit www.IowaAgriculture.gov and click on the “Water Quality Wetlands” link under “Hot Topics” for more information.

A recent guest editorial on these pages had a headline that urged, “Don’t rush to redesign farm drainage.” We hope this information helps answer any concerns about this proposal. It is based on sound science and has the potential to address problems, not make them worse. This is not a rush, but a significant step forward in our effort to better protect the water quality in Iowa and downstream.

Water quality wetlands have demonstrated great potential, so let’s not stop because of unanswered questions, rather let’s answer them and help farmers continue their work to better protect our state’s air, soil and water.