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News Column
University of Nebraska Lincoln Extension
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GULF HYPOXIA AND GAGE COUNTY

A recent article in the “Confluence Newsletter” captured my attention. Nebraska has been fortunate not to be included in the twelve states in the Upper Mississippi and Ohio River Basins trying to plan and implement programs to lessen nitrogen and phosphorus losses to the Gulf. The Gulf of Mexico Hypoxia issue dominates water quality concerns within the Mississippi River basin. This does not mean Nebraska is free to pollute the waters of the state. We have plenty of programs in place to address water quality and quantity throughout Nebraska.

A few years back and Omaha World Herald writer was commenting on Nebraska’s lack of attention in managing our groundwater. I was at the first groundwater regulation meeting in a packed Imperial High School Gym in 1977. We have been managing groundwater use for irrigation across Nebraska ever since. In the next, few years the Lower Big Blue Natural Resources District will likely address this issue as the water level trend line in parts of the district is nearing the trigger level.

We are not alone. For the Mississippi River Alluvial Aquifer underlying Arkansas, Louisiana, Mississippi and Tennessee, irrigation is the largest use of groundwater. In 2015, the State of Arkansas updated its State Water Plan, a document built on public input and supply and demand projections of water resources through 2050. The plan delivered sobering projections for groundwater decline if current withdrawal rates continue. It is clear that lower and more efficient groundwater management strategies are needed in many areas of the country.

We have benefited in Southeast Nebraska from converting furrow irrigation to more water efficient pivot systems. We have benefited in increasing water holding capacity and water intake rates in our silty clay loam soils. The water intake rate of our soils is so low that just minor improvements have led to significant yield increases on dryland crops and reduced water use on irrigated crops. Water mark sensors have also helped producers reduce water use in the early and late part of the growing season. Irrigated acres have been expanding, which is counteracting the water savings and will bring use to groundwater use restrictions. These are needed to protect the water resource in the area. Surface water use is regulated by a Blue River Basin Compact agreement with Kansas.

Data from the groundwater management areas for nitrate and the Beatrice Wellhead Protection area indicate stable nitrate levels and maybe the first indication of declines. Farmer and land owner interest in soil conservation, soil health, cover crops, no-till farming and buffer strip use are positive indicators of our ability to keep nitrogen and phosphorus on our farms rather than in the creeks headed for the Gulf.

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