Phosphorus part of water-quality puzzle

The discussion of water quality in Iowa and many other Midwestern states has often centered on nitrates, but phosphorus can also be a concern as well.

"We tend to think of phosphorus as immobile," says John Kovar, a research soil scientist with the National Laboratory for Agriculture and the Environment (formerly known as the National Soil Tilth Lab) at Iowa State University.

But scientists accept that phosphorus is a water quality issue and that it is not immobile, Kovar says. Most water researchers understand that phosphorus is a part of the puzzle when it comes to water quality.

Phosphorus issues will vary according to the geography of the area and the farming practices commonly used in that area.

It may be an over-simplification, he says, but nitrates tend to be the bigger problem in flat areas where there is a large amount of tile drainage. That explains why officials in Des Moines talk mostly about nitrates because the city gets most of its water supply from the flat and heavily tiled part of North Central Iowa.
The same is true for large parts of Illinois and northern Missouri. But more hilly areas, such as the southern half of Missouri, may see a greater concern with phosphorus because erosion off of the hills is a bigger concern than water flowing into drainage tiles.

The Iowa Nutrient Reduction Strategy recognizes that fact and does include goals for phosphorus reduction as well as for nitrate reduction in the water.

But water quality strategies in some other states may vary to recognize which item is more of a concern in that area.

And it is no secret that environmental groups are not completely convinced that today’s water quality strategies are getting the job done.

The Iowa Environmental Council and the Mississippi River Collaborative (MRC) released a report on Nov. 17 asking the federal Environmental Protection Agency (EPA) to take specific actions to regulate excess nitrogen and phosphorus pollution in state waters.

“We really need to have a water quality plan for each farm,” says Jerry Peckham, a farmer from near Jefferson in Iowa, who spoke during a teleconference held by the groups.

Susan Heathcote, water program director for the Iowa Environmental Council, says the problem varies from region to region depending on the geography, with tile drainage being a bigger issue for nitrogen and soil runoff being the bigger concern with phosphorus.

Both problems need to be addressed, she says. But she adds that the groups aren’t demanding that all farmers be required to use the same practices. Instead, she says, the idea of better goals and measurements, as well as efforts to get farmers involved, are important.

Matt Rota, senior policy director for the Gulf Restoration Network, says it is important that taxpayer dollars are spent in a way that brings about results.

“Farmers aren’t the villains,” he says. “They aren’t.”

Kovar, for his part, says more research is needed into how nutrients move and what the impact of different practices would be on water quality. Many different types of farm practices could help reduce phosphorus problems and practices that reduce soil runoff are definitely helpful, he says.