

MU Receives National Conservation Innovation Grant

COLUMBIA, MO.

The University of Missouri has received a Conservation Innovation Grant from the USDA Natural Resources Conservation Service (NRCS) to fund a three-year study of nutrient management.

“The grant is focused on the phosphorus index, a tool used by farmers, particularly ones applying manure, to assess the potential for phosphorus loss from fields,” said MU Extension nutrient management specialist John Lory. “These P indices were developed 10 to 15 years ago and there are some concerns that they are not operating appropriately, so the Conservation Innovation Grant we put together is aimed at assessing how well the phosphorus index is working in Missouri, Iowa, Nebraska and Kansas.”

Phosphorus is an important nutrient for crop production. It is one of the major potentially limiting nutrients on farmers’ fields. It is also an important nutrient in terms of water quality.

“We have a dual focus when it comes to phosphorus,” Lory said. “On one side, we are trying to make sure our crops have the nutrients they need, but on the other side, we’re trying to keep that phosphorus in place. The phosphorus index is a tool to help farmers identify strategies that will maintain phosphorus in their fields and not have it run off into water.”

Phosphorus indices were originally developed as part of NRCS’s effort to implement good conservation practices on farms. The indices are required for many farmers who work with cost-share dollars from NRCS through the Environmental Quality Incentive Program. Lory says that NRCS has received feedback and criticism that phosphorus indices are not working appropriately, which inspired the agency to use funds from the Conservation Innovation Grant program to make sure the phosphorus indices

are working as expected.

Existing water-quality data is being used to calibrate a computer model. Researchers will test how intensively the computer model needs to be calibrated to effectively evaluate a phosphorus index. It’s a lesson that Lory says will not only be important for the region, but nationally as well.

Phosphorus indices are also required for farmers spreading manure on fields controlled by concentrated animal feeding operations. The tool can tell them where manure should not be spread, where it should be limited and locations that are optimum for spreading based on the phosphorus situation.

“Obviously, if that tool is working well, we are making good decisions and we can justify saying ‘that is not a good spot,’” Lory said. “If you have a tool that is giving the wrong answer, then we are having farmers jump through hoops that really they shouldn’t be. It is important that we have confidence that the tools we offer – particularly in a regulatory environment and when there are dollars on the line – are behaving properly, and this proposal will allow us to gain that confidence.”

Two other grants are funding similar studies in the Chesapeake Bay region and Southern states.

Lory says this is a great opportunity for collaboration.

“We have collaboration from the universities in the four states. We also are collaborating here with the Agricultural Research Service, Extension and University of Missouri faculty,” Lory said. “Another layer of collaboration is that we have designed into the project to communicate with the other funded CIG proposals, so this is truly a national effort that is integrating efforts at many different levels.”



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