

Nutrient Management Education Is Enhanced With Cost Share and Incentives

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Abstract

Across the nation, elevated soil phosphorus (P) levels are common in agricultural fields located close to poultry, swine or dairy units. The Loose Creek Watershed, located in Osage County, Missouri has a significant concentration of turkey and swine enterprises which have the potential to negatively impact water quality. The Osage County Soil and Water Conservation District (SWCD) supervisors recognized the need to address this water quality issue and responded by forming a team with Natural Resources Conservation Service, Missouri Department of Natural Resources (MDNR) and the University of Missouri Extension (UME).

Supported by funding from an EPA 319 grant, the county SWCD supervisors began an aggressive education/demonstration effort to help livestock producers in the watershed understand the negative impacts high soil phosphorus levels can have on water quality.

Landowners within the watershed who received assistance with building stackhouses, composters and other water quality enhancing practices hosted field days and provided tours. In conjunction with the 319 grant, the SWCD supervisors received a MDNR grant that provided cost share and incentives.

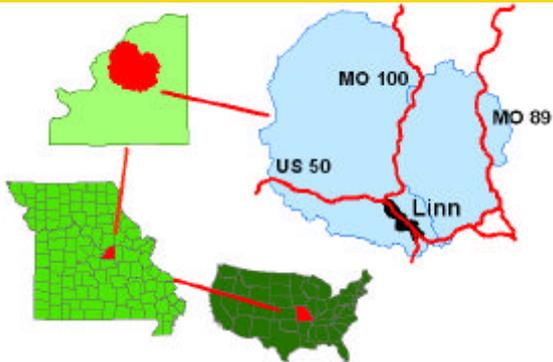
Guided by a producer steering committee, the team designed and implemented a set of cost share practices and best management practice (BMP) incentives. The intent of the cost share and incentives was to encourage livestock producers to implement nutrient management plans and reduce the amount of phosphorus being applied to soils already exceeding the agronomic need for phosphorus. These nutrient management plans also helped producers reduce fertilizer inputs by crediting manure nutrients against crop production requirements.

In the Loose Creek Watershed, the education and cost share grants helped attain the following: over 9,800 acres were soil tested, incentive payments for nutrient management, manure utilization practices impacted over 9,000 acres, and 11,000 tons of manure were not "applied as usual", but were applied to fields with an agronomic soil phosphorus requirement.

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Loose Creek Watershed

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Situation

The increasing soil phosphorus levels typically observed when the same fields are fertilized regularly with livestock manure over a long period of time can become a water quality problem. The Osage County SWCD board asked NRCS and UME for assistance in applying for an EPA 319 Education and Demonstration Grant to address the high soil P concerns in the watershed. As the 319 grant neared it's end, the board decided to apply for a MDNR Ag Non-Point Source grant (AgNPS) which would provide cost-share and incentive funds to encourage landowners to be proactive in P management in the watershed.

EPA 319 Education and Demonstration Grant

Efforts in the watershed began with a 5 year, \$492,000 education and demonstration grant from EPA 319 grant funds. The 319 grant monies were used for personnel support, educational events, manure management equipment, and pilot/demonstration practices on producers' farms. SWCD, NRCS and Extension personnel provided landowners with educational opportunities through field days, workshops, demonstration sites and one on one assistance.

Education efforts were focused on the information and skills needed for producers to effectively utilize manure nutrient management practices on their farms. Producers cooperated in building a poultry litter stackhouse as well as a poultry and a swine composter as demonstrations.



Demonstration cooperators begin sampling manure before application.



Demonstrations included calibration of manure application equipment.



Producers at field day observing the operation of lagoon pumping equipment. The equipment was purchased with grant funds and made available to producers in the watershed for a minimal rental fee.

Loose Creek Watershed Facts

Acres			
Total	Pasture/Hay	Crop	Woodlands
45,000	16,700	5,900	19,200
Number of			
All Farms, #	Turkeys, hd	Swine, hd	Cattle, hd
350	1,000,000	40,000	5,800

MDNR AgNPS Cost-Share and Incentives Grant

The SWCD board with the input from a producers' steering committee and technical staff developed a list of cost-share practices and incentives to be funded by the 8 year, \$1.2 million grant. Producers received over \$870,000 worth of cost-share and incentive funds to implement Best Management Practices to improve water quality and decreased soil erosion.

Within the watershed, producers' attitudes and practices have changed during the past seven years. More turkey litter is being transferred to other farms that need phosphorus. Landowners are more aware of the importance of soil testing and litter/manure analysis. Producers relying on manure to meet their fertilizer needs are applying less commercial fertilizer.

One of the most significant lessons learned was the importance of involving the landowner in the planning and implementation of the practices. Improved educational efforts about nutrient management would have prevented some of the problems experienced during the project.

Cost-Share and Incentives

Practice	Completed	Cost-Share \$
Composters & Stackhouses	16 buildings	296,580
Pasture & Hayland Management	10,435 acres	72,120
Spring Development	6 springs	2,350
Nutrient Management	2,710 acres	45,700
Waste Utilization	15,600 acres	154,260
Manure Transfer	11,213 ton	70,150
Other	NA	216,060
Total		\$857,220

