



## **USDA-CSREES 2007 National Water Quality Conference**

### **Reducing Phosphorus Loss to Surface Waters in Crop-Ethanol-Livestock Ecosystems of the Midwest**

Much of the corn produced in the Midwest is used for ethanol production, and the distillers grain or gluten feed, which are high in P, is feed to livestock. This feeding results in high P diets and increased manure P excretion requiring more land for agronomically and environmentally sound use of the manure. This project integrates research and extension activities to address this problem through four interventions. Both the wet and dry milling processes for converting grain to ethanol have been characterized for water and P content at different stages of the processes, and means of P removal from the streams are being evaluated. Recognizing the importance of wide distribution to manure P to cropland, a decision tool is being developed to address the economic efficiency of composting. Land application management practices are being evaluated. Extension programming enables rapid dissemination of the information to producers and their advisors and to the ethanol industry, as well as regular feedback for evaluation of project outputs and directions. The integrated project is supported by NRI-Managed Ecosystems.

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