



## **USDA-CSREES 2006 National Water Quality Conference**

### [Managing Nitrogen Losses From Agricultural Drainage](#)

Drainage is a critical component of high-yielding crop production on more than 60 million acres in the United States. However, nitrate loss from drained land has been shown to be an important contributor to nitrate loads in river basins, and has been linked to hypoxia in the Gulf of Mexico and elsewhere. The traditional goal of drainage design, which was to remove as much water as possible as quickly as possible, is therefore being reconsidered. New techniques are being developed to minimize the negative environmental impacts that have been associated with drainage, while maintaining drainage intensity during critical periods to allow high-yielding crop production. This presentation will provide an overview of seven key technologies that are being researched around the U.S. These are: drainage water management, denitrification walls, shallow drains, recycling water, constructed wetlands, bioreactors, and improvements in the ditch design. These improvements to drainage system design complement changes in the cropping system (such as fertilizer management and including cover crops and perennials) to reduce nitrate loss from intensive cropping systems on drained land.

Author: Jane Frankenberger