Recycling of Runoff and Drainage Water in the Midwest U.S. (S06-fausey151827-Poster)

Authors:

- N.R.Fausey - *USDA-ARS*
- B.J.Allred - *USDA-ARS*
- L.C.Brown - *Ohio State University*

Abstract:

An innovative agricultural water management system has been developed and is being tested for reduction of nonpoint source pollution of surface water streams. The system includes a constructed wetland and a water storage reservoir linked to subsurface pipes used at different times to drain or irrigate the root zone. Runoff and subsurface drainage are collected in the wetland. Natural processes partially treat the water for removal of nutrients, pesticides, and sediment. Water is held in the reservoir until needed to irrigate crops or released to the stream to create additional treatment and storage capacity. The integration of the components allows the WRSIS to operate in a closed loop mode most of the time with water released outside the system only under controlled circumstances. Expected benefits include greater crop yields, additional wetland acres and wildlife habitat, decreased flooding potential downstream, more carbon sequestration, and reductions in the amount of nutrients, pesticides, and sediment discharged into local waterways. Construction costs for this type of system will need to be partially reimbursed through public funding to ensure the environmental benefits.

Corresponding Author Information:

Norman Fausey
USDA-ARS
590 Woody Hayes Drive
Columbus, OH 43210

phone: 614-292-9806
fax: 614-292-9448
e-mail: fausey.1@osu.edu

Presentation Information:

Presentation Date: Wednesday, November 13, 2002
Presentation Time: 4:00-6:00 pm
Poster Board Number: 2203

Keywords:

water management, drainage , subirrigation, water quality