Field Evaluation of Open-Ditches for Water Quality and Water Quantity. (S06-strock105802-Poster)

Authors:

- J.S.Strock - *University of Minnesota*
- G.Sands - *University of Minnesota*

Abstract:

The Minnesota River carries a considerable amount of sediment, phosphorus, and nitrogen from central and southwest Minnesota to the Mississippi River. Agricultural management practices have a significant influence on nonpoint source pollution and agricultural productivity. Surface and subsurface runoff is often carried by a network of open ditches to streams and rivers. An undeveloped potentially worthwhile strategy for improving water quality in Minnesota is the use of open-ditches for treatment of drainage runoff. Sediment and nutrient loading reduction may be achieved through a variety of treatment methods and/or drainage ditch modifications. Construction of two parallel, 200 m long, drainage ditches will provide research data used to identify the effectiveness of open-ditches to reduce sediment and nutrients from drainage runoff in an agricultural landscape. A paired watershed design will be used to evaluate the impact of drainage system design and management on water quality and quantity. Ditch management is categorized as hydraulic, vegetative, or management of the ditch geometry. Ditch system design and potential treatment strategies will be presented.

Corresponding Author Information:

Jeffrey Strock
University of Minnesota
23669 130th Street
Lamberton, MN 56152

phone: (507) 752-7372
fax: (507) 752-7374
e-mail: jstrock@soils.umn.edu

Presentation Information:

Presentation Date: Wednesday, November 13, 2002
Presentation Time: 4:00-6:00 pm
Poster Board Number: 2201

Keywords:

Open-ditch, water quality, nutrient cycling, wetlands