Conservation Tillage and Water Quality in Cotton Production. (S06-mcconnell100320-Poster)

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Abstract:

Various tillage operations employed in cotton production may cause soil erosion and have adverse environmental consequences. Research was conducted to determine the effect of conservation tillage on sediment loading and the quality of tail water runoff from precipitation and irrigation. These tests of runoff water quality were conducted on large, producer fields farmed under conservation and conventional tillage. Sediment loss in runoff water was found to be dependent on tillage, source of water (rainfall or irrigation), and rainfall intensity. Generally, runoff water from conservation tillage cotton fields tended to have less sediment loss than conventionally tilled cotton fields. Field tail water from rainfall was generally found to contain more sediment than irrigation water. Presumably, this is due to droplet impact on the soil surface dislodging particles. The more intense the rainfall, the greater the concentration of sediment found in the tail water.

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Presentation Information:

Presentation Date: Tuesday, November 12, 2002
Presentation Time: 2:00-4:00 pm
Poster Board Number: 1830

Keywords:

Soil Conservation, Water Quality, Cotton