Irrigated Cropping System Effects on Soil Organic Matter Values Determined by Weight-Loss-on-Ignition. (S06-varvel113841-Poster)

Authors:

- G.E.Varvel* - *USDA-ARS, Lincoln, NE*
- W.W.Wilhelm - *USDA-ARS, Lincoln, NE*

Abstract:

Understanding N fertility and crop rotation effects on changes in soil organic matter in irrigated cropping systems is required before producers or regulators can make informed decisions regarding management or policy. An experiment initiated in 1991 with 3 cropping systems, (i) continuous corn, (ii) continuous soybean, and (iii) corn-soybean, with five N fertilizer rates at Shelton, NE was used to collect data to for preliminary investigation into the effects of crop rotation and N fertilizer on soil organic matter in irrigated systems. Soil samples in pre-selected cropping system and N fertilizer treatments were taken in the spring of 2001 from the 0-7.5, 7.5-15, and 15-30 cm depths and analyzed for organic matter by weight loss on ignition (4 hours at 450 degrees Centigrade). Results indicated cropping system and N fertilizer significantly affected organic matter levels in the surface 0-7.5 and 7.5-15 cm depths, but not at the 15-30 cm depth. Preliminary analyses indicated significant increases in organic matter were obtained in tilled irrigated cropping systems with adequate levels of N fertilizer. Further investigations are in process.

Corresponding Author Information:

Gary Varvel
USDA-ARS
PO Box 830934
Lincoln, NE 68583-0934

phone: 402-472-5169
fax: 402-472-0516
e-mail: gvarvel1@unl.edu

Presentation Information:

Presentation Date: Monday, November 11, 2002
Presentation Time: 9:30-11:30 am
Poster Board Number: 1329

Keywords:

cropping system, soil organic matter