Soil Moisture Retention Under No-Tillage: Influence of Poultry Litter. (S06-grove103817-Poster)

Authors:

- R.J.Walton* - *University of Kentucky*
- J.H.Grove - *University of Kentucky*
- E.M.Pena-Yewtukhiw - *University of Kentucky*

Abstract:

Poultry litter, applied to soils under no-tillage soil management, may give more benefits than those of a mere nutrient source. Previous observations have shown greater yields of corn and soybean where poultry litter had been applied and nutrients were otherwise non-limiting. The hypothesis that poultry litter was improving the soil plant available water holding capacity was evaluated on a long-term field study sited on a Maury silt loam (Typic Paleudalf) that had been under no-tillage soil management. Four rates of poultry litter had been used. In 2002, volumetric soil moisture was continuously monitored by time domain reflectometry at sites chosen to avoid any influence from convexity or concavity as well as any drastic changes in soil clay content. A severe drought dominated the 2002 summer season and although we had hoped to observe wetting and drying cycles in order to measure the elasticity of the treatments, the general drying trend observed suggests little benefit to long-term litter application at this site.

Corresponding Author Information:

John Grove
University of Kentucky
Agronomy Dep.
Lexington, KY 40546-0091

phone: 859-257-5852
e-mail: jgrove@uky.edu

Presentation Information:

Presentation Date: Wednesday, November 13, 2002
Presentation Time: 4:00-6:00 pm
Poster Board Number: 2207

Keywords:

plant available water, no-tillage, animal waste, soil quality