Quality of soil organic matter under different management practices in a tropical acid soil. (S03-espinoza091017-Poster)

Authors:

- Y.Espinoza - *Ceniap-INIA, Venezuela*
- M.J.Perez - *Ceniap-INIA, Venezuela*

Abstract:

Conservation management system increases soil C and N pools. We investigated the dynamics of C and N , and changes in soil aggregates of an acid soil. Samples were taken during the growing seasons 2000 and 2001, from a field experiment with continuous sorghum. The treatments were fresh residues of native sod, grass, and legumes with minimum tillage. No residue treatment and fallow were used as control. Compared with fallow, management practices did not significantly affect microaggregates proportion, but legumes and native sod residues increased macroaggregates amount. Net N mineralization were significantly increased in 50% by native sod residues compared to fallow, but was not significantly affected by the others plant residues. Incorporation of legume residues did not clearly change carbon mineralization, but stimulated microbial activity. The ratio of microbial activity to soil microbial carbon was higher under legumes and native sod residues than under the other systems. The results indicate that legume residues with minimum tillage contribute to increase macroaggreates, and increase labile fractions of C and N in highly weathered tropical soils.

Corresponding Author Information:

Yusmary Espinoza
Ceniap-INIA, Venezuela
Apdo. Postal 4653
Maracay, AR 2101
Venezuela

phone: 58- 243 -2471874
fax: 58- 243 -2471874
e-mail: orihuen@yahoo.com

Presentation Information:

Presentation Date: Tuesday, November 12, 2002
Presentation Time: 10:00 am-12:00 pm
Poster Board Number: 1911

Keywords:

organic matter, labile fractions, aggregates, acid soil