

# ASA, CSSA, and SSSA 2010 International Annual Meetings

Oct. 31-Nov. 3 | Long Beach, CA

*Green Revolution 2.0: Food+Energy and Environmental Security*

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## Success!

- The 2010 Annual Meetings, "Green Revolution 2.0: Food + Energy and Environmental Security," was a success. Thank you to all of the attendees, exhibitors, sponsors, donors, vendors, and volunteers.
- Save the date for next year: **Oct. 16-19, 2011**, San Antonio, TX.

## News

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*American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America will host 3,000 scientists, professionals, educators, and students to the 2010 International Annual Meetings, Oct. 31-Nov. 3 in Long Beach, CA.*

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## Dates & Deadlines

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## ASA, CSSA, and SSSA 2010 International Annual Meetings

Oct. 31-Nov. 4 | Long Beach, CA



### Green Revolution 2.0: Food+Energy and Environmental Security

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118-10 Soil Carbon in Tropical Afforested Amended Areas with Sewage Sludge.

See more from this Division: S06 Soil & Water Management & Conservation

See more from this Session: Management Practices Impact On Soil Carbon and Nitrogen Cycling in Agricultural Ecosystems: Storage and Dynamics

Monday, November 1, 2010: 11:30 AM

Hyatt Regency Long Beach, Beacon Ballroom B, Third Floor

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*Bruno Henrique Martins, Embrapa Instrumentação Agropecuária, São Carlos, SP, Brazil, Sérgio Gaiad, Embrapa Florestas, Colombo, PR, Brazil, Debora Milori, Embrapa Instrumentação Agropecuária, São Carlos, SP, Brazil and Ladislau Martin-Neto, Embrapa Labex USA, Embrapa - Brazilian Agricultural Research Corporation, Beltsville, MD*

Soil has the potential of acting such as source or sink of atmospheric carbon. Sewage sludge (SS) has a potential to act as soil fertility improver, however, its application in soil still have some restrictions, due to contaminant potential.

This study evaluates soil organic carbon (SOC) content and humification degree in SS amended areas under tropical afforested areas. The experimental sites are installed in Brazil, São Paulo State, in the city of Itatinga (23°06'06" S, 48°36'57" W) being the first an Oxisol and, the second, a Sandy Soil, both are under eucalyptus plantation and received 2.0 ton/ha.year of SS. The first experimental site in Oxisol was established in 2004 and the second one in sandy soil in 2008. The soil samples were collected in the superficial layer (0-10 and 10-20 cm). The carbon content results were obtained by elemental analysis (CHN) and the humification degree results by Laser-induced Fluorescence (LIF) spectroscopy.

The contrasting results showed a decrease around 37% in the carbon content and an increase around 100 % in the humification degree in the amended areas in Oxisol field, while, in the sandy soil was observed 21 % increase of carbon content and 29 % decrease of humification degree.

A hypothesis to explain this behavior in the Oxisol field is occurrence of priming effect, affecting soil microbial activity and leading to decrease of carbon content, and thus increasing the SOC humification degree.

The process occurring in the sandy soil field may be explained by the fact that this higher carbon content could represent an accumulation of carbon in more labile fraction, considering its soil profile, and that is coherent with lower humification degree of SOM, detected by LIF. Actually these contrasting observations necessarily require additional measurements, including analysis of carbon content in deeper soil horizon.

See more from this Division: S06 Soil & Water Management & Conservation

See more from this Session: Management Practices Impact On Soil Carbon and Nitrogen Cycling in Agricultural Ecosystems: Storage and Dynamics

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