

Soil and Water Sciences Department Graduate Student Research Seminar

Speaker: Yanyan Lu
Ph.D. Dissertation Degree Candidate

Advisor(s): Maria Lucia Silveira, Ph.D.

Title: **Agronomic and Environmental Impact of
Land Application of Biosolids on
Bahagrass Pastures in Florida**

Date: Friday, November 22nd

Time: 3:00 pm – 4:00 pm

Location: McCarty Hall A, Room G186



Biosolids represents a viable alternative to supply nutrients and organic matter to perennial forage crops. Recycling biosolids through land application in perennial pasture systems is an environmentally friendly option of disposal as it minimizes air pollution, reduces landfill space demand, and minimizes human exposure to various contaminants. Because biosolids is often obtained at little or no cost to farmers, it also represents an economic alternative to lime and commercial inorganic fertilizers. Although biosolids have clear agronomic benefits, long-term application of biosolids at rates based on crop N requirements often results in P applications in excess of crop requirements and P accumulation in soils at levels that may pose an environmental hazard. Current legislation in Florida limits the rates and the extent that biosolids can be applied in sensitive watersheds, particularly in Central and South Florida. Biochar, a by-product of biomass pyrolysis, has potential to be used in combination with biosolids to improve nutrient use efficiency and thus, reduce nutrient losses. The objective of this field study was to evaluate the effects of biosolids and biochar application on soil, greenhouse gas emissions, water quality, and forage responses. Treatments consisted of a thermally-dried class AA pellets biosolids, two class B (aerobically and anaerobically digested) cake biosolids, and commercial fertilizer applied either alone or in combination with biochar. Treatments were established in 2016 and forage, soil, water quality, and greenhouse gas emissions have been monitored during the 3-yr experimental period. We anticipate the results from this study will generate important science-based information suitable for demonstrating and promoting the agronomic and environmental benefits of land application of biosolids to pastures in Florida.

This seminar can be viewed via live or watched later via this link: [Yanyan Lu](#). Viewers of the live stream may now ask questions by clicking on the message icon at the bottom. Questions will be read at the end during the question and answer portion. In addition, all seminars are archived for viewing on our [SWSD Seminar Page](#).