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# Synergy in Science: Partnering for Solutions

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with the Entomological Society of America

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## 163-14 Short-Term Responses of Annual Ryegrass Cv. BRS Ponteio to Half-Strength Nutrient-Solution Added Mehlich-1-Extracted Sewage Sludge.

Poster Number 1629

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See more from this Session: Environmental Impacts of Land Application of Waste - II

Monday, November 16, 2015  
Minneapolis Convention Center, Exhibit Hall BC

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The Mehlich-1 extraction method was used to improve nutrient availability in sewage sludge samples collected in the area of Juiz de Fora, Brazil. Extracted sewage sludge (ESS) aliquots were then studied at varied rates in combination with half-strength Hoagland's nutrient solution (Hoag) in order to verify short-term effects on growth and physiology of annual ryegrass BRS Ponteio seedlings. In a series of trials considering a complete randomized design, plants were grown for 15 days under controlled conditions ( $28 \pm 2^\circ\text{C}$ ,  $60 \pm 4\%$  RH, 16h photoperiod and  $280 \text{ mmol.s}^{-1}.\text{m}^{-2}$  radiation) in the following treatments: (a) control (100% Hoag); (b) Hoag added 50% ESS (v/v); (c) Hoag added 25% ESS and 25%  $\text{H}_2\text{O}$  (v/v); and (d) Hoag added 15% ESS and 35%  $\text{H}_2\text{O}$  (v/v). Plant were harvested and evaluated concerning growth rate, root, shoot and leaf fresh weight, leaf area, transpiration rate, and leaf chlorophyll content. No significant differences were detected, although treatment (b) tended to enhance transpiration rates. It is concluded that more conspicuous changes are to be observed with long-term studies and comparisons of contrasting ryegrass genotypes. Since no visual symptoms of toxicity were detected, further progress is also likely to be achieved with determinations of essential nutrients and trace contaminants in plant tissues and substratum samples.

See more from this Division: SSSA Division: Soils & Environmental Quality  
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