Inorgainc Amendments as Golf Course Putting Green Construction Materials. (S08-soldat151148-Oral)

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Abstract:

Use of inorganic amendments in golf putting green root zone mixes has recently become of interest. Inorganic amendments such as zeolites and porous ceramics are desirable because of their high CEC and water retention capacity. Cost of the materials currently limits their widespread use. The purpose of this study is to quantify the agronomic, environmental, and economic benefits of these inorganic amendments to justify their cost. An experimental putting green was constructed using sand amended with two types of zeolites, a porous ceramic material, peat moss, and pure sand as a control. Leachate is being monitored for mineral nitrogen, phosphorus, and potassium content. The amount of nitrogen, phosphorus, and potassium found in the leachate is being related to turfgrass growth and clipping nutrient content. Laboratory analysis has shown that phosphorus adsorption and desorption is controlled by the calcareous sand rather than the amendments. Initial leachate data suggest that the amendments have little effect on potassium leaching, the zeolites exhibit less nitrogen leaching than the other treatments, and the porous ceramic material releases relatively high levels of phosphorus.

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