Turf Spodosols

Spodic horizon soils are dark colored subsurface soils that can appear visually similar to A horizon soils. Because of their fertile appearance, developers of residential communities may mistake spodic horizon soils for an adequate source of topsoil fill material in residential landscapes. However, spodic horizon soils exhibit unique chemical and physical properties that make them widely different from typical A horizon soils. For example, spodic horizon soils tend to have higher levels of organic acids, higher clay content, lower pH, and higher metal content (mostly Al and some Fe) than A horizon soils. Therefore, we hypothesize that spodic soils will have different water and nutrient holding capacities than typical A horizon soils, which would in turn effect turfgrass establishment and growth when these soils are used as topsoil fill. Twenty-seven spodic horizon soil samples were collected from different locations throughout Florida and analyzed for electrical conductivity, pH, organic matter (LOI), particle size (texture), water soluble P, total P, and Mehlich 3-P, Al, Fe, and Ca. Presented here are some preliminary data on spodic horizon soils and experimental design for testing the effect of establishing turf on spodic topsoil in residential communities.

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