

Soil Suitability for Development and Maintenance of Urban Turf Areas

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BACKGROUND

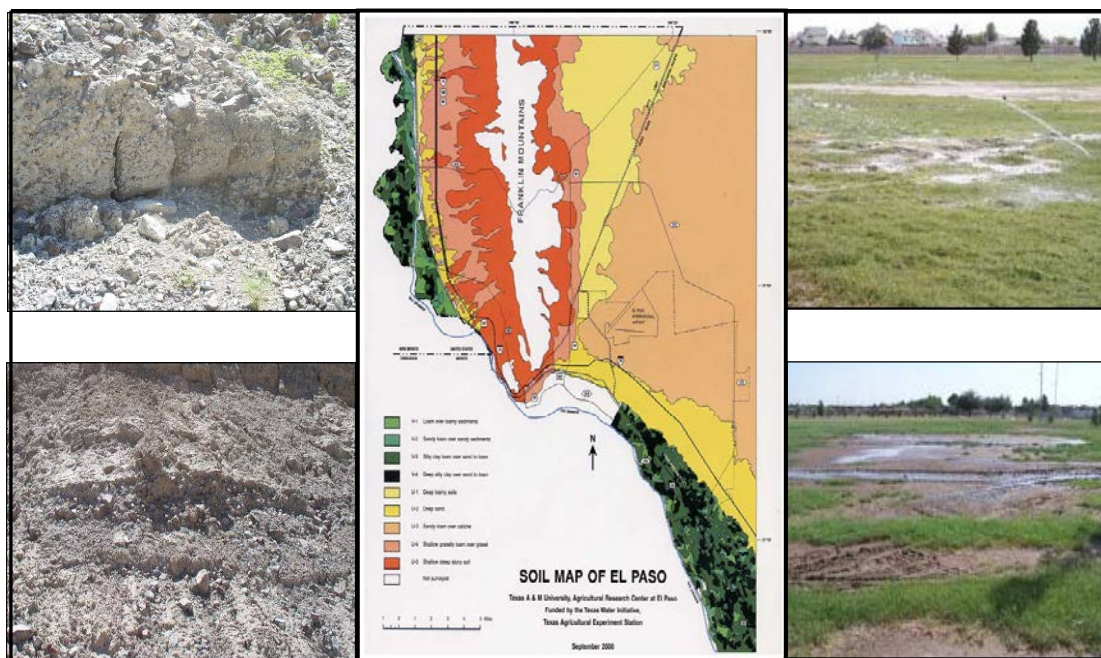
Urban turf areas, such as golf courses, sports fields, and urban recreational turf are an integral part of urban landscapes. In arid regions, maintenance requires large quantities of water. One approach to deal with this issue is to utilize wastewater or reclaimed water for irrigation. This approach has been successful, except in the situations where the soils (top as well as subgrade) do not have sufficient permeability. The purpose of this project is to develop ways to predict the potential for soil salinization of urban turf areas.

APPROACH

The conventional method of testing soil suitability for irrigated turf is based mainly on soil fertility testing which has little to do with soil permeability, especially that of subgrade. Our approach consists of two phases; the first phase is to determine the cases of soil salinization, and their relationship to soil type, series, and petrogenetic history. The second phase is to make measurements of soil properties which may have a high correlation with salt leaching potential. At this point, several soil series which are often associated with salinization were identified, and their petrogenetic background is being researched.

BENEFITS EXPECTED

Identification of soil types, series and their petrogenetic background may provide a method to judge soil suitability for irrigated turf areas. Soil test based approach, which is yet to be studied, may provide a way to predict soil salinization potential when the soil information is limited.



Soil suitability is important for establishing good turf - Entisols (left) and clayey (right) soils are susceptible to salinization and compaction.