Accurate technologies for monitoring soil moisture in turf. (C05-leinauer105701-Oral)

Authors:

- B.Leinauer* - *New Mexico State University*
- J.Bilskie - *Campbell Scientific Inc.*
- M.Parossien - *New Mexico State University*
- T.L.Jones - *New Mexico State University*

Abstract:

The ability to accurately measure soil moisture can be a powerful tool to both turf managers and scientists. In recent years new moisture sensing technologies have become available and have largely replaced traditional tensiometer and gypsum blocks because of their ease of handling and increased accuracy at low moisture levels. In a study we compared several soil moisture sensors at different moisture and salinity levels. The study included capacitance sensors (such as Diviner 2000 and Theta probe), and sensors that are based on the principle of time domain reflectometry (TDR). TDR systems that were tested included not only real time TDR sensors that capture reflected waveforms and use an algorithm for water content calculation (such as TDR 100 and the TRIME system) but also included probes that use an array of high frequency signals and use the reflection time of the signals to calculate soil moisture (Hydro Sense, CS 616). The results of the study will be presented and discussed.

Corresponding Author Information:

Bernd Leinauer
New Mexico State University
CES 230 Skeen Hall
Las Cruces, NM 88003-8003

phone: (505) 646 2546
fax: (505) 646 8085
e-mail: leinauer@nmsu.edu

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