# Laboratory Evaluation of a Commercial Dielectric Soil Moisture Sensor. (S01-lascano094022-Poster)

**Authors:**

- B.McMichael* - *USDA-ARS, Lubbock, TX*
- R.J.Lascano - *Texas A and M Univ., Lubbock, TX*

## Abstract:

Development of management strategies for more efficient water utilization for crop production requires measurements of changes in soil water content on a dynamic basis. Many of the methods currently used for measuring these changes are either destructive, not timely, or relatively cost prohibitive for large scale investigations. A commercially available low cost, relatively non-destructive soil moisture sensor based on changes in the dielectric constant of the soil water was evaluated under both laboatory and field conditions across a wide range of temperatures and water contents. Results indicated that the sensors were relatively temperature stable (<1.0 mv/ degree C temperature change from 15 degrees C to 45 degrees C) and that a straightforward two point calibration produced accurate values compared to gravimetric data.

**Corresponding Author Information:**

Robert Lascano
Texas A and M Univ.
3810 4th Street
Lubbock, TX 79415-3397

phone: 806-723-5238
fax: 806-723-5272
e-mail: r-lascano@tamu.edu

## Presentation Information:

Presentation Date: Tuesday, November 12, 2002
Presentation Time: 4:00-6:00 pm
Poster Board Number: 1710

## Keywords:

soil water, dielectric, evaluation, soil temperature