

SOIL MOISTURE MEASUREMENT FOR IRRIGATION SCHEDULING

Workshop Outline - 2005 Southern Region Water Quality, Lexington, KY
(Tuesday 25, 2005)

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- 08:30-08:45 Welcome and introductions
- 08:45-09:15 Basic soil physics and irrigation scheduling
- a. Soil tension and water retention
 - b. Field capacity, permanent wilting point, and plant available water
- 09:15-09:45 Soil moisture based irrigation scheduling
- c. Review of irrigation scheduling
 - d. Types and selection of soil moisture measurement devices
- 09:45-10:00 Break (15 min)**
- 10:00-10:40 Demonstration of soil moisture measurement devices
- e. Hands-on (I): Soil columns setting and saturated readings
 - f. Description of use of soil moisture devices
 - i. Tension based devices
 1. Tensiometer
 2. Watermark
 - ii. Dielectrical methods
 1. Capacitance Probes (Portable and fixed location)
 - a. Enviroscan (S)
 - b. EasyAg (S)
 - c. ECH2O probe (S)
 - d. Diviner (S)
 - e. Vitel ®
 - f. Delta T ®
 2. TDR Probes
 - a. CS 616
 - b. Hydrosense
 3. TDT Probes
 - a. Moisture Point (S)
 - b. Grow point (S)
 - g. Hands-on (II): measurement under drained conditions and discussion
- 10:40-10:50 Break (10 min)**
- 10:50-11:00 Comparison of soil moisture devices
- 11:00-11:30 Case studies and future trends
- h. Use of Wireless Soil Moisture Measurement Systems for Irrigation
 - i. Design and field evaluation of a new controller for soil moisture-based irrigation
- 11:30-11:55 Round Table: Q&A and discussion
- 11:55-12:00 Program Evaluation

Note:

Workshop presentations and handouts can be downloaded from: <http://carpena.ifas.ufl.edu/WQKY05.htm>