

ASA, CSSA, and SSSA 2010 International Annual Meetings

Oct. 31-Nov. 3 | Long Beach, CA

Green Revolution 2.0: Food+Energy and Environmental Security

[Start](#) [Browse by Day](#) [Browse by Division](#) [Author Index](#) [Help](#) [Search](#)

44-4 Cotton Evapotranspiration and Yield Variations with Canopy Temperature and Irrigation Deficit.

See more from this Division: A03 Agroclimatology & Agronomic Modeling
See more from this Session: Modeling Processes of Plant and Soil Systems: I

Monday, November 1, 2010: 1:45 PM
Long Beach Convention Center, Room 306, Seaside Level

Steven Evett, Susan A. O'Shaughnessy, Paul Colaizzi, Terry Howell and R. Louis Baumhardt, USDA-ARS, Bushland, TX

Cotton evapotranspiration and yield vary greatly with irrigation deficit, but indirectly due to cotton's indeterminant phenology. Canopy temperature can be related to yield through the crop water stress index (CWSI); and evapotranspiration can be modeled if the relationship between stress level and surface resistance is known. Relationships between the CWSI, irrigation deficit, yield and surface resistance are investigated. Finally, cotton yield and water use efficiency are modeled using AquaCrop and results compared with field measurements under four irrigation levels ranging from zero to 100% replenishment of soil water depletion below field capacity.

See more from this Division: A03 Agroclimatology & Agronomic Modeling
See more from this Session: Modeling Processes of Plant and Soil Systems: I

[<< Previous Abstract](#) | [Next Abstract >>](#)