



ASA, CSSA, and SSSA
2010 International Annual Meetings
Oct. 31-Nov. 3 | Long Beach, CA

Green Revolution 2.0: Food+Energy and Environmental Security

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123-7 Evapotranspiration of Irrigated Sunflower in a Semi-Arid Environment.

See more from this Division: S06 Soil & Water Management & Conservation
See more from this Session: The Blue-Green Revolution: Why Water Availability and Water Management Will Be Key to Success in Bio-Energy and Environmental Security: I

Monday, November 1, 2010
Long Beach Convention Center, Exhibit Hall BC, Lower Level

Terry Howell, Steven Evett, Judy Toik and Karen Copeland, USDA-ARS, Bushland, TX

Sunflower (*Helianthus annuus*) is an alternative crop for the Southern High Plains typically produced under dryland; however irrigation offers greater potential for enhanced productivity and quality. Sunflower [cv, S 672 NuSun (Triumph Dwarf)] was grown in 2009 at Bushland, Texas on two 4.2 ha fields each containing a precision weighing lysimeter (3 m by 3 m by 2.3 m deep, monolith) containing Pullman clay loam soil (fine, mixed, superactive, thermic Torrertic Paleustoll) on fields with slopes less than approximately 0.3% that were sprinkler irrigated. Water use was determined by lysimeter water budgets. Crop development was measured with periodic (~14 d interval) field plant samples for height, width, leaf area index and total biomass. Final plant harvests determined dry matter, Achene numbers per head and mass, and seed soil quality. Results on water use (evapotranspiration), yield, yield components, oil quality, and water use efficiency will be presented.

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