Examining Peanut Water Use and Water-use Efficiency Under Different Irrigation Environments. (C02-rowland051112-Poster)

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Abstract:

Water availability across most U.S. peanut regions is declining every year due to drought and increasing demands from urban and industrial expansion. Despite limited water resources, peanut farmers are making huge investments in irrigation. Therefore, irrigation efficiency has become a vital component to the survival of U.S. peanut production. Irrigation efficiency was evaluated in a southwestern Georgia experimental farm by examining peanut daily water use, water-use efficiency (using carbon isotopes), chlorophyll content, and canopy and soil temperature under different types of irrigation (overhead sprinkler and subsurface drip) and different amounts of irrigation application (100%, 66%, and dryland). Peanut stem sapflow and chlorophyll content differed among irrigation amounts and sapflow was correlated with canopy and soil temperature. Water-use efficiency showed no difference among irrigation types or amounts. This information will be valuable in determining the irrigation efficiency of different application methods and whether lower irrigation amounts can be utilized with no yield reductions.

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