Construction of Three Weighing Lysimeters for the Determination of Crop Coefficients. (A03-piccinni161201-Poster)

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Abstract:

In semi-arid Texas regions, such as the Winter Garden, water resources are limited and competition between urban users, industry, and agriculture is intense. Consequently, all irrigation water needs to be optimally utilized. Currently, actual crop water requirements for the Winter Garden region of Texas are not available, and many producers often apply significantly more irrigation water than the crop requires. Furthermore, crop coefficient curves are not available for this region and are not necessarily transferable from a different region. For these reasons three weighing lysimeters, consisting of undisturbed 1.5 m x 2.0 m area by 2.5 m depth cores of soil, were built at the Texas Agricultural Experiment Station in Uvalde. Two lysimeters, weighing in the range of 10,000 to 13,000 Kg, were placed beneath a linear irrigation system and used in field production. The third lysimeter is used to measure reference ET values (ETo) and is located in a well-watered grass area located near the field lysimeters. Design construction, installation, engineering details and other considerations to ensure acceptable performance for crop water use data will be discussed.

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