

Greater Harmony Between Agriculture and the Environment **Low Volume Irrigation in Lemons**

Issue

Increasing urban demand for scarce water resources in the western U.S. has led farmers to sell some of their water rights to metropolitan areas. This trend is expected to continue, eventually leading to reduced water availability for citrus production in Arizona, and to increased establishment of citrus groves with low volume irrigation systems. Current nitrogen fertilization practices will need to be modified for a low volume irrigation system and best management practices (BMPs) established.

What has been done?

University of Arizona research at the Yuma Mesa Agricultural Center has focused on 1) Quantification of the amount of water saved using low-volume irrigation, 2) the identification of physiological differences in lemon trees subject to low volume and flood irrigation and 3) development of BMPs for lemon under low volume irrigation.

Impact

Lemon trees are being grown using low volume irrigation while providing only 17 percent of the water normally required for flood irrigation (2000), with improved yield and no loss of fruit quality. Using current water prices, low volume irrigation would save growers about 9 percent of their yearly growing costs. The researchers have also grown lemon trees using low volume irrigation while providing about 50 percent of the recommended nitrogen. Based on this research, one large grower is now establishing all of his new groves with low volume microsprinkler irrigation.

Funding

Hatch Act

Commodity: Arizona Citrus Research Council

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