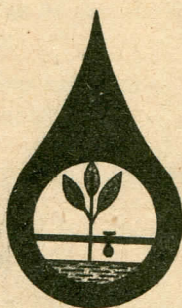


**PROCEEDINGS OF THE SYMPOSIUM ON DRIP IRRIGATION IN
HORTICULTURE WITH FOREIGN EXPERTS PARTICIPATING**

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DRIP WATER MANAGEMENT FOR SELECTED VEGETABLE AND VINEYARD CROPS

D.A. Bucks, O.F. French and F.S. Nakayama ^{1/}

Drip irrigation management studies were conducted in the southwestern United States on cabbage, cantaloupe, dry onions, carrots, and grapes. Cabbage yields tended to increase with a 12- and 6-day over a 3-day irrigation interval. Similarly, cantaloupe yields were higher with weekly than with daily irrigation cycles, whereas irrigation frequency had little influence on carrot production. In contrast, the shallow-rooted onions yielded more with daily than with weekly water applications. These vegetable crops were grown on the same clay-loam using a moderately saline water /800 mg/l total dissolved solids/. In a 4-year study on table grapes, marketable fruit yields increased with the 3- or 6-day irrigation intervals compared to the daily drip irrigations, using a water with a low salinity /250 mg/l total dissolved solids/ applied on a sandy-loam soil. Maximum production for all five crops occurred at seasonal water applications equal to or slightly more than measured evapotranspiration for both drip and furrow irrigation methods. Therefore, a reduction in the water delivery requirements for drip over another method would come primarily from an improvement in the on-farm irrigation efficiency.

Multiple cropping was used to extend the useful economic life of a subsurface drip irrigation system. Several horticultural rowcrops were consecutively produced without major conventional cultural practices or replacement of the subsurface system. Plant roots did not clog the buried tubing.

^{1/} U.S. Water Conservation Laboratory, USDA — SEA — AR Phoenix, Arizona, USA