Effect of Water Table Depth and Irrigation Method on Water Use and Fruit Yields for Subirrigated Tomato Production. (S06-stanley074743-Poster)

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Abstract:

Subirrigation (water table level management) where water is applied via irrigation furrows is a common irrigation method for field production of vegetables on high water table flatwoods soils in southwest Florida . The fully enclosed subirrigation system (FES), utilizing microirrigation tubing to distribute water throughout a production area and to manage the desired water table level, was been designed for water conservation and to allow more control over managed water table depth. A three-year study was conducted to compare the two subirrigation systems for water use and effect on tomato fruit production at two water table depths. Results showed that significant water savings (>40%) were measured using the FES system (45 cm water table depth) primarily due to elimination of surface runoff. No fruit yield differences were detected as a result of irrigation system with a 45 cm water table depth. Using water table depths of 45 and 60 cm with the FES system showed a 40% water savings at the lower depth (60 cm) with no statistically significant reduction in fruit yield or quality due to water table depth.

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