

ECONOMIC ANALYSIS OF SUBSURFACE DRIP IRRIGATION (SSDI) IN GEORGIA COTTON**PRODUCTION****W. Don Shurley****University of Georgia****Tifton, GA****Calvin D. Perry****Stripling Irrigation Research Park****Camilla, GA****Guy D. Collins****Calvin D. Meeks****Amanda R. Smith****University of Georgia****Tifton, GA****Abstract**

Approximately 40% of Georgia's cotton acreage is irrigated—most with center pivot systems and water from a well. There is increasing interest in subsurface drip irrigation (SSDI) and questions concerning the feasibility of SSDI and its profitability compared to non-irrigated production and compared to pivot irrigation. The University of Georgia began conducting research into SSDI management and feasibility in 2010 at the Stripling Irrigation Research Park (SIRP) near Camilla, Georgia and at the Southeast Georgia Research and Education Center at Midville, Georgia in 2011. There are many questions that producers have concerning SSDI. Based only on research thus far, results suggest (1) that yields with SSDI can be competitive with pivot yields, (2) drip placed shallow (2" in our study) may yield higher than drip placed deeper (12") but results are not statistically different, (3) SSDI can possibly produce yields comparable to pivot irrigation and with less water applied, and (4) SSDI can be profitable if economies of scale are achieved. Three scenarios were identified where SSDI might be a logical fit on Georgia cotton farms and actual cost bids were received for each and economic analysis performed. These 3 on-farm situations were adding SSDI to dryland corners and dryland areas adjacent to an existing pivot system, SSDI compared to a pivot system in a field where the pivot could not run a full 360 degrees, and SSDI as an alternative to non-irrigated production in a small, irregular field unsuitable for a pivot. In each example, SSDI was profitable. Results suggest that SSDI can be profitable but the real constraints may be management and production feasibility rather than economics. This includes management, commitment to GPS/auto-steer, tillage practices, row spacings, and crop rotation.