

Introduction

The Texas A&M University System purchased 373 acres of farmland from the estate of Ardella Helm in December, 1999, for the sole purpose of conducting large scale research and extension programs to enhance producer profitability and sustainability in an irrigated environment. The farm is located 2 miles south of the Texas Agricultural Research and Extension Center at Halfway in Hale County.

Current projects at the Helms Research Farm involve production options and economics of subsurface drip irrigation (SDI) and site-specific farming. Other research projects include weed and insect control, plant breeding and yield trials for several commodities and production systems projects. Irrigated experiments were conducted under the 130 acre center pivot and on 86-acres of SDI.

The soils are predominantly deep clay loams and silty clay loams, with 0-1% and 1-3% slopes, moderately to moderately slowly permeable subsoils and high water and fertility holding capacities. Supplemental water for irrigation comes from four wells, 320 to 340 feet deep, pumping at rates of 300 to 400 gallons per minute each.

The 2005 crop year brought new challenges for researchers. On June 16, well beyond the recommended last planting date for cotton, a major hail event severely damaged cotton field experiments. After initial assessments, the decision was made to modify and replant experiments on 60 acres and abandon the remaining 118 cotton acres. Due to favorable weather conditions and long growing season, modified experiments from both the replanted and the initially “abandoned” areas provided useful results that are reported herein.

