ECONOMICS OF IRRIGATION IN THE TEXAS DROUGHT OF 2011/12

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Abstract

The Great Texas Drought of 2011 and the prolonged drought of 2012 left many Southern High Plains cotton growers questioning their irrigation practices in the face of such harsh conditions. Typically, producers only rely on irrigation as a supplement to adequate subsoil moisture, timely rainfall and moderate summer temperatures. The 2011 growing season broke records for temperature extremes and duration, as well as lack of rainfall. The following season in 2012 saw continued higher than average temperatures and lower than average rainfall. In 2011 most irrigated producers were unable to keep up with the water demand of typically planted cotton acres. As the growing season progressed, it became obvious that some fields had adequate irrigation capacity to meet the demands of the cotton crop, while many others did not. The objective of this study was to determine what level of irrigation proved to be profitable in 2011 and whether or not that strategy would generate sustainable long term returns. This was accomplished by interviewing Texas Southern High Plains cotton producers that achieved near normal crop production. Financial and production information was gathered from these individuals to develop comparative budgets. Additionally, this information was used to update the FARM Assistance Strategic Analysis Model developed for a previous irrigation study completed in 2006. It was determined that where adequate irrigation was applied to attain “normal” yields, higher than average cotton prices allowed producers to make positive net returns. Long term risk analysis revealed that the optimal strategy would be irrigating to full expected yield potential by either cutting back acreage or developing more capacity by drilling new wells where feasible.