2012 Cotton Research Verification Annual Summary
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BACKGROUND INFORMATION

The University of Arkansas System Division of Agriculture has been conducting the Cotton Research Verification Program (CRVP) since 1980. This is an interdisciplinary effort in which recommended Best Management Practices and production technologies are applied in a timely manner to a specific farm field. Since the inception of the CRVP in 1980, there have been 248 irrigated fields entered into the program. Producers are asked what they would like to improve in their current operation then a field is chosen that fits a standard model of the producers operation and requires the necessary recommendations to improve the farm.

All of the recommendations made to the producers in the program are based on proven research by University of Arkansas System Division of Agriculture researchers in their respective disciplines. The producer agrees to apply the necessary recommendations in a timely manner.

RESEARCH DESCRIPTION

There were seven fields in the 2012 Cotton Research Verification Program. Locations were in Clay, Craighead, Jefferson, Lee, Mississippi, Phillips and St. Francis counties. All of the fields were furrow irrigated. Every week the producer, the agent, and the verification coordinator met, scouted the field, and discussed the recommendations. The average field size was 50 acres and the average yield was 1,110 lb/acre. This was 27 lb/acre higher than the projected state yield of 1083 lb/acre.

RESULTS AND DISCUSSION

The Clay County field is in the first year of the verification program. This field’s producer asked the agent and verification coordinator to work on a problem field that yielded poorly the previous year and showed symptoms of severe potassium deficiency. Soil samples were taken and a fertility program was planned. Overall the field produced 1,054 lb/acre. Although the field produced less than the

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state average it did produce about 500 lb/acre more than the previous year.

The Craighead County field is in the second year of the verification program. The producer had a desire to continue to improve his irrigation management practices to achieve high yields and lower costs. He also wanted to learn how to manage two new cultivars that he wanted to plant on his farm. The PHAUCET program (USDA, NRCS) was used to determine the correct hole size for proper irrigation efficiency. He was very pleased with the way that the field watered evenly and he was able to reduce the amount of time he had to pump in order to water the whole field. He estimated that he saved enough time to equal one irrigation. The new varieties that were planted were Americot 1511 B2RF and Fibermax 1944 GLB2. The varieties were managed according to University of Arkansas Cooperative Extension Service (CES) recommendations and yielded very well. The field yielded 1,401 lb/acre.

The producer of the Jefferson County Verification was incorporating the CES recommendations into his farming operation. Each week the producer listened to the recommendations and applied them in a timely manner. The field yielded 913 pounds/A. The producer was pleased with the yield and the efficient use of inputs this year. The producer agreed to work with the CRVP one more year to give a new county agent experience in cotton production.

The Lee County field’s producer indicated that the field was infested with glyphosate-resistant pigweed. A Liberty Link cultivar (Stoneville 5445LLB2) was used to incorporate a new herbicide technology. Control was achieved by using a combination of Liberty herbicide and residual herbicides. The field yielded 1,100 lb/acre.

The Mississippi County field is in the first year of the verification program. The producer indicated in the preseason interview that he would like to work on irrigation efficiency and gain a better understanding of insecticide and irrigation termination timings. The PHAUCET program was used to determine the correct hole size for the greatest irrigation efficiency. An atmometer was placed at the field to indicate when irrigation should be initiated. The COTMAN crop monitoring program (Oosterhuis and Bourland, 2008) was used to determine termination dates for irrigation and insecticides. It yielded well with an average yield of 1,317 lb lint /acre.

The Phillips County cotton verification field was in the second year of the program. Root-knot nematode levels were at the economic threshold. A root-knot nematode-tolerant cultivar (Stoneville 5458B2RF) was selected to be planted. Prowl was applied to the field to give residual control for palmer pigweed. The herbicide was taken up by the seedling cotton and caused herbicide damage to the plants. The crop was delayed by the injury. Although the yield was lower than the state average at 725 lb/acre, it was an increase from the year before which yielded 543 lb/acre.

The St. Francis County field is in the first year of the program. The producer was interested in becoming familiar with CES recommendations to compare with his current practices. Each recommendation was explained so the producer could compare them to decisions he was making in similar situations.
program was used to ensure irrigation efficiency. The COTMAN program was used to determine irrigation and insecticide termination. The field yielded 1215 lb/acre.

**PRACTICAL APPLICATION**

Overall the 2012 production season in the CRVP was successful. Yields were increased in certain problem fields. Producers became aware of CES recommendations and they also became aware of how programs such as PHAUCET and COTMAN could assist them in making management decisions.

**LITERATURE CITED**


USDA, NRCS. Water Management Models, PHAUCET program.  