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Arkansas
ROW CROP VERIFICATION

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cotton Research Verification Program
2011 Annual Report

University of Arkansas, United States Department of Agriculture and County Governments Cooperating

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University of Arkansas Division of Agriculture

Cotton Research Verification Program 2011 Annual Report

Authors

Blake McClelland	Program Associate - Cotton	*CRVP Coordinator*
Dr. Tom Barber	Extension Agronomist - Cotton	*CRVP Leader*
Dr. Archie Flanders	Agricultural Economist	*Economic Analyst*

Acknowledgments

Cooperating Producers

Russ Brewer
Jim Hicks
Donnie Edwards
Brian Thomas
Heath McGaughey
Nathan Reed
James Ruggeri

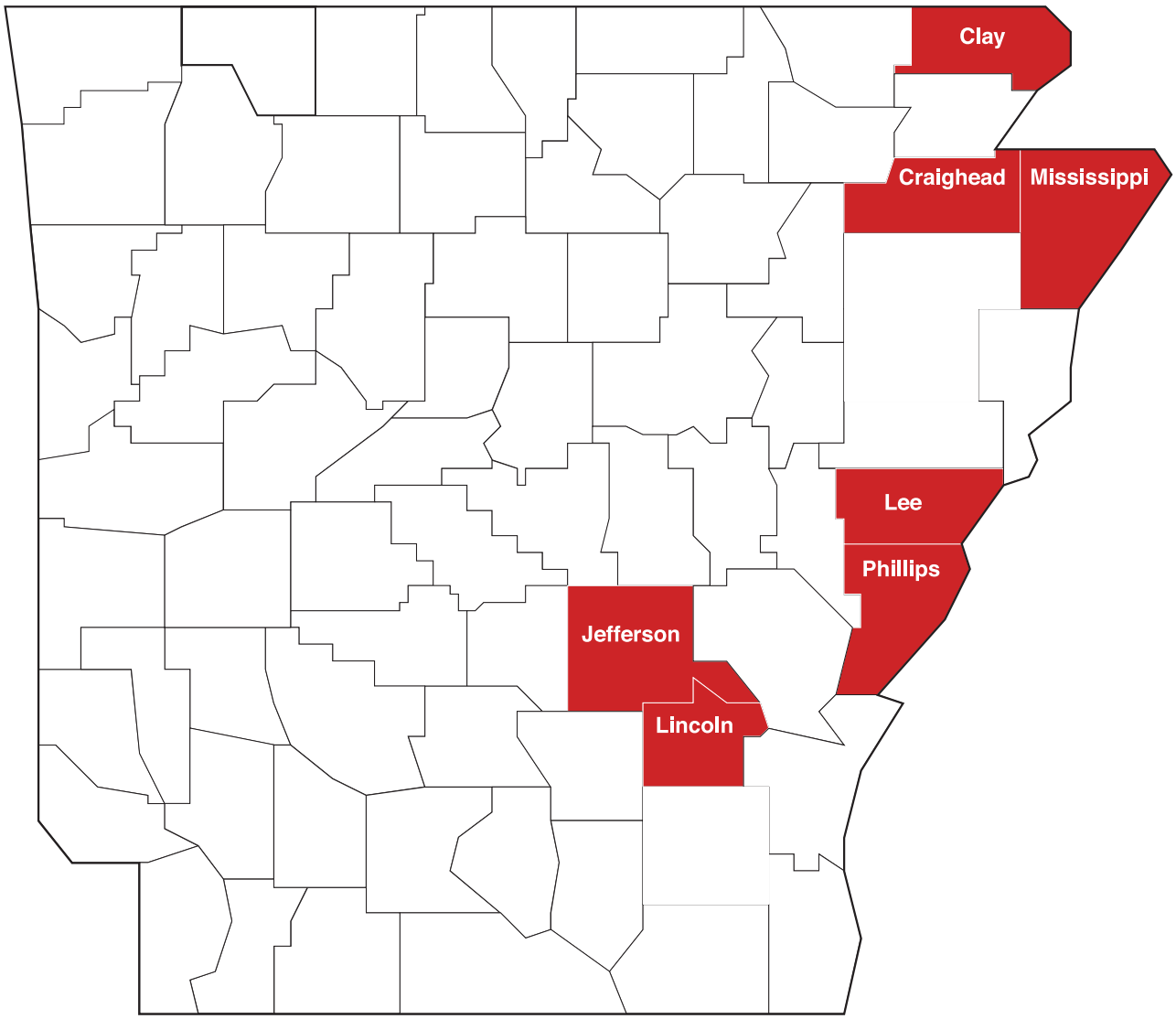
Participating Extension Agents

Andy Vangilder – Clay County
Tyson Privett – Mississippi County
Robert Goodson – Phillips and Lee Counties
Steven Stone – Lincoln County
Branon Thiesse – Craighead County
Anthony Wittington – Jefferson County

University of Arkansas Division of Agriculture, Cooperative Extension Service

Tom Barber – Extension Cotton Agronomist
Ken Smith – Extension Weed Scientist
Gus Lorenz – Associate Department Head/Extension Entomologist
Glenn Studebaker – Extension Entomologist
Scott Akin – Extension Entomologist
Cliff Coker – Extension Plant Pathologist
Archie Flanders – Extension Economist
Leo Espinoza – Extension Soil Scientist
Martha Sartor – Delta District Director

FIGURE 1. Locations of 2011 Cotton Research Verification Fields



Cotton Research Verification Program 2011 Annual Report

Introduction

The University of Arkansas 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 241 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 producer's operation and requires the necessary recommendations to improve the farm.

Once a field is chosen, samples are taken to determine the nutrient levels of the field. The samples are taken in a grid pattern to achieve a more complete picture of the field's fertility requirements. Results are then provided to the producer who can choose to use the precision application method, if it is available in their respective areas. Nematode samples are also taken and problem spots in the field are noted so they can be monitored more closely during the year for potential problems.

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

There were seven fields enrolled in the 2011 CRVP, one was pivot irrigated and the other six were furrow irrigated. The fields were located from Lincoln County in the southeast part of the state to Clay County in the northeast part of the state.

Objectives

The Cotton Research Verification Program objectives are to:

1. Conduct on-farm field trials to verify the utility of research-based recommendations with the intent of optimizing potential for profits.
2. Educate cotton producers with timely management decisions through Best Management Practices and Integrated Pest Management.
3. Develop an on-farm database for use in economic analyses and computer-assisted management programs.
4. Aid researchers in identifying areas of production requiring further study and improve or refine existing recommendations which contribute to profitable cotton production.
5. Increase county Extension agent's expertise in cotton production.
6. Utilize and incorporate data and findings from the CRVP program into Extension educational program at the county and state level.

The CRVP program is a highly successful demonstration of the importance of timely management decisions and incorporation of new technology into cotton production. It also serves as an excellent training tool for county Extension agents to learn more about cotton production. Contributing to the success of the program is the commitment of extension and research personnel, grower cooperation, the program organization, planning and implementation, and the close attention to program objectives. The CRVP allows participants to manage field situations that are not always conducive to maximum economic yield. The program also allows demonstration of alternative production systems for problem or yield-limiting situations encountered in grower fields.

Methods and Materials

Annually, a committee comprised of University of Arkansas Research and Extension personnel meet and agree on recommended programs and management options to be used in the current program. The committee is broad based with Research and Extension each having at least one representative from each subject-matter area. The committee members also serve as advisors during the growing season. The CRVP coordinator is responsible for implementing recommendations on the CRVP demonstrations in-season.

Cooperators are chosen by the county Extension staff and approved by the CRVP coordinator. The cooperator agrees to manage the field for two years using research-based recommendations as directed by the CRVP coordinator and county Extension agent. Field visits are conducted weekly by the verification coordinator and the county agent during the production and harvest period. A designated county Extension agent in each county collects field data twice weekly and maintains regular contact with the CRVP coordinator and cooperator. An Area Farm Management Specialist summarizes the economic analysis on each field through use of field operations data collected during the season.

Twice weekly insect scouting is performed during the season using the Cooperative Extension Service whole plant search method. Irrigation scheduling and plant monitoring data are collected and updated at least once a week. Plant monitoring is evaluated through the use of COTMAN.

2011 Field Information

General information regarding location, variety, soil series, planting date, previous crop, acres per field and yield is included in the table below. The average field size was 52 acres over the seven fields in the 2011 verification project.

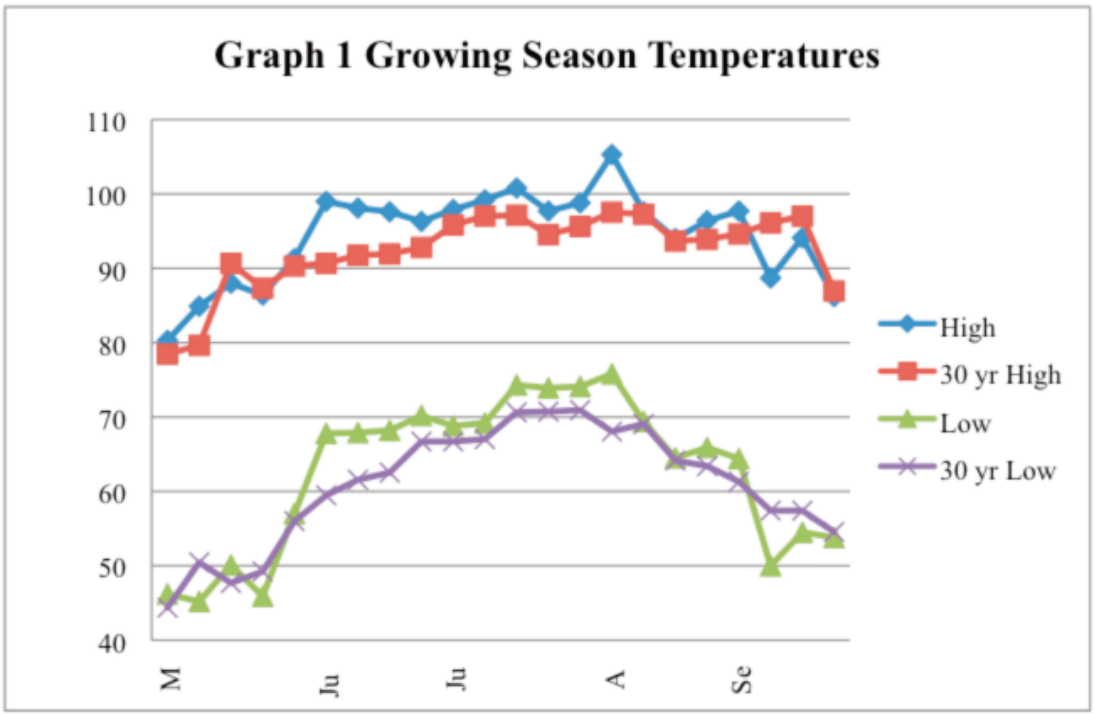
Soil type varied across all seven locations. Four locations (Craighead, Lincoln, Jefferson and Mississippi) had lighter silt and sandy loam-type soils while the other three locations (Clay, Lee and Phillips) had heavier soils with increased clay content. Soil analysis was performed for each location (except the Lee County field) to gain information about the fertility program needed for each field. Nematode analysis was also performed to gather information on the species and number of nematodes in each field.

2011 Growing Season

Growing conditions varied across the Arkansas Delta during planting in 2011. Warm weather was prevalent during the early part of April. As planting time approached, the weather in Northeast Arkansas turned cooler and much wetter. Northeast Arkansas received several rains in the middle of April and the first week of May. This precipitation coupled with heavy flooding from the Midwest moving downriver caused many rivers and drainage ditches to back up onto neighboring farmland. Southeast Arkansas had the opposite. Dry and warm conditions persisted, and the Lincoln County field was the first to be planted. All of the other fields were planted the week of May 9, except for the double crop field in Lee County which wasn't planted until June 6.

Variety, Soil Series, Previous Crop, Acreage and Lint Yield in the 2011 Cotton Verification Program by County

County	Variety	Soil Series	Previous Crop	Acreage	Lint Yield
Clay	DPL 0912 B2RF	Falaya-Amagon	Cotton	40	1348
Craighead	DPL 0912 B2RF	Fountain	Cotton	53	1248
Jefferson	ST 5458 B2RF	Roxana	Soybeans	55	915
Lincoln	ST 5458 B2RF	Rilla-Herbert	Cotton	40	935
Lee	DPL 0912 B2RF	Alligator-Sharkey	Wheat	80	700
Mississippi	DPL 0912 B2RF	Dundee	Cotton	45	1227
Phillips	UA 48	Calloway-Grenada	Cotton	50	543
Average				**52**	**988**



May was cooler, and the verification fields had to be monitored carefully for thrips. By the end of May, higher temperatures returned and the fields began to grow. Most of the fields were irrigated for the first time before July 1. High day and nighttime temperatures continued during all of July and much of August. All of the fields (except Lee County) were cut-out prior to August 10. Due to the late planting that was required of the Lee County double crop field, the calendar date of August 15 was used for the cut-out date. Cooler temperatures dominated much of September, and the crop opened slower than in 2010; however, good harvest weather allowed for all of the fields to be harvested by the first part of November.

Plant bug numbers were moderate this year, and insecticide applications were made starting around June 20. Fields in the verification program were treated an average of three times for plant bugs. Bollworm pressure was also moderate, and at times a pyrethroid was tank mixed for bollworm control as well as increased plant bug control. The Lincoln and Phillips County verification fields both had an application solely for bollworms.

Glyphosate-resistant pigweed pressure was present throughout the state again this year. The Mississippi County field had the worst pigweed pressure of all the verification fields. However, the field was managed by using residual herbicides. Glyphosate-resistant horseweed (aka Marestail) was not a problem in any of the verification fields this year due to an appropriate burndown program with the use of residual herbicides. Morningglory was also present and was difficult to control in many of the fields.

Results and Discussion

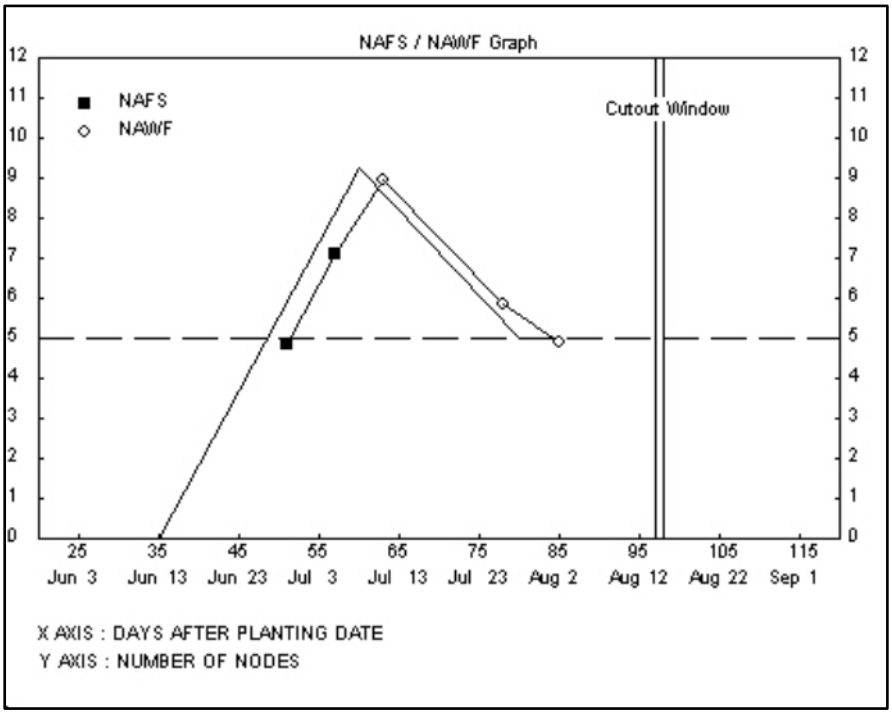
Clay County

The Clay County field was entered for the second year of the verification program. The county agent wanted to work with the producer on using University of Arkansas recommendations in his management decisions. The producer was also interested in learning the best times for irrigation and insecticide termination. The yield on the first year of the trial was 1,199 lint lbs/A.

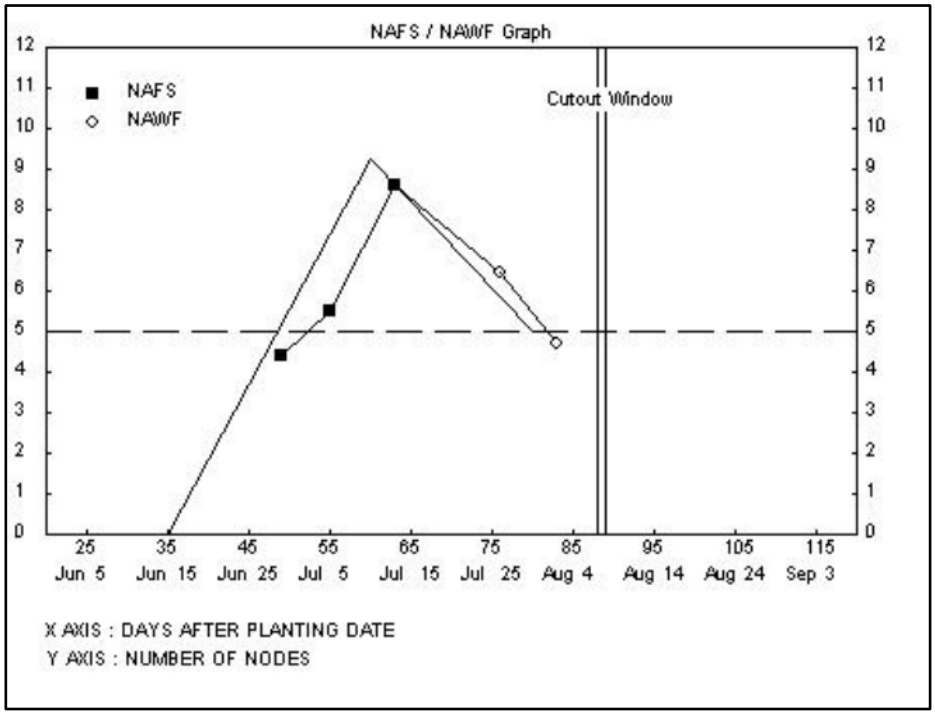
Field work was completed in the spring, and new rows were pulled up. A total of 200 pounds of pre-plant fertilizer was applied (0-20-30). Reflex was applied after the rows were knocked down. The field was planted on May 6 in Deltapine 0912 B2RF. The final plant population was 37,000 plants per acre. Urea was applied at a rate of 220 pounds for a total of 101 units of nitrogen.

Cotoran was applied at planting, and two applications of Roundup and Dual were applied to the field. The field stayed clean throughout the

Clay County (COTMAN Curve)



Craighead County (COTMAN Curve)



growing season. Insect pressure was moderate, and three applications were made mainly for plant bugs. A total of 40 ounces of plant growth regulator was applied during the season.

The cotton responded well to the management inputs, as indicated by the COTMAN graph, and was on course for an excellent yield moving into the harvest season. Earliness was achieved by timely irrigation and insecticide applications. By making these applications in a timely manner, fruit retention remained high which prevented rank growth. Timely growth regulator applications also kept the cotton from becoming rank. Overall, the field produced 1,347 lbs/acre, which was 360 lbs greater than the mean of the 2011 verification program.

Craighead County

The Craighead County field combined a young but experienced producer with a desire to improve his management practices to achieve high yields at lower costs and an experienced county agent who had not scouted cotton in several years. The producer was also interested in improving the irrigation efficiency of this field.

Pre-plant fertilizer was applied at a variable rate, and new rows were put up. Treflan was incorporated when the beds were knocked down to give residual pigweed control. Gramoxone was applied at planting to control any weeds that had emerged. The field was planted in DPL 0912 B2RF on May 11. The field was fully emerged by May 20.

The field experienced serious wind and sand damage early after emergence. The plants remained stunted for several days. The decision was made to keep the stand, and the plants began to grow within a week of the initial injury. Although the field did begin to grow normally, it was about ten days behind schedule as indicated by the COTMAN graph. Normal fruiting should begin around 35 days after planting. However, this field began squaring at 45 days after planting. Timely input applications had to be made the rest of the season to promote earliness. A total of 324 lbs/acre of ammonium nitrate was applied, and the field grew normally the rest of the season.

Morningglory was the dominant weed in this field. Roundup and Warrant were applied early to suppress morningglories that had already emerged and to prevent emergence of glyphosate-resistant pigweed. A post direct application of Caporal and MSMA was applied to control morningglories present and some small pigweed that had emerged since the last residual application. A lay-by application consisted of Roundup for grass control and Direx for residual weed control.

Insect pressure was light in this field. A total of two treatments for plant bugs was required for this field. The first application consisted of Centric, and the second was with acephate.

The producer wanted to work on irrigation efficiency in this field. The PHAUCET program was utilized to ensure that the proper hole size was used for the corresponding row length in the field. The producer was very pleased with the outcome of the PHAUCET program and stated that he felt by using this program he was able to save enough time to equal one irrigation.

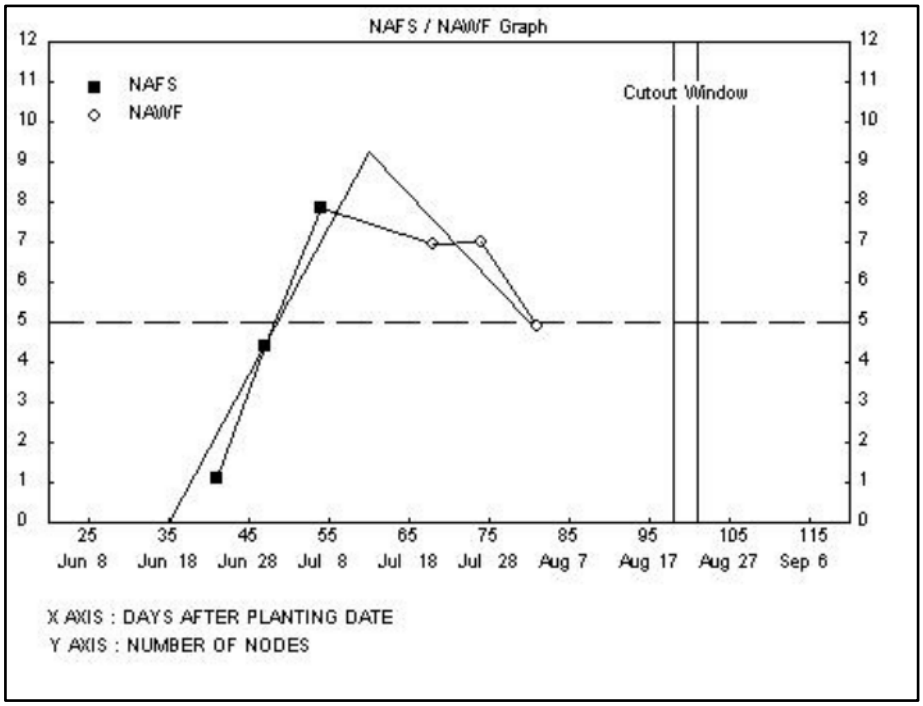
The field responded well to the fertilizer and timely irrigation. As fall approached, the field looked very good and yielded 1,248 lbs/acre, which was 260 greater than the mean in the 2011 verification program.

Jefferson County

Fall tillage was conducted to bury the residue from the previous crop. The field was disked again in the spring, and Treflan was applied and incorporated. Beds were pulled up and knocked prior to planting to produce a fine seedbed. The field was planted in ST 5458 B2RF at a rate of 41,000 seed/acre. Roundup and Dual were applied for early-season weed control. Some pigweed and grass escapes were noticed on the shoulders of the row, so we recommended that the producer use a cultivator with wide sweeps to remove them. Urea was applied at the rate of 155 lbs/acre, and the water furrows were then plowed. Roundup and Dual were applied again. The rest of the season, a few pigweed escapes were noticed and were hoed out by the producer. Although hand weeding adds expenses that have not been needed in previous years, glyphosate-resistant weeds have increased the need for this expense. A "zero tolerance" approach was taken for all escaped pigweeds to ensure that the weeds were unable to add seed to the soil seed bank.

Insect pressure was mild. The field had to be sprayed three times for plant bugs. The last

Jefferson County (COTMAN Curve)



application was a tank mix of Bidrin and Diamond. Diamond was added due to plant bug numbers increasing over the previous three weeks even though a treatment was made during that time frame.

The field was slightly behind schedule when it began squaring. However, after nitrogen fertilizer was applied, the field received some timely rains and quickly caught up. Soon after the first irrigation, the weather turned hot and the field began to mature more quickly. The COTMAN graph shows some sideways motion between the 65th and 85th days after planting which may indicate that some fruit set may have been lost at this time.

The field responded well to the input management and irrigation. This field yielded 915 lbs/acre, which was 73 lbs below the mean of the program; however, the producer said that this field was his best yielding field.

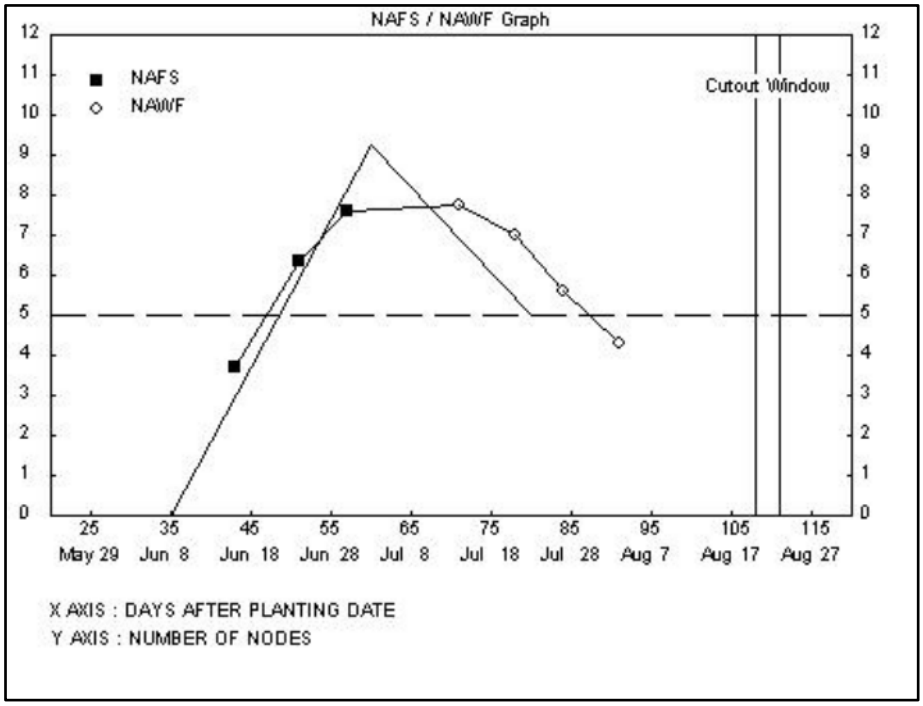
Lee County

The Lee County field incorporated a new concept of cotton management and production with double crop cotton following wheat scenario. This is not a widespread recommendation for Arkansas; however, we felt it would be profitable in an early management system given the current prices for wheat and cotton. The wheat was cut, and the stubble was left at a height of 12 inches. The field was then planted in DPL 0912 and was irrigated with a pivot to achieve a stand. Some skips were noticed; however, a good stand was achieved after a rain and the irrigation. Urea was applied at a rate of 185 lbs/acre to the field. In general, nitrogen rates should be reduced when planting past the optimum window to prevent further delays via rank growth.

Weed pressure was light due to the wheat stubble shading the middles. Glyphosate and Dual were applied twice to control weeds that had emerged and to add a residual. Insect pressure was mild, and only three applications were needed to control plant bugs.

The field grew very well and looked good moving into the fall. A cooler-than-average September (see Graph 1) prevented many of the upper bolls from maturing. The field yielded 697 lbs/acre, which was 291 lbs less than the average of the program.

Lincoln County (COTMAN Curve)



Profitability can be increased when a double crop system is attempted as long as expenses are managed. In this scenario herbicide input costs where reduced due to the cover that was provided by the wheat stubble. The reduced amount of fertilizer prevented excessive growth, reducing the need for plant growth regulator applications which also reduced costs. The producer was able to book his cotton for $1.34/lb, which gives a total gross revenue of $933.98. Total costs were $518.78. The profit for this field is $415.20.

Lincoln County

The Lincoln County field was in the second year of the verification program. The producer wanted to compare his current management practices to the cotton production recommendations of the University of Arkansas Division of Agriculture. The field produced 1,236 lbs/acre last year.

Nematode samples for this field revealed a high root-knot nematode population. ST 5458 B2RF was recommended due to its tolerance to root-knot nematode.

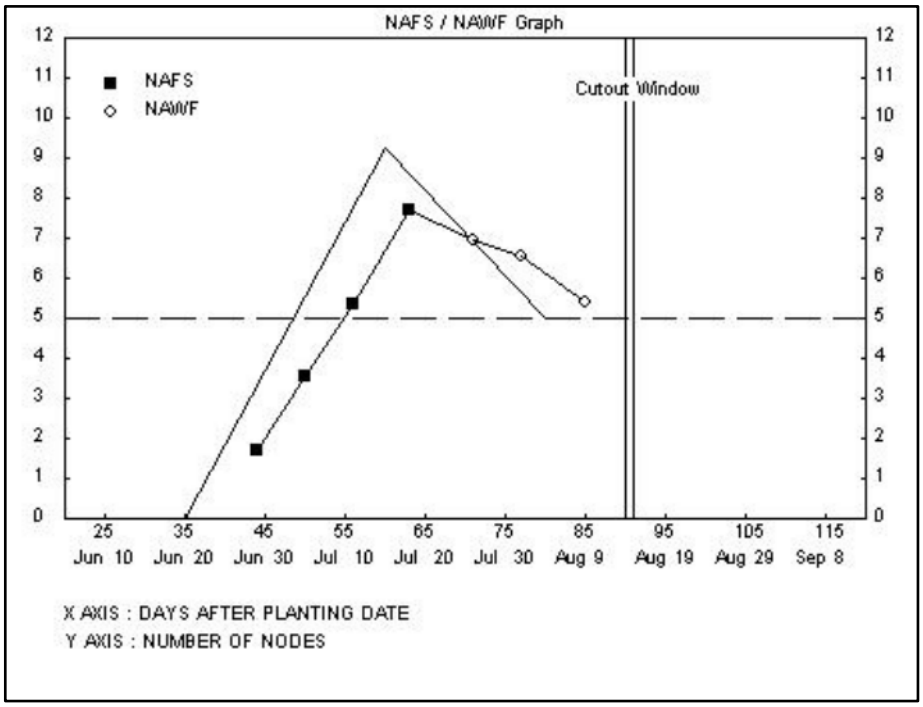
A burndown of Cornerstone and dicamba was applied. Also, 100 lbs of 0-40-100 pre-plant fertilizer were applied. Beds were pulled up and knocked down, and the cotton was planted at a rate of 41,000 seed/acre. The field received split applications to a total 100 units of nitrogen in a timely manner. The first application consisted of 75 lbs/acre of urea and 50 lbs/acre of ammonium sulfate. The second application came 15 days later and consisted of 125 pounds of urea.

Roundup Ultra and Dual were applied for contact and residual weed control. A second application of Roundup Ultra and Staple were applied for grass and morningglory control. A final application of Roundup Ultra, Dual and Envoke was applied at lay-by to control some morningglories that had emerged.

Insect pressure was the heaviest in the Lincoln County field. Three applications had to be made for plant bugs alone based on threshold levels. One application was made for heavy bollworm populations even though the cotton contained the Bollgard 2 technology.

Although the field started to square earlier than normal, some fruit loss due to heat or insect pressure may have caused some extra vegetative growth leading to a later-than-normal cut-out date as shown in this field's COTMAN graph.

Mississippi County (COTMAN Curve)



The field looked very good toward the end of the season. However, the field received several rains at the end of August. Many of the bottom bolls were affected by boll rot which reduced the yield. The field yielded 935 lbs/acre, which was 53 lbs less than the average.

Mississippi County

The Mississippi County field combined an experienced cotton farmer that had a desire to improve his management practices to achieve maximum yield while controlling costs and a young county agent with little cotton experience. The effort in this field was to teach the young agent and the farmer about the university's recommendations. The first year the farmer was in the program, the field yielded 1,399 lbs/acre.

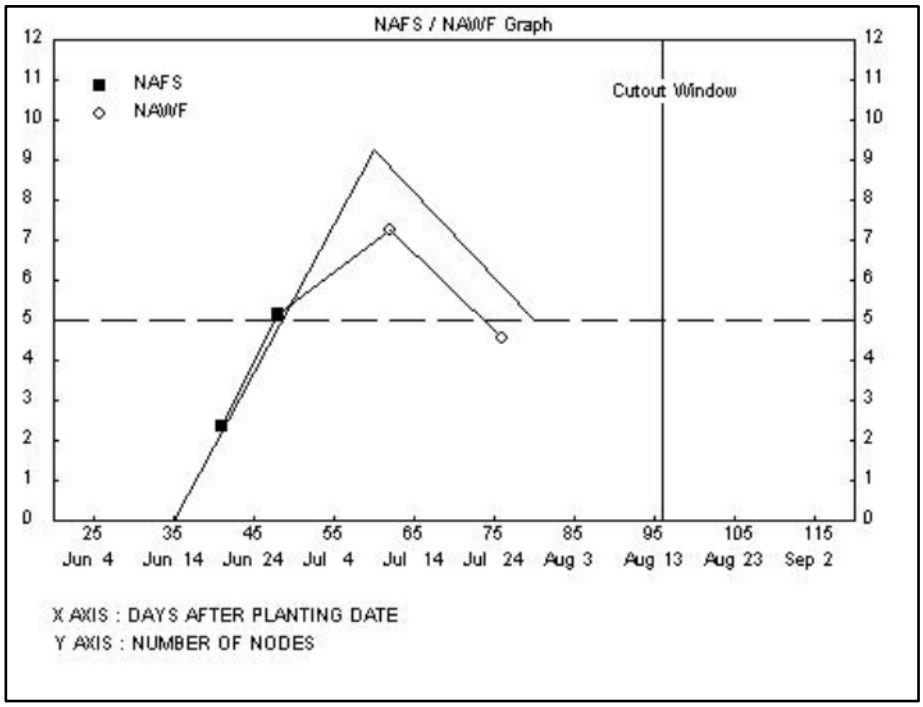
Pre-plant fertilizer was applied consisting of 200 lbs of 6-10-29-7S. The field was planted in DPL 0912 at a rate of 42,000 seed/A. A total of 200 lbs/acre of urea was applied, bringing the total nitrogen applied to 104 lbs/acre.

The beds were pulled using a do-all with middle buster plows attached so no further field work was needed. Reflex was applied after the beds were established for planting. Weed pressure was moderate with pigweed being the major problem. Roundup and Warrant were applied at 2-3 leaf to provide a residual barrier for early-season pigweed control. A couple of weeks later, row hoods were used with Gramoxone and Valor being sprayed in the middles and Roundup and Staple being sprayed over the row. A lay-by application of Gramoxone and Valor was applied to the field. This weed control program was successful in keeping the number of pigweed escapes down. The number of escapes compared to last year was reduced.

Plant bug pressure was very light, and the field only had to be sprayed twice for plant bugs. The first application was made three weeks into the squaring period. Orthene and Diamond were used and excellent control over the plant bugs was achieved. The second application was made five weeks later. Abamectin had to be used to control an outbreak of spider mites late in the season.

The field began to square later than normal. As the season progressed, the COTMAN graph shows that the field stayed behind the normal

Phillips County (COTMAN Curve)



curve. However, the field was cut-out (NAWF 5) by August 9. August 10 is the cutoff date for north Arkansas in which a bloom can become a harvestable boll in normal weather conditions.

The field looked good going into the month of September and yielded well with an average yield of 1,248 lint lbs/A, which was 239 lbs over the verification program average. The producer stated that this field was one of his higher yielding fields. He attributes some of this high yield to the timeliness of applications and input management.

Phillips County

The Phillips County cotton verification field was a unique test. The field was planted in a new conventional variety that had previously been released by the University of Arkansas called UA 48. The producer wanted to try this variety to determine if conventional varieties would work on his farm.

The field was disked, new beds were established and the field was planted. The producer used a seeding rate of 42,000 seed/acre. This variety had some issues with stand establishment due to hard seed dormancy. Ten days after planting, the cotton emerged to a stand of 32,000 plants/acre and the decision was made that it was a good enough stand to keep. The soil test didn't call for any phosphorus or potassium. Urea was applied to the field at the rate of 155 lbs.

Weed control in a conventional system is more complicated, and special consideration must be given before this type of system is used. Tillage was used to incorporate the previous year's crop residue. New beds were pulled, and Treflan was applied for pre-emergent control of pigweed and grasses. Dual was applied at the first true leaf to prevent any pigweeds from emerging. Next, a tank mix of Direx and MSMA was applied to the middles using a set of row hoods. Staple was sprayed over the row a few days later. This was all done after the water furrows had been plowed so that the residual herbicide would not be disturbed. The field remained clean throughout the rest of the season.

Insect pressure was moderate. Worm pressure was the biggest concern. Two new products were used for worm control. Half of the field was treated with Belt and the other half treated with Coragen to determine the efficacy of these

products. They both proved to be excellent insecticides for control of bollworms. Little boll damage was noticed throughout the season.

The variety that was planted in this field is a very early maturing variety which is proven by the data on the COTMAN graph. The field began squaring slightly earlier than normal; however, it reached cut-out (NAWF 5) almost ten days earlier than normal.

The field appeared to be growing well until it was defoliated in September. A pattern was noticed that from the east end of the field outward into the field there was no fruit on the top part of the plants. This pattern was not seen in a small area of DPL 0912 that was planted on one side due to the producer running out of UA 48. Glyphosate drift is thought to be the reason for the poor fruit load. The field yielded 545 lbs/acre, which was 443 lbs less than the average. The producer has stated that he wants to continue the program in the following year using a different variety.

Economic Analysis

This section provides information on production costs for the 2011 CRVP. Records of field operations on each field provide the basis for estimating these costs. The field records were compiled by the CRVP coordinator, county Extension agents and cooperators. Production data from the seven fields were applied to determine costs and returns above operating costs as well as total specified costs. Operating costs and total costs per pound indicate the commodity price needed to meet each cost type.

Operating expenses are those expenditures that would generally require annual cash outlays and would be included on an annual operating loan application. Actual quantities of all operating inputs as reported by the cooperators are used in this analysis. Input prices are determined by data from the 2011 Crop Enterprise Budgets published by the Cooperative Extension Service and information provided by the producer cooperators. Fuel and repair costs for machinery are calculated using a budget calculator based on parameters and standards established by the American Society of Agricultural and Biological Engineers. Machinery repair costs should be regarded as estimated values for full service repairs, and actual cash outlays could differ as producers provide unpaid labor for equipment maintenance.

Ownership costs of machinery are determined by a capital recovery method which determines the amount of money that should be set aside each year to replace the value of equipment used in production. Machinery costs are estimated by applying engineering formulas to representative prices of new equipment. This measure differs from typical depreciation methods as well as actual annual cash expenses for machinery.

Operating costs, total costs, costs per pound and returns are presented in Table 1. Costs in this report do not include land costs, management, or other expenses and fees not associated with production. Budget summaries for cotton are presented in Table 2. Price received for cotton of $0.90/lb is the Arkansas average based on industry contacts. Average cotton yield for verification fields is 988 lb/acre.

Average operating costs for cotton in Table 1 are $484.98 per acre. Table 2 indicates that chemicals are the largest expense category at $132.96/acre. Seeds and associated technology fees are the second largest expense category at $118.09/acre. Fertilizers and nutrients average $79.46/acre.

With average yield of 988 lbs/acre, average operating costs are $0.53/lb in Table 1. Operating costs range from a low of $384.53 in Jefferson County to a high of $562.22 in Lincoln County. Returns to operating costs average $403.99 per acre. The range is from a low of $32.96 in Phillips County to a high of $721.14 in Clay County. Average fixed costs are $100.14, which leads to average total costs of $585.12 per acre. Returns to total specified costs average $303.85 per acre with a low of -$3.79 in Phillips County and a high of $596.23 in Clay County. Total specified costs average $0.63/lb.

APPENDIX

TABLE 1.
Operating Costs, Total Costs and Returns
2011 Cotton Research Verification Program

Field	Operating Costs	Operating Costs Per Pound	Returns to Operating Costs	Total Fixed Costs	Total Costs	Returns to Total Costs	Total Costs Per Pound
Clay	492.00	0.37	721.14	124.90	616.90	596.23	0.46
Craighead	561.36	0.45	561.55	114.03	675.39	447.51	0.54
Jefferson	384.53	0.42	438.88	94.78	479.31	344.10	0.52
Lee	395.30	0.57	232.00	123.48	518.78	108.52	0.74
Lincoln	562.22	0.60	279.28	109.06	671.28	170.22	0.72
Mississippi	541.91	0.44	562.11	97.97	639.88	464.14	0.52
Phillips	457.54	0.84	32.96	36.76	494.29	-3.79	0.91
Average	**484.98**	**0.53**	**403.99**	**100.14**	**585.12**	**303.85**	**0.63**

TABLE 2.
Summary of Revenue and Expenses Per Acre
2011 Cotton Research Verification Program

Receipts	Field							
	Clay	Craighead	Jefferson	Lee	Lincoln	Mississippi	Phillips	Average
Yield (lb)	1347.9	1247.7	914.9	697	935	1227	545	987.7
Price ($/lb)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.9
Total Crop Revenue	**1213.14**	**1122.90**	**823.41**	**627.30**	**841.50**	**1104.02**	**490.50**	**889.0**
Cottonseed Value	**165.80**	**153.46**	**112.53**	**85.73**	**115.01**	**150.88**	**67.04**	**121.5**
Operating Expenses								
Seed	92.45	110.85	125.00	137.50	125.00	110.85	125.00	118.1
Fertilizers & Nutrients	104.02	110.67	37.08	41.60	122.96	103.52	36.40	79.5
Chemicals	103.39	164.14	76.42	72.72	149.91	203.93	160.20	133.0
Custom Applications	17.25	5.75	5.75	0.00	28.00	0.00	56.05	16.1
Fuel & Lube	34.69	24.32	23.66	28.82	30.22	23.58	15.33	25.8
Repairs & Maintenance	29.95	27.12	23.22	34.61	26.62	25.48	7.19	24.9
Irrigation Energy Costs	54.99	61.87	48.12	39.16	28.45	18.97	18.97	38.6
Labor, Field Activities	16.22	15.73	15.11	13.31	16.13	15.20	6.28	14.0
Other Inputs & Fees, Pre-Harvest	39.05	40.90	30.17	27.58	34.93	40.38	32.13	35.0
Post-Harvest Expenses	165.80	153.46	112.53	85.73	115.01	150.88	67.04	121.5
Net Operating Expenses	**492.00**	**561.36**	**384.53**	**395.30**	**562.22**	**541.91**	**457.54**	**485.0**
Returns to Operating Expenses	**721.14**	**561.55**	**438.88**	**232.00**	**279.28**	**562.11**	**32.96**	**404.0**
Capital Recovery & Fixed Costs	124.90	114.03	94.78	123.48	109.06	97.97	36.76	100.1
Total Specified Expenses[1]	**616.90**	**675.39**	**479.31**	**518.78**	**671.28**	**639.88**	**494.29**	**585.1**
Returns to Specified Expenses	**596.23**	**447.51**	**344.10**	**108.52**	**170.22**	**464.14**	**-3.79**	**303.8**
Operating Expenses/lb	0.37	0.45	0.42	0.57	0.60	0.44	0.84	0.5
Total Expenses/lb	0.46	0.54	0.52	0.74	0.72	0.52	0.91	0.6

[1]Does not include land costs, management or other expenses and fees not associated with production.

TABLE 3.
Variety, Soil Series, Previous Crop, Acreage and Lint Yield in the 2011 Cotton Research Verification Program by County

County	Variety	Soil Series	Previous Crop	Acreage	Lint Yield
Clay	DPL 0912 B2RF	Falaya-Amagon	Cotton	40	1348
Craighead	DPL 0912 B2RF	Fountain	Cotton	53	1248
Jefferson	ST 5458 B2RF	Roxana	Soybeans	55	915
Lee	DPL 0912 B2RF	Alligator-Sharkey	Wheat	80	697
Lincoln	ST 5458 B2RF	Rilla-Herbert	Cotton	40	935
Mississippi	DPL 0912 B2RF	Dundee	Cotton	45	1227
Phillips	UA 48	Calloway-Grenada	Cotton	50	545
Average				**52**	**988**

TABLE 4.
Soil Test Results and Total Applied Fertilizer in the 2011 Cotton Research Verification Program by County

County	pH	P	K	S	Total Applied Fertilizer
		---------- Lbs/Acre ----------			N-P-K-S-B[1]
Clay	6.4	88*	274*	18	101-40-60
Craighead[2]	.	.	.	.	110-28-46
Jefferson	7.4	136*	287*	12	70-0-0-0
Lee[3]	.	.	.	.	80-0-0-0
Lincoln	6.3	134*	294*	12	103-40-100-12
Mississippi	6	77*	283*	13	94-20-58-14-1
Phillips	6.5	126*	313*	27	70-0-0-0

[1]Nitrogen-Phosphorus-Potassium-Sulfur-Boron
[2]The Craighead County field had already been sampled and had the fertilizer applied.
[3]The Lee County field was not sampled due to the wheat crop already in the field.
*Denotes an optimum level according to soil tests.

TABLE 5. Herbicide, Rates and Timings in the 2011 Cotton Research Verification Program by County			
County	**Herbicide**	**Rate (oz/acre)**	**Timing**
Clay	Reflex	6 oz.	Pre-Plant
	Cotoran	16 oz.	Pre-Emerge
	Roundup PMX	22 oz.	In-Season
	Dual Magnum	16 oz.	In-Season
	Roundup PMX	22 oz.	In-Season
	Dual Magnum	16 oz.	In-Season
Craighead	Treflan	32 oz.	Pre-Plant
	Diuron	16 oz.	Pre-Plant
	Gramoxone	48 oz.	Pre-Emerge
	Roundup WMX	24 oz.	In-Season
	Warrant	48 oz.	In-Season
	Warrant	48 oz.	In-Season
	Caporal	16 oz.	Post Direct
	MSMA	32 oz.	Post Direct
	Roundup	24 oz.	Lay-By
	Diuron	24 oz.	Lay-By
Jefferson	Treflan	24 oz.	Pre-Plant
	Roundup	32 oz.	In-Season
	Dual Magnum	16 oz.	In-Season
	Roundup	32 oz.	In-Season
	Dual Magnum	16 oz.	In-Season
Lee	Glyphosate	32 oz.	In-Season
	Dual Magnum	16 oz.	In-Season
	Glyphosate	32 oz.	In-Season
	Dual Magnum	16 oz.	In-Season
Lincoln	Cornerstone	32 oz.	Burndown
	Dicamba	8 oz.	Burndown
	Roundup UMX	21.3 oz.	In-Season
	Dual Magnum	16 oz.	In-Season
	Roundup UMX	21.3 oz.	In-Season
	Staple	1 oz.	In-Season
	Glyphosate	32 oz.	Lay-By
	Envoke	0.15 oz.	Lay-By
	Dual Magnum	16 oz.	Lay-By
Mississippi	Dicamba	8 oz.	Burndown
	First Shot	1.5 oz	Burndown
	Reflex	16 oz.	Pre-Plant
	Parazone	1.75 oz	Pre-Emerge
	Roundup	24 oz.	In-Season
	Warrant	48 oz.	In-Season
	Gramoxone	16 oz.	In-Season
	Valor	1 oz.	In-Season
	Roundup PMX	22 oz.	In-Season
	Staple	1.5 oz.	In-Season
	Aim	1.5 oz	Post Direct
	Gramoxone	16 oz.	Lay-By
	Valor	1.33 oz.	Lay-By
Phillips	Dual Magnum	16 oz.	In-Season
	Direx	16 oz.	In-Season
	MSMA	32 oz.	In-Season
	Staple	1.25 oz.	In-Season

TABLE 6. Insecticides and Rates in the 2011 Cotton Research Verification Program by County		
County	**Insecticide**	**Rate (lbs/oz/acre)**
Clay	Asana	4 oz.
	Centric	1.5 oz.
	Acephate	0.5 lb.
	Diamond	6 oz.
	Bidrin	8 oz.
Craighead	Centric	2 oz.
	Bracket	0.75 lb.
Jefferson	Bidrin	6 oz.
	Orthene	0.5 lb.
	Bifenthrin	2 oz.
	Bidrin	6 oz.
	Diamond	6 oz.
Lee	Orthene	0.5 lb.
	Tombstone	2 oz.
	Bidrin	6 oz.
	Orthene	0.75 lb.
	Bifenthrin	5 oz
Lincoln	Bidrin	6 oz.
	Diamond	6 oz.
	Bidrin	6 oz.
	Diamond	6 oz.
	Tundra	6 oz.
	Acephate	0.75 lb.
	Karate	2 oz.
	Acephate	0.5 oz.
Mississippi	Orthene	0.5 lb.
	Diamond	6 oz.
	Abamectin	10 oz.
	Acephate	0.75 lb.
Phillips	Acephate	0.25 lb.
	Karate	1 oz.
	Orthene	0.75 lb.
	Belt[1]	3 oz.
	Bidrin[1]	8 oz.
	Coragen	4 oz.
	Bifenthrin	5 oz.
	Bifenthrin	6 oz.
	Abamectin	6 oz.
	Indigo	5 oz.

[1]Only half the field was treated.

TABLE 7. Defoliation and Rates in the 2011 Cotton Research Verification Program by County		
County	**Defoliant**	**Rates**
Clay	Folex	8 oz.
	Prep	10 oz.
	Dropp	2 oz.
	Folex	8 oz.
	Prep	32 oz
Craighead	Dropp	2 oz.
	Folex	6 oz.
	Prep	8 oz.
	Aim	1 oz.
	Prep	32 oz.
Jefferson	Dropp	2 oz.
	Folex	8 oz.
	Prep	10 oz.
	Folex	8 oz.
	Prep	32 oz
Lee	Dropp	2 oz.
	Folex	6 oz.
	Prep	8 oz.
	Folex	8 oz.
	Prep	32 oz
Lincoln	Dropp	2 oz.
	Folex	4 oz.
	Prep	5 oz.
	Dropp	1.6 oz.
	Folex	3 oz
	Prep	51 oz.
Mississippi	Prep	10 oz.
	Folex	8 oz.
	Dropp	1.5 oz
	Prep	32 oz.
	Folex	8 oz.
Phillips	Folex	5 oz.
	Prep	5 oz.
	Ginstar	5 oz.
	Prep	32 oz.

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