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Summaries of Arkansas Cotton Research 2004

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Edited by Derrick M. Oosterhuis

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SUMMARIES OF ARKANSAS COTTON RESEARCH 2004

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PREFACE

The final state average lint yield of 1114 lb lint/acre from 900,000 harvested acres shattered the previous record of 916 lb/acre in 2003 by almost 200 lb. Dryland yields were very good and irrigated yields were even better. Total bales produced exceeded the 2 million bale mark, which surpassed the previous record set in 1948 of just under 2 million bales from 2.305 million harvested acres. However, the season average price of $0.488 resulted in lower earnings in 2004 compared to 2003 in which season average prices were $0.625.

The high soybean prices at the start of 2004 resulted in a reduction in cotton acreage from the ten-year average of one million acres. Cotton planting started early and was well underway by mid-April. However, wet weather in some areas extended planting into late May.

Excessive rain continued through much of the early season and hampered weed- and insect-control measures. In some areas of the state producers were not able to get a tractor in the field during the month of June.

Final splits or the single application of fertilizer was delayed in some areas until flowering. The excessive rainfall in most areas of the state negatively impacted the bottom crop, which was almost nonexistent in southwest and southeast Arkansas.

Plant bug pressures were heavy during the boll-filling period. Stink bug pressures, which were high the previous year, did not materialize in 2004. The Boll Weevil Eradication Program continued to make great progress toward eradicating the weevil statewide.

Both day and night temperatures were very favorable most of the season with the exception of a short period in mid-July. Great concerns were expressed during August about the low heat-unit accumulation. For a number of days the accumulation of heat units was limited to the single digits. Leaf reddening as a result of the cool temperatures was common. The fruit shed generally seen each year after the onset of flowering was not experienced in 2004. Cool weather in August was followed by a warm September, which helped fill the bolls all the way to the terminal. The number of seeds per boll was higher than usual, with some counts of over 40 seeds per boll. In addition, timely rainfall was received throughout the growing season in most areas, especially northeast Arkansas.

The first half of harvest flew by at almost record pace and many fields were harvested with no rainfall occurring from first cracked boll to harvest. Hard lock and boll rot were not seen. Late-season rains decreased harvest efficiency and increased the amount of cotton on the ground, although yields remained high. The late-season rains negatively impacted fiber color, however, grades were excellent in the early crop. Fiber length and micronaire were good. Slightly over 5% of the crop received discounts for high micronaire, while less than 1% received discounts for low micronaire.

The record yields were attributed mainly to favorable temperatures and timely rainfall throughout the season, but also to boll weevil eradication, improved varieties, and the technologies associated with these varieties.

Bill Robertson and Derrick Oosterhuis

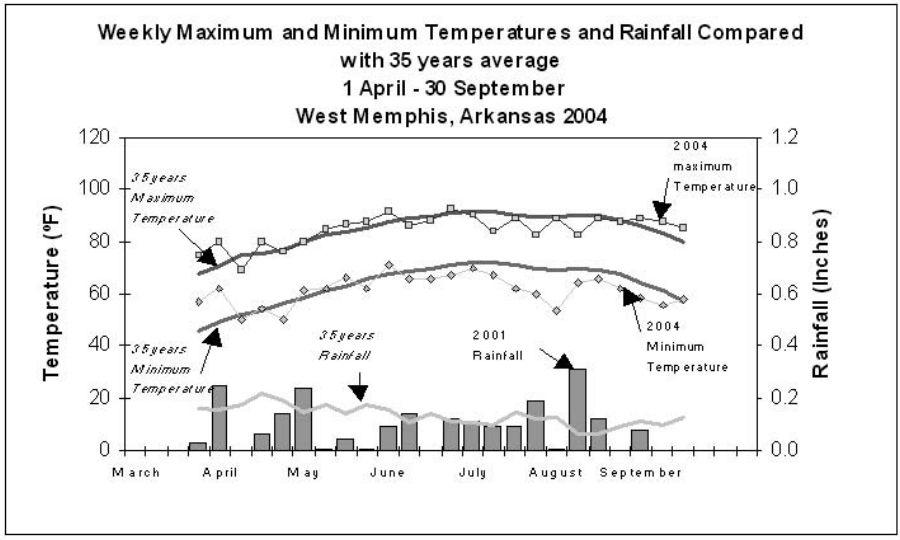

Fig. 1. Weekly maximum and minimum temperatures and rainfall for 2004 compared with the long-term 35-year averages at West Memphis, Ark.

ARKANSAS COTTON RESEARCH GROUP

2004/2005

The University of Arkansas Cotton Group is composed of a steering committee and three sub-committees representing production, genetics, and pest management. The group contains appropriate representatives in all the major disciplines as well as representatives from the Cooperative Extension Service, the Farm Bureau, the Agricultural Council of Arkansas, and the State Cotton Support Committee.

The objective of the Arkansas Cotton Group is to coordinate efforts to improve cotton production and keep Arkansas producers abreast of all new developments in research.

Steering Committee: Don Alexander, Fred M. Bourland, Frank Groves, Gus Lorenz, Gene Martin, Robert McGinnis, Derrick M. Oosterhuis (Chm.), Bill Robertson, Craig Rothrock, James McD. Stewart, David Wildy, and Jerry Williams.

Pest Management: Jeremy K. Greene, Terry L. Kirkpatrick, Tim Kring, Gus Lorenz, Randy Luttrell, Bill Robertson, Craig Rothrock (Chm.), Kenneth L. Smith, Don Steinkraus, Glenn Studebaker, Tina Teague, and Seth Young.

Production: Kelly Bryant, Mark Cochran, Leo Espinoza, Dennis Gardisser, Frank Groves, Robert Hogan, Gus M. Lorenz, J. Scott McConnell, Morteza Mozaffari, Derrick M. Oosterhuis (Chm.), Lucas Parsch, Donald Plunkett, Bill Robertson, Phil Tacker, and Earl D. Vories.

Genetics: Fred M. Bourland, Hal Lewis, Bill Robertson, and James McD. Stewart (Chm.).

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COTTON INCORPORATED AND THE ARKANSAS STATE SUPPORT COMMITTEE

The *Summaries of Arkansas Cotton Research 2004* has been published with funds supplied by the Arkansas State Support Committee through Cotton Incorporated.

The principal purpose of Cotton Incorporated is to increase the profitability of cotton production by building demand for U.S. cotton. The Arkansas State Support Committee of Cotton Incorporated is a board whose voting members are cotton growers from Arkansas. Advisory members include representatives of Arkansas' certified producer organizations, the University of Arkansas, the Cotton Board, and Cotton Incorporated. Five percent of Cotton Incorporated's total budget is allocated for research and promotional activities, as determined by the State Support Committees of the cotton-producing states. The sum allotted to Arkansas' State Support Committee is proportional to Arkansas' contribution to the total U.S. cotton fiber production and value in the five years previous to the budget.

The Cotton Research and Promotion Act is a federal marketing law. The objective of the act is to develop a program for building demand and markets for U.S. cotton. The Cotton Board, based in Memphis, Tennessee, was created to administer the act and is empowered to contract within an organization with the capacity to develop such a program. Cotton Incorporated, with its main offices in Cary, North Carolina, the center of the U.S. textile industry, is the contracting agency. Cotton Incorporated also maintains offices in Osaka, Japan; Mexico City; Shanghai, China; and Singapore, Malaysia, to foster international sales. Both the Cotton Board and Cotton Incorporated are non-profit entities with governing boards comprised of cotton growers and cotton importers. The budgets of both organizations are annually reviewed and approved by the U.S. Secretary of Agriculture.

Cotton production research in Arkansas is supported, in part, by Cotton Incorporated directly from its national budget and by the Arkansas State Support Committee from its formula funds. Several of the projects described in this research series publication, including publication costs, are supported wholly or in part by these means.

Arkansas Cotton State Support Committee / Cotton Incorporated Funding 2004.

Projects	Researcher	Short title	$ Funding
01-960AR	Robertson	Herbicide drift	$12,000
02-191AR	Greene	Stink bug thresholds	$15,500
02-192AR	Guy	Large-scale variety evaluations	$10,000
02-193AR	Kring	Aphid threshold with beneficials	$11,787
02-291AR	Oosterhuis	Cotton Research in Progress	$6,500
03-349AR	Teague	Stress indices	$14,400
04-470AR	Bourland	Cotton breeding	$26,130
04-439AR	Kirkpatrick	Reniform nematodes biology	$18,488
04-492AR	Teague	Impact of irrigation on pests	$19,823
04-491AR	Greene	Stink bugs in BGII	$13,000
04-447AR	Talbert	Resistant horseweed	$18,661
04-440AR	Oosterhuis	High temperature effects	$18,000
04-441AR	Oosterhuis	Nitrogen status	$1,300
04-442AR	Oosterhuis	Bt translocation	$2,950
04-443AR	Oosterhuis	Root development	$15,300
04-444AR	Robertson	Late-planted cotton	$16,790
04-477AR	Robertson	Sub-surface drip irrigation	$15,570
04-445AR	Robertson	Technology transfer	$25,130
04-476AR	Baker	Plant stress	$23,814
04-446AR	Robertson	Defoliation timing	$19,140
C/S pool		Cottonseed pool - Ark.	$5,000
TOTAL			**$309,283**

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ARKANSAS COTTON RESEARCH
— 2004 —

UNIVERSITY OF ARKANSAS

DIVISION OF AGRICULTURE