

Summaries of Arkansas Cotton Research 2004



Edited by Derrick M. Oosterhuis

ARKANSAS AGRICULTURAL EXPERIMENT STATION

Division of Agriculture

University of Arkansas System

October 2005

Research Series 533

This publication is available on the Internet at www.uark.edu/depts/agripub/publications

Additional printed copies of this publication can be obtained free of charge from Communication Services, 110 Agriculture Building, University of Arkansas, Fayetteville, Ark. 72701.

Layout and editing by Marci Milus

Technical editing and cover design by Camilla Romund

Arkansas Agricultural Experiment Station, University of Arkansas Division of Agriculture, Fayetteville. Milo J. Shult, Vice President for Agriculture; Gregory J. Weidemann, Dean, Dale Bumpers College of Agricultural, Food and Life Sciences and Associate Vice President for Agriculture–Research, University of Arkansas Division of Agriculture. PS500/PM7. The University of Arkansas Division of Agriculture follows a nondiscriminatory policy in programs and employment.

ISSN:1051-3140 CODEN:AKAMA6

**SUMMARIES OF
ARKANSAS COTTON
RESEARCH 2004**

Edited by Derrick M. Oosterhuis

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CONTENTS

Contributors	2
Preface.....	12
Arkansas Cotton Research Group.....	14
Acknowledgments	14
Cotton Incorporated and the Arkansas State Cotton Support Committee.....	15

SUMMARIES OF ARKANSAS COTTON RESEARCH 2004

University of Arkansas Cotton Breeding Program - 2004 Progress Report <i>Fred M. Bourland.....</i>	<i>19</i>
Germplasm Enhancement for Cotton Improvement <i>Carlos A. Avila and James McD. Stewart.....</i>	<i>23</i>
Development of a Molecular Marker Linked to Reniform Nematode Resistance in Cotton <i>Carlos A. Avila, James McD. Stewart, and Robert T. Robbins ..</i>	<i>28</i>
Evaluation of Techniques for Quantifying the Physiological Response of Cotton to High Temperature <i>Androniki C. Bibi, Derrick M. Oosterhuis, Evangelos D. Gonias, and Fred M. Bourland</i>	<i>34</i>
Screening a Diverse Set of Cotton Cultivars for High Temperature Tolerance <i>Androniki C. Bibi, Derrick M. Oosterhuis, Evangelos D. Gonias, and Fred M. Bourland</i>	<i>39</i>
The Physiological Response of Cotton to High Night Temperatures <i>L. Milenka Arevalo, Derrick M. Oosterhuis, and Robert S. Brown</i>	<i>44</i>

Effect of Foliar Chaperone™ Applications on Endotoxin and Protein Concentration, Insect Mortality, and Yield Response of Cotton	
<i>Derrick M. Oosterhuis and Robert S. Brown</i>	51
Yield Comparison of Modern Versus Obsolete Cultivars as a Measure of Yield Variability	
<i>Robert S. Brown, Derrick M. Oosterhuis, L. Milenka Arevalo, and Larry A. Fowler</i>	57
High Daytime Temperature Stress Effects on the Physiology of Modern Versus Obsolete Cotton Cultivars	
<i>Robert S. Brown and Derrick M. Oosterhuis</i>	63
Effects of Early-Season Adverse Conditions on Root Development and the Subsequent Stress	
<i>Nathan B. Mills, Derrick M. Oosterhuis, and Bobbie L. McMichael</i>	68
Effect of the Plant Growth Regulator PGR-IV Plus as a Safener for Glyphosate Applications in Cotton	
<i>Evangelos D. Gonias, Derrick M. Oosterhuis, Androniki C. Bibi, and Robert S. Brown</i>	72
Cotton Plant Response to Trimax™ Insecticide Foliar Application and Increasing Temperature	
<i>Evangelos D. Gonias, Derrick M. Oosterhuis, and Androniki C. Bibi</i>	76
Seedcotton Yield and Petiole Phosphorus as Affected by Phosphorus Fertilizer Application	
<i>Morteza Mozaffari, Derrick M. Oosterhuis, J. Scott McConnell, Nathan A. Slaton, Edwin E. Evans, Evangelos D. Gonias, Androniki C. Bibi, and Claude Kennedy</i>	80
Effect of Potassium Fertilization on Yield, Petiole K, and Reflective Properties of Cotton	
<i>Morteza Mozaffari, Derrick M. Oosterhuis, J. Scott McConnell, Nathan A. Slaton, Edwin E. Evans, Androniki C. Bibi, Evangelos D. Gonias, Fred M. Bourland and Claude Kennedy</i>	85

Cotton Yield and Petiole Nitrogen Content as Affected by Nitrogen Fertilizer Application	
<i>Morteza Mozaffari, J. Scott McConnell, Katy Hattenhauer, Nathan A. Slaton, Edwin E. Evans, Woody N. Miley, Fred M. Bourland, and Claude Kennedy.....</i>	<i>89</i>
Evaluation of the Effect of Pelleted Poultry Litter and Inorganic Nitrogen on Cotton Yield in the Mississippi Delta Region of Arkansas	
<i>Morteza Mozaffari, Nathan A. Slaton, Edwin E. Evans, J. Scott McConnell, Katy Hattenhauer, and Claude Kennedy ...</i>	<i>95</i>
Comparisons of Foliar Nitrogen Fertilization Strategies and Methods for Cotton	
<i>J. Scott McConnell, Ryan C. Doherty, Jason A. Rauls, and Morteza Mozaffari.....</i>	<i>99</i>
Long-Term Irrigation Methods and Nitrogen Fertilization Rates in Cotton Production: The Last Three Years of the McConnell-Mitchell Plots	
<i>J. Scott McConnell, Jason A. Rauls, Ryan C. Doherty, and Morteza Mozaffari.....</i>	<i>106</i>
Varietal Responses of Cotton to Nitrogen Fertilization	
<i>J. Scott McConnell, Ryan C. Doherty, Jason A. Rauls, and Morteza Mozaffari.....</i>	<i>115</i>
Fertilizer Recommendation Practices for the Most Popular Crop Rotations in Arkansas Under Conventional and Reduced Tillage Systems	
<i>Leo Espinoza, Claude Kennedy, and Paul Ballantyne.....</i>	<i>119</i>
Plant Response to Irrigation Treatments in Arkansas Cotton	
<i>Sreekala G. Bajwa and Earl D. Vories.....</i>	<i>126</i>
Gene Expression in Developing Cotton Fibers as a Model of Water-Deficit Stress in Cotton Roots	
<i>Bill Hendrix, James McD. Stewart, and Thea A. Wilkins</i>	<i>134</i>

Evaluation of Mepiquat Chloride Treatments at Cutout or the Latest Possible Cutout Date	
<i>Matt L. Cordell, William C. Robertson, and Frank E. Groves</i>	141
Heliothine Control with WideStrike™ in Arkansas, 2004	
<i>Gus M. Lorenz, III, Jarrod Hardke, C. Kyle Colwell, Jeremy K. Greene, Glenn E. Studebaker, Chuck D. Capps, and Donald Plunkett</i>	144
Efficacy of Selected Insecticides for Plant Bug Control in Arkansas, 2004	
<i>Gus M. Lorenz, III, C. Kyle Colwell, Jarrod Hardke, Jeremy K. Greene, Chuck D. Capps, Adam Chapell, Glenn E. Studebaker, and Richard Edmund</i>	148
Performance of Bollgard II in Arkansas, 2004	
<i>Gus Lorenz, III, C. Kyle Colwell, Jarrod Hardke, Jeremy K. Greene, Chuck D. Capps, Glenn E. Studebaker, and Donald Plunkett</i>	153
Economic Effect of Late Irrigation on Mid-South Cotton	
<i>Robert Hogan, Jr., Earl D. Vories, Jeremy K. Greene, William C. Robertson, Jason Stewart, and Phil Tacker</i>	156
Summary of Experiments: Glyphosate-Resistant Horseweed in Arkansas Cotton	
<i>Marilyn R. McClelland, Ronald E. Talbert, Kenneth L. Smith, James L. Barrentine, Griff M. Griffith, and Monica B. Kelley</i>	161
Effects of Glyphosate and Insecticide Interactions on Control of Tarnished Plant Bug, <i>Lygus lineolaris</i>, in Roundup Ready Cotton	
<i>Jeremy K. Greene and Chuck D. Capps</i>	165
Control Options for Thrips in Southeast Arkansas, 2004	
<i>Chuck D. Capps, Jeremy K. Greene, Glenn E. Studebaker, and Gus M. Lorenz, III</i>	169
Effect of Boll Age on Stink Bug Feeding and Yield Loss, 2004	
<i>Jeremy K. Greene and Chuck D. Capps</i>	173

Efficacy of Selected Pesticides For Control of Stink Bugs, 2004 <i>Jeremy K. Greene and Chuck D. Capps</i>	177
Effect of Foliar-Applied Insecticides for Plant Bug in 2004 <i>Glenn E. Stuebaker</i>	186
Cotton Aphid Treatment Decisions Based on Density Estimates of Predaceous Coccinellids <i>Adam Chapell, Tim Kring, Gus M. Lorenz, III, Jeremy K. Greene, and Glenn E. Stuebaker</i>	190
Measuring Baseline Susceptibility of Heliothine Populations for Bt Resistance Monitoring <i>M. Ibrahim Ali and R.G. Luttrell</i>	195
Effect of Planting Date on Response of Cotton to Envoke™ <i>Griff M. Griffith, James L. Barrentine, Marilyn R. McClelland, and Oscar C. Sparks</i>	200
Variation in Heliothine Pheromone Trap Captures Across Large Cotton-Producing Farms in Southeastern Arkansas <i>Kerry C. Allen, R.G. Luttrell, M. Ibrahim Ali, J. Patterson, G. Head, and W. Mullins</i>	204
Effects of Increasing <i>Meloidogyne incognita</i> Densities on the Interaction with <i>Thielaviopsis basicola</i> Under Early-Season Environmental Conditions <i>W. Scott Monfort, Terry L. Kirkpatrick, and Craig S. Rothrock</i>	210
Evaluation of Carfentrazone in a Layby Herbicide Program <i>Frank E. Groves, Kenneth L. Smith, Jason R. Meir, and Monica B. Kelley</i>	217
Utilizing Natural Biological Control for Cotton Aphids: Cotton Aphid Fungus Sampling Service Twelfth Year <i>Donald C. Steinkraus and Jon Zawislak</i>	220
Cotton Aphids Infected by <i>Neozygites fresenii</i> Produce Less Offspring and Honeydew <i>Sasha Kay and Donald C. Steinkraus</i>	224

Effects of Simulated Drift of Glyphosate, Propanil, and 2,4-D on Cotton	
<i>William C. Robertson, Matt L. Cordell, and Frank E. Groves</i>	228
The Influence of Micronaire Estimation and Heat Unit Accumulation on Defoliation Timing	
<i>Frank E. Groves, William C. Robertson, and Matt L. Cordell</i>	232
Defoliation Timing Based on Heat Units Beyond Cutout	
<i>William C. Robertson, Matt L. Cordell, and Frank E. Groves</i>	235
Evaluation of Yield Monitors for On-Farm Cotton Variety Testing	
<i>Matt L. Cordell, William C. Robertson, and Frank E. Groves</i>	238
Costs and Returns for No-Till Cotton: Two Years of On-Farm Observations	
<i>Kelly J. Bryant</i>	241
Cotton Research Verification Programs - 2004 Progress Report	
<i>Frank E. Groves, William C. Robertson, and Kelly J. Bryant</i>	249
Appendix I	
<i>Student Theses and Dissertations Related to Cotton in Progress in 2004</i>	254
Appendix II	
<i>Research and Extension 2004 Cotton Publications</i>	256

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

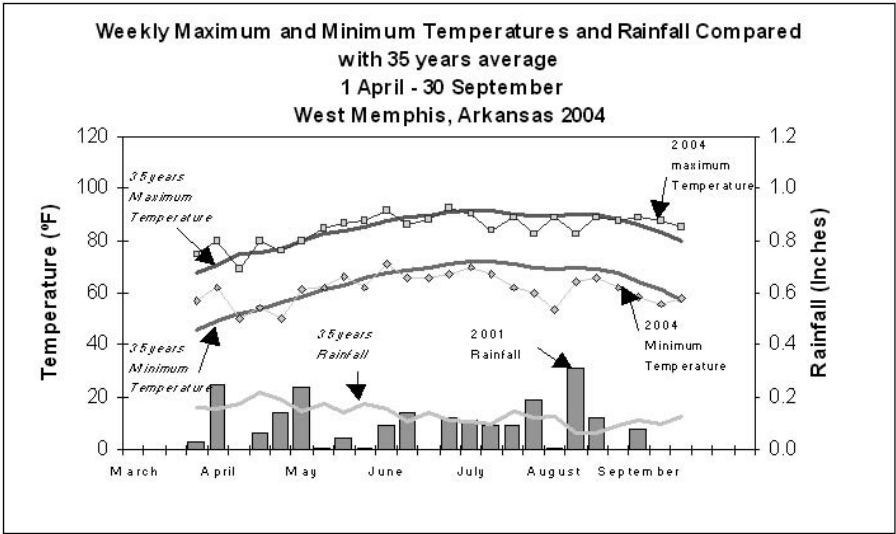


Fig. 1. Weekly maximum and minimum temperatures and rainfall for 2004 compared with the long-term 35-year averages at West Memphis, Ark.

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.

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ACKNOWLEDGMENTS

The organizing committee would like to express appreciation to Marci Milus for help in typing this special report and formatting it for publication.



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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— 2004 —**

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DIVISION OF AGRICULTURE