ANNUAL REPORT
RESEARCH PROGRAM
2003/04

Department of Agricultural and Applied Economics
College of Agricultural Sciences and Natural Resources
Texas Tech University

September 2004

Compiled by

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General Summary

The department began producing formal reports of research activities in 1995/96 in conjunction with the establishment of the Cotton Economics Research Program; reports on Cotton Economics Research have been done annually since then. As our research programs expanded and diversified, we initiated a separate Departmental Research Report in 1998/99. With this annual report we are combining all research reporting into the single report, with more compartmentalization of research programs.

This report highlights research activities in the Department of Agricultural and Applied Economics during fiscal year 2003/04. The overall program has been characterized by its flexibility in addressing varied issues of economic significance and is applied in nature, although there are some other disciplinary elements within it. We are allocating approximately 46% of its full-time faculty resources to research (about 6 FTE on a 12-month basis), including our 48% research appointment with the Texas Agricultural Experiment Station. Research projects in the department cover a range of subject matter areas: production economics (including finance and risk management), market economics, natural resource (including environmental) economics, international economics, economic policy analysis, and consumer economics.

Fiscal year 2003/04 was another productive research year for the Department of Agricultural and Applied Economics. Overall, 32 different research projects were active during the year. Appendix A contains the individual annual reports of each active research project. While we are increasing our level of research activity in cotton economics, an increasing proportion of the research is in other subject-matter areas. The research program is becoming more diverse as per our strategic plan. Also, the program continues to become relatively more nationally and internationally focused, as opposed to state focused. These changes are occurring in part because of our relatively greater federal funding compared to state funding.

Total funding secured by faculty in the Department for the research projects during fiscal year 2003/04 was $1,608,000 (Table 1). More details on research funding in 2003/04 are provided in Appendix B. The specifics with respect to the funding generated under the different projects is outlined in the individual projects’ annual reports. Of the $1.6 million generated, 16% came from State funding sources, 78% came from Federal funding sources, and 6% came from Private funding sources. It is important to point out that of the $256,145 coming from State funding sources, approximately 62% ($159,453) came to the Department under the Applied Economics Research Fund (a combination of the former Cotton Economics Research special item and a portion of the former CASNR Plant Stress funding). From the total internal funding base, the faculty generated $6.58 of external funding for each $1.00 of departmental funding. The total amount of research funding generated by the faculty in fiscal year 2003/04 was the highest level in the history of the Department (Table 1). In the last five years, total research funding increased by 156%; the largest increase has been in federal funding (896% increase).
Table 1. Department of Agricultural and Applied Economics Research Funding by Source, 1981/82 to 2003/04.

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*The total reflects funding of the specific research projects (e.g., in Appendix A), funding associated with cooperative research projects, and other Departmental research activities.
Research funding represents one aspect of the Departmental research program; i.e. one of the inputs. Another aspect --the output side-- is composed of the awarding of graduate degrees, the education of students, and the dissemination of research results. Thus, the teaching and research missions of the Department are highly complementary in nature, and research activity has proven to be valuable to our students when they finish their programs.

For the five fiscal years from 2000 to 2004, an average of 5.2 graduate degrees were awarded per year; an average of 0.6 Master of Agriculture degrees, 3.6 Master of Science degrees, and 1.0 Ph.D. degrees per year, respectively (Table 2). The department financially supported 21 graduate students from research funds in 2003/04, providing learning opportunities for students working on research projects. In addition to graduate student training and degrees, nine undergraduate students were supported from research project funds in 2003/04.

Another component of the output side of the research program is the number and quality of publications and presentations. Table 3 presents a summary of the Departmental publications and presentations for the 1979/80 to 2003/04 fiscal years. Appendices C and D contain a complete listing of the 2003/04 publications and presentations, respectively.

The Cotton Economics Research program began using an advisory committee in 1996, and advice and perspective from that committee has been of great value in guiding the development of the program. Working with that committee in 2003/04 (Appendix E), the department made the decision to expand the committee membership and use it as an overall AAEC Department Research Advisory Committee. The “new” committee will be implemented in 2004/05. Membership of the Cotton Economics Advisory Committees and the Department Research Advisory Committee are shown in Appendix F.

The remainder of the report provides an overview of research activities and accomplishments of several identifiable major components or thrusts of the overall research program. These thrusts are (a) the Cotton Economics Research Institute, (b) the Thornton Agricultural Finance Institute, (c) the Risk Management/Crop Insurance initiative, (d) the Center for North American Studies – Texas Tech Component, and (e) the Water Resource Economics initiative.

**Cotton Economics Research Institute**

The Cotton Economics Research Institute (CERI) coordinates and fosters economic research activities on all aspects of cotton within Texas Tech and with other research entities. The primary focus is on economic matters, but we coordinate and cooperate with other research efforts, both economic and non-economic in their primary intent. The institute focuses both on conducting research and the dissemination of research results to users. Within the CERI, the research activities cover most aspects of economic matters pertaining to cotton and textiles – production and management; processing, manufacturing, and transportation; pricing and marketing; and trade and policy analysis. The policy analysis component of the program which has grown substantially, is covered in a separate sub-section.
Table 2. Graduate Degrees Awarded, Department of Agricultural and Applied Economics, 1982/83 to 2003/04

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</table>
Summary of CERI Activities

Fifteen cotton economics research projects were funded in part using departmental resources during the last year. Each of the department’s projects listed in Appendix A that is associated with the cotton economics program is identified with a “C” notation in the upper right portion of the page. Examination of the evolution of the research program shows that it is becoming more nationally and internationally focused, and has more policy focus, driven in part by expanded funding from federal sources.

Other measures of productivity include publications and service to the cotton industry. The publications list (Appendix C) identifies CERI-related items with a “c” superscript at the beginning of the citation. Overall, the faculty authored/co-authored 39 CERI-related publications during the past year, which included 5 professional journal articles, 22 proceedings papers at industry and professional meetings, 5 technical research reports, and 7 published abstracts from professional meetings. Faculty members in the department also engaged in a broad range of service activities for industry (domestic and international), government, and professional organizations that are directly related to cotton. Included were the fourth annual Research/Extension Symposium in March, 2004 (meeting agenda in Appendix G) and the second Commodity Outlook Conference in May, 2004 (meeting agenda in Appendix H). Two newsletters (Appendix I) were distributed and posted on the website. Also, 4 Fact Sheets (Appendix J) on research findings were mailed and posted. Principal Investigators also answer many questions and requests for information to the industry and general public on a regular basis, although no formal record of all these activities is maintained.

Cotton Policy Research Activities

The central purpose of this work is policy-related research on U.S. and global cotton and textiles; it focuses on U.S. and global analysis because from an economic perspective they are inseparable and it focuses on both cotton fiber and textiles because analysis of either without the other is incomplete. The core funding for this research is through a Texas Tech Federal Initiative, “Optimizing Production Systems, Market and Policy Analysis for Cotton and Other Natural Fibers.”

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1 A historical note on the development of the Natural Fiber Policy Analysis Initiative: The AAEC department began discussing a plan for Texas Tech to assume a role in analyzing cotton policies and make U.S. and global projections for cotton with the Food and Agriculture Policy Research Institute (FAPRI) at the University of Missouri in 1996. Given our history and reputation in cotton research, FAPRI was receptive. We approached Texas A&M University (TAMU), proposing a joint federal initiative on this policy research. Texas Tech President David Schmidly made the decision to add this component to the existing federal initiative which funded the International Cotton research Center (which had been funded for FY 1998, 1999, and 2000 at $200,000/year) instead of adding a new initiative. The result was that the combined initiative was funded in FY2001 of $500,000/year (funding was actually received from USDA in 2002), with the TTU portion for policy research funded at $156,000. The TTU policy funding has increased to $301,000 in FY 2004. Funding is divided 50% to the ICRC portion and 50% to the policy analysis portion, with 54.56% of the policy analysis portion to TTU and 45.44% to TAMU.
The analytical platform for most of the policy analysis is a global fibers model, which has been the object of much of the work in the program to date. This evolving economic model is used to simulate an array of policy scenarios, thus providing reliable information on expected impacts of policy alternatives to policy making groups – Congress, USDA, and the cotton and textile industries. This model is, we believe, the best of its kind because it (1) is global in its structure, rather than assume that the U.S. economy functions in isolation, (2) integrates not only cotton with the textiles sector, but also with the man-made fiber sector, and (3) is quite detailed in the supply aspects of cotton in several of the major supplying countries. It also links with the other agricultural commodity sectors through the other FAPRI models.

During FY 2003/04, the policy analysis research contingent made substantial progress in output, productivity, and recognition. The program, led by Dr. Samarendu Mohanty, got the global model functioning and developed the global fiber baseline projections for FAPRI. Other significant accomplishments included (1) presenting results to House and Senate staffs, USDA analysts and commodity groups, (2) hosting the Commodity/Outlook conference in April, and (3) conducting a study of the impacts of the Brazilian WTO proposal on dismantling the U.S. cotton program.

Thornton Agricultural Finance Institute

The mission of the Thornton Agricultural Finance Institute is to focus faculty research on important topics in agricultural finance, provide support for courses and research in agricultural finance and related areas, and facilitate public service functions related to agricultural finance and banking. Dr. Phillip Johnson is the current Director of the Institute.

In FY 2003/04, the institute conducted activities in both the research and service areas. The following sub-sections summarize the activities in those areas.

Research

There were two research projects associated with the institute in 2003/04; these are identified by an “F” symbol in the upper right corner of the project reports in Appendix A. Funding for the projects were partially from Institute resources and partially from external research grants. There were also two publications and presentations on financial matters, being identified with an “f” superscript on the publications and presentations lists in Appendices C and D. There were 4 students employed with Thornton Institute funds during the year.

Service

The Institute co-sponsored the 31st Annual Bankers Agricultural Credit Conference in November, 2003, which addressed issues and topics related to agricultural lending, the agricultural economy, legal and regulatory issues, commodity outlook and other issues of interest to rural bankers and lenders (Appendix K). The conference is directed by a board of directors made up of representatives from area banks as shown in Appendix K.

The 2003 Texas Agricultural Lending School was held in October, 2003. The Lending School provides an in-depth curriculum on issues relating to agricultural lending and is co-
Risk Management/Crop Insurance Initiative

The risk management/crop insurance initiative at Texas Tech was initiated in 2002/03 with the Excellence Fund that was made available by the Texas State Legislature to promote excellence in specific research areas. Two new faculty positions were created and Dr. Thomas O. Knight (Professor) and Dr. Roderick M. Rejesus (Assistant Professor) joined the faculty to lead that effort.

The majority of the activities in this program have been focused on issues related to the premium-rate setting and the compliance issues of crop insurance. However, research on general risk management issues in agriculture is also being addressed as needed. A summary of the activities and accomplishments of this initiative during FY 2003/04 are reported below.

Summary of Activities

In 2003/04 there were nine risk management related active research projects, each noted with a “R” symbol in the upper right corner of the project summary in Appendix A. Much of the focus of the program has been on approaches to various aspects of insurance that make the system more effective or efficient, e.g., effective rate structures, underlying loss probability distributions for a range of insured or potentially insurable products, etc. Excellence Fund support was taken from the University with the 2003/04 year, so the program has been totally self-sustained by faculty in the department during the year, thus impeding growth of that initiative. Even so, the program showed an external funding level for risk management research during the fiscal year of $649,000. Aside from funded research, the risk management and crop insurance initiative has also been involved in producing publications and research reports; during FY 2003/04, faculty involved in this initiative authored/co-authored seven peer-reviewed publications and presentations and three other research reports. Research publications associated with the risk management initiative are noted with an “r” superscript in Appendix B.

Service activities and education/training of students are also an important part of the risk management and crop insurance initiative. Testimony was given before the House Agriculture Sub-Committee on General Farm Commodities and Risk Management during the past fiscal year and technical assistance on crop insurance matters was provided to elected officials, government agencies, and industry. The program also provided financial support and training for two students (1 Ph.D. and 1 M.S.) and one Post-Doctoral Research Associate during 2003/04.

Center for North American Studies;
Texas Tech Component

While the department began “internationalizing” its educational programs 20 years ago, the opportunity to emphasize international issues in research and outreach has emerged in the
form of our participation in the Center for North American Studies (CNAS). The objectives of the CNAS program are to facilitate trade within NAFTA by conducting applied research and educational outreach on trade issues between the U.S., Mexico, and Canada. The TTU responsibilities concentrate on cotton and textiles, grains, and livestock and products trade, primarily with Mexico. There is an obvious synergy between CNAS activities, the main element of our international initiative, and the Cotton Economics Research Institute, especially the policy analysis thrust within that.

During 2003/04, the program has made a start, even with minimal funding, with leadership from Dr. Jaime Malaga. In the research activities, a study of cotton and textile trade between the U.S. and Mexico was completed and several publications have resulted; publications which are focused on international markets are noted with an “i” superscript in Appendix C. Research projects with an international focus are identified with an “I” notation in the upper right corner of the project reports in Appendix A.

In addition to the research component of CNAS, a collaboration between Texas Tech and Chapingo University, Mexico, was initiated. A memorandum of understanding was signed in February, 2004 by the President of the University of Chapingo and the Provost of Texas Tech University. This memorandum facilitates the cooperation between both institutions with respect to academic programs and research activities. In May, 2004, Dr. Samarendu Mohanty taught a 40 hour graduate level course on Agricultural Policy to 25 doctoral students at the University of Chapingo and met with agricultural policy makers of the Mexican Government. In August, 2004 the first Mexican researcher arrived at TTU to spend a semester involved in analysis of Mexican agricultural policies and their impact on bilateral trade.

Water Resource Economics Initiative

Departmental faculty have been active in water economics research for the past four decades (see Johnson and Schwartz in Appendix C for a compilation of published results from these studies). Most of the research during that time focused on issues of relevance to the Southern High Plains of Texas and many conducted in conjunction with the Texas Agricultural Experiment Station at Lubbock. In fact, underground water utilization related research was the main reason for the establishment of this long-standing relationship. It has also served as a support base for water economics research in the absence of the department having core funding to support those activities. Further, the research has mostly emphasized water use efficiency analysis for water in agricultural uses and regional economic impacts of underground water availability.

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2 A historical note on the development of the CNAS: CNAS originated in 1994 as a collaboration between Texas A&M Univ. (TAMU) and Louisiana State Univ. (LSU); it was funded at $87,000/year FY 1994-FY 2001. In 2000, Texas Tech Univ. (TTU) and New Mexico State Univ. (NMSU) were invited to join in the collaboration; federal funding for FY 2002 was increased to $200,000/year, with the TTU share being $21,189. FY 2004 funding has increased to $837,429, with TTU funding at $151,478.
In our ongoing water research activities, the department is broadening its research focus on water to include more policy-related research. Much past research has focused heavily on water use efficiency, its economic feasibility, adoption, and consequences. With utilization efficiency in agricultural uses (accounting for about 95% of water use) now being very high, extending the life of the aquifer will depend more heavily on policy actions and solutions. Analytical capability for determining economic consequences at both macro and micro levels will become essential for good public policy decisions, and the department has set improving this analytical capability as a research priority.

Summary of 2003/04 Activities

During 2003/04 faculty in the department participated in the Federal Ogallala Initiative, a collaborative project among Texas Tech, Texas A&M, and Kansas State Universities. There were three active projects during the year, each having policy applications. Projects in Appendix A that were water economics related are identified by a “W” in the upper right corner of the page. Two studies were in process in 2003/04 that expand our base for water policy research; one, completed this year, utilized a regional non-linear dynamic optimization model to analyze economic impacts of several water conservation policy alternatives, such as pumpage restrictions and taxes. The other, still in progress, builds on that research, integrates the economic model with a hydrologic model, and should provide enhanced analytical capability for projecting and analyzing impacts of both policies and technologies on the economy, economic sectors, and the underground water resource.

Departmental faculty published or presented 14 papers on water topics in 2003/04; these are denoted with a “w” superscript on the citations in Appendices C and D. Four graduate students worked on water economics topics under the direction of different faculty members. A dedicated funding base is needed for this important and highly relevant initiative to reach its potential.
Appendix A

ANNUAL PROGRESS REPORTS

2003/04
Project Title: Business Models for Competitive Success in the Texas Textile Industry

Principal Investigators: Conrad Lyford and Jaime Malaga

Primary Funding Agency: USDA/ICRC

Funding Amount: $70,176

Beginning Date: 09/01/02

Ending Date: 08/31/04

Project Objective: Identify business models that can be successful in the Texas textile industry

Specific objective(s):
1. Determine the business models that currently exist and key reasons for their success;
2. Evaluate the forces of change in the textile industry and the stability of the business models defined in (1) above.
3. Determine the cost structure of textile production in Texas relative to competition.

Project Summary and Accomplishments: Having a strong and viable Texas textile industry is important to the Texas cotton industry because local textile production increases demand and returns. Firms in the U.S. textile industry have been under substantial competitive pressure due to the strong U.S. dollar and other factors, including international competitors’ goals to capture market share. This has caused many U.S. (including some Texas) textile facilities to close.

This research identifies business models that can be successfully competitive currently and in the future for the Texas textile industry. As business models are identified, the primary benefit be to show economic/business opportunities for the Texas textile industry that offer strong prospects. In addition, this information can be used to promote effective industry practice in key areas as well as indicate the future of the industry.

Keywords: Business Models, Textiles, Texas

Contact Investigator: Conrad Lyford
Project Title: Center for North American Studies (CNAS)-Texas Tech Component

Principal Investigators: Jaime E. Malaga

Collaborators and Collaborating Agencies: Texas A&M Univ., Louisiana State Univ., New Mexico State Univ.

Primary Funding Agency: USDA-CSREES

Funding Amount: $21,189 7/03-6/04; $151,478 7/04-6/05; ($42,904 FY 2003/04)

Beginning Date: 06/01/02

Ending Date: 07/14/05

Project Objective: Analyze (1) issues affecting the competitiveness of Texas exports to the North American markets and (2) impacts of the growing integration of US and Mexican agricultural industries on the regional economy, with emphasis in the cotton-textile and feed grain sectors.

Project Summary and Accomplishments: The Texas Tech research component started in June 2002 with the gathering of basic data on the Mexican cotton/textile/apparel sector; 96-98% of Mexican apparel exports are directed to the US market. In part due to NAFTA, Mexican share of the US apparel market expanded during the 1990's and Mexico became the largest importer of US cotton.

An econometric model of the Mexican Cotton Industry has been estimated (Supply, Derived Demand, and Trade) and a simulation model built to assess the impact on the US-Mexico cotton trade of alternative policy scenarios in both countries. A data base of Mexican grain sorghum production, consumption, and marketing has been built. Preliminary results show the Mexican corn/sorghum price ratio and the poultry industry expansion as the key variables for US sorghum exports to that country. Also, a memorandum of understanding has been signed between Texas Tech University and the University of Chapingo in Mexico. This agreement facilitates the exchange of faculty and students involved in agricultural policy/trade research.

Keywords: Agricultural Trade, NAFTA

Contact Investigator: Jaime E. Malaga
<table>
<thead>
<tr>
<th><strong>Project Title</strong></th>
<th>Daily Price Analysis and Reporting for the Texas Oklahoma Cotton Market</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Principal Investigators</strong></td>
<td>Sukant Misra and Don Ethridge</td>
</tr>
<tr>
<td><strong>Collaborators and Collaborating Agencies</strong></td>
<td>Plains Cotton Cooperative Assn.</td>
</tr>
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<td><strong>Primary Funding Agency</strong></td>
<td>Texas State Support Committee</td>
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<td><strong>Secondary Funding Agency</strong></td>
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<td><strong>Funding Amount</strong></td>
<td>$ 64,000 ($32,000 for FY03/04)</td>
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<td><strong>Beginning Date</strong></td>
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<tr>
<td><strong>Ending Date</strong></td>
<td>12/31/2004</td>
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<tr>
<td><strong>Project Objective</strong></td>
<td>To Develop, validate, and operate an objective system for estimating cotton prices and quality attribute premiums and discounts in the Texas Oklahoma markets and disseminate that information to market participants.</td>
</tr>
<tr>
<td><strong>Project Summary and Accomplishments</strong></td>
<td>The analysis of the 2003/04 marketing year suggests that prices increased and were at their highest level in the last four years averaging 63.68 cents a pound. Total bales and total sales for the West Texas region declined compared to last year. Although total sales for the East Texas/Oklahoma region remained unchanged, total bales for the region increased to 90,620 bales about 15 percent higher than its 2002/03 level. The higher prices were likely influenced by an increased level of overall quality in addition to supply and demand factors. For the 2003/04 marketing year, the results indicated lower premiums for low leaf grade and uniformity and higher premiums for higher staple length, color grade, and higher level of strength. However, premium levels for better than base quality strength and the first digit color grade appear to be minimal. Price discounts in 2003/04 for staple length, first and second digit of the color grade, strength, and uniformity either remained unchanged or decreased, while discounts for leaf, micronaire, and bark increased compared to 2002/03 levels.</td>
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<td><strong>Keywords</strong></td>
<td>Cotton, Prices</td>
</tr>
<tr>
<td><strong>Contact Investigator</strong></td>
<td>Sukant Misra</td>
</tr>
</tbody>
</table>
Project Title: Demand for U.S. Made Cotton Apparel and its Implications for the Cotton Industry

Principal Investigators: Sukant Misra

Primary Funding Agency: USDA/CSREES (through the International Cotton Research Center, Texas Tech University)

Funding Amount: $35,000

Beginning Date: 9/1/2003

Ending Date: 8/31/2004

Project Objective: The central objective of this research is to understand consumer demand for U.S. made cotton apparel (cotton and denim) and to analyze their demand growth potential relating to consumer socioeconomic profiles and geographical regions.

Project Summary and Accomplishments: The results of the study indicate that garments’ own prices, age, female employment, gender, regions, and presence of children significantly influence purchase decisions.

Male shirts, male shorts, female jeans, female slacks, skirts, female shorts, and dresses were found to be necessary goods, while male jeans and male slacks were luxury goods. Demands for male shirts and male jeans were price-inelastic and demands for male shorts, male slacks, female slacks, skirts, female shorts, and dresses were price-elastic. Estimated inelastic cross-price elasticities suggest that pricing strategies such as price promotion to increase sale of one garment type should be limited to the targeted products.

Higher expenditure shares were generally associated with higher level of cotton blend. The extent to which expenditure share increased due to higher cotton blends depended on the garment itself. The results further suggested that marketing strategies focused solely on product origins might not increase market share for domestically produced apparel.

Keywords: Cotton, Consumer Demand, Apparel

Contact Investigator: Sukant Misra
### Project Title
Developing Financial Derivatives to Mitigate Marketing Risks Under Grid Pricing for Fed Cattle Producers

### Principal Investigators
K.H. Coble (Mississippi State), J. Anderson (Mississippi State), T.O. Knight (Texas Tech), R.M. Rejesus (Texas Tech)

### Collaborators and Collaborating Agencies
Mississippi State University

### Primary Funding Agency
USDA-RMA

### Funding Amount
$159,500 (TTU component), Total: $452,363

### Beginning Date
09/1/04

### Ending Date
08/31/07

### Project Objective
To develop risk management tools that will assist livestock producers in improving techniques for managing price, revenue, or production and market risk and reducing the impact of multiple year losses.

### Project Summary and Accomplishments
Grid pricing, rather than on live animal characteristics based on carcass characteristics of each animal, is rapidly overtaking traditional approaches to the marketing of fed cattle in the United States. This approach offers higher prices for cattle of a known quality and clearer signals of market value, but poses new risks to the cattle producer as grid prices diverge from the existing live cattle futures contract and there are uncertainties associated with the base price used in the pricing grid and the Choice/Select spread. This project develops financial derivatives that will improve the marketing risk management alternatives available to cattle feeders marketing cattle on a carcass weight or grid pricing basis. The project surveys and summarizes grid pricing options currently available to producers of fed cattle, evaluates the hedging performance of the existing live cattle futures contract as a tool for managing price risk in grid pricing systems, and proposes and evaluates new derivatives that can be used to manage risks relevant to pricing grids such as base price and discount variability. This research will have broad implications, and all fed cattle producers in the United States may benefit.

### Keywords
Livestock Risk, Grid Pricing, Derivatives

### Contact Investigator
Thomas O. Knight
<table>
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<th><strong>Project Title</strong></th>
<th>Development of Web-Based Cotton Production Cost Calculator</th>
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<tr>
<td><strong>Principal Investigators</strong></td>
<td>Phillip Johnson and Sukant Misra</td>
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<tr>
<td><strong>Primary Funding Agency</strong></td>
<td>Cotton Incorporated ($12,817 01/01/02 - 12/31/02)</td>
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<td><strong>Secondary Funding Agency</strong></td>
<td>Thornton Agricultural Finance Institute ($12,890 09/01/03 - 08/31/04) and Applied Economics Research ($2,643 09/01/03 - 08/31/04)</td>
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<td><strong>Ending Date</strong></td>
<td>09/31/04</td>
</tr>
<tr>
<td><strong>Project Objective</strong></td>
<td>Develop a web-based standardized performance analysis system to evaluate enterprise profitability and cost of production for cotton that can be used to evaluate a past crop year or as a planning tool.</td>
</tr>
<tr>
<td><strong>Project Summary and Accomplishments</strong></td>
<td>Knowledge of the true costs of production is required for cotton producers to make sound production, financial, and marketing decisions. An information-based management tool that can be used in conjunction with their record systems would assist producers in calculating their true production costs. An enterprise production cost calculator will aid producers in evaluating enterprise cost and returns by using income statement financial information in addition to enterprise production information. The allocation of income and cost items from the income statement to enterprises and sub-enterprises through the use of specified allocation methods facilitates the calculation of a true cost of production and enterprise profitability.</td>
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<tr>
<td><strong>Keywords</strong></td>
<td>Standardized Performance Analysis</td>
</tr>
<tr>
<td><strong>Contact Investigator</strong></td>
<td>Phillip Johnson</td>
</tr>
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</table>
Project Title: Economic Performance of Irrigation Technology on Cotton in the Southern High Plains

Principal Investigators: Vernon Lansford and Eduardo Segarra

Collaborators and Collaborating Agencies: J. Bordovsky. Texas Agricultural Experiment Station - Lubbock, Texas A&M University

Primary Funding Agency: None

Beginning Date: 04/01/2003

Ending Date: 08/31/05

Project Objective: Provide an economic assessment of irrigation technologies under various production scenarios such as depth to ground water, water availability, the price of cotton and type of irrigation equipment used.

Project Summary and Accomplishments: The area of Subsurface drip irrigation (SDI) in the Texas Southern High Plains has been expanding at an increasing rate each year and the trend will likely continue. Field experiments were conducted from 1999 through 2001 to improve water management of irrigation systems in the Southern High Plains of Texas. From these data, production functions were developed with lint yield a function of water availability (soil moisture, seasonal rainfall, and irrigation) and type of delivery system. Enterprise budgets were developed from the estimated production functions. Projected per irrigated acre net returns for SDI and LEPA were comparable at $123 versus $126, respectively. It was estimated that SDI increased lint yields by 47 pounds per acre over LEPA for the given irrigation, seasonal rainfall, and soil moisture availability conditions. SDI also increased cotton fiber quality, receiving a $0.02 per pound price premium over LEPA. However, the economics of SDI is field dependent and each application of SDI should be evaluated separately when evaluating the economics of SDI versus LEPA. Plans are to update the economic analysis in 2005 with additional research data.

Keywords: LEPA, Drip Irrigation, Economic Profitability, Cotton, Southern High Plains

Contact Investigator: Vernon Lansford
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<thead>
<tr>
<th><strong>Project Title</strong></th>
<th>Estimating Brazilian Cotton Supply Response: A Linear Supply System Approach</th>
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<tr>
<td><strong>Principal Investigators</strong></td>
<td>David B. Willis</td>
</tr>
<tr>
<td><strong>Primary Funding Agency</strong></td>
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<tr>
<td><strong>Beginning Date</strong></td>
<td>09/01/02</td>
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<tr>
<td><strong>Ending Date</strong></td>
<td>05/15/04</td>
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<tr>
<td><strong>Project Objective</strong></td>
<td>To estimate the cotton supply response for Brazil’s two major cotton production areas.</td>
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<tr>
<td><strong>Project Summary and Accomplishments</strong></td>
<td>A linear supply system acreage allocation model was estimated for Brazil’s four dominant field crops (cotton, soybeans, corn and rice) in Brazil’s new and expanding cotton producing states of Mato Grosso and Goiás, and the traditional South-Southeast and North-Northeast cotton producing regions. Cotton acreage response to additional field cropland (scale effect) and own and cross crop gross return elasticities were estimated. Results indicate cotton is the least responsive crop to increases in cropland, and that cotton acreage is significantly affected by own and cross corn and rice gross returns behavior in the expanding region. A surge in Brazil’s cotton production is expected in the medium-long term, but not in the immediate future.</td>
</tr>
<tr>
<td><strong>Keywords</strong></td>
<td>Acreage Allotment Model, Linear Supply System, Brazil, Cotton Production, Scale Elasticities, Supply Elasticities</td>
</tr>
<tr>
<td><strong>Contact Investigator</strong></td>
<td>David Willis</td>
</tr>
</tbody>
</table>
Project Title: Evaluating Yield and Revenue Insurance as a Risk Management Tool for Cotton Producers in the Southern Texas High Plains

Principal Investigators: Phillip Johnson

Primary Funding Agency: TTU, Thornton Agricultural Finance Institute ($9,290 09/01/03 - 08/31/04)

Secondary Funding Agency: TTU, Applied Economics Research ($2,643 09/01/03 - 08/31/04)

Funding Amount: Total $11,933

Beginning Date: 09/01/03

Ending Date: 08/31/04

Project Objective: Develop and illustrate the application of an empirical procedure to evaluate and compare economic implications of various existing and new cotton insurance products as risk management tools.

Project Summary and Accomplishments: Cotton producers in the Southern Texas High Plains (STHP) have high production risk from weather and biological factors. Many producers also rely on borrowed capital to finance farming operations. The interaction of production (business) risk and financial risk increases the overall risk environment of producers in the region. Crop insurance is an important risk management tool to lower their risk exposure from adverse production factors. Several alternative crop insurance products are available and farmers need information to determine which crop insurance option will best manage their business and financial risk. Location, financial situations, risk aversion, and current governmental policies all factor into the best option available to producers.

This study evaluates various crop insurance options available to STHP cotton producers using simulation techniques that take into account the distribution of yields, prices, and production costs. The Standardized Performance Analysis (SPA) database will be used to construct model farms that will be used in the simulations.

Keywords: Crop Insurance, Risk Management

Contact Investigator: Phillip Johnson
<table>
<thead>
<tr>
<th><strong>Project Title</strong></th>
<th>Evaluation of Bacillus Thuringiensis Technology in Texas Corn Production</th>
</tr>
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<tbody>
<tr>
<td><strong>Principal Investigators</strong></td>
<td>Phillip Johnson, Jay Youngblood</td>
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<td><strong>Primary Funding Agency</strong></td>
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<td><strong>Secondary Funding Agency</strong></td>
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<td><strong>Funding Amount</strong></td>
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<td><strong>Beginning Date</strong></td>
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<tr>
<td><strong>Ending Date</strong></td>
<td>12/31/03</td>
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<tr>
<td><strong>Project Objective</strong></td>
<td>Evaluate the impacts on costs of production, yields, and profitability of the use of Bt corn varieties in Texas.</td>
</tr>
<tr>
<td><strong>Project Summary and Accomplishments</strong></td>
<td>The use of transgenic crop varieties in the Texas High Plains is becoming an important production practice for many farmers. Transgenic crop varieties have the potential of reducing production input costs and the use of chemicals in the crop production system. A survey of Texas corn producers was conducted to gather information on the costs and benefits of Bt corn. Findings indicated that those that have adopted the Bt varieties were willing to pay an additional $19.11/acre to reduce yield fluctuations due to insect pressure while non-adopters would only be willing to pay an additional $11.37/acre. This compares to a difference in seed cost between the Bt and conventional varieties of $14.67/acre.</td>
</tr>
<tr>
<td><strong>Keywords</strong></td>
<td>Bacillus Thuringiensis, Corn, Corn Borers</td>
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<tr>
<td><strong>Contact Investigator</strong></td>
<td>Phillip Johnson</td>
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</tbody>
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**Project Title**
Further Development of the Cotton Wizard Cotton Variety Selection Program

**Principal Investigators**
Emmett Elam

**Primary Funding Agency**
Cotton Incorporated

**Funding Amount**
$40,000

**Beginning Date**
01/01/04

**Ending Date**
12/31/04

**Project Objective**
The overall objective is to provide cotton breeders with a common set of tools and procedures for evaluating breeding lines and varieties. Specific objectives are to: 1) develop a data template for collecting varietal performance data and a system that allows access to the collected data, 2) provide an assessment mechanism that breeders can use with the performance data collected in objective 1, and 3) provide instruction on how to use the data template, data, and assessment tool(s) in evaluating cotton cultivars.

**Project Summary and Accomplishments**
Cotton cultivar evaluation is based largely on fiber yield and fiber characteristics, with little consideration given to seed yield and characteristics. The Cotton Wizard cotton/cottonseed variety selection model, which provides comprehensive estimates of the economic value of the fiber and seed, was developed with CI support to aid decision makers. This research further develops the Cotton Wizard program to facilitate its use with user-developed data sets. This will facilitate cultivar evaluation.

A database system was developed for cotton performance test data so that users can 1) upload and review data to a central server with the use of the Internet and 2) query the master database, obtain data reports, and download data. A common numbering system has been developed to identify and track cotton varieties as they move through the testing process and a historical data set of West Texas cotton performance tests is being developed. The historical data set includes four years of individual varietal rep data. The user can average the rep data to obtain average-annual data.

**Keywords**
Cotton Lint, Cottonseed, Variety Selection, Economic Returns

**Contact Investigator**
Emmett Elam
**Project Title**  
Interactions Among Climate, Humans, and Playa Wetlands on the Southern High Plains

**Principal Investigators**  
W.P. Dayawansa, Scott McMurry, Loren Smith, David Willis

**Collaborators and Collaborating Agencies**  
The Institute of Environmental and Human Health, Texas Tech University

**Primary Funding Agency**  
United States Environmental Protection Agency

**Funding Amount**  
$920,000 (Departmental share $230,000)

**Beginning Date**  
9/01/02

**Ending Date**  
8/31/05

**Project Objective**  
To determine: (1) direct effects of climatic change on the ecology of the playa lake wetland system, agricultural land productivity and agricultural input requirements (fertilizer, seed, water, etc.) in the Southern High Plains and (2) how agricultural producers would modify land management practices to mitigate the effect of climatic change and how will these changes would impact the playa lake ecosystems.

**Project Summary and Accomplishments**  
This research provides decision makers with an early warning system for anticipating the effect climatic change would have on the agricultural and ecological systems of the Southern High Plains. This knowledge will allow policy makers to develop cost-effective policies to minimize adverse consequences that climatic change might have on human welfare and/or biodiversity.

The Agricultural Policy/Environmental extender (APEX) simulation program developed by USDA’s Blackland Research Center has been calibrated for the Texas High Plains and is being used to simulate chemical and sediment loadings into a representative playa watershed under alternative on-farm management practices. The simulated output is being used to identify best management practices (BMPs), or the policies that cost effectively reduce or eliminate sediment and chemical loadings into the playa lakes of the region. Predictions on expected changes in climatic patterns under global warming are being developed and will be used to simulate biological and economic impacts.

**Keywords**  
Playa Lakes, Climatic Change, Wetlands

**Contact Investigator**  
David Willis
Project Title: Marginal Value of Agricultural Groundwater use in the Texas High Plains: A Private Versus Social Perspective

Principal Investigators: David B. Willis

Primary Funding Agency: unfunded

Beginning Date: 01/01/04

Ending Date: 08/15/05

Project Objective: The broad objective of this research is to determine the marginal value of underground water in the Texas High Plains when marketed through irrigated crops.

Project Summary and Accomplishments: This study will: (1) build a set of accounting budgets that depict the range of variable costs and coop production conditions in the Texas High Plains; (2) estimate crop yield responses to irrigation application rates (cotton, corn, sorghum, wheat, and peanuts); (3) evaluate the affects of government programs, (both subsidy and conservation programs) on producer returns to water; and (4) compare the value of water in agricultural use to alternative use values in order to determine if government programs are increasing or decreasing social welfare from both an equity and efficiency perspective.

County level data collected and provided by the United States Department of Agriculture as part of the annual Agricultural Resource Management Survey (ARMS) is being organized into a county level data base for the nineteen Texas counties that account for 96 percent of all Texas agricultural withdrawals from the Southern Ogallala Aquifer. Collected data consists of information on water use and irrigated acreage by crop. The ARMS data base is also being used to collect county level cost of production data. The collected data will subsequently be used in a dynamic economic optimization model.

Keywords: Marginal Value Water, Agriculture, Texas High Plains

Contact Investigator: David Willis
<table>
<thead>
<tr>
<th><strong>Project Title</strong></th>
<th>Natural Resource Management and Sustainability Issues in the Texas High Plains</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Principal Investigators</strong></td>
<td>Eduardo Segarra</td>
</tr>
<tr>
<td><strong>Collaborators and Collaborating Agencies</strong></td>
<td>Texas Agricultural Experiment Station - Lubbock</td>
</tr>
<tr>
<td><strong>Primary Funding Agency</strong></td>
<td>United States Department of Agriculture - Southern Region SARE/ACE Program</td>
</tr>
<tr>
<td><strong>Secondary Funding Agency</strong></td>
<td>Texas Agricultural Experiment Station - Lubbock, Texas A&amp;M University</td>
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<tr>
<td><strong>Funding Amount</strong></td>
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<td><strong>Beginning Date</strong></td>
<td>4/1/1997</td>
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<tr>
<td><strong>Ending Date</strong></td>
<td>5/31/2005</td>
</tr>
<tr>
<td><strong>Project Objective</strong></td>
<td>To analyze and evaluate natural resource use and management issues of relevance to Texas High Plains’ agricultural producers.</td>
</tr>
<tr>
<td><strong>Project Summary and Accomplishments</strong></td>
<td>This project addresses many of the issues of relevance to the future sustainability of agriculture in the Texas High Plains. These issues include groundwater utilization, technology adoption, optimal input utilization, and crop/livestock production alternatives.</td>
</tr>
<tr>
<td><strong>Keywords</strong></td>
<td>Optimal Natural Resource Use, Sustainable Agricultural Production Practices</td>
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<tr>
<td><strong>Contact Investigator</strong></td>
<td>Eduardo Segarra</td>
</tr>
<tr>
<td><strong>Project Title</strong></td>
<td>Ogallala Aquifer Initiative - Economic and Policy Implications of Underground Water Use in the Southern Ogallala</td>
</tr>
<tr>
<td>------------------</td>
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<tr>
<td><strong>Principal Investigators</strong></td>
<td>Eduardo Segarra, Phillip N. Johnson, David Willis, and Jeff Johnson</td>
</tr>
<tr>
<td><strong>Collaborators and Collaborating Agencies</strong></td>
<td>Steve Amosson, TAES - Amarillo; Jeffrey Peterson, KSU; and Lal Almas, WTAMU</td>
</tr>
<tr>
<td><strong>Primary Funding Agency</strong></td>
<td>ARS - USDA</td>
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<tr>
<td><strong>Secondary Funding Agency</strong></td>
<td>CASNR, Texas Tech University</td>
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<td><strong>Funding Amount</strong></td>
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<td><strong>Beginning Date</strong></td>
<td>09/01/2003</td>
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<tr>
<td><strong>Ending Date</strong></td>
<td>08/31/2005</td>
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<tr>
<td><strong>Project Objective</strong></td>
<td>To provide economic impact assessments of policies, water conservation and production systems, and technological developments affecting the use and availability of underground water resources in the southern portion of the Ogallala Aquifer.</td>
</tr>
<tr>
<td><strong>Project Summary and Accomplishments</strong></td>
<td>Irrigated cropland accounts for 16.5% of the agricultural cropland acreage in the U.S., but accounts for approximately 38% of output. The Great Plains of the U.S. averages 15 to 20 inches of rainfall per year and depends on the underground water obtained from the Ogallala formation, one of the largest aquifers in the world. The Aquifer covers 173,000 square miles with saturated thickness from 0 to 1200 feet, averaging 200 feet, and aquifer capacity has been significantly reduced as a result of continued overdraft. This situation has implications not only for the many rural communities on the Great Plains whose economic base depends on water resources from the Ogallala Aquifer, but for the future and continued assurance of the overall competitiveness of the American agricultural sector in the global economy. The current state of underground water utilization and availability in the Great Plains is a reflection of the combined result of current economic, social, and political factors. The sustainability of this resource and its associated economic consequences need to be better understood.</td>
</tr>
<tr>
<td><strong>Keywords</strong></td>
<td>Water Use, Water Conservation, Policy Analysis</td>
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<tr>
<td><strong>Contact Investigator</strong></td>
<td>Eduardo Segarra</td>
</tr>
<tr>
<td><strong>Project Title</strong></td>
<td>Performance-Based Premium Rate Discount Project</td>
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<tr>
<td>------------------------</td>
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<tr>
<td><strong>Principal Investigators</strong></td>
<td>Thomas O. Knight and Roderick Rejesus</td>
</tr>
<tr>
<td><strong>Collaborators and Collaborating Agencies</strong></td>
<td>Mississippi State University</td>
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<td><strong>Primary Funding Agency</strong></td>
<td>Risk Management Agency- USDA</td>
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<td>4/15/03</td>
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<tr>
<td><strong>Ending Date</strong></td>
<td>9/1/03</td>
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<tr>
<td><strong>Project Objective</strong></td>
<td>Examine the potential for modifying the premium rate structure of Federal Crop Insurance products to incorporate discounts based on prior loss experience of the insured or other indicators that the insured is low risk relative to other producers in the country.</td>
</tr>
<tr>
<td><strong>Project Summary and Accomplishments</strong></td>
<td>Statistical models were used to analyze Federal Crop Insurance databases to determine whether valid and statistically significant criteria can be used to develop appropriate performance-based discounts. The effect of any proposed discounts on the performance of the Federal Crop Insurance Program was also analyzed.</td>
</tr>
<tr>
<td><strong>Keywords</strong></td>
<td>Crop Insurance</td>
</tr>
<tr>
<td><strong>Contact Investigator</strong></td>
<td>Thomas Knight</td>
</tr>
</tbody>
</table>
**Project Title**  
Potential Economic Benefits of Adjusting Dryland Cropping Strategies Based on Seasonal Rainfall Forecasts

**Principal Investigators**  
Eduardo Segarra

**Collaborators and Collaborating Agencies**  
S. J. Maas, S. A. Mauget, and R. J. Lascano - Plant and Soil Science, Texas Tech University; Agricultural Research Service - Lubbock, USDA; and Texas Agricultural Experiment Station - Lubbock, Texas A & M University

**Primary Funding Agency**  
College of Agricultural Sciences and Natural Resources, Texas Tech University

**Funding Amount**  
$33,000

**Beginning Date**  
11/01/2000

**Ending Date**  
12/31/2003

**Project Objective**  
To evaluate the profitability and implications of adjusting dryland cropping production practices in the Texas High Plains based on improved weather forecasts.

**Project Summary and Accomplishments**  
Texas High Plains' producers face significant levels of uncertainty and risk associated with dryland agricultural production in a semi-arid environment. This project seeks to evaluate dryland farm management practices that could effectively reduce economic risks in semi-arid environments.

**Keywords**  
Dryland Cropping Systems, Dryland Production Profitability, Economic Risk Reduction

**Contact Investigator**  
Eduardo Segarra
### Project Title
Precision Farming - Site Specific Production Systems: Economics of Precision Farming Practices in the Texas High Plains

### Principal Investigators
Eduardo Segarra

### Collaborators and Collaborating Agencies

### Primary Funding Agency
Texas A&M University Precision Agriculture Initiative

### Funding Amount
$ 92,666

### Beginning Date
09/01/2001

### Ending Date
08/31/2004

### Project Objective
To evaluate the profitability and environmental implications of precision farming practices (precise application of fertilizer and irrigation water, weather factors, and pests) in grain sorghum, corn, peanuts, and cotton production in the Texas High Plains.

### Project Summary and Accomplishments
Historically, agricultural crop production management practices treat crop fields uniformly. Precision agriculture or site-specific management recognizes within field spatial variability and seeks to optimize variable input use within the field. These practices have potential for improved input utilization efficiency, enhancement of profits, and reduction of environmental impacts from crop production.

### Keywords
Precision farming, Precision Agriculture, Technology Adoption, Optimal Input Use

### Contact Investigator
Eduardo Segarra
<table>
<thead>
<tr>
<th><strong>Project Title</strong></th>
<th>Preferred Producer Discount Pilot Risk Management Program Development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Principal Investigators</strong></td>
<td>Tom Knight (TTU), Barry Goodwin (Consultant), Keith Coble (Mississippi State), Roderick Rejesus (TTU)</td>
</tr>
<tr>
<td><strong>Collaborators and Collaborating Agencies</strong></td>
<td>Mississippi State University</td>
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<td><strong>Primary Funding Agency</strong></td>
<td>USDA-RMA</td>
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<td><strong>Funding Amount</strong></td>
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<td><strong>Beginning Date</strong></td>
<td>5/3/2004</td>
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<td><strong>Ending Date</strong></td>
<td>1/28/2005</td>
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<tr>
<td><strong>Project Objective</strong></td>
<td>To develop an implementable premium rate discount structure for several existing plans of insurance.</td>
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<tr>
<td><strong>Project Summary and Accomplishments</strong></td>
<td>Statistical analysis of the data has commenced.</td>
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<tr>
<td><strong>Keywords</strong></td>
<td>Crop Insurance</td>
</tr>
<tr>
<td><strong>Contact Investigator</strong></td>
<td>Thomas O. Knight</td>
</tr>
<tr>
<td><strong>Project Title</strong></td>
<td>Probability Distribution Function Models for Risk Analysis and their Application to Crop Insurance Premium-Rate Setting</td>
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<tr>
<td>---------------------------</td>
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</tr>
<tr>
<td><strong>Principal Investigators</strong></td>
<td>Octavio Ramirez (New Mexico State Univ), Roderick Rejesus (TTU), and Tom Knight (TTU)</td>
</tr>
<tr>
<td><strong>Departmental Involvement</strong></td>
<td>Agricultural and Applied Economics</td>
</tr>
<tr>
<td><strong>Collaborators and Collaborating Agencies</strong></td>
<td>Octavio Ramirez (New Mexico State Univ.)</td>
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<tr>
<td><strong>Primary Funding Agency</strong></td>
<td>USDA-NRI</td>
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<tr>
<td><strong>Funding Amount</strong></td>
<td>$110,100 (TTU component)</td>
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<td><strong>Beginning Date</strong></td>
<td>1/1/2004</td>
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<tr>
<td><strong>Ending Date</strong></td>
<td>12/31/2006</td>
</tr>
<tr>
<td><strong>Project Objective</strong></td>
<td>To develop more flexible parametric pdf models for estimating yield/price distributions and then to evaluate the relative impact of these flexible pdf models in crop insurance premium rate-setting.</td>
</tr>
<tr>
<td><strong>Project Summary and Accomplishments</strong></td>
<td>The Agricultural Risk Protection Act (ARPA) of 2000 provided the mandate for further expansion of crop insurance coverage to “nontraditional” crops and other underserved agricultural commodities. In crop insurance products, premium rates that reflect risks associated with producing the crop are necessary. Given the importance of estimating the yield/price distributions in setting new premium rates for previously uninsured crops, both parametric and non-parametric approaches to modeling these probability distributions have been used with each having advantages and disadvantages. This research develops more flexible parametric probability density function (pdf) models for estimating yield/price distributions and evaluates the relative impact of these flexible pdf models in crop insurance premium rate-setting. Data from several crops in Texas will be collected and used to evaluate the effectiveness of the models relative to other parametric approaches. It is expected that this study will provide a more realistic representation of the yield and price distribution.</td>
</tr>
<tr>
<td><strong>Keywords</strong></td>
<td>Insurance, Premiums, Probability Density Functions, Yield and Price Distributions</td>
</tr>
<tr>
<td><strong>Contact Investigator</strong></td>
<td>Roderick M. Rejesus</td>
</tr>
</tbody>
</table>
Project Title: Profitability Analysis of Cotton Production for Major Cotton Producing Regions of Texas

Principal Investigators: Phillip Johnson

Collaborators and Collaborating Agencies: Joe Outlaw, Texas Cooperative Extension Service

Primary Funding Agency: USDA (INTERNATIONAL COTTON RESEARCH CENTER) ($25,000 09/01/03 - 08/31/04)

Secondary Funding Agency: TTU, Thornton Agricultural Finance Institute ($25,000 09/01/03 - 08/31/04) and Applied Economics Research ($2,643 09/01/03 - 08/31/04)

Funding Amount: Total $35,387

Beginning Date: 09/01/03

Ending Date: 08/31/04

Project Objective: To develop cotton cost of production and profitability information for the major cotton producing regions of Texas.

Project Summary and Accomplishments: In order for cotton producers to make informed production, financial, and marketing decisions, accurate farm level cost of production information is required. This project integrates data from the FARM Assistance program and the Standardized Performance Analysis (SPA) database to develop cost of production, profitability, and breakeven analysis for cotton in major cotton producing regions of Texas.

The accomplishments of the project include the completion of individual analysis for the 2002 crop year for cooperators in the Southern High Plains (SHP) region of Texas. Project participants in the SHP have provided their 2003 crop year information for analysis. At this time, cost of production and profitability information has only been compiled for the SHP region. The coordination of the SPA and Farm Assist programs to identify cooperators has been slower than was anticipated.

Keywords: Standardized Performance Analysis, Financial Analysis

Contact Investigator: Phillip Johnson
<table>
<thead>
<tr>
<th><strong>Project Title</strong></th>
<th>Providing Risk Management Tools for Producers Who Diversify Into New or Specialty Crops</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Principal Investigators</strong></td>
<td>Thomas O. Knight</td>
</tr>
<tr>
<td><strong>Collaborators and Collaborating Agencies</strong></td>
<td>Mississippi State University and University of Georgia</td>
</tr>
<tr>
<td><strong>Primary Funding Agency</strong></td>
<td>Risk Management Agency - USDA</td>
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<tr>
<td><strong>Funding Amount</strong></td>
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<tr>
<td><strong>Beginning Date</strong></td>
<td>9/1/02</td>
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<tr>
<td><strong>Ending Date</strong></td>
<td>3/31/05</td>
</tr>
<tr>
<td><strong>Project Objective</strong></td>
<td>Analyze the effectiveness of existing and alternative methods for crop producers to protect the counter-cyclical payment on a farm program crop when an alternative crop is planted on the base acreage.</td>
</tr>
<tr>
<td><strong>Project Summary and Accomplishments</strong></td>
<td>The project examines the effectiveness of current futures and options contracts in protecting counter-cyclical payments when an alternative crop is grown on farm program base acreage. The potential benefits of alternative financial instruments designed specifically to protect against loss of counter-cyclical payments will also be explored. If alternative instruments are found to have significant benefits, then prototypes of at least two such instruments will be developed.</td>
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<tr>
<td><strong>Keywords</strong></td>
<td>Crop Insurance, Insurance Rating Procedures</td>
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<td><strong>Contact Investigator</strong></td>
<td>Thomas Knight</td>
</tr>
<tr>
<td><strong>Project Title</strong></td>
<td>Quality Assessment of Major Textile Markets for Texas Cotton</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Principal Investigators</strong></td>
<td>Conrad P. Lyford and M. Dean Ethridge</td>
</tr>
<tr>
<td><strong>Collaborators and Collaborating Agencies</strong></td>
<td>International Textile Center</td>
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<tr>
<td><strong>Primary Funding Agency</strong></td>
<td>USDA (ICRC)</td>
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<td><strong>Funding Amount</strong></td>
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<tr>
<td><strong>Beginning Date</strong></td>
<td>9/01/03</td>
</tr>
<tr>
<td><strong>Ending Date</strong></td>
<td>8/31/04</td>
</tr>
<tr>
<td><strong>Project Objective</strong></td>
<td>Major objectives of the research are to:</td>
</tr>
<tr>
<td></td>
<td>1. Quantify threshold levels of key fiber properties enabling access to selected, higher-valued segments of the market;</td>
</tr>
<tr>
<td></td>
<td>2. Collect and evaluate data on the prices in selected market segments;</td>
</tr>
<tr>
<td></td>
<td>3. Evaluate the consumption levels and trends in the selected market segments;</td>
</tr>
<tr>
<td></td>
<td>4. Estimate the potential increases in revenues to the Texas cotton production and marketing sectors that would result from reaching alternative thresholds of fiber properties and serving alternative textile market segments.</td>
</tr>
</tbody>
</table>

**Project Summary and Accomplishments**

Fiber properties of cottons determine the types of yarns, fabrics, and textile products that are made with them. Thus, a large portion of Texas cotton is used primarily to make coarser yarns (e.g., denim and other bottom-weight fabrics) on rotor spinning systems, while it is seldom used to make finer yarns (e.g., for dress shirts and lightweight knitted fabrics) on ring spinning systems. As a result, the market for much Texas cotton is restricted to lower valued segments of the total market for cotton fibers.

**Keywords**

Cotton, Quality, Marketing

**Contact Investigator**

Conrad Lyford
Project Title: Reference Yield Update Methodology Project

Principal Investigators: Tom Knight (TTU), Barry Goodwin (Consultant), Keith Coble (Mississippi State), Roderick M. Rejesus (TTU)

Collaborators and Collaborating Agencies: Mississippi State University

Primary Funding Agency: USDA-RMA

Funding Amount: $177,656

Beginning Date: 1/5/2004

Ending Date: 6/21/2005

Project Objective: To examine the current reference yield methods and procedures in crop insurance premium rate setting and make recommendations for improvement.

Project Summary and Accomplishments: Accurate premium rates are an essential element of an actuarially sound insurance program because adverse selection problems may occur if premiums do not accurately reflect an individual farmer’s likelihood of loss. Current RMA rate-setting procedures for APH programs are primarily based on a continuous rating formula with county-specific parameters which include a reference rate, a reference yield, an exponent, and a fixed load. One implicit assumption is that the sum of the reference rate and the fixed load is representative of the risk that is expected to occur at the reference yield. Reference yields are currently based on the county average yield calculated using NASS data. On the other hand, the reference rates are based on historical loss experience data of insured producers Loss Cost Ratio (LCR) method so that reference rates and reference yields have been treated independently and have used separate data for their calculations. If there is inconsistency in the reference rates and reference yields, then the risk of loss is not accurately reflected in the premium rates charged and poor actuarial performance results. This project analyzes the reference yield procedures and makes recommendations for improvements.

Keywords: Premiums, Crop Insurance Rating, Reference Yields

Contact Investigator: Roderick M. Rejesus
<table>
<thead>
<tr>
<th><strong>Project Title</strong></th>
<th>Spatial Analysis of Precision Agriculture Data: An Approach to Improve Management Zone Delineation Procedures for Texas Cotton</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Principal Investigators</strong></td>
<td>Roderick M. Rejesus (TTU), Eduardo Segarra (TTU), and Kevin Bronson (TAES)</td>
</tr>
<tr>
<td><strong>Collaborators and Collaborating Agencies</strong></td>
<td>Kevin Bronson, Texas Agricultural Experiment Station (TAES)</td>
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<tr>
<td><strong>Primary Funding Agency</strong></td>
<td>USDA CSREES (through the International Cotton Research Center at TTU)</td>
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<td><strong>Funding Amount</strong></td>
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<tr>
<td><strong>Ending Date</strong></td>
<td>8/31/2004</td>
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<tr>
<td><strong>Project Objective</strong></td>
<td>The objectives of this project are to: (1) develop and assess the feasibility of using spatial statistical and spatial smoothing methods for delineating precision agriculture management zone and (2) compare economic consequences of using the management zone method with other currently available management zone delineation methods for Texas cotton production situations.</td>
</tr>
<tr>
<td><strong>Project Summary and Accomplishments</strong></td>
<td>The univariate spatial method for delineating management zones and the economic evaluation of this method have been completed. Further potential improvement in the method is currently being undertaken. Preliminary results of the project have been presented in the 2004 Beltwide Cotton Conference and 2004 International Conference on Precision Agriculture. This project has been extended for another year to explore multivariate methods for management zone delineation and their economic consequences.</td>
</tr>
<tr>
<td><strong>Keywords</strong></td>
<td>Precision Agriculture, Management Zones, Spatial Econometrics, Spatial Analysis</td>
</tr>
<tr>
<td><strong>Contact Investigator</strong></td>
<td>Roderick M. Rejesus</td>
</tr>
</tbody>
</table>
**Project Title**  
Structural Models of the U.S. and the Rest-of-the-World Natural Fiber Market

**Principal Investigators**  
Samarendu Mohanty

**Collaborators and Collaborating Agencies**  
Food and Agricultural Policy Research Institute at the University of Missouri

**Primary Funding Agency**  
USDA (Congressional Initiative)

**Funding Amount**  
$301,880

**Beginning Date**  
09/01/03

**Ending Date**  
8/31/04

**Project Objective**  
To develop and maintain the models, procedures, and expertise needed to respond to Congressional requests for information, analysis, and advice on the natural fiber markets in response to potential change in U.S. and foreign agricultural policies.

**Project Summary and Accomplishments**  
This research develops and maintains a structural econometric model of the world fiber (cotton, wool and mohair) markets. The initial model was completed in 2003/04; The model includes supply and demand models for the United States and 23 other major producing and consuming countries. Regional cotton supply response models have been estimated for major countries (U.S., China, and India) and aggregate supply models are estimated for other countries or regions. Demand models include behavioral equations for supply of man-made fibers, substitutability between cotton and man-made fibers, and linkage between cotton and textile sectors.

The system was used for FAPRI’s Nov. and Jan. baseline meetings to develop medium-term projections of the world cotton market and results were presented in the FAPRI baseline review meeting in Wash., D.C. in Dec., 2003. Final baseline projections were presented to Senate and House staff members, analysts at Economic Research Service and World Agricultural Outlook Board, commodity groups, and media groups in Mar., 2004. Results of the ongoing research were also disseminated through presentations in industry, professional meetings, and proceedings and journal article publications.

**Keywords**  
Structural Model, Cotton

**Contact Investigator**  
Samarendu Mohanty
<table>
<thead>
<tr>
<th><strong>Project Title</strong></th>
<th>Towards an Integrated Water Policy Planning Model for the Texas High Plains</th>
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<td><strong>Principal Investigators</strong></td>
<td>David Willis, Das Biswaranjan</td>
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<td><strong>Collaborators and Collaborating Agencies</strong></td>
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<td><strong>Project Objective</strong></td>
<td>General: Develop a spatially and temporally disaggregated water policy model for irrigated production irrigation in the Texas High Plains. Specific: to link an existing MODFLOW groundwater model of the Southern Ogallala Aquifer to a dynamic economic optimization model.</td>
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<tr>
<td><strong>Project Summary and Accomplishments</strong></td>
<td>The integrated water policy model will provide planners with a proactive planning tool and a means to both evaluate the net economic benefit of proposed water conservation policies and the level of conservation achieved by proposed policy. A detailed, spatially disaggregated data base on water use, cropping patterns, groundwater pumplifts, and irrigation efficiency for irrigated agriculture in the Texas High Plains has been compiled. A 50-year dynamic economic optimization system for the 19 counties that collectively account for 96 percent of Texas water diversions from the Southern Ogallala Aquifer has been constructed. The county level economic model has been linked to a detailed MODFLOW groundwater model of the Southern Ogallala Aquifer and the linked model has subsequently been used to establish the 50-year baseline condition under the assumption of optimal producer response to increasing water scarcity over time given current water policy regulations, private economic incentives, and irrigation technology. The model will subsequently be used to estimate both the cost and quantity of groundwater conserved, relative to the current condition, under alternative conservation management strategies.</td>
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<td><strong>Keywords</strong></td>
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Project Title: Treatment Technologies for Phosphorus Removal

Principal Investigators: Cary Green, Vivien Allen and Phillip Johnson

Primary Funding Agency: Texas Cattle Feeders Association

Funding Amount: $1,000

Beginning Date: 09/01/03

Ending Date: 12/31/03

Project Objective: The objective of this project was to provide a comprehensive literature review to expand the discussion of the technologies available to remove P from feedlot wastewaters.

Project Summary and Accomplishments: A literature review of water treatment technologies designed for P reductions has been completed. The applicable technologies were summarized and compared. The technology to remove P by converting it to struvite was considered the most promising.

A review of the literature with regard to the economic feasibility of the struvite technology has been completed. An economic evaluation of this technology for a feedyard situation will be completed.

Keywords: Struvite, Wastewater, Feedyards

Contact Investigator: Cary Green
Project Title: U.S. Textiles Manufacturer’s Pricing of Cotton Quality

Principal Investigators: Conrad Lyford and Don Ethridge

Primary Funding Agency: Cotton Inc.

Funding Amount: $18,000

Beginning Date: 01/01/04

Ending Date: 12/31/04

Project Objective: The general objective is to identify premium and discount levels for cotton fiber attributes. Specific objectives are:

A) To develop, expand and update the database of cotton purchases from textile mills.
B) To establish reliable estimates of price differentials paid for fiber attributes by textile mills, by production regions.
C) If regional differences persist, identify the reasons why different U.S. cotton producing regions receive differing prices.
D) To disseminate the information to the cotton industry.

Project Summary and Accomplishments: The overall goal of this project is to improve information to market participants, thereby increasing the ability of producers to respond to mill preferences and mill buyers to more effectively purchase cotton that meets their quality specifications.

One key finding is that prices paid for quality at the mill level with those typically provided to producers at the producers level-- the loan rate and Agricultural Marketing Service (AMS) price quotations-- are often inconsistent. Producer incentives were found to (a) often not be closely aligned to mill incentives and (b) be relatively inflexible. This means that producers are often getting the wrong signals on quality, and this decreases producer profitability and textile manufacturing productivity. This suggests that improving the loan rate, AMS pricing information, or other price information might be useful in improving performance.

Keywords: Cotton, Quality, Pricing

Contact Investigator: Conrad Lyford
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<td><strong>Project Objective</strong></td>
<td>Examine crop insurance rate differentials relating to alternative insured unit structures.</td>
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<td><strong>Project Summary and Accomplishments</strong></td>
<td>Current unit structures were reviewed and recommendations made regarding any proposed changes to those structures or reporting requirements. Appropriate premium rate differentials were developed based on current unit structures and underwriting procedures. Alternative premium rating procedures have been developed and implementation procedures recommended. The impact of alternative rating procedures on the crop insurance book of business was analyzed.</td>
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<td><strong>Contact Investigator</strong></td>
<td>Thomas Knight</td>
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<td><strong>Project Title</strong></td>
<td>Water Conservation Policy Alternatives for the Southern Portion of the Ogallala Aquifer</td>
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<td><strong>Project Objective</strong></td>
<td>Analyze the impact of water conservation policy alternatives, such as quotas and water use fees, on the regional economy of the Southern High Plains of Texas</td>
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<td><strong>Project Summary and Accomplishments</strong></td>
<td>The study evaluated the effectiveness of three water conservation policy alternatives that are authorized for underground water conservation districts to use by Texas Senate Bills 1 and 2. All three resulted in conservation of water in the aquifer, decreased water use, and decreased net income for the region. The alternative of restricting water use to 50% of the initial saturated thickness of the aquifer over 50 years was shown to be the most effective in terms of cost in forgone net agricultural income for each foot of saturated thickness saved in the aquifer.</td>
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**Project Title**  
Water Conflict Resolution in the Lower Rio Grande Valley: A Game Theoretic Approach

**Principal Investigators**  
David B. Willis

**Primary Funding Agency**  
unfunded

**Beginning Date**  
01/02/04

**Ending Date**  
08/14/05

**Project Objective**  
To determine the optimal form of compensation, in terms of either dollars or water for Mexico to repay the United States for an accumulated water debt of 1.5 million acre-feet.

**Project Summary and Accomplishments**  
The water debt has accumulated because Mexico has failed to release the supply level specified in Article 4 of the 1944 Lower Rio Grande treaty. This research will estimate the marginal value function for irrigation water in both Texas and Mexico. Once the appropriate marginal values are established a dynamic game theory model will be developed to describe the proper forms of compensation to maximize the total net economic surplus accruing to both countries.

Water use, budgeting data, and agronomic data are being collected for the Lower Rio Grande Valley in Texas and the Mexican states benefiting from the accumulative water debt.

**Keywords**  
Lower Rio Grande, Water, Texas, Mexico, Game Theory

**Contact Investigator**  
David Willis
Appendix B

RESEARCH FUNDING

2003/04
Research Funding ($), Department of Agricultural and Applied Economics, Texas Tech University  
September 1, 2003 through August 31, 2004

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| * Includes general operating expenses, as well as allocations to research Principal Investigators

8/11/04
Appendix C

PUBLICATIONS

2003/04
JOURNAL ARTICLES


**BOOKS/CHAPTERS**


**TECHNICAL BULLETINS AND REPORTS**


**PROCEEDINGS PAPERS**


Velandia, M., R.M. Rejesus, E. Segarra, and K. Bronson. “Spatial Analysis of Precision Agriculture Data: An Approach to Improve Management Zone Delineation Procedures for


ABSTRACTS


**THESES AND DISSERTATIONS**


Appendix D

PRESENTATIONS THAT WERE NOT PUBLISHED IN ANY OUTLET

2003/04


Appendix E

NOTES ON COTTON ECONOMICS RESEARCH

ADVISORY COMMITTEE MEETING

October 3, 2003
Agenda for Cotton Economics Research Advisory Committee Meeting
October 3, 2003

7:00 a.m. Breakfast, AAEC Conference Room (Ag. 302)
Advisory Committee Members and Dean’s Office

8:00 a.m. Convene in AAEC Conference Room (Ag. 302)
Remarks by Interim Dean Marvin Cepica and reports by individual
PI’s on projects, with discussion on any aspects of the project that the
committee wishes to pursue.

8:00 Dr. Eduardo Segarra
8:15 Dr. Rod Rejesus
8:45 Dr. Jaime Malaga
9:00 Dr. Sukant Misra
9:20 Ginger Sides
9:30 Dr. Emmett Elam
9:45 Break
10:00 Dr. Vernon Lansford
10:15 Dr. Conrad Lyford
10:30 Dr. Sam Mohanty

11:00 a.m. Meet with students working on Cotton Economics projects (Ag. 302)

Noon Lunch, Formby Room, Southwest Collections, Advisory Committee, PI’s,
Dean’s Office, Dean Ethridge and Dick Auld invited.

1:15 p.m. Reconvene in AAEC Conference Room, Review of past year’s activities,
new research initiatives, etc.

1:45 p.m. Committee meeting, excluding department and college representatives, for
Discussion of progress and activities.

2:30 p.m. Recommendations, etc., provided to the department; faculty encouraged to
attend.

3:00 p.m. Adjourn.
Notes on Cotton Economics Research Advisory Committee Meeting; 10-3-03

The Committee convened for breakfast at 7:00 a.m. in the AAEC Conference Room (Ag. Sci. 302). In attendance were Mr. Leslie Meyer, Dr. Bill Norman, Mr. Lynn Scherler, Dr. Ed Smith, Dr. Jaroy Moore, Mr. Steve Verett, Mr. Chuck Thompson, and Mr. Ross Barber. Interim Dean Marvin Cepica and Associate Deans Norman Hopper and Sukant Misra were also there, along with Don Ethridge. Introductions and brief remarks about the day’s activities were made. A copy of the day’s program is attached.

The Committee re-convened at 8:00 a.m. in the AAEC Conference Room, where other departmental faculty joined the group. Dr. Cepica gave information about CASNR activities, and then individual faculty Principal Investigators summarized their Cotton Economics Research projects. Committee members posed questions and offered perspective on the projects. At 11:00 a.m., departmental students working on cotton projects met with the Committee.

The Committee and departmental faculty had lunch in the Formby Room at the Southwest Collections, and then re-convened in the Conference Room. Ethridge provided an overview perspective of the program, answered the Committee’s questions, and asked the Committee’s input on broadening the Advisory Committee to the overall departmental research program; he then excused himself from the meeting in order to participate in a CASNR briefing also occurring that afternoon. The Committee then went into its executive session to discuss the programs and their observations and recommendations.

At 2:45 p.m., the faculty (Drs. Philip Johnson, Emmett Elam, David Willis, Conrad Lyford, Jaime Malaga, and Rod Rejesus) re-convened with the Committee to hear comments and suggestions. The Committee noted several positives; the main points emphasized were:

1. The Committee commended the department on its strong research program in cotton economics. They indicated that the department should continue to maintain a strong research focus on cotton. In particular, they pointed out the coordination of research programs and recommended that the cotton economics research program continue taking a systems approach.

2. The Committee recommended that we should continue to seek ways to deliver research to the cotton industry and in particular to cotton producers. Dr. Ed Smith recommended that we should seek to establish a connection to the regional extension program leaders under the reorganized Cooperative Extension Service to integrate the department’s research with the extension outreach. It was also suggested that we may target agricultural lenders as a means to disseminate research information to producers. The committee commented that the web-based programs were very useful. It was also suggested that it might be a good idea to make “Texas Tech
University” more prominent on the newsletters, fact sheets, and publications to highlight the source of the information.

3. The Committee suggested research in cottonseed as an area of new research. They suggested that this research focus on marketing, demand analysis, infrastructure and pricing. The market for cottonseed has changed significantly in the past few years and particularly in this region due to the growth of the dairy industry.

4. The Committee suggested that an expansion of the advisory committee by two additional members in the areas of water resources and grain sorghum would be advisable. They expressed some reservation to expanding the committee at this time with a member that was primarily focused on livestock. They felt that committee representatives in water resource area and grain sorghum would complement the present make-up of the committee and provide some additional perspective.

The meeting adjourned at 3:30 p.m.
Appendix F

ADVISORY COMMITTEE MEMBERS

1996/97 - 2004/05
Cotton Economics Research Advisory Committee Members

1996/97

Dr. John Abernathy, Director
Texas A&M Research and Extension Center
Lubbock, Texas

Dr. Carl Anderson
Extension Economist-Cotton Marketing
Texas A&M University
College Station, Texas

Mr. Roy Baker, Research Leader
Cotton Production & Procession Research Unit
Agricultural Research Service, USDA
Lubbock, Texas

Mr. Tommy Fondren
Cotton farmer and agribusinessman
Lorenzo, Texas

Mr. George Herron, Vice President
Cotton Procurement, Dan River Mills
Danville, Virginia

Mr. Bob Poteet, Executive Vice President
Texas Cotton Association
Dallas, Texas

1997/98

Dr. Carl Anderson
Extension Economist-Cotton Marketing
Texas A&M University
College Station, Texas

Mr. Roy Baker, Research Leader
Cotton Production & Processing Research Unit
Agricultural Research Service, USDA
Lubbock, Texas

Mr. Tommy Fondren
Cotton farmer and agribusinessman
Lorenzo, Texas

Mr. George Herron, Vice President
Cotton Procurement, Dan River Mills
Danville, Virginia

Mr. Robert Joseph, President
International Cotton Marketing, Inc.
Lubbock, Texas

Dr. James Supak, Associate Head
Soil and Crop Sciences
Texas A&M University
College Station, Texas

1998/99

Dr. Carl Anderson, Cotton Marketing Specialist
Texas Agricultural Extension Services
Texas A&M University
College Station, Texas

Mr. Roy Baker, Research Leader
Cotton Production & Processing Research Unit
Agricultural Research Service, USDA
Lubbock, Texas

Mr. Tommy Fondren
Cotton farmer and agribusinessman
Lorenzo, Texas

Mr. George Herron, Vice President
Cotton Procurement, Dan River Mills
Danville, Virginia

Mr. Robert Joseph, President
International Cotton Marketing, Inc.
Lubbock, Texas

Dr. James Supak, Associate Head
Soil and Crop Sciences
Texas A&M University
College Station, Texas
1999/00

Dr. Carl Anderson, Cotton Marketing Specialist
Texas Agricultural Extension Service
Texas A&M University
College Station, Texas

Mr. Curtis Griffith, CEO
City Bank
Lubbock, Texas

Mr. Robert Joseph, President
International Cotton Marketing, Inc.
Lubbock, Texas

Mr. Darryl Lindsey, Vice President
Plains Cotton Cooperative Association
Lubbock, Texas

Dr. James Supak, Associate Head
Soil and Crop Sciences
Texas A&M University
College Station, Texas

Dr. Dan Upchurch, Director
Cropping Systems Research Laboratory
USDA-Agricultural Research Services
Lubbock, Texas

Mr. Steve Verett, Executive Vice President
Plains Cotton Growers
Lubbock, Texas

Mr. Tony Williams, Executive Vice President
Texas Cotton Ginners Association
Austin, Texas

2000/01

Dr. Carl Anderson, Cotton Marketing Specialist
Texas Agricultural Extension Services
Texas A&M University
College Station, Texas

Mr. Carleton Davis, Economist
Dunavant Enterprises, Inc.
Memphis, Tennessee

Mr. Curtis Griffith, CEO
City Bank
Lubbock, Texas

Mr. Darryl Lindsey, Vice President
Plains Cotton Cooperative Association
Lubbock, Texas

Dr. Jaroy Moore, Resident Director
Texas Agricultural Experiment Station
Lubbock, Texas

Dr. Dan Upchurch, Director
Cropping Systems Research Laboratory
USDA-Agricultural Research Service
Lubbock, Texas

Mr. Steve Verett, Executive Vice President
Plains Cotton Growers
Lubbock, Texas

Mr. Tony Williams, Executive Vice President
Texas Cotton Ginners Association
Austin, Texas

2001/02

Dr. Carl Anderson, Cotton Marketing Specialist
Texas Agricultural Extension Services
Texas A&M University
College Station, Texas

Mr. Carleton Davis, Economist
Dunavant Enterprises, Inc.
Memphis, Tennessee

Mr. Curtis Griffith, CEO
City Bank
Lubbock, Texas

Dr. Jaroy Moore, Resident Director
Texas Agricultural Experiment Station
Lubbock, Texas
2001/02 (continued)

Mr. Vern Tyson
Sara Lee Knit Products
National Textiles
Winston-Salem, North Carolina

Mr. Steve Verett, Executive Vice President
Plains Cotton Growers
Lubbock, Texas

Dr. Dan Upchurch, Director
Cropping Systems Research Laboratory
USDA-Agricultural Research Service
Lubbock, Texas

Mr. Tony Williams, Executive Vice President
Texas Cotton Ginners Association
Austin, Texas

2002/03

Mr. Carlton Davis, Economist
Dunavant Enterprises, Inc.
Memphis, Tennessee

Dr. Jaroy Moore, Resident Director
Texas Agricultural Experiment Station
Lubbock, Texas

Mr. Lynn Scherler, Vice President
Cobank - Agribusiness Banking Group
Lubbock, Texas

Mr. Vern Tyson
National Textiles
Winston-Salem, North Carolina

Mr. Leslie Meyer, Agricultural Economist
USDA, Economic Research Service
Washington, DC

Dr. Bill Norman, Vice President
Ginning Services National Cotton Council
Memphis, Tennessee

Dr. Edward G. Smith, Associate Director
Agricultural and Natural Resource Sciences
Texas A&M University
College Station, Texas

2003/04

Mr. Ross Barber, Vice President
Dunavant Enterprises, Inc.
Lubbock, Texas

Dr. Jaroy Moore, Resident Director
Texas Agricultural Experiment Station
Lubbock, Texas

Mr. Lynn Scherler, Vice President
Cobank - Agribusiness Banking Group
Lubbock, Texas

Mr. Chuck Thompson, Owner and Manager
Southwest Textiles
Abernathy, Texas

Mr. Steve Verett, Executive Vice President
Plains Cotton Growers
Lubbock, Texas

Mr. Leslie Meyer, Agricultural Economist
USDA Economic Research Service
Washington, DC

Dr. Bill Norman, Vice President
Ginning Services National Cotton Council
Memphis, Tennessee

Dr. Edward G. Smith, Associate Director
Agricultural and Natural Resource Sciences
Texas A&M University
College Station, Texas

73
AAEC Department Research Advisory Committee Members

2004/05

Mr. Ross Barber, Vice President
Dunavant Enterprises, Inc.
Lubbock, Texas

Mr. Jim Conkwright, Manager
High Plains Underground Water Conservation District
Lubbock, Texas

Mr. Leslie Meyer, Agricultural Economist
USDA Economic Research Service
Washington, DC

Dr. Jaroy Moore, Resident Director
Texas Agricultural Experiment Station
Lubbock, Texas

Dr. Bill Norman, Vice President
Ginning Services, National Cotton Council
Memphis, Tennessee

Mr. Lynn Scherler, Vice President
Cobank - Agribusiness Banking Group
Lubbock, Texas

Dr. Edward G. Smith, Interim Director
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Texas A&M University
College Station, Texas

Mr. Chuck Thompson, Owner and Manager
Southwest Textiles
Abernathy, Texas

Mr. Steve Verett, Executive Vice President
Plains Cotton Growers
Lubbock, Texas

Mr. Tim Snyder, Marketing Director
National Sorghum Producers Association
Lubbock, Texas
4th Annual Research/Extension Symposium

Date: March 31, 2004
Time: 11:45 am
Merket Alumni Center
Texas Tech University
Lubbock, Texas

Box 42132
Texas Tech University
Lubbock, TX 79409-2132

Phone: 806-742-2821
Fax: 806-742-1099
Email: cer@ttu.edu

Funding Provided by
College of Agricultural Sciences and Natural Resources, Texas Tech University
Cotton Incorporated

Sponsored by
College of Agricultural Sciences and Natural Resources, Texas Tech University
Texas Cooperative Extension
Texas A&M University System

PARTNERSHIP FOR RESEARCH EXCELLENCE
The Cotton Economics Research (CER) Institute serves as a unit to coordinate and foster economic research activities on all aspects of cotton across units within Texas Tech University and with research units outside the University. It focuses on economic research, but also coordinates and cooperates with other research efforts, both economic and non-economic in their primary intent.

The objectives of the Institute are to:

1) facilitate the conduct of economic research on all aspects of cotton (e.g., production, marketing, trade, processing, value added), particularly in Texas;

2) coordinate economic research at Texas Tech University with other research efforts within the University and with other research institutions;

3) foster the dissemination of research results in both disciplinary/professional outlets and industry/public outlets.

**SCHEDULE OF EVENTS**

11:45 am: Luncheon

12:15 pm: Welcome and Introduction
            Dr. Don Ethridge

12:20 pm: Comments by CASNR Interim Dean, Dr. Marvin Cepica, TTU

12:30 pm: Comments by Associate Director for Agriculture and Natural Resources,
            Dr. Ed Smith, TAMU

**RESEARCH SESSION**

12:45 pm: “Web-based Production Cost Calculator”
            Dr. Phil Johnson

            Dr. Sam Mohanty

1:45 pm: Break

2:15 pm: “Insurance Issues: Implications for Cotton”
            Dr. Tom Knight

2:45 pm: “Demonstration Project: Relevance to Cotton Industry”
            Dr. Vivien Allen

3:15 pm: Break

**EXTENSION SESSION**

3:30 pm: “Recent Developments in Lower Coastal Bend Cotton Production, Economics, and Marketing”
            Dr. Larry Falconer

4:00 pm: “The Farm Assistance Program”
            Dr. Steven Kclose

**PANEL SESSION**

4:30 pm: Comments by Panel Members
            Mr. Wendell Barrick
            Mr. Jimmy Clark
            Mr. Rex Isom

**WRAP UP SESSION**

5:15 pm: Open Session for Comments and Discussions

**EVENING ACTIVITIES**

6:00 pm: “Attitude-Adjustment” Hour

7:00 pm: Dinner

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**Contact person:**

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Appendix H

CERI COMMODITY OUTLOOK CONFERENCE

May 14, 2004
Funding Provided by:

USDA-CSREES Grant

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Texas Tech University
Box 42132
Lubbock, TX 79409
Phone: 806-742-2821
Fax: 806-742-1099
www.ceri.ttu.edu/policy/

2nd Annual Agricultural Outlook Conference
May 14, 2004
9:30 a.m.
Vision/Objectives

Cotton Policy Analysis Objectives:

- To prepare medium-term outlook for the U.S. and world cotton market.

- To analyze the effects of alternative policies and external factors on production, utilization, farm and retail prices, farm income, trade, and government costs.

- To brief staff members of the U.S. Senate and House Agriculture Committees on projections for U.S. and world cotton markets.

Schedule of Events

9:30-9:45 Gathering

9:45-10:00 Welcome
Dr. Don Ethridge
Texas Tech University

10:00-10:15 Industry Representative
Mr. Tim Snyder,
Marketing Director,
National Grain Sorghum Producers

10:15-10:45 Role of FAPRI Consortium in Farm Bill Making Process
Dr. Abner Womack,
FAPRI, University of Missouri

10:45-11:15 World Cotton Market Outlook
Dr. Sam Mohanty
Texas Tech University

11:15-11:30 Break

11:30-12:15 U.S. and World Crops and Livestock Outlook
Dr. Pat Westhoff
FAPRI, University of Missouri

12:15-1:15 Lunch

1:15-2:00 “A View from the Hill--A Senate Staffer’s Take on Agricultural Policy”
Dr. Stephanie Mercier,
Minority Chief Economist, Senate Committee on Agriculture, Nutrition and Forestry

2:00-2:30 Representative Farm Outlook
Dr. Joe Outlaw
AFPC, Texas A&M University

2:30-2:45 Concluding Remarks
Dr. Marvin Cepica,
Dean CASNR, TTU

Contact Person:
Dr. Sam Mohanty
Assistant Professor,
Department of Agricultural and Applied Economics,
Texas Tech University

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Appendix I

COTTON ECONOMICS RESEARCH UPDATE

January 2004 and July 2004 Issues
Welcome

Our Advisory Committee meeting in October was, as they have all been, very effective in guiding the overall Cotton Economics program. Several points that the Committee made, and on which we will be taking action, are: more collaboration with Cooperative Extension on dissemination of research findings, heightened visibility for Texas Tech, more research on the cottonseed segment of the industry, and some expansion of Advisory Committee membership beyond cotton, especially in the areas of water resources and the sorghum industry. On this last point, we may be, in effect expanding the overall perspective of the Advisory Committee to encompass all of the research in which the Department of Agricultural and Applied Economics is involved.

Note elsewhere in this newsletter that the Cotton Economics Research Institute Research-Extension Symposium is scheduled for April, 2004. We had to cancel it last year because of Legislative travel restrictions but are looking forward to resuming this important collaborative activity. Note also that the group has been quite busy with a range of research-related activities. Please contact us if you have questions or need any additional information.

Don Ethridge, Director

New Projects

Profitability Analysis of Cotton Production for Major Cotton Producing Regions of Texas

In order for cotton producers to make informed production, financial, and marketing decisions, accurate farm level cost of production information is required. Cotton profitability and cost of production information has been developed since 1995 using the Standardized Performance Analysis-Multiple Enterprise (SPA-ME) program. In addition, the Financial and Risk Management Assistance program (FARM Assistance) provides producers with a tool for long-term strategic planning and decision making under risk. While these programs, operated by Texas Tech and Texas A&M, have different objectives, there is considerable overlap in the types of information collected from producers.

This project will integrate these analytical approaches so as to provide more complete short-term and long-term management and planning information for managers. For more information, contact Phillip Johnson.
Recent Studies

Effects of MFA Quota Elimination: Declining U.S. Cotton Exports to Mexico?

Accounting for about 25% of U.S. total cotton exports, Mexico’s importance for the U.S. cotton industry has considerably increased in recent years. Cotton consumption in Mexico has been rapidly increasing through the expansion of the textile/clothing industry. As a consequence, Mexico’s net imports have significantly grown since the early 1990’s, and particularly with NAFTA. Approximately 95% of Mexico’s total apparel export value goes to the United States, and about 44% of total Mexican textile and apparel production is exported to the United States. Consequently, cotton fiber consumption in Mexico is highly influenced by changes in U.S. textile and apparel prices. The model developed in this research allows us to simulate the implications of the 2005 US clothing/textile quota eliminations on Mexico’s cotton consumption and net imports. Subsequently, some implications are drawn regarding U.S. cotton exports to Mexico. Depending on the scenarios expected in the US, the model shows that by 2005 (ATC final quota elimination), Mexico’s net imports of cotton from the US would decline by 9 to 12% as compared to their “baseline” value. For additional information, contact Jaime Malaga.

Recent Activities

Advisory Committee Meeting

The Cotton Economics Research Advisory Committee (Ed Smith, Chuck Thompson, Bill Norman, Jaroy Moore, Ross Barber, Leslie Meyer, Steve Verett, and Lynn Scherler) met on October 3, 2003. Principal Investigators gave oral reports on projects, and the committee met with students working on Cotton Economics projects. Interim Dean Marvin Cepica met with the committee. The committee closed with their remarks and recommendations for the CER program.

Cotton Policy Analysis Presentation

Sam Mohanty was invited to do a presentation on the Cotton Policy Analysis work at Texas Tech University at the Food and Agriculture Organization of the United Nations in the Summer of 2003.

Daily Price Estimation 2002/03 Report is Out

The annual summary of the DPES for the 2002/03 Texas/Oklahoma Cotton Marketing year has been published. You can obtain a copy from the Institute or access it on the CER web site.

Annual Report of Cotton Economics Research Activities 2002/03

The department has produced a 2002/03 annual report of research activities and accomplishments conducted within the Cotton Economics Research Institute at Texas Tech University. If you are interested in receiving a copy, please call or write to the department. You can also access this report on our web page, http://www.aeco.ttu.edu/CER-Institute/cerinstitute.htm.

International Trade

Jaime Malaga participated in the annual meeting of the S-1016 Regional Research Committee-Impacts of Trade and Domestic Policies on the Competitiveness and Performance of Southern Agriculture. The meeting was held in Washington D.C. in November of 2003 and also included sessions at ERS-USDA.

Chapingo University Professors Visit

Drs. Manuel Gomez and Rita Rindermann visited the Agricultural and Applied Economics Department in November to discuss a potential collaboration agreement with Texas Tech University. The agreement includes the areas of teaching, research and faculty and student exchange. The Mexican visitors also presented a seminar on “Mexican Agricultural Policies under President Fox’s Administration.”

FAPRI Baseline

Suwen Pan and Mohamadou Fadiga traveled to Washington D.C. on December 16-18, 2003. They attended the FAPRI annual baseline review conference and presented the cotton baseline projection. The FAPRI conference is attended by leading crop analysts around the country and is beneficial in gathering information on supply and demand situations of world cotton.

Latin American Conference

Jaime Malaga was invited as a panelist at the Latin American Conference on Agricultural Trade in Mexico City in August. He was the only participant invited from a U.S. university.
Third Annual Research/Extension Symposium on Cotton Economics Issues Scheduled for April 2004

The Cotton Economics Research Institute will be sponsoring the fourth annual research/extension symposium in April, 2004, in collaboration with the Texas Agricultural Extension Service. The motivation behind this symposium is to (1) deliver important research results directly to selected agricultural extension scientists for further dissemination to the cotton industry and (2) provide an opportunity to our extension colleagues to evaluate the relevancy of our research activities and help shape the future research focus of the cotton economics research program. For more information contact Sukant Misra or Don Ethridge.

Upcoming Activities

Agricultural Outlook Conference

The Cotton Economics Research Institute will be organizing an Agricultural Outlook Conference in Lubbock. The conference will be held during the first two weeks of May 2004. If you are interested in attending or would like additional information, contact Samarendu Mohanty.

Beltwide Cotton Conference Activities

Ten faculty and students from the Agricultural & Applied Economics department attended the National Cotton Council’s Beltwide Cotton Conferences in San Antonio, TX held January 8-9, 2004.

Papers and Posters authors were:


Mark Welch and Conrad Lyford. “Cost Competition for U.S. Textiles: Will Yarn Follow the Needle?”


Vernon Lansford and Eduardo Segarra. “The Dollars and Cents of Subsurface Drip Irrigation (SDI) for Cotton in the Southern High Plains of Texas.”


Jose Enrique Lopez and Jaime Malaga. “Effects of MFA Quota Elimination: Declining U.S. Cotton Exports to Mexico?”


Ligia Vado, David Willis and Samarendu Mohanty. “Future Potential of Brazilian Cotton Exports.”

Contact Information: 
Cotton Economics Research Institute, Texas Tech University

Web Site and E-Mail Address
The Cotton Economics Research Institute now has a Web Site of its own. Information on current research projects, publications, activities, etc., can be obtained through this site at:


The e-mail address for the Institute is:
cer@ttu.edu.

For more information on cotton economics research, contact the department at:

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Cotton Economics
Research Update

July 2004

Welcome

Researchers associated with the Institute continue to generate important, relevant, and useful results and approaches for Texas and U.S. Cotton, and the collaborative working relationships we have with sister groups in universities, government, and industry have been a substantial part of that success. The value of the research has been recognized by industry and policy making groups as well as academicians, which supports our contention that good applied research must simultaneously be relevant and scientifically rigorous.

Note the new projects, recent results, and the diverse set of activities outlined here and the breadth and depth it represents. If you have any comments or suggestions please contact us.

Don Ethridge,  
Director

New Projects

An Evaluation of High-Value Marketing Pools for the Texas Cotton Industry

The reputation of West Texas cotton is a “coarse count” raw material, suitable primarily for bottom-weight textiles that are not subjected to sophisticated dyeing and finishing; it is sometimes referred to as “denim cotton.” However, new varieties with competitive yields and improved fiber properties have been planted on larger shares of the cotton acreage in West Texas. This presents an opportunity for premium-price marketing.

This work is supported by USDA through the International Cotton Research Center. For more information contact Conrad Lyford.

Profitability Analysis of Cotton Production for the High Plains Region of Texas

This project continues the Standardized Performance Analysis (SPA) of cotton production which has generated cost of production and profitability information for the Texas High Plains since 1995. Participating cotton producers are provided with detailed evaluations of their production costs and financial performance to assist in making informed production, finan-

Recent Studies

Texas/Oklahoma Producer Cotton Market Summary for 2003/04
Textile Mill Prices
The Impacts of U.S. Cotton Programs on the World Market: An Analysis of Brazilian and West and Central African WTO Petitions

Activities

Advisory Committee Meeting
Texas Association of Agricultural Cooperatives Presentations
CERF Fact Sheets
Chapingo University, Mexico
Graduate Student Awarded Outstanding Thesis
EFS Presentation
Research/Extension Symposium

Vol. 8, No. 2
Cotton Economics Research Institute
Department of Agricultural and Applied Economics
Texas Tech University
Recent Studies (cont.)

New Projects (cont.)

Recent Studies

Texas/Oklahoma Producer Cotton Market Summary for 2003/04 Available

The annual report of producer prices and quality premiums and discounts based on Texas Tech’s Daily Price Estimation System is now available for the 2003 crop (2003/04 marketing year). Results show generally higher prices (63.63 ¢/lb. average), higher quality, lower leaf grade premiums, lower short staple discounts, and higher micronaire discounts than the previous year.

The report can be obtained from the website, www.aeco.ttu.edu/CER-Institute/index.htm, under the research reports section.

This research is supported by Cotton Incorporated, Texas State Support Committee. For more information, contact Sukant Misra or Don Ethridge.

Textile Mill Prices

A study of textile manufacturers’ premiums and discounts paid for cottons from different U.S. production regions using price data from textile mills shows that there are substantial discrepancies between the values of the quality attributes of cotton expressed by the values in the Loan Rate Schedule and the values reported by USDA. Further, these differences vary by region and crop year. One of the resulting problems is that correct price signals are not being conveyed through the market channel, causing production and market inefficiencies to occur.

This research was supported by Cotton Incorporated. For more information, contact Conrad Lyford.

The Impacts of U.S. Cotton Programs on the World Market: An Analysis of Brazilian WTO Petitions

This study analyzed the effects of elimination of U.S. cotton subsidy programs on the world cotton market using Texas Tech’s Global Fiber Model. Removal of U.S. programs would increase world cotton prices by around 2 percent in the initial years. However, the impacts die out after a few years following program elimination as the major cotton producing and exporting countries expand their production. Overall, the results indicate that U.S. cotton production and exports would decline by an average of 4% and 5%, respectively. At the same time, Brazil and Australia, would expand their cotton acreage and increase exports by about 2%, and 1%, respectively. Unlike Brazil and Australia, Africa is unlikely to take advantage of the reduction in U.S. cotton exports, with less than 1% increase in their exports.

This research was supported by USDA. For more information, contact Sam Mohanty.

Activities

Advisory Committee Meeting

The Cotton Economics Research Advisory Committee is being altered somewhat. On recommendation of the Committee Members from last Fall’s meeting, the focus of the committee is being broadened and it is becoming an overall Departmental Research Advisory Committee. Two new (additional) members have agreed to serve 3-year terms: Mr. Jim Conkwright, Manager, High Plains Underground Water Conservation District, and Mr. Tim Snyder, Marketing Director, National Grain Sorghum Producers Association, are the new members for 2004/05.
Activities (cont.)

CER Fact Sheets

The following fact sheets have been written to provide information to the public about recent projects being conducted through the Cotton Economics Research Institute. For more information contact Sukant Misra or Don Ethridge, or go to our website at http://www.aeco.ttu.edu/cerinstitute.htm, then go to “Research Reports.”

1) Web-Based Cotton Production Cost Calculator

2) U.S. Textile Manufacturers’ Pricing of Cotton Quality Attributes

3) Structural Models of the U.S. and the Rest-of-the-World Natural Fibers Market

4) Texas/Oklahoma Producer Cotton Market Summary for 2003/04

Chapingo University, Mexico

Sam Mohanty taught a short course on International Agricultural Policy on May 17-21. Mohanty was also there to maintain contacts with Mexican researchers that will help continue US-Mexico joint studies on trade and policy issues.

Graduate Student Awarded Outstanding Thesis

Enrique Lopez was awarded Outstanding M.S. thesis by the Western Agricultural Economics Association. The title of his thesis is “An Econometric and Simulation Model of the Mexican Cotton Industry.” Dr. Jaime Malaga was Enrique’s graduate advisor.

Texas Agricultural Cooperatives Council Presentations

Drs. Jaime Malaga and Phillip Johnson made presentations at the Texas Agricultural Cooperatives Council Managers Conference in Ruidoso, NM, July 14 and 15. Dr. Malaga presented information on trade with Mexico, including cotton and textile trade. Dr. Johnson made a presentation on Texas water issues.

Research/Extension Symposium

The Cotton Economics Research Institute at Texas Tech University held the fourth annual Research/Extension Symposium on March 31, 2004. The motivation behind this symposium is to (1) deliver important research results directly to selected agricultural extension personnel for further dissemination to the cotton industry and (2) provide an opportunity to extension colleagues to evaluate the relevance of research activities and help shape the future research focus of the Cotton Economics Research program.

The program was sponsored by the CER Institute, The College of Agricultural Sciences and Natural Resources of Texas Tech and by Cotton Incorporated. For more information contact Sukant Misra or Don Ethridge.

2nd Annual Agricultural Outlook Conference

The Cotton Economics Research Institute held its annual Commodity Outlook Conference on May 14, 2004. Dr. Stephanie Mercier, Minority Chief Economist, Senate Committee on Agriculture, Nutrition, and Forestry, was the featured speaker with a presentation titled “A View from the Hill--A Senate Staffer’s Take on Agricultural Policy.” Other speakers included Tim Snyder, National Grain Sorghum Producers, Drs. Pat Westhoff, FAPRI (University of Missouri), Joe Outlaw, AFPC (Texas A&M University) and Sam Mohanty, CERI (Texas Tech University). For more information contact Sam Mohanty or visit the Cotton Policy Analysis website at www.aeco.ttu.edu/CER-Institute/policy/index.htm.

EFS Presentation

Contact Information

Web Site and E-Mail Address
The Cotton Economics Research Institute has a Web Site of its own. Information on current research projects, publications, activities, etc., can be obtained through this site at:

The e-mail address for the Institute is: cer@ttu.edu.

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Appendix J

COTTON ECONOMICS RESEARCH

FACT SHEETS

2003/04
Fact Sheet
Cotton Economics Research Institute
Texas Tech University
July 2004

Producer Incentives Don't Equal Mill Quality Incentives

The purpose of this project is to provide information on quality preferences by mill buyers and how much they pay for quality. This project has collected data from mills that represents 45% of the mill volume in the U.S. and developed an economic model to evaluate mill buyers preferences for quality. Quality attributes being evaluated for their effects on prices (premia/discounts) include color, fiber length, strength, micronaire, length uniformity, and foreign matter content. The purpose of this is to provide important market intelligence and information on quality preferences to producers.

Recently, incentives for quality were compared between those available at the producer level and those paid by mills. That is, mill prices were compared with prices at the producer level (i.e. the loan rate and Agricultural Marketing Service (AMS) price quotations). Producer incentives were found to (a) often not be closely aligned to mill incentives and (b) were relatively inflexible. This means that producers are often getting the wrong signals on quality, and this likely decreases producer profitability.

For More Information:

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Sponsor:
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Director

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Fact Sheet
Cotton Economics Research Institute
Texas Tech University
July 2004

Structural Models of the U.S. and the Rest-of-the-World Natural Fibers Market

The policy analysis group of the Cotton Economics Research Institute has developed the world fiber model to conduct medium-term market outlook and policy analysis. The model is also used to respond to Congressional requests for information, analysis and advice on the expected behavior/response of the natural fiber markets.

In the last few months, we have analyzed a variety of issues affecting cotton and textile markets. Our study of the Brazilian WTO petition on U.S. cotton subsidies found that removal of U.S. cotton programs would increase world price by around 2 cents per pound in the initial years. However, the impacts die out after a few years of program elimination as the major cotton producing and exporting countries expand their production. Similarly, another study on Brazil examined the potential of cotton acreage expansion in the Cerrado Savannah. The study found that cotton is the least preferred crop as the land expands in the new region. However, cotton acreage in the region is likely to expand if cotton price is high relative to corn and rice. We are also in the process of completing various other studies including the impacts of the Multi-Fiber Arrangement (MFA) elimination and Chinese currency appreciation on the world fiber market. For more information, visit us online at http://www.ceri.ttu.edu/policy.

For More Information:
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Sponsor:
USDA

Dr. Don Ethridge,
Director

Dr. Sukant Misra,
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Fact Sheet
Cotton Economics Research Institute
Texas Tech University
August 2004

Web-Based Cotton Production Cost Calculator

Develop a standardized performance analysis method to evaluate enterprise profitability and cost of production for cotton that will be web-based to allow cotton producers to evaluate past crop year production costs or use as a planning tool.

Knowledge of the true costs of production is required for cotton producers to make sound production, financial, and marketing decisions. An information based management tool that can be used in conjunction with their present record system would assist producers in calculating their true production costs. The objective of this study was to develop a web-based production cost calculator, which would aid producers in evaluating enterprise cost and returns by using income statement financial information in addition to enterprise production information. The allocation of income and cost items from the income statement to enterprises and sub-enterprises through the use of specified allocation methods would facilitate the calculation of a true cost of production and enterprise profitability. The production cost calculator allows producers to calculate the profitability of specific enterprises within their farming operations and the breakeven price necessary to recover total and cash production costs, and breakeven yield. The calculator is useful as a planning tool or can be used to assess prior year's cost of production.

A web-based production cost calculator was developed based on the Standardized Performance Analysis (SPA) method and is available online at: http://www.aeco.ttu.edu/CER-institute/Resourcepage.htm

For More Information:
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Sponsor:
Cotton Incorporated

Dr. Don Ethridge,
Director

Dr. Sukant Misra,
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Fact Sheet
Cotton Economics Research Institute
Texas Tech University
August 2004

The 2003/04 Cotton Market for Texas Farmers

The Cotton Economics Research Institute developed the Daily Price Estimation System (DPES) for daily price analysis and reporting for the Texas/Oklahoma cotton market. Based on its results, analysis of the 2003/04 marketing year shows that prices increased and were at their highest level in the last four years, averaging 63.66 cents per pound. Total bales and total sales for the West Texas region declined from 2002/03. Although total sales for the East Texas/Oklahoma region remained unchanged, total bales for the region increased to 90,620 bales, about 15 percent higher than its 2002/03 level. The higher prices were influenced by an increased level of overall quality in addition to supply and demand factors. For the 2003/04 marketing year, the results indicated lower premiums for low leaf grade and uniformity and higher premiums for higher staple length, color grade, and higher level of strength. However, premium levels for better than base quality strength and the first digit color grade appear to be minimal. Price discounts in 2003/04 for staple length, first and second digit of the color grade, strength, and uniformity either remained unchanged or decreased, while discounts for leaf, micronaire, and bark increased compared to 2002/03 levels. This research is supported by the Texas State Support Committee and Cotton Incorporated.

For More Information:

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(806) 742-2017 ext. 246 or sukant.misra@ttu.edu
or Dr. Don Ethridge at:
(806)742-2821 or don.ethridge@ttu.edu

Sponsor:
Cotton Incorporated
Texas State Support Committee

Dr. Don Ethridge,
Director

Dr. Sukant Misra,
Associate Director
Appendix K

THORNTON INSTITUTE ACTIVITIES

(1) 31st ANNUAL BANKERS AGRICULTURAL CREDIT CONFERENCE
    November 14, 2003

(2) 2003 BANKERS AGRICULTURAL CREDIT CONFERENCE OFFICERS AND DIRECTORS

(3) 2003 TEXAS AGRICULTURAL LENDING SCHOOL
    October 1-3, 2003

(4) 2003 TEXAS AGRICULTURAL LENDING SCHOOL
    ADVISORY AND PLANNING COMMITTEE
31st ANNUAL
BANKERS AGRICULTURAL
CREDIT CONFERENCE

NOVEMBER 14, 2003

INTERNATIONAL CULTURAL CENTER
TEXAS TECH UNIVERSITY
LUBBOCK, TEXAS

PROGRAM
7:30 a.m. – 8:30 a.m. Registration

8:00 a.m. – 8:15 a.m. General Session
Presiding: Mr. Stan Gill, President
Bankers Agricultural Credit Conference
Senior Vice President
PNB Financial
Lubbock, Texas

8:15 a.m. – 9:30 a.m. Legal and Regulatory Update
Ms. Karen Neeley
General Counsel
Independent Bankers Association of Texas
Austin, Texas

9:30 a.m. – 9:50 a.m. Break

9:50 a.m. – 11:20 a.m. War & Peace: Avoiding the Legal Landmines?
Mr. John Huffaker
Sprouse Shrader Smith P.C.
Amarillo, Texas

11:30 a.m. – 1:00 p.m. Lunch

1:00 p.m. – 2:00 p.m. Regional Rural Development
Mr. Stephen Kiser
Regional Economist
FDIC
Dallas, Texas

2:00 p.m. – 3:00 p.m. Financial and General Economic Outlook
Dr. Scot Hein
Briscoe Chair of Bank Management and Professor
Texas Tech University
Lubbock, Texas
3:00 p.m. – 3:15 p.m. Break

3:15 p.m. – 3:45 p.m. Agricultural Outlook for 2004
   Dr. Richard McDonald
   President & CEO
   Texas Cattle Feeders Association
   Amarillo, Texas

3:45 p.m. – 4:15 p.m. Mr. David Stanford
   Vice President - Marketing
   Plains Cotton Cooperative Assn.
   Lubbock, Texas

4:15 p.m. Adjourn
BANKERS AGRICULTURAL CREDIT CONFERENCE
OFFICERS AND DIRECTORS
2003

President:
Mr. Stan Gill
Senior Vice President
PNB Financial
Lubbock

Coordinator:
Dr. Phillip Johnson
Associate Professor
Agricultural and Applied Economics
Texas Tech University
Lubbock

Vice President:
Mr. Jeff Rogers
Branch President
Security Bank of Ralls
Abernathy

Directors:
Mr. Jim Bob Reynolds
Vice President
First State Bank of Stratford
Dalhart

Mr. Kirk Thomas
Executive Vice President
State National Bank of West Texas
Lubbock

Mr. Boyd Finch
Vice President
American State Bank
Lubbock

Mr. Gary Patterson
Vice President
Muleshoe State Bank
Farwell

Mr. Kurt Coor
Vice President
The State National Bank
Big Spring

Sponsored By:
McCoy Myers and Associates
TIB-The Independent BankersBank
Texas Bankers Association
Independent Bankers Association of Texas
Thornton Agricultural Finance Institute

Organized By:
Agricultural and Applied Economics
Texas Tech University
Wednesday, Oct. 1

1:15 pm  Welcome and Introductions
          Phillip Johnson and Danny Klinefelter

1:30   Water Rights and Groundwater Leasing
        Mr. Judon Fambrough
        Real Estate Research Center
        Texas A&M University

3:00   Break

3:30   Bio-Terrorism and Agricultural Lending
        Ms. Vickie Sutton
        Professor of Law
        Texas Tech University

5:00   Hospitality Hour

6:00   Dinner (informal – no speakers)

Thursday, Oct. 2

7:30 am  Continental Breakfast

8:30   Credit Risk Analysis in Agriculture - Big Picture
        Dr. Paul Ellinger
        Associate Professor
        University of Illinois

10:00   Break

10:30   Credit Risk Analysis in Agriculture – Smaller Picture
        Dr. Paul Ellinger
        Associate Professor
        University of Illinois
Thursday, Oct. 2 (Cont.)

Noon        Lunch Provided

1:30 pm     Financial Ratio Analysis in Lending
            Dr. Ken Cyree
            Assistant Professor – Finance
            Texas Tech University

3:00        Break

3:30        Financial Ratio Analysis in Lending - Continued

5:00        Adjourn

Friday, Oct. 3

7:30 am     Buffet Breakfast – informal roundtable discussions

8:30        Bankruptcy: What Creditors Need to Know
            Mr. Walter O’Cheskey
            Bankruptcy Trustee
            Lubbock, TX

10:00       Break

10:30       War & Peace: Avoiding the Legal Landmines?
            Mr. John Huffaker
            Sprouse Shrader Smith P.C.
            Amarillo, TX

Noon        Adjourn
## TEXAS AGRICULTURAL LENDING SCHOOL
### ADVISORY & PLANNING COMMITTEE

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Bank/Branch</th>
</tr>
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<tbody>
<tr>
<td>Mr. Mike Cowley</td>
<td>Vice President</td>
<td>First Victoria National Bank, Victoria</td>
</tr>
<tr>
<td>Mr. Stan Gill</td>
<td>Senior Vice President</td>
<td>PNB Financial, Lubbock</td>
</tr>
<tr>
<td>Mr. Ken Doran</td>
<td>Senior Vice President</td>
<td>Texas AgFinance, Robstown</td>
</tr>
<tr>
<td>Mr. Mike Mauldin</td>
<td>President</td>
<td>Hereford State Bank, Hereford</td>
</tr>
<tr>
<td>Mr. Scotty Elston</td>
<td>Chief Credit Officer</td>
<td>Ag Texas, Lubbock</td>
</tr>
<tr>
<td>Mr. Ben Novosad</td>
<td>CEO</td>
<td>Capital Farm Credit, Bryan</td>
</tr>
<tr>
<td>Mr. Doug Thiessen</td>
<td>Vice President</td>
<td>First Ag Credit, Lubbock</td>
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### COORDINATORS

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>University/Museum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Phillip Johnson</td>
<td>Associate Professor</td>
<td>Agricultural and Applied Economics, Texas Tech University, Lubbock</td>
</tr>
<tr>
<td>Dr. Danny Klinefelter</td>
<td>Professor &amp; Extension Economist</td>
<td>Texas A&amp;M University, College Station</td>
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