ANNUAL REPORT ON

COTTON ECONOMICS RESEARCH

2002/03

CER-03-02

Cotton Economics Research Institute

Department of Agricultural and Applied Economics

College of Agricultural Sciences and Natural Resources

Texas Tech University

September 2003

Compiled by Don Ethridge and Lauren Lovelace

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ANNUAL REPORT ON COTTON ECONOMICS RESEARCH
2002/03

Summary

This report summarizes the activities and accomplishments in the Cotton Economics Research Program, which is conducted within the Cotton Economics Research Institute at Texas Tech University, during the 2002/03 year. The Institute made use of $188,005 of internal funding during the year ($127,562 from the Applied Economics Research fund, $42,300 from the Excellence Fund, $6,500 from the Thornton Agricultural Finance Institute, and $11,600 from various other internal sources). Of this internal funding, 86% was spent on student and faculty salaries and 14% on maintenance and operation expenses (supplies, travel, equipment, etc.)

Seven cotton economics research projects were funded in part by the Institute during the last year. A total of 13 cotton economics research projects were managed during the same time period. Each of the projects is summarized in the attached progress reports (Appendix B). These research activities covered diverse subject-matter areas, including consumer demand, production inputs and costs, production management practices, ginning by-products, marketing and pricing, industry structural relationships, and textile processing costs. Examination of the evolution of the research program shows that it is becoming more nationally and internationally focused, driven in part by expanded funding from federal sources.

From the internal funding, another $416,264 of external competitive cotton research grant funds were generated (Appendix C). Thus, the leverage ratio for the last year was 2.37:1, which shows that $2.37 in external funding was generated for each

$1.00 in internal support. This represents a slight decrease from a leverage ratio of 2.97:1 in 2001/02, influenced by new faculty involved in startup research. Our long-run strategic target is a leverage ratio of 3.0:1.

Other measures of productivity include publications and service to the cotton industry. A listing of publications is provided in Appendix D. Overall, the faculty authored/co-authored 24 publications during the past year (compared to 31 publications during the 2001/02 year), which included 8 professional journal articles, 8 proceedings papers at industry and professional meetings, 7 technical research reports, and 1 published abstract from professional meetings related to cotton economics research. 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. 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.

Another important result of the program is the education and training of students. During the last year there were 17 graduate students (6 Ph.D. and 11 M.S.) supported in whole or in part from research funding of cotton economics projects; another 8 undergraduate students worked on these projects as well. It is noteworthy that the departmental students co-authored 12 of the 24 cotton related research publications and made several presentations at important industry meetings such as the Beltwide Cotton Conferences.

Many of the accomplishments of the Cotton Economics Research Institute have been with important advice from the Cotton Economics Research Advisory Committee

(Appendix A). The Committee represents industry segments as well as academic and government research perspectives and the members assist with keeping the program focused on issues relevant to the cotton industry and in the management of the program. The advisory committee members for 2002/03 were:

Dr. Ed Smith, Texas A&M University, College Station, TX – 1996-02.

Mr. Carleton Davis, Economist, Dunavant Enterprises, Inc., Memphis, TN – 2000-03.

Mr. Curtis Griffith, CEO, City Bank, Lubbock, TX – 1999-02.

Dr. Jaroy Moore, Resident Director, Texas Agricultural Experiment Station, Lubbock, TX – 2000-03.

Mr. Vern Tyson, Sara Lee Knit Products, National Textiles, Winston-Salem, NC – 2001-04.

Mr. Leslie Meyer, Agricultural Economist, USDA Economic Research Service, Washington, DC – 2002-2004.

Mr. Steve Verett, Executive Vice President, Plains Cotton Growers, Lubbock, TX – 1999-05.

Dr. Bill Norman, National Cotton Council of America, Memphis, TN – 2002-2004.

Two members rotate off the committee in 2003 – Carleton Davis and Vern Tyson. As they graduate to "emeritus" status, we extend our most sincere appreciation for their contributions and committment to the program. Their replacements are Mr. Ross Barber, Dunavant Enterprises Inc. and Mr. Chuck Thompson, Southwest Textiles.

The Annual Research/Extension Symposium was not held in 2003 due to travel restrictions from the Texas Legislature. Information was distributed in printed and electronic form to our extension counterparts. The Symposium is being planned for 2004.

Three new faculty members (Drs. Thomas Knight, Vernon Lansford, and Roderick Rejesus) have joined the Department and the faculty team of researchers during the past year, contributing to the Cotton Economics and other research initiatives. Additionally, three Post-Doctoral Researchers have joined our research teams—Dr. Yufei Jin, Dr. Mohamadou Fadiga, and Dr. Suwen Pan.

APPENDIX A

ADVISORY COMMITTEE MEMBERS

1996/97-2003/04

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 and 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. Bob Poteet
Executive Vice-President
Texas Cotton Association
Dallas, Texas

1997/98

Dr. James Supak
Associate Head
Soil and Crop Sciences
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Dr. Carl Anderson
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Mr. Roy Baker
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Mr. George Herron
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1998/99

Dr. Carl Anderson
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Mr. Robert Joseph
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1999/00

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Lubbock, Texas

Mr. Curtis Griffith
CEO
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Mr. Robert Joseph
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Mr. Darryl Lindsey
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USDA-Agricultural Research Service
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2000/01

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Dr. Jaroy Moore
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Mr. Lynn Scherler
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Lubbock, TX

Mr. Leslie Meyer
Agricultural Economist
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Mr. Bill Norman
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2003/04

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Mr. Leslie Meyer
Agricultural Economist
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Lubbock, TX

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

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

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

APPENDIX B

PROGRESS REPORTS OF COTTON ECONOMICS

RESEARCH PROJECTS, 2002/03

Project Title:	Cotton Wizard Variety Selection Program
Principal Investigators:	Emmett Elam
Departmental Involvement:	Agricultural and Applied Economics
Collaborators and Collaborating Agencies:	John Gannaway, Texas Agricultural Experiment Station, Lubbock
Primary Funding Agency:	Cotton Incorporated
Funding Amount:	$40,000
Beginning Date:	01/01/03
Ending Date:	12/31/03
Project Objective:	To provide cotton breeders with a set of tools and procedures for consistent evaluation of breeding lines and varieties. The specific objectives are: 1) To develop a standard data template for collecting varietal performance data and a system that allows access to the collected data. 2) To provide a varietal assessment mechanism that all breeders can use with the performance data collected in objective (1). 3) To provide instruction on how to use both the data template, performance data, and the assessment tool(s) in evaluating cotton cultivars
Project Summary and Accomplishments:	Cotton cultivar evaluation is largely based on fiber yield and fiber characteristics, with little consideration given to seed yield and seed characteristics. A more comprehensive evaluation requires assessment of ALL relevant economic variables used in valuing both fiber and seed, plus consideration of other non-market variables that are related to performance and value, such as gossypol content of seed, seed index, etc. in a standardized, uniform fashion. A decision making tool is needed to organize all the relevant varietal information to facilitate decision making about what cotton cultivars to release for purchase, or even what cultivars to put into Official Variety Trials, in a standardized, uniform fashion. The Cotton Wizard cotton/cottonseed variety selection model was developed at Texas Tech University with CI support to aid decision makers in this regard. The model provides a comprehensive estimate of the economic value of the fiber and seed produced from an acre of cotton. Using the model in conjunction with the common set of variables (i.e., the data template), users can simultaneously consider complex agronomic and economic characteristics of a group of varieties, allowing informed decisions that otherwise would be difficult. Accomplishments: A database system has been developed to archive and disseminate cotton performance data. With this system, users will be able to:

1) Upload their data to a central server with the use of the Internet;
2) View uploaded data instantly;
3) Query the master database, obtain data reports, and download the data.

A test is planned for the database system using data and personnel from the Texas A&M Experiment Station at Lubbock.

Keywords: Cotton lint, cottonseed, variety selection, economic return

Project Title:	U.S. Textile Manufacturers Pricing of Cotton Quality
Principal Investigators:	Conrad Lyford and Don E. Ethridge
Departmental Involvement:	Agricultural and Applied Economics
Collaborators and Collaborating Agencies:	Cotton Incorporated, 12 U.S. textile manufacturing firms
Funding Amount:	$15,000
Beginning Date:	01/01/03
Ending Date:	12/31/03
Project Objective:	The general objective is to identify and report premium and discount levels paid by U.S. textile manufacturers for cotton fiber attributes. Specific objectives are to: (1) To develop, expand, and update the database of cotton purchases from textile mills. (2) To establish reliable estimates of price differentials paid for fiber attributes by textile mills, by production regions. (3) If regional differences persist, identify the reasons why different U.S. cotton producing regions receive differing prices. (4) To disseminate the information to the cotton industry.
Project Summary and Accomplishments:	The overall goal of this project is to identify and report premium and discount levels for cotton fiber attributes at the mill level. This has the goal of improving information to market participants including increasing the ability of producers to respond to mill preferences and mill buyers to more effectively purchase cotton that meets their quality specifications. In 2003, we have (1) finished developing a survey of mill buyers to directly assess the effect of stickiness, other quality issues, and regional effects on cotton prices, (2) added several new firms as collaborators to provide data, (3) develop individual quality reports to reward firms providing data to the project, and (4) improve the electronic mill contract system.
Keywords:	Cotton, pricing, quality

Project Title:	Quality Assessment of Major Textile Markets for Texas Cotton
Principal Investigators:	Conrad P. Lyford and M. Dean Ethridge
Departmental Involvement:	Agricultural and Applied Economics; International Textile Center
Primary Funding Agency:	CSREES/USDA through the International Cotton Research Center
Funding Amount:	$33,000
Beginning Date:	9/01/03
Ending Date:	8/31/04
Project Objective:	Major objectives of the research are to: 1. Quantify threshold levels of key fiber properties enabling access to selected, higher-valued segments of the market; 2. Collect and evaluate data on the prices in selected market segments; 3. Evaluate the demand levels and trends in the selected market segments; 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.
Project Summary and Accomplishments:	The fiber properties of Texas cottons largely determine the types of yarns, fabrics, and textile products that are made with them. A large portion of Texas cotton is used primarily to make coarser yarns (for denim and other bottom-weight fabrics) on rotor spinning systems, while it is seldom used to make finer yarns (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

Project Title:	Daily Price Analysis and Reporting for the Texas Oklahoma Cotton Market
Principal Investigators:	Sukant Misra and Don Ethridge
Departmental Involvement:	Agricultural and Applied Economics
Collaborators and Collaborating Agencies:	Plains Cotton Coop. Assn., E cotton
Primary Funding Agency:	Cotton Incorporated
Funding Amount:	$ 32,000
Beginning Date:	1/1/2003
Ending Date:	12/31/2003
Project Objective:	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.
Project Summary and Accomplishments:	The research has demonstrated that price estimation and reporting can be done in such a way as to be scientifically verifiable, based on a large daily volume of actual producer spot market transactions, and very timely. Daily, weekly, and monthly price/quality reports were produced in 2003, all available on www.aeco.ttu.edu/DPES/. An annual report for the 2002 crop (2002/03 newsletter) year is in preparation.
Keywords:	Cotton, prices, quality

Project Title:	Profitability and Production Costs of Grain Sorghum and Cotton in Texas
Principal Investigators:	Phillip Johnson
Departmental Involvement:	Agricultural and Applied Economics
Collaborators and Collaborating Agencies:	Larry Falconer, Texas Agricultural Experiment Station, Corpus Christi
Primary Funding Agency:	PROFIT program
Funding Amount:	$ 20,000
Beginning Date:	09/01/02
Ending Date:	08/31/03
Project Objective:	Perform integrated enterprise and whole farm analysis of farming operations in the High Plains (HP) and Coastal Bend (CB) regions of Texas, and to compile a database of grain sorghum and cotton production costs and profitability.
Project Summary and Accomplishments:	The long-term financial viability of farming operations in Texas depends on the profitability of the various enterprises within farming operations. This study uses the Standardized Performance Analysis (SPA) program, a management tool designed to complete an integrated financial, production, and marketing analysis of an entire farming operation using farm financial statements and relevant production data. Results from this project provide individual producers with a detailed financial analysis and enterprise costs and profitability for their farming operation. A database of farm level financial and economic analyses, including production cost and profitability information is also compiled for grain sorghum and cotton enterprises across the HP and CB regions. The data gathered from this project have been used in various analysis, including Roundup Ready versus conventional cotton varieties and the evaluation of cotton-grain sorghum rotations.
Keywords:	Standardized performance analysis, financial analysis

Project Title:	Business Models for Competitive Success in the Texas Textile Industry
Principal Investigators:	Conrad Lyford and Jaime Malaga
Departmental Involvement:	Agricultural and Applied Economics
Primary Funding Agency:	USDA/CREES (through the International Cotton Research Center)
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)Evaluate reasons for success and failure of existing firms 2)Evaluate key forces of change and potential responses 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 Texas cotton producers because local textile production increases demand and returns. Firms in the Texas and U.S. textile industry have been under 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. textile (including some Texas) textile facilities to close. The proposed research focuses on identifying business models that can be successful competitively currently and in the future for the Texas textile industry. The primary benefit is to show economic/business opportunities for the Texas textile industry that offer strong prospects. In addition, this information could be used to promote effective industry practice in key areas as well as indicate the future of the industry.
Keywords:	Business Models, Textiles

Project Title:	Spatial Analysis of Precision Agriculture Data: An Approach to Improve Management Zone Delineation Procedures for Texas Cotton
Principal Investigators:	Roderick M. Rejesus (TTU), Eduardo Segarra (TTU), and Kevin Bronson (TAES)
Departmental Involvement:	Agricultural and Applied Economics
Collaborators and Collaborating Agencies:	Kevin Bronson, Texas Agricultural Experiment Station (TAES)
Primary Funding Agency:	USDA/CSREES (through the International Cotton Research Center at TTU)
Funding Type:	Federal
Funding Amount:	$33,460
Beginning Date:	9/1/2003
Ending Date:	8/31/2004
Project Objective:	The objectives of this project are: (1) to develop and assess the feasibility of using spatial statistical and spatial smoothing methods for delineating management zones based on cotton precision agriculture data and (2) to compare the economic consequences of using the management zone delineation method developed in this project (versus other currently available management zone delineation methods) for the case of Texas cotton producers.
Project Summary and Accomplishments:	We have started to collect the data and have identified a graduate student to work on this project. Data collection will continue until the official start date and afterwards the graduate student will start conducting analysis of the data.
Keywords:	Precision Agriculture, Management Zones, Spatial Econometrics, Spatial Analysis

Project Title:	Structural Models of the U.S. and the Rest-of-the-World Natural Fiber Market
Principal Investigators:	Samarendu Mohanty
Departmental Involvement:	Agricultural and Applied Economics
Collaborators and Collaborating Agencies:	University of Missouri, Texas A&M University, Iowa State University Octavio Ramirez, Don Ethridge, and Jaime Malaga
Primary Funding Agency:	CSREES/USDA
Funding Amount:	$224,000
Beginning Date:	09/01/02
Ending Date:	8/31/03
Project Objective:	The objective of this project is to develop and maintain the models, procedures, and expertise needed to respond to Congressional requests of information, analysis and advise on the expected response of natural fiber markets in response to potential change in U.S. and foreign agricultural policies.
Project Summary and Accomplishments:	The main long-term emphasis of this research is to develop a structural econometric model for the world cotton market. During the second year of the project, significant progress has been made in the area of model development. Fibers supply and demand models for the United States and 23 other major producing and consuming countries and regions have been developed. For the United States, models are based on recently developed statistical techniques that allow for more precise supply forecasts with reliable confidence intervals have been developed for each of the major cotton producing regions, separated into irrigated and non-irrigated, where necessary. Similarly for China and India, regional cotton supply response models have been estimated. Demand models include behavioral equations for supply of man-made fibers, substitutability between cotton and man-made fibers, and appropriate linkage between cotton and textile sectors. The cotton demand is estimated using a two-step process. The models also include behavioral equations for ending stocks and trade. Border policies tariffs, quotas and tariff-rate-quotas are incorporated into the trade equations. Currently, the model can be used for providing medium-term cotton market outlook and also is capable of carrying out various policy simulations involving cotton, man-made fibers and textile markets.
Keywords:	Structural model, cotton

Project Title:	Economic Benefits of Adjusting Dryland Cropping Strategies Based on Seasonal Rainfall Forecasts
Principal Investigators:	Eduardo Segarra, Co-PI
Departmental Involvement:	Agricultural and Applied Economics, Plant and Soil Science
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:	CASNR Research Enhancement Program
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 based on improved weather forecasts in the Texas High Plains.
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

Project Title:	Precision Farming - Site Specific Production Systems: Economics of Precision Farming Practices in the Texas High Plains
Principal Investigators:	Eduardo Segarra
Departmental Involvement:	Agricultural and Applied Economics
Collaborators and Collaborating Agencies:	R. J. Lascano, T. Archer, K. Bronson, M. Schubert, L. T. Wilson, S. Machado, H. Li, E. D. Bynum, and J. Bordovsky. Texas Agricultural Experiment Station - Lubbock, Texas A&M University
Primary Funding Agency:	Texas A&M University Precision Agriculture Initiative
Funding Amount:	$ 56,666
Beginning Date:	09/01/2002
Ending Date:	08/31/2003
Project Objective:	To evaluate the profitability and environmental implications of precision farming practices in grain sorghum, corn, peanuts, and cotton production in the Texas High Plains, with emphasis on the precise application of fertilizer and irrigation water, weather, and pest (weeds, diseases, and bugs) interactions.
Project Summary and Accomplishments:	Historically, agricultural crop production management practices treat crop fields uniformly. That is, no within the field spatial disaggregation of inherent characteristics and/or the impacts of applied inputs of production is considered with respect to soil fertility, soil water holding capacity characteristics, weed and pest infestations, fertilizer use, water use, and yield potential. Precision farming, 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

Project Title:	Center for North American Studies (CNAS)-Texas Tech Component
Principal Investigators:	Jaime E. Malaga
Departmental Involvement:	Agricultural and Applied Economics
Collaborators and Collaborating Agencies:	Texas A&M University, LSU, New Mexico State University
Primary Funding Agency:	USDA/CSREES
Funding Amount:	$ 42,378.00
Beginning Date:	06/01/02
Ending Date:	07/15/04
Project Objective:	Overall Objective: Promote stronger agricultural trade relationships among North American partners (USA, Mexico, Canada) Specific Objectives: Cooperate with other CNAS partners in extension and educational initiatives related to CNAS goal. Analyze the main issues affecting the competitiveness of Texas sorghum in the Mexican market. Analyze the US-Mexico cotton-textile-apparel trade system to evaluate the potential impacts of the MFA elimination on Mexican textile exports and cotton imports from the USA.
Project Summary and Accomplishments:	The Texas Tech research component started in June, 2002, with the gathering of basic data on Mexican cotton/textile/apparel sector. 96%-98% of Mexican apparel exports are directed to the US market. In part due to NAFTA, the Mexican share of the US apparel market expanded during the 1990's reaching 27% in 2000/01 (from 2% in 1989-1990). Reflecting this expansion, Mexico became the largest importer of US cotton. A potential crisis of the Mexican textile/apparel industry (due to MFA elimination) would jeopardize the expansion of US cotton exports to the Mexican market. An econometric model of the Mexican Cotton Industry is under estimation (Supply, Demand, and Trade) and a simulation model will be built to assess the impact on the US-Mexico cotton trade of alternative policy scenarios in both countries. A comprehensive database of Mexican grain sorghum production consumption and marketing has been built to be used in the analysis of future trends of US sorghum exports to that country. All CNAS members have been actively participating in the activities of S-287 Committee on Trade and Policy Impacts on Southern Agriculture, including a long-term research agenda.

A coordination mechanism with Mexican researchers has been established to cooperate in the analysis of bilateral agricultural trade under eventual new Mexican domestic policies and other multilateral trade agreements (FTAA,WTO).

Keywords: Agricultural Trade, NAFTA

Project Title:	Harvest Timing, Bur Extracting, and Weathering Effects on Cotton Production and Quality, Ginning Characteristics and Economics
Principal Investigators:	Eduardo Segarra and Randy Bowman
Departmental Involvement:	Agricultural and Applied Economics
Collaborators and Collaborating Agencies:	Texas Agricultural Extension Service - Lubbock, Texas A&M University
Primary Funding Agency:	Cotton Incorporated
Funding Amount:	Total $75,000
Beginning Date:	01/01/2000
Ending Date:	12/31/2002
Project Objective:	To evaluate the profitability and implications of alternative harvesting approaches for cotton in the Texas High Plains
Project Summary and Accomplishments:	Project Significance: Cotton profitability in the Texas High Plains is uncertain, especially towards the end of the season when producers must make decisions with respect to crop termination and harvesting. In this project, the effects of harvest timing as field weathering losses on cottonseed and lint quality are documented and evaluated for economic impacts. Accomplishments: The major finding to date has been that the aggregate economic impact on revenues from delayed harvesting of the 2000 irrigated cotton crop resulted in a loss of $38.88/bale, as compared to the level of revenues resulting from optimal crop termination and harvesting approach. This study is continuing and similar experiments and analysis will be carried out in the 2002 season.
Keywords:	Optimal crop termination, weathering effects on cotton production

Project Title:	Web-Based Cotton Production Cost Calculator
Principal Investigators:	Phillip Johnson and Sukant Misra
Departmental Involvement:	Agricultural and Applied Economics
Primary Funding Agency:	Cotton Incorporated
Funding Amount:	$12,817
Beginning Date:	01/01/02
Ending Date:	12/31/02
Project Objective:	Develop a standardized performance analysis method to evaluate enterprise profitability and cost of production for cotton that can be web-based to allow cotton producers to evaluate a past crop year or use as a planning tool.
Project Summary and Accomplishments:	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 assists producers in calculating their true production costs. The objective of this study is 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.
Keywords:	Standardized performance analysis

Project Title:	Evaluating Crop Insurance Products as a Risk Management Tool for Cotton Producers
Principal Investigators:	Phillip Johnson and Sukant Misra
Departmental Involvement:	Agricultural and Applied Economics
Primary Funding Agency:	Cotton Incorporated
Funding Amount:	$17,950
Beginning Date:	01/01/02
Ending Date:	12/31/02
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 are subject to unpredictable, random shocks, such as adverse weather, pest infestations, and other natural disasters, such as drought and flooding. Crop insurance represents one tool that is available to producers to manage certain risks. This project will evaluate the economic implications of crop insurance products with regard to cost effectiveness and the impact on producers' net revenues.
Keywords:	Crop insurance, risk management

APPENDIX C

SUMMARY OF COTTON ECONOMICS

RESEARCH FUNDING

2002/03

Research Funding, Department of Agricultural and Applied Economics, Texas Tech University;
September 1, 2002 through August 31, 2003

	Internal					External											
						State					Federal				Private		
	Applied Economics Fund	Excellance Fund	Thornton Institute	Other	TOTAL INTERNAL	Precision Ag. (TAMU)	REP	PROFIT	Fire Ant	Total	USDA	World Bank	EPA, USGS, Corps of Engr.	Total	Cotton Inc.	TOTAL EXTERNAL	**GRAND TOTAL**
Elam	11,533				11,533									0	30,898	30,898	**42,431**
Ethridge					0									0	25,167	25,167	**25,167**
Johnson	13,185	8,846	6,503		28,534			20,000		20,000				0		20,000	**48,534**
Knight		89,525			89,525					0				0		0	**89,525**
Lyford	33,231				33,231					0	17,544			17,544	9,167	26,711	**59,942**
Malaga	10,340	10,044			20,384					0	37,487			37,487		37,487	**57,871**
Middleton	2,149				2,149		3,550			3,550				0		3,550	**5,699**
Misra	13,725	2,250			15,975					0	39,633			39,633	16,000	55,633	**71,608**
Mohanty	12,000				12,000					0	119,968			119,968		119,968	**131,968**
Ramirez	10,925				10,925					0	81,525			81,525		81,525	**92,450**
Segarra	10,450				10,450	56,666	5,211			61,877	11,333	73,069		84,402	7,000	153,279	**163,729**
Willis	18,915				18,915				42,208	42,208			21,086	21,086		63,294	**82,209**
TOTAL	**159,453***	**233,000***	**6,503**		**244,078***	**56,666**	**8,761**	**20,000**	**42,208**	**127,635**	**307,490**	**73,069**		**457,896**	**88,232**	**658,329**	**902,407**

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

APPENDIX D

PUBLISHED OUTPUT RELATED

TO COTTON ECONOMICS

2002/03

Appendix D

PUBLICATIONS
September 2002 – August 2003

Department of Agricultural and Applied Economics
Texas Tech University

ABSTRACTS

Fadiga, M., S. Mohanty, and J. Chaudry. "Price Dynamics in the U. S. Fiber Markets: Its Implications for Cotton Industry." *Journal of Agricultural and Applied Economics*, 35(2, Aug. 2003): 431.

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Dunn, T.A., S.K. Misra, G.L. Barker, and R.V. Baker. "Predicting Lint Cleaner Efficiency and Fiber Quality Characteristics in Cotton Ginning." *Applied Engineering in Agriculture*, 18(2, March 2002):141-146.

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Malaga J. and S.Mohanty. "Agreement on Textiles and Clothing: Is It a WTO Failure?" *Journal of International Law and Trade Policy*, 4(1, June 2003): 75-85. http://www.esteyjournal.com/.

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Blackshear, J. and P. Johnson. "Profitability of Irrigated Cotton-Grain Sorghum Rotations in the Southern High Plains of Texas." *2003 Beltwide Cotton Conferences Proceedings,* Cotton Economics and Marketing Conference, National Cotton Council, Memphis, TN. On CD-ROM disk.

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Maas, S. J., E. Segarra, S.E. Mauget, and R.J. Lascano. "Can Seasonal Rainfall Forecasts Be Used to Guide Dryland Cotton Management." *2003 Beltwide Cotton Conferences Proceedings*. Cotton Economics and Marketing Conference, National Cotton Council, Memphis, TN. On CD-ROM disk.

Malaga, J. and S. Mohanty. "Agreement on Textiles and Clothing: Another WTO Failure?" *2003 Beltwide Cotton Conferences Proceedings*. Cotton Economics and Marketing Conference, National Cotton Council, Memphis, TN. On CD-ROM disk

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Elam, E., M. Middleton, G. Holt, W. Laird. Economic Feasibility of the COBY Process for Livestock Feed Production. College of Agricultural Sciences and Natural Resources, Cotton Economics Research Report, CER-02-06, Texas Tech University, June 2002.

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APPENDIX E

COTTON ECONOMICS RESEARCH UPDATE

January 2003 and July 2003 Issues

Cotton Economics Research Update

January 2003 Cotton Economics Research Institute

Director:
Dr. Don Ethridge

Associate Director:
Dr. Sukant Misra

In this issue ...

Vol. 7, No. 1
Cotton Economics Research Institute
Department of Agricultural and Applied Economics
Texas Tech University

Welcome

The heart and soul of the Cotton Economics Research Institute is the commitment and efforts of the faculty who work with the Institute, of our numerous research partners in other institutions, and of several important industry and government entities. As our program and activities evolve, we devote a portion of our time and energies to strategic planning, assessment of productivity and efficiency, and monitoring the directions and progress of programs and initiatives. I would note that the input from our Advisory Committee is no small part of this endeavor.

For anyone interested, I recommend our Annual Report, discussed separately in this issue, along with previous years' reports, as an excellent source of information about the activities and progress of the Institute.

Consider that in 2001/02, the Institute used a modest $142,000 of State and University funding, from which the faculty and partners generated another $413,000 of research activity -- a leverage ratio of 2.9:1, just short of our goal of 3:1. Examination of the annual reports over time will also show that the Cotton Economics Research program has become more broadly based and expansive, while, we think, not losing its problem-solving focus. All-in-all, we believe we have a very good track record, especially considering that some believed that it could not be done when we began in 1995. Our success is built on the dedication of the faculty involved and our partners.

We are always interested in your comments, input, and suggestions. Please feel free to contact us.

Don Ethridge, Director

New Projects

Managing Farm Program Risks

The Farm Security and Rural Investment Act of 2002 introduced a new policy instrument, counter-cyclical payments, that affects the risk environment of many crop producers. The income stabilizing effect of counter-cyclical payments is complex to assess in the context of a comprehensive risk management plan. Current price risk management tools like forward contracting and futures and options contracts are not ideally designed to protect against this risk. Tom Knight has initiated a new research project with two primary objectives. The first is to evaluate the potential benefits of risk management tools specifically designed to protect against the potential loss of counter-cyclical payments when an alternative crop is planted on base acreage of a program crop. The second objective is to develop such tools for cotton and at least one other crop to be determined later. The output of the project should enhance the ability of cotton producers to manage risk while responding to market conditions in their planting decisions.

The project is funded by a $465,000 USDA grant. For additional information, contact Tom Knight.

Recent Studies

Producers' Policy Preferences Investigated

A recent survey investigated crop producers' preferences for alternative farm policies. Five policy choices were examined including: (1) eliminate transition payments and go back to deficiency payments; (2) expand export assistance rather than raise loan rates; (3) increase subsidies on higher crop insurance coverage levels rather than increase the level of catastrophic coverage; (4) raise loan rates rather than increase crop insurance funding; and (5)provide larger insurance premium subsidies rather than make disaster payments.

The study, which was conducted in Texas, Mississippi, Indiana, and Nebraska, revealed strong commodity effects on policy preferences. Cotton producers favored a return to deficiency payments and increased subsidies on crop insurance coverage, while corn producers were more likely to prefer transition payments and high catastrophic crop insurance coverage. Other results indicated that producers who place high priority on managing risk prefer larger premium subsidies on high crop insurance coverage versus increased catastrophic coverage, and would support larger insurance premium subsidies over reliance on disaster program protection. The study was funded by the USDA, under a risk management education initiative. For additional information, contact Tom Knight.

Recent Activities

Advisory Committee Meeting

The Cotton Economics Research Advisory Committee (Ed Smith, Carleton Davis, Bill Norman, Jaroy Moore, Vern Tyson, Leslie Meyer, Steve Verett, and Lynn Scherler) met on October 4, 2002. Principal Investigators gave oral reports on projects, and the committee met with students working on Cotton Economics projects. Dean John Abernathy met with the committee. The committee closed with their remarks and recommendations for the CER program.

FAPRI Baseline

Sam Mohanty and Jaime Malaga traveled to Washington, DC on December 11 & 12, 2002 to attend the FAPRI annual baseline review conference. 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. Drs. Mohanty and Malaga provided useful insights to FAPRI analysts on cotton outlook.

Daily Price Estimation 2001/02 Report is Out

The annual summary of the DPES for the 2001/02 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 2001/02

The department has produced a 2001/02 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/CERAnnualReport01-02.pdf

Texas Cotton Association Meeting

Sam Mohanty gave a presentation on Global Perspectives on the Cotton Market. He spoke to the Texas Cotton Association at their annual Flow Meeting October 17, 2002 in Lubbock. For more information, contact Sam Mohanty.

International Trade

Jaime Malaga participated in the annual meeting of the S-287 Regional Committee on the Impacts of Trade Agreements and Domestic Policy on Southern Agriculture that took place in Clearwater, Florida, November 18-19, 2002. The committee is developing a research/extension coordination agenda for the next five years with emphasis on the impacts of trade agreements and international institutions on the competitiveness of major crops of Southern agriculture, including cotton.

Third Annual Research/Extension Symposium on Cotton Economics Issues Scheduled for April 2003

The Cotton Economics Research Institute will be sponsoring the fourth annual research/extension symposium in April, 2003, 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.

Bankers Agricultural Credit Conference

The 30th Annual Bankers Agricultural Credit Conference was held November 15, 2002. Dr. David Kohl, Professor, Virginia Tech University spoke on agricultural and banking policy outlook. Mr. John Heasley, General Council, Texas Bankers Association, gave the legal and regulatory update. Dr. Scott MacDonald, President, Southwest Graduate School of Banking, SMU, presented an overview of the financial and general economic outlook for the U.S. economy in 2003. The conference is sponsored by the Thornton Agricultural Finance Institute, Texas Tech University, McCoy Myers and Associates, and TIB-The Independent Bankers Bank. For more information, contact Phillip Johnson.

Beltwide Cotton Conference Activities

Seven faculty and students from the Agricultural & Applied Economics department attended the National Cotton Council's Beltwide Cotton Conferences in Nashville, TN held January 6-10, 2003.
Papers and Posters authors were:

Megan Britt, Octavio Ramirez and Samarendu Mohanty. "Producer Supply Response for Cotton in the United States."

Susan Watson, Eduardo Segarra, Hong Li, Kevin Bronson, and Jill Booker. "An Economic Analysis of Whole-Field Farming Versus Precision Farming: The Case of Cotton."

Ashley Lovel, Roderick Rejesus, and Stacey Olson. "Are Added Land and New Producer Provisions in Crop Insurance Vulnerable to Abuse? Implications for Insured Texas Cotton Producers."

Jaime Malaga and Samarendu Mohanty. "Agreement on Textiles and Clothing: Another WTO Failure?"

Conrad Lyford, Sangnyeol Jung and Don Ethridge. "Cotton Market Price-Quality Relationships at the Mill Level."

Jason Blackshear and Phillip Johnson. "Cotton Production Profitability in the Texas High Plains From 1998 to 2001."

Blake Bennett and Sukant Misra. "A Determination of Cotton Market Price Premiums Required to Justify More Lint Cleaning in the Gin Plant."

Jason Blackshear and Phillip Johnson. "Profitability of Irrigated Cotton-Grain Sorghum Rotations in the Southern High Plains of Texas."

Dane Sanders, Sukant Misra, and Don Ethridge. "An Estimated 2001 Texas-Oklahoma Pre-Season Price Schedule Based on Market History."

Dane Sanders, Sukant Misra, and Don Ethridge. "Texas-Oklahoma Producer Cotton Market Summary."

Blake Bennett, Ken Stokes, Mark Waller, Jeanne Reeves and Sukant Misra. "A Web-Based Commodity Options Evaluator and Teaching Tool."

Papers are available from the authors and may be accessed on the Institute website,
http://www.aeco.ttu.edu/cerinstitute.htm

Contact Information

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:

http://www.aeco.ttu.edu/cerinstitute.htm.

The e-mail address for the Institute is:

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

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Cotton Economics Research Update

July 2003 Cotton Economics Research Institute

Director:
Dr. Don Ethridge

Associate Director:
Dr. Sukant Misra

In this issue ...

New Projects

Recent Studies

Recent Activities

Vol. 7, No. 2
Cotton Economics Research Institute
Department of Agricultural and Applied Economics
Texas Tech University

Welcome

The Institute's mix of activities become larger and more complex with new people involved and new initiatives. This includes new projects, results (published and presented) from past and ongoing projects, and an expanding set of outreach activities. One of the new activities was the Cotton Policy Analysis Workshop in April, which appears to have been a success. Our research partners from Texas A&M University, University of Missouri, and Iowa State University worked with the Cotton Economics Research Institute to make it a successful workshop.

A fact that we wish to re-emphasize is the importance of the base research funding that we receive from the Texas Legislature through the Administration at Texas Tech University. While that funding constitutes only a small part of our total research resources, it is the most important part because it provides the base from which we generate the other resources. Without it, the Cotton Economics Research Institute program would not be possible.

We hope you find the "news" enclosed interesting and informative. Please contact us if you want to know more about any of our activities.

Don Ethridge
Director

New Projects

Quality Assessment of Major Textile Markets for Texas Cotton

The fiber properties of Texas cotton influence the types of yarns, fabrics, and textile products that are made with them. A large portion of Texas cotton is used primarily to make coarser yarns (e.g., to make denim and other heavier fabrics) on rotor spinning systems, while it is less often used to make finer yarns (e.g., dress shirts and light weight knitted fabrics) on ring spinning systems. A new research project has been initiated to (1) identify threshold levels of key fiber properties enabling access to selected, higher-valued segments of the market and (2) estimate the potential increase in revenues to the Texas cotton production and marketing sectors that would result from reaching alternative thresholds. Achieving these objectives will enable better differentiation between alternatives for increasing revenues by improving cotton quality, provide a better basis for assessing the cost/benefit ratios of plant variety improvement programs, and indicate implications of demand shifts and market trends. This project is fundedby CSREES/USDA through the International Cotton Research Center, Texas Tech University. For more information, contact Conrad Lyford.

New Projects (cont.)

Risk Analysis and its Application to Crop Insurance Premium-Rate Setting

The Agricultural Risk Protection Act (ARPA) of 2000 has provided the mandate and means for further expansion of crop insurance coverage. In developing new crop insurance products, researchers must be able to set accurate premium rates that reflect the risks associated with producing the crop. The objective of this research is to develop more flexible approaches for estimating yield/price distributions and then evaluating the relative impact in crop insurance premium rate setting. It is expected that this study will provide a more realistic representation of the yield and price distributions for cotton and other crops. The project, to start 1-1- 2004, is funded by USDA-NRI and is collaberative with Dr. Octavio Ramirez at New Mexico State University. For more information contact, Roderick Rejesus or Tom Knight.

Spatial Analysis of Precision Agriculture Data: An Approach to Improve Management Zone Delineation Procedures for Texas Cotton

Given that cotton producers in Texas have begun to adopt precision technologies, there is a need for analytical tools to better understand how spatial data can be used to effectively delineate management zones. The objectives of this project are to (1) develop and assess the feasibility of delineating managment zones and (2) compare the economic consequences of using the management zones. Based on the results of this study, recommendations will be made about what delineation methods are most economically efficient. This information will be disseminated to cotton producers and consultants. It is also anticipated that the approach will provide "rules-of-thumb" for the most cost effective approach for cotton production. This project is funded by CSREES/USDA through the International Cotton Research Center, Texas Tech University. For more information, contact Eduardo Segarra or Roderick Rejesus.

Recent Studies

U.S. Consumer Demand for Cotton Apparel

This study analyzes the U.S. consumer demand for apparel and provides a better understanding of factors that influence consumer purchase decision of apparel products. In addition to typical economic forces such as product prices, the study determines the effects of different cotton blend, consumer socioeconomic profiles, and geographical differences on the demand for apparel and on demand growth potential. Monthly data for 16,000 households from The American Shoppers Panel covering 1990 to 1999 were used to analyze consumer purchase behavior for male shirts, male and female jeans, male and female shorts, male and female slacks, skirts, and dresses.

This project was funded by USDA/ CSREES through the International Cotton Research Center. For more information, contact Sukant Misra.

Recent Activities

Advisory Committee Meeting

This year's annual Cotton Economics Research Advisory Committee meeting is scheduled for Friday, October 3, 2003. Continuing Committee members are Edward Smith, Lynn Scherler, Steve Verett, Leslie Meyer, Jaroy Moore and Bill Norman. Joining the committee this year will be Chuck Thompson and Ross Barber. We would like to thank the members rotating off the committee this year for their service to the program. Outgoing members are Carleton Davis and Vern Tyson. Their work is much appreciated.

Recent Activities (cont.)

CER Fact Sheets

The following fact sheets have been released 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) Center for North American Studies (CNAS)-Texas Tech Component

2) Development of Web-Based Cotton Production Cost Calculator

3) Harvest Timing, Bur Extraction, and Weathering Effects on Cotton Production and Quality, Ginning Charac teristics and Economic Returns

4) Improving Nitrogen Fertilizer Use-Efficiency in Deficit-Irrigation Systems for Cotton in the Southern High Plains

5) Cotton Wizard Cotton Variety Selection Program

6) Structural Models of the U.S. and the Rest-of-the-World Natural Fiber Market

World Outlook Conference

Sam Mohanty traveled to Paris, France on June 1, 2003 to attend the World Outlook Conference organized by The Organization of Economic Cooperation and Development (OECD). The World Outlook Conference is attended by leading crop and livestock analysts around the world. Dr. Mohanty gave a presentation on the Medium-Term World Cotton Market Outlook.

Mexico

Jaime Malaga will spend a week in August at Mexico's Chapingo University teaching topics on international trade and establishing contacts with Mexican researchers leading to future joint studies on US-Mexico trade and policy issues, including those related to the apparel/textile/cotton complex.

Fourth Annual Research/Extension Symposium Cancelled Due to Travel Restrictions

The Cotton Economics Research Institute was forced to cancel the fourth annual research/extension symposium in April, 2003, due to legislative travel restrictions on Texas state employees. Information on research projects was, however, distributed to select extension personnel in Texas. 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 relevancy of research activities and help shape the future research focus of the Cotton Economics Research program. For more information contact Sukant Misra or Don Ethridge.

Cotton Policy Analysis Workshop

The Cotton Economics Research Institute organized a Cotton Policy Analysis Workshop that was held May 9, 2003. Sam Mohanty gave a presentation on the newly developed world cotton and textile model at Texas Tech University. Patrick Westhoff from FAPRI gave a presentation on medium-term market outlook. Joe Outlaw from the Agricultural and Food Policy Center presented representative farm model. Finally, Gary Adams from NCC gave an update on the world cotton market.

Cotton Incorporated's Engineeered Fiber Selection System Conference

Cotton Incorporated's Engineered Fiber Selection System Conference in Greenville, S.C., June 9-11, was attended by Drs. Don Ethridge and Conrad Lyford. The conference addressed emerging trends and changes in the cotton genetics and textile marketing, manufacturing, and trade.

International Trade

The Texas Tech Research component of The Center for North American Studies (CNAS), has been renewed for 2003-2004. CNAS activities include extension and research initiatives dealing with agricultural trade among North American partners, including the cotton-textile sector. Contact Jaime Malaga for additional information.

Contact Information

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:

http://www.aeco.ttu.edu/cerinstitute.htm.

The e-mail address for the Institute is:

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APPENDIX F

NOTES ON COTTON ECONOMICS RESEARCH

ADVISORY COMMITTEE MEETING

October 4, 2002

Notes on Cotton Economics Research Advisory Committee Meeting; 10-4-02

The Committee convened for breakfast at 7:00 a.m. in the Bullen Room, Electrical Engineering Building. In attendance were Mr. Leslie Meyer, Dr. Bill Norman, Mr. Lynn Scherler, and Dr. Ed Smith. Committee members Carleton Davis, Jaroy Moore, Vern Tyson, and Steve Verett were unable to attend. Associate Deans Marvin Cepica and Norman Hopper were also there, along with Don Ethridge and Sukant Misra. Introductions and brief remarks about the day's activities were made.

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 11:15 a.m., departmental students working on cotton projects met with the Committee.

The Committee and departmental faculty had lunch in the Bullen Room, then re-convened in the Conference Room. Ethridge and Misra provided an overview perspective of the program and answered the Committee's questions. The Committee then went into its executive session to discuss the programs and their observations and recommendations.

At 2:40 p.m., the faculty re-convened with the Committee to hear comments and suggestions. The Committee noted several positives; the main ones emphasized were:

1. The program has focused a critical mass of resources on cotton economics, achieving some economies of size efficiencies; retain that focus.
2. There is a strong shift in the department to a teaching/research synergy that was not there five years ago; this synergy was reinforced by the students, is important to the department and the research program, and should be maintained.
3. The program has developed and capitalized on strong research partnerships, which enhance the value of the program to all constituents.

The Committee observed that the CERI still does not have as much public visibility as is desirable. They recommended that we should utilize our Agricultural Communications partners more extensively (to develop Fact Sheets). Also, the Fact Sheets need to be distributed more widely—to industry et al.—and in electronic form. We need to develop a more extensive e-mail distribution system. The Committee also emphasized three aspects of the research program that need more current emphasis:

1. Cottonseed utilization issues and impacts of seed sector structure dynamics on the industry and the economy. Some aspects of this may need to be a portion of the cotton industry modeling work.
2. The emphasis on agribusiness in the Departmental Strategic Plan offers the opportunity for a systems analysis approach in the CERI program; how to adapt

to changes in structures and programs. This will require a coordinated team effort.

3. Make a concerted effort to market our students specifically to the cotton industry.

The meeting adjourned at 3:00 p.m.

APPENDIX G

COTTON ECONOMICS RESEARCH

FACT SHEETS

2002/03

Cotton Economics Research Institute

Fact Sheet

June 2003 **Fact Sheet #1**

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Fact Sheet #1

PROJECT TITLE: Center for North American Studies (CNAS)- Texas Tech Component

DESCRIPTION OF PROJECT AND SIGNIFICANCE:

- The overall objective of this study is to investigate agricultural trade relationships among North American partners. (USA, Mexico, Canada)
- This project analyzes the main issues that affect the competitiveness of Texas Sorghum in the Mexican market. It also studies the US-Mexico cotton-textile-apparel trade system to assess the potential impacts of the elimination of MFA on Mexican textile exports and cotton imports from the USA.

MAJOR FINDINGS TO DATE:

- The Texas Tech research began in June of 2002 by compiling data on the Mexican cotton/textile/apparel sector.
- The Mexican apparel imports are approximately 96-98% from the US. Throughout the 90's, with the assistance of NAFTA, the Mexican share of the US apparel market expanded so greatly that Mexico became the largest importer of US cotton. The ongoing research is studying the potential decline of US cotton exports in the Mexican market due to the elimination of the Multi-Fiber Agreement (MFA) quota.

FOR MORE INFORMATION:

- Contact Dr. Jaime Malaga at:
  (806) 742-0261 ext. 241 or jaime.malaga@ttu.edu

SPONSOR:

- USDA-CSRESS (through the Center for North AmericanStudies)

Cotton Economics Research Institute

Fact Sheet

June 2003 **Fact Sheet #2**

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Fact Sheet #2

PROJECT TITLE: Development of Web-Based Cotton Production Cost Calculator

DESCRIPTION OF PROJECT AND SIGNIFICANCE:

- The central objective of this research is to develop a standardized performance analysis method to calculate enterprise profitability and cost of production for Texas cotton producers.
- In addition, the objectives extend to making this empirical procedure available to producers via a producer-friendly, web based "Production Cost Calculator."

MAJOR FINDINGS TO DATE:

- Currently under way is the creation of a user-friendly procedure to estimate the true production costs and profitability of a cotton enterprise that is within a multi-faceted operation.
- The second part of this project is to develop a web-based cost calculator that is based on the standardized performance analysis method of calculating enterprise profitability and the cost of production.

FOR MORE INFORMATION:

- Contact Dr. Phillip Johnson at:
  (806) 742-0261 ext. 237 or phil.johnson@ttu.edu

SPONSOR:

- Texas State Support Committee
- Cotton Incorporated

Cotton Economics Research Institute

Fact Sheet

June 2003 **Fact Sheet #3**

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Fact Sheet #3

PROJECT TITLE: Harvest Timing, Bur Extraction, and Weathering Effects on Cotton Production and Quality, Ginning Characteristics and Economics

DESCRIPTION OF PROJECT AND SIGNIFICANCE:

- The study evaluates the profitability and implications of alternative harvesting approaches for cotton in the Texas High Plains
- Cotton profitability in the High Plains is uncertain. Producers will benefit from this project because the effects on harvesting, field-weathering, cotton seed and lint quality losses will be documented. These findings will allow producers to improve their decision making when determining crop termination and harvesting decisions.

MAJOR FINDINGS TO DATE:

- In comparison to the revenues that resulted from the optimal crop termination and harvesting approach, the 2000 irrigated crop in which harvest was delayed, resulted in a $38.88/bale loss.
- This project will be continued for future years.

FOR MORE INFORMATION:

- Contact Dr. Eduardo Segarrra at:
  (806) 742-0277 ext. 242 or eduardo.segarra@ttu.edu
- Contact Dr. Randy Boman at:
  (806) 746-6101 or R-boman@TAMU.edu

SPONSOR:

- Cotton Incorporated

Cotton Economics Research Institute

Fact Sheet

June 2003 **Fact Sheet #4**

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Fact Sheet #4

PROJECT TITLE: Improving Nitrogen Fertilizer Use-Efficiency in Deficit-Irrigation Systems for Cotton in the Southern High Plains

DESCRIPTION OF PROJECT AND SIGNIFICANCE:

- The Study evaluates the profitability and possible environmental implications of improved nitrogen fertilizer use efficiency in irrigated cotton production in the Texas High Plains.

- Production agriculture is adapting to changes in federal farm programs, escalating costs of production, pest resistance to chemicals, and public concern about the impacts of agricultural production on the environment. This project seeks to aid producers by identifying economically efficient nitrogen fertilizer use while minimizing possible environmental damages in irrigated cottton production.

MAJOR FINDINGS TO DATE:

- Data that from two different experiments at two different locations are being analyzed. The same two experiments will be conducted again this year. Preliminary results show that improving fertilizer use efficiency could be desirable both from profitability and environmental perspectives.

FOR MORE INFORMATION:

- Contact Dr. Eduardo Segarra at:
(806) 742-0277 ext. 242 or Eduardo.segarra@ttu.edu

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SPONSOR:

- NRI-CSREES/USDA (National Research Initiative)

Cotton Economics Research Institute

Fact Sheet

June 2003 **Fact Sheet #5**

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Fact Sheet #5

PROJECT TITLE: Cotton Wizard Cotton Variety Selection Program

DESCRIPTION OF PROJECT AND SIGNIFICANCE:

- The purpose of this project is to develop a computer model using lint and seed components to aid in cotton variety selection for the U.S. and the Cotton Belt.
- This model will assist cotton producers in selecting cotton varieties for their areas that will provide them with the greatest economic return.

MAJOR FINDINGS TO DATE:

- A cotton variety selection model was developed to include the seed componeent in addition to the usual lint component. A computer implementation of the model, named the Cotton Wizard, has been developed to assist decision makers in cotton variety selection. Users are provided with information on varieties such as mean net revenue, variability in net revenue, and agronomic characteristics to aid in the decision process. The Cotton Wizard is distributed as a Microsoft Windows compatible product.
- A new data set was developed for the Cotton Wizard program to include cotton varieties grown in West Texas performance trials. Final checking of the program output results has been completed.

FOR MORE INFORMATION:

- Contact Dr. Emmett Elam at:
  (806) 742-2023 ext. 243 or emmett.elam@ttu.edu

SPONSER:

- Cotton Incorporated

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Fact Sheet

June 2003 **Fact Sheet #6**

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Fact Sheet #6

PROJECT TITLE: Structural Models of the U.S. and the Rest-of-the-World Natural Fiber Market

DESCRIPTION OF PROJECT AND SIGNIFICANCE:

- The main objective of this project is to develop and maintain the models, procedures, and expertise needed to respond to Congressional requests of information, analysis and advise on the expected response to potential change in U.S. and foreign agricultural policies
- This research develops structural econometric models for the world cotton market to aid analysis of the expected behavior/response of the natural fiber markets (cotton, wool, and mohair).

MAJOR FINDINGS TO DATE:

- During the first year of this project, progress has been made in model development. Cotton response models were developed for the United States and 23 other major producing and consuming countries. The United States has models for the different regions, seperated into irrigated and non-irrigated sectors, as needed.
- The first stage includes the calculation of total fiber demand in the sectors of apparel, home furnishings, and industrial sectors. In the second stage, total fiber consumption is divided into cotton, synthetics, cellulosics, and wool based on relative prices and other factors in share demand equations.
- As of now, the model can be used for providing medium-term cotton market outlook and also is capable of carrying out various policy simulations involving cotton, man-made fibers, and textile markets.

FOR MORE INFORMATION:

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  (806) 742-2023 ext. 240 or sam.mohanty@ttu.edu

SPONSER:

- USDA/CSREES (Congressional Initiative)