

ANNUAL REPORT
RESEARCH PROGRAM
2004/05

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

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Compiled by

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General Summary

This report highlights research and related outreach activities in the Department of Agricultural and Applied Economics during fiscal year 2004/05. It continues a series of annual research reports since 1995/96. The overall research 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 33% of departmental full-time faculty resources to research (about 4.25 FTE on a 12 -month basis), including our one 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 2004/05 was another productive research year for the Department of Agricultural and Applied Economics. Overall, 26 different research projects were active during the year. Appendix A contains the individual annual reports of each active research project. 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 2004/05 was \$2,070,350 (Table 1). More details on research funding in 2004/05 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 \$2.1 million generated, 11% came from State funding sources, 84% came from Federal funding sources, and 5% came from Private funding sources. It is important to point out that of the \$225,835 coming from State funding sources, approximately 74% (\$167,135) came to the Department under the Applied Economics Research Fund. From the total internal funding base, the faculty generated \$9.90 of external funding for each \$1.00 of departmental funding. The total amount of research funding generated by the faculty in fiscal year 2004/05 was the highest level in the history of the Department (Table 1). In the last five years, total research funding increased by 229%; the largest increase has been in federal funding (368% increase).

Research funding represents one aspect of the Departmental research program; i.e. one of the inputs required for the research process. 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 2001 to 2005, an average of 5.6 graduate degrees were awarded per year; an average of 0.4 Master of Agriculture degrees, 3.8 Master of Science degrees, and 1.4 Ph.D. degrees per year, respectively (Table 2). The department financially supported 27 graduate students from research funds in 2004/05, providing learning opportunities

**Table 1. Department of Agricultural and Applied Economics
Research Funding by Source, 1981/82 to 2004/05.**

Year	Source			TOTAL*
	State	Federal	Private	
-----Dollars-----				
1981/82	148,983	2,000	27,180	178,163
1982/83	127,105	19,424	19,650	166,179
1983/84	167,660	70,413	29,687	267,760
1984/85	164,292	174,065	68,837	407,194
1985/86	165,413	80,067	33,381	278,911
1986/87	173,392	138,077	54,400	365,869
1987/88	123,265	155,202	22,700	301,167
1988/89	102,134	78,533	0	180,667
1989/90	99,531	57,700	3,000	160,231
1990/91	72,221	25,000	12,525	109,746
1991/92	109,437	40,000	123,475	272,912
1992/93	171,429	75,379	121,825	368,633
1993/94	115,776	130,699	106,250	352,725
1994/95	197,947	60,054	109,686	367,687
1995/96	251,932	145,576	64,500	462,008
1996/97	236,607	104,377	67,400	408,384
1997/98	287,576	116,750	121,232	525,558
1998/99	302,788	116,239	227,016	646,043
1999/00	371,803	126,400	130,705	628,908
2000/01	322,057	203,386	109,734	635,177
2001/02	349,003	457,508	95,508	902,407
2002/03	547,904	787,186	89,321	1,342,474
2003/04	256,145	1,258,791	93,072	1,608,008
2004/05	225,835	1,740,348	104,167	2,070,350

*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.

for students working on research projects. In addition to graduate student training and degrees, 10 undergraduate students were supported from research project funds in 2004/05.

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 2004/05 fiscal years. Appendices C and D contain a complete listing of the 2004/05 publications and presentations, respectively.

The department uses a research advisory committee for perspective in guiding the development of the program. Committee members are identified in Appendix F and a summary of the advisory committee meeting is provided in Appendix E.

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 collaborate 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 has become a more prominent part of the institute's activities.

Summary of CERI Activities

Fourteen 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. The research program continues to become more nationally and internationally focused, and has more policy focus.

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 23 CERI-related publications during the past year, which included 7 professional journal articles, 12 proceedings papers at industry and professional meetings, 2 technical research reports, and 1 published abstract from

**Table 2. Graduate Degrees Awarded, Department of
Agricultural and Applied Economics,
1982/83 to 2004/05**

Year	Master of Agriculture	Master of Science	Ph.D.
1982/83	1	5	1
1983/84	0	3	0
1984/85	1	3	1
1985/86	3	10	0
1986/87	0	8	0
1987/88	1	6	3
1988/89	1	5	4
1989/90	0	5	0
1990/91	0	5	0
1991/92	1	5	4
1992/93	2	4	1
1993/94	4	5	3
1994/95	1	3	2
1995/96	2	5	2
1996/97	3	5	2
1997/98	0	4	0
1998/99	0	4	2
1999/00	1	3	0
2000/01	0	3	1
2001/02	1	4	0
2002/03	1	3	2
2003/04	0	5	2
2004/05	0	4	2

**Table 3. Department of Agricultural and Applied Economics Publications
And Presentations, 1979/80 to 2004/05.**

Year	Journal Articles	Books & Chapters	Technical Res. Repts.	Proceeding Papers	Abstracts	Other Presentations
1979/80	1	0	5	1	2	3
1980/81	3	2	9	4	2	5
1981/82	4	5	10	2	1	4
1982/83	5	6	9	4	3	3
1983/84	5	1	10	6	5	2
1984/85	4	1	19	3	13	6
1985/86	11	4	16	5	13	8
1986/87	6	1	16	8	8	7
1987/88	12	3	9	8	9	10
1988/89	11	3	3	5	5	9
1989/90	9	0	3	4	9	12
1990/91	14	2	4	5	10	19
1991/92	7	1	6	12	11	17
1992/93	9	3	1	9	14	10
1993/94	5	2	15	17	9	7
1994/95	7	1	16	16	19	21
1995/96	10	1	3	28	8	12
1996/97	9	0	14	17	9	22
1997/98	9	0	11	12	4	23
1998/99	18	1	14	11	2	16
1999/00	14	3	16	13	3	12
2000/01	15	3	18	21	1	24
2001/02	16	0	19	18	26	8
2002/03	23	7	14	12	8	4
2003/04	19	1	13	23	11	13
2004/05	16	1	7	16	5	16

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 fifth annual Research/Extension Symposium in April, 2005 (meeting agenda in Appendix G), and two newsletters (Appendix H) were distributed and posted on the web site. Principal Investigators also answer many questions and requests for information to the industry and general public on a regular basis, although no formal record for all these activities is maintained.

The cotton policy research is 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."

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 FAPRI consortium models.

During FY 2004/05, the policy analysis research contingent made substantial progress in output, productivity, and recognition. The program, led by Dr. Samarendu Mohanty, continued to sophisticate the global model, using it to generate the global fiber baseline projections for FAPRI. Other significant accomplishments included presenting results to House and Senate staffs, USDA analysts and commodity groups, and producing a series of studies, reports, and briefing papers on current policy issues, including WTO rulings, Chinese currency appreciation, and elimination of the U.S. cotton program Step 2 provision. This analytical work has achieved national prominence, evidenced by a series of requests by policy makers, analysts, and interested policy groups to provide special analyses for policy debates and consideration.

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 2004/05, the institute conducted activities in both the research and service areas. The following sub-sections summarize the activities in those areas.

Research

There was one research project associated with the institute in 2004/05, identified by an “F” symbol in the upper right corner of the project reports in Appendix A. Funding for the project was partially from Institute resources and partially from external research grants. There were two students employed with Thornton Institute funds during the year.

Service

The Institute co-sponsored the 32nd Annual Bankers Agricultural Credit Conference in November, 2004, 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 I). The conference is directed by a board of directors made up of representatives from area banks as shown in Appendix I.

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 faculty members, Dr. Thomas O. Knight and Dr. Roderick M. Rejesus, 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.

Summary of Activities

In 2004/05 there were 7 risk management related active research projects, each noted with an “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 2004/05 year, so the program has been totally self-sustained by faculty in the department, thus impeding growth of that initiative. Even so, the program showed an external funding level for risk management research during the fiscal year of \$614,000, and 15 research publications and presentations including the outstanding journal article award from the Southern Agricultural Economics Association. Research publications associated with the risk management initiative are noted with an “R” superscript in Appendix C.

Service activities and education/training of students are also an important part of the risk management and crop insurance initiative. Several reports were presented to the Risk Management Agency, USDA, testimony was given before the House Agriculture Committee 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 four students (3 Ph.D. and 1 M.S.), one Post-Doctoral Research Associate, and one M.S. Research

Associate during 2004/05.

Center for North American Studies; Texas Tech Component

The department collaborates in the Center for North American Studies with Texas A&M, Louisiana State, and New Mexico State Universities. 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 2004/05, the program has gained momentum. In the research activities, studies of the WTO cotton case, the Mexican cotton industry, Mexico's sorghum market, and Mexican poultry demand were completed. 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, has been established. During 2004/05, a Ph.D. student from Chapingo studied in the department and Dr. Don Ethridge offered a one-week seminar on research methodology in economics for students and faculty at Chapingo University.

Water Resource Economics Initiative

Departmental activity in water economics research gained additional momentum in 2004/05. During 2004/05 faculty in the department were involved in ten active water research projects. Projects in Appendix A that were water economics related are identified by a "W" in the upper right corner of the page. Several of the studies expand our base on water policy research.

Departmental faculty published or presented 10 papers and one Ph.D. dissertation and one M.S. thesis was completed on water topics in 2004/05; these are denoted with a "W" superscript on the citations in Appendices C and D. Seven graduate students and one undergraduate student worked on water economics topics under the direction of different faculty members. Funding for water economics was from department sources, Texas A&M University, the Federal Ogallala Initiative (through ARS/USDA), the Environmental Protection Agency, and the Graduate School. A dedicated funding base is needed for this important and highly relevant initiative to reach its potential.

Appendix A

ANNUAL PROGRESS REPORTS

2004/05

Project Title	An Economic Analysis Of Cattle Weight Gain Responses To Nitrogen Fertilization And Irrigation On Old World Bluestem
Principal Investigator(s)	Jeff Johnson, Phil Johnson, Vernon Lansford, Carlos Villalobos
Departmental Involvement	Agricultural and Applied Economics, Range, Wildlife and Fisheries Management
Funding Amount	None
Beginning Date	09/01/2004
Ending Date	12/31/2005
Project Objective	<p>To determine the yield response of cattle on a grazing system of WW-B. Dahl at different levels of irrigation and fertilizer on the Texas Southern High Plains.</p> <p>Specific Objectives:</p> <ol style="list-style-type: none"> 1. Determine crop coefficients for WW-B. Dahl. 2. Estimate WW-B. Dahl yield and quality response to water and nitrogen fertilizer. 3. Determine cattle gain response to yield and quality of WW-B. Dahl. 4. Determine economics of the different levels of inputs.
Project Summary and Accomplishments	<p>With the need to conserve water and maintain profitability, farmers may be looking for alternative operations or management systems. One solution is to raise or feed cattle on improved grass cultivars within an integrated grazing system. WW-B. Dahl is potentially a cultivar for the Southern High Plains. Production functions for the yield response to increases or decreases in fertilizer and water have not been developed, and cattle daily gain responses to yield levels need to be developed. This project will use existing field data to develop a production function of cattle gain response to irrigation and fertilizer on WW-B. Dahl grass. The production function will then be used to analyze producer decisions on use of inputs on for cattle gains.</p>
Keywords	production functions, old world bluestem

Project Title	An Evaluation of High-Value Marketing Pools for the Texas Cotton Industry
Principal Investigator(s)	Conrad Lyford and M. Dean Ethridge
Primary Funding Agency	International Cotton Research Center (CSREES/USDA)
Funding Amount	\$37,633
Beginning Date	09/15/2004
Ending Date	09/14/2005
Project Objective	To evaluate the potential and establish necessary conditions for a high-value marketing pool in West Texas. Three component objectives are: 1. Evaluate the production shares and market positioning of high-value West Texas cotton varieties, with implications for the quantities that can be reliably produced in the years ahead; 2. Investigate current examples of high-value marketing efforts and evaluate the success in capturing higher returns for cotton producers participating in them; 3. Develop requirements and procedures for developing high-value marketing pools based in West Texas.
Project Summary and Accomplishments	<p>Past decades have established the reputation of West Texas cotton as being a “coarse count” raw material, suitable primarily for bottom-weight textiles that are not subjected to sophisticated dyeing and finishing. However, the reality today is quite different from the past. Especially during the past five years, new varieties with competitive yields and significantly improved fiber properties have been planted on ever-larger shares of the cotton acreage in West Texas. This presents a potential opportunity to establish one or more pools of the higher quality cottons that are large enough to enable premium-price marketing.</p> <p>There is substantial interest in the cotton production sector about high-value marketing pools. Success in these objectives would help the marketing sector to respond to the felt need to achieve improved pricing for the superior West Texas cottons.</p>
Keywords	cotton, cooperative, value-added, high value

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; \$167,000 7/05-6/06; (\$154,064 FY 2004/05)
Beginning Date	06/01/02
Ending Date	07/14/06
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, feed grain, and livestock sectors.
Project Summary and Accomplishments	<p>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.</p> <p>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.</p>
Keywords	Agricultural Trade, NAFTA

Project Title	Daily Price Analysis and Reporting for the Texas Oklahoma Cotton Market
Principal Investigators	Sukant Misra and Don Ethridge
Collaborators and Collaborating Agencies	Plains Cotton Cooperative Assn.
Primary Funding Agency	Texas State Support Committee
Secondary Funding Agency	Cotton Incorporated
Funding Amount	\$ 64,000 (\$32,000 for FY04/05)
Beginning Date	1/1/2005
Ending Date	12/31/2005
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 analysis of the 2004/05 marketing year shows that overall prices decreased compared to the last two years, averaging 36.42 cents a pound. Total bales and total sales increased compared to the previous year. The lower prices were likely influenced by slightly lower overall quality in addition to a large crop. For the 2004/05 marketing year, the results indicated lower premiums for low leaf grade, higher fiber length, and higher strength and higher premiums for higher color grade and higher uniformity. However, premium levels for better than base quality strength and color grade were minimal. Price discounts in 2004/05 for staple length, first and second digit of the color grade, strength, and bark either remained unchanged or decreased, while discounts for micronaire, strength and uniformity increased compared to 2003/04 levels.
Keywords	Cotton, Prices

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

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
Funding Amount	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	<p>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.</p> <p>The cost of SDI may increase sharply as the field becomes irregularly shaped or elongated. Many factors influence the cost of SDI and producers should consult a dealer with design software to get an accurate estimate of cost before comparing the system with a LEPA center pivot system. SDI requires a higher level of management than LEPA to achieve the higher lint yields and increased cotton fiber quality found in this analysis.</p>
Keywords	LEPA, Drip Irrigation, Economic Profitability, Cotton, Southern High Plains

Project Title	Economic Value of Soil Water Enhancement from Brush Removal on the Pedernales Water Shed
Principal Investigator(s)	Phillip Johnson
Primary Funding Agency	Graduate School (\$10,000, 9/04-8/05)
Secondary Funding Agency	Thornton Agricultural Finance Institute (\$1340, 9/04-8/05)
Funding Amount	\$11,340
Beginning Date	09/01/04
Ending Date	08/31/05
Project Objective	The general objective is to estimate the economics of brush removal for soil water enhancement and increased forage production on range sites in the Pedernales River Water Shed. Specific objectives are to: (1) measure the amount of water infiltrating top soil as a result of a three brush control treatment practices; (2) estimate the economic returns to land owners as a result of removing invasive brush species; and (3) estimate the cost of increasing water availability due to increased soil water infiltration.
Project Summary and Accomplishments	<p>Brush management for the purpose of water conservation has been steadily increasing as water use escalates with population growth and urban sprawl. Brush control for water conservation has existed for decades, while being influenced by technological advancements in machinery, chemical compounds, and governmental policies. Texas has recently provided incentives for land owners to have their brush infested land cleared with the financial help of the government through various cost share methods based on type, density, and location of brush species on various watershed management programs throughout the state.</p> <p>Although several studies have been conducted on the results of increased surface water yield from land where brush control practices have been implemented, few studies have looked at how much water infiltrates the soil after invasive brush species such as juniper have been removed. This information would be helpful to land owners in determining how to maximize water infiltration and forage production following various brush control practices.</p>
Keywords	brush control, soil water, juniper

Project Title	Environmental and Economic Impacts of Use of Wastewater and Drip Irrigation on Cotton in the Northern Plains of Texas.
Principal Investigator(s)	Jeff Johnson and Cary Green
Departmental Involvement	Agricultural and Applied Economics, Plant and Soil Science
Collaborators and Collaborating Agencies	U.S. Department of Energy - Pantex
Funding Amount	None
Beginning Date	1/1/2005
Ending Date	12/31/2006
Project Objective	The objectives of this project are to develop 1) a method of determining an optimal crop mix and rotation for wastewater irrigations given the regulatory requirements and plant water and nutrient requirements and 2) an evaluation of the effectiveness of crops to metabolize waste elements through drip irrigation
Project Summary and Accomplishments	Dispersal of municipal wastewater through irrigation is of interest to municipalities, agricultural producers, and environmental interest groups. With the increasing adoption of drip irrigation, communities and producers are considering and adopting its use to disseminate wastewater. As with any new technology, management techniques must be adapted or developed. This is especially the case with use of wastewater of varying quality. Couple this adoption of new technology in disposing of wastewater with the increasing acres of cotton planted in the Texas Panhandle and opportunities exist to assist in the development of management practices for use of wastewater through drip irrigation systems for producers of cotton in the Texas Panhandle. The crops being considered for the project are grain sorghum, wheat, alfalfa, and cotton. The grain crops and alfalfa are traditional crops in this region.
Keywords	Municipal wastewater, irrigation

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
Funding Amount	\$1,765
Beginning Date	09/01/04
Ending Date	08/31/05
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	<p>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.</p> <p>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 construct model farms that will be used in the simulations.</p>
Keywords	Crop Insurance, Risk Management

Project Title	Further Development of the Cotton Wizard Cotton Variety Selection Program
Principal Investigators	Emmett Elam
Primary Funding Agency	Cotton Incorporated
Funding Amount	\$35,000
Beginning Date	01/01/05
Ending Date	12/31/05
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	<p>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.</p> <p>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. Performance tests include five years of individual varietal rep data.</p> <p>A planting seed cost component was added to the model that allows the user to specify row width and seed-per-row-foot and have the model calculate per-acre planting seed cost.</p> <p>The model was modified to allow comparison of varieties across locations and years. A matched-pairs t-statistic identifies significant differences in yield and lint characteristics. Research is ongoing to add stability analysis to the analytical tools in the program to conduct stability analysis on a range of variables in a timely manner.</p>
Keywords	Cotton Lint, Cottonseed, Variety Selection, Economic Returns

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 -- \$76,667 for 2004/05)
Beginning Date	9/01/02
Ending Date	06/30/06 (project extended)
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	<p>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.</p> <p>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.</p>
Keywords	Playa Lakes, Climatic Change, Wetlands

Project Title	Marginal Value of Agricultural Groundwater use in the Texas High Plains: A Private Versus Social Perspective
Principal Investigators	David B. Willis
Funding Amount	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	<p>This study will: (1) build a set of accounting budgets that depict the range of variable costs and crop 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.</p> <p>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.</p>
Keywords	Marginal Value Water, Agriculture, Texas High Plains

Project Title	Market and Economic Research Relating to Cotton Production Through the Use of the World Cotton Model
Principal Investigator(s)	Samarendu Mohanty
Primary Funding Agency	Forecasting and Business Analytics, LLC
Funding Amount	\$27,500
Beginning Date	09/01/2004
Ending Date	08/31/2005
Project Objective	To conduct simulations using World Fiber Model.
Project Summary and Accomplishments	The results were provided to the contractor.
Keywords	Model, cotton

Project Title	Ogallala Aquifer Initiative - Economic and Policy Implications of Underground Water Use in the Southern Ogallala
Principal Investigators	Eduardo Segarra, Jeffrey Johnson, Phillip N. Johnson, and David Willis
Collaborators and Collaborating Agencies	Steve Amosson, TAES - Amarillo; Jeffrey Peterson, KSU; and Lal Almas, WTAMU
Primary Funding Agency	ARS - USDA
Secondary Funding Agency	CASNR, Texas Tech University
Funding Amount	\$103,868 (\$100,000 ARS-USDA & \$3,868 CASNR-TTU) (\$71,934 in 2004/05)
Beginning Date	09/01/2003
Ending Date	08/31/2005
Project Objective	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.
Project Summary and Accomplishments	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.
Keywords	Water Use, Water Conservation, Policy Analysis

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	R. J. Lascano, K. Bronson, M. Schubert, and J. Bordovsky. Texas Agricultural Experiment Station - Lubbock, Texas A&M University
Primary Funding Agency	Texas A&M University Precision Agriculture Initiative
Funding Amount	\$ 128,666 (\$36,000 2004/05)
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	<p>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.</p> <p>This project has found that precision farming practices can be economically enhancing for producers in the Texas High Plains if adoption costs are reasonably low, depending on the specific location. Also, precision farming practices can contribute to the “improved placement” of chemicals on fields, and thus reduce the potential for environmental degradation from chemical use in agriculture. This research could enhance productivity and profitability of well over 5.0 million acres of cropland in the production of corn, grain sorghum, peanuts and cotton in the Texas High Plains. The farm level expected economic impact associated with the widespread adoption of precision farming practices in the production of corn, grain sorghum, peanuts and cotton in the Texas High Plains is estimated at \$50 million.</p>

Project Title	Preferred Producer Discount Pilot Risk Management Program Development
Principal Investigators	Tom Knight (TTU), Barry Goodwin (Consultant), Keith Coble (Mississippi State), Roderick Rejesus (TTU)
Collaborators and Collaborating Agencies	Mississippi State University
Primary Funding Agency	USDA-RMA
Funding Amount	\$287,104
Beginning Date	5/3/2004
Ending Date	1/28/2005
Project Objective	To develop an implementable premium rate discount structure for several existing plans of insurance.
Project Summary and Accomplishments	Statistical analysis of the data has commenced.
Keywords	Crop Insurance

Project Title	Price and Basis Movements in the U.S. Main Cotton Producing Regions
Principal Investigator	Sukant Misra
Primary Funding Agency	USDA/CSREES
Funding Amount	\$79,489 (\$40,489 for FY06)
Beginning Date	09/01/04
Ending Date	08/31/06
Project Objective	The general objective is to identify factors that affect price and basis fluctuations and price differences among the major cotton producing regions.
Project Summary and Accomplishments	<p>Increasing reliance of the farm sector on the global markets has exacerbated the need for producers to better manage production and marketing risks through the development of improved production and marketing strategies. In the cotton sector, prices have fluctuated considerably in recent years, decreasing by more than 50% between the 1994 and 2001 crop years, then rose since the 2001 crop year to reach almost 63 cents per pound for the 2003 crop year. Producers have been able to use mechanisms such as hedging in the futures market to cope with risk and uncertainties. These mechanisms rely on a better understanding of the behavior of both the spot and the futures markets. Improved predictions on market behavior, especially the difference between spot price and futures price (i.e., basis), is critical for producers to develop more efficient risk management strategies, including when to lift a hedge, store a crop, or settle a contract.</p> <p>In the case of storage, the value attached to owning the physical inventory is referred to as convenience yield, defined as the incremental value of the spot price over the futures prices after accounting for two costs attached to physical inventory (storage cost and opportunity cost of capital used to invest in storage facilities). It is an interest-adjusted basis if warehousing costs are assumed to be non-stochastic (Mazaheri, 1999). Because owners of physical inventory may earn convenience yield, price spread (i.e., difference between the futures prices of cotton between two markets) tend to be volatile, resulting in different pricing structures between the markets (Milonas and Henker, 2001).</p>
Keywords	Cotton, Price, Basis, Marketing Risks

Project Title	Probability Distribution Function Models for Risk Analysis and their Application to Crop Insurance Premium-Rate Setting
Principal Investigators	Octavio Ramirez (New Mexico State Univ), Roderick Rejesus (TTU), and Tom Knight (TTU)
Departmental Involvement	Agricultural and Applied Economics
Collaborators and Collaborating Agencies	Octavio Ramirez (New Mexico State Univ.)
Primary Funding Agency	USDA-NRI
Funding Amount	\$110,100 (TTU component)
Beginning Date	1/1/2004
Ending Date	12/31/2006
Project Objective	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.
Project Summary and Accomplishments	<p>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.</p> <p>As of July 2005, data collection is completed and analysis has commenced. The methods for using the more flexible Su and Sb families of distributions to estimate parametric pdfs has been developed and is being further streamlined.</p>
Keywords	Insurance, Premiums, Probability Density Functions, Yield and Price Distributions

Project Title	Profitability Analysis of Cotton Production for the Texas High Plains
Principal Investigators	Phillip Johnson
Primary Funding Agency	USDA (INTERNATIONAL COTTON RESEARCH CENTER) (\$36,374 9/04-8/05)
Secondary Funding Agency	TTU, Thornton Agricultural Finance Institute (\$2,416 9/04-8/05)
Funding Amount	\$38,790
Beginning Date	09/01/04
Ending Date	08/31/05
Project Objective	<ol style="list-style-type: none"> 1. To develop cotton cost of production and breakeven analysis information for the Texas High Plains. 2. Generate breakeven prices and unit cost of production for the High Plains region of Texas.
Project Summary and Accomplishments	<p>This project will provide cotton producers with better cost of production and profitability information. Cotton producers can evaluate their costs and financial performance compared to other producers within the region. The database of standardized production and financial information will help researchers and extension personnel identify characteristics of farming operations that will be useful for a wide range of applications, including evaluations of financial viability, impacts of insect control measures, and assessment of the risk environment.</p> <p>Accomplishments of the project include completion of individual analysis for the 2003 crop year for cooperators in the Texas High Plains (THP) region of Texas. Individual 2003 results were added to the SPA Database. Summary results reported gave the cost of production and profitability for irrigated and dryland cotton production in the THP for the years 1996 through 2003.</p> <p>Project participants in the THP have been contacted to provide their 2004 crop year information for analysis. Additional potential participants in the THP have been identified through the efforts of the Farm Assist program coordinator and will be contacted regarding participation.</p>
Keywords	Standardized Performance Analysis, Financial Analysis

Project Title	Providing Risk Management Tools for Producers Who Diversify Into New or Specialty Crops
Principal Investigators	Thomas O. Knight
Collaborators and Collaborating Agencies	Mississippi State University and University of Georgia
Primary Funding Agency	Risk Management Agency - USDA
Funding Amount	\$ 464,938 (\$104,986 for 2004/05)
Beginning Date	9/1/02
Ending Date	01/31/06 (project was extended)
Project Objective	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.
Project Summary and Accomplishments	<p>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 are also explored. If alternative instruments are found to have significant benefits, then prototypes of at least two such instruments will be developed.</p> <p>The project team completed the first phase of analysis and is currently working on the second phase of the project (development of decision tools).</p>
Keywords	Crop Insurance, Insurance Rating Procedures

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

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	\$610,254
Beginning Date	09/01/04
Ending Date	8/31/05
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	<p>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.</p> <p>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., 2004. 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., 2005. Recent policy analyses completed and released include impacts of the Brazilian WTO petition, Chinese currency evaluation, MFA eliminations on China and India, China's TRQ system, and U.S. cotton program step 2 elimination.</p>
Keywords	Structural Models, Cotton

Project Title	Towards an Integrated Water Policy Planning Model for the Texas High Plains
Principal Investigators	David Willis, Das Biswaranjan
Collaborators and Collaborating Agencies	Texas Water Resource Institute
Primary Funding Agency	U. S. Geological Survey
Funding Amount	\$ 5,000
Beginning Date	03/01/01
Ending Date	12/01/04 (project extended)
Project Objective	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.
Project Summary and Accomplishments	<p>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 Ogalla Aquifer has been constructed. The county level economic model has been linked to a detailed MODFLOW groundwater model of the Southern Ogallala Aquifer.</p> <p>The integrated model was used to analyze the conservation effectiveness of Texas' two legislatively approved groundwater conservation policies over a 50-year planning horizon. The policy simulations found that the maximum \$1 per acre-foot extraction fee reduced groundwater use by only 0.34% relative to the existing baseline, and a quota restriction policy designed to conserve 50 percent of initial stored groundwater reserves decreased groundwater use by 2.52%. Available policy tools are more suited for preventing physical exhaustion than economic exhaustion.</p>
Keywords	Water Policy, Texas High Plains

Project Title	Trade Distorting Policies in the World Cotton Market: Assessing the Impacts of the Chinese TRQ System and U.S. Subsidies
Principal Investigator(s)	Samarendu Mohanty and Suwen Pan
Primary Funding Agency	Cotton Inc.
Funding Amount	\$3,000
Beginning Date	1/1/2005
Ending Date	12/31/2005
Project Objective	To compare how the trade distorting mechanisms of U.S. domestic support and Chinese market access restrictions affect the world cotton market.
Project Summary and Accomplishments	The effects of the Chinese cotton tariff rate quota system (TRQ) and the U.S. cotton subsidy programs on the world cotton market were studied. Although the effects have the same effect of lowering world price of cotton, the results show that the effects of China's TRQ are about twice the magnitude of the U.S. subsidy programs on the world market. Cotton A-index increases by about 5.17% with the elimination of TRQs compared to a base level and increases about 2.39% with elimination of the U.S. cotton subsidy programs. Cotton A-index increases 5.72% if both Chinese TRQs and U.S. farm programs are removed. The effect of TRQ elimination on world cotton trade is expected to result in an annual increase as high as 1.93% while the effect of the U.S. subsidy programs elimination is expected to decrease world cotton trade less than 1%. The net effect on world cotton trade of removing both programs is an approximate increase of 1.5%.
Keywords	TRQ, Cotton, U.S. Subsidies

Project Title	Transboundary Water Resource Management and Conflict Resolution: A Coastal Strategic Negotiations Approach
Principal Investigators	David B. Willis
Funding Amount	None
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	<p>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.</p> <p>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.</p>
Keywords	Lower Rio Grande, Water, Texas, Mexico, Game Theory

Project Title	USDA Unit Division Structure Review
Principal Investigators	Thomas O. Knight and Roderick Rejesus
Collaborators and Collaborating Agencies	Mississippi State University and Ohio State University
Primary Funding Agency	Risk Management Agency - USDA
Funding Amount	\$174,895
Beginning Date	12/1/02
Ending Date	11/1/05 (project extended)
Project Objective	Examine crop insurance rate differentials relating to alternative insured unit structures.
Project Summary and Accomplishments	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 and analysis of implementation procedures for the unit division is now underway.
Keywords	Crop Insurance, Insurance Rating Procedures

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	<p>The general objective is to identify premium and discount levels for cotton fiber attributes. Specific objectives are:</p> <p>A) To develop, expand and update the database of cotton purchases from textile mills.</p> <p>B) To establish reliable estimates of price differentials paid for fiber attributes by textile mills, by production regions.</p> <p>C) If regional differences persist, identify the reasons why different U.S. cotton producing regions receive differing prices.</p> <p>D) To disseminate the information to the cotton industry.</p>
Project Summary and Accomplishments	<p>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.</p> <p>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.</p>
Keywords	Cotton, Quality, Pricing

Appendix B

RESEARCH FUNDING

2004/05

**Research Funding (\$), Department of Agricultural and Applied Economics, Texas Tech University
September 1, 2004 through August 31, 2005**

	Internal				External						GRAND TOTAL	
	Applied Economics Fund	Thornton Institute	Other	TOTAL INTERNAL	State		Federal		Private	TOTAL EXTERNAL		
Thru TAMU					Total	USDA	OTHER	Total				
Elam									36,667	36,667	36,667	
Ethridge			150	150					19,000	19,000	19,150	
Johnson, Phil		4,627	11,403	16,530			79,357		79,357	79,357	95,887	
Johnson, J.	3,450			3,450			42,984		42,984	42,984	46,434	
Knight			1,670	1,670			359,704		359,704	359,704	361,374	
Lansford	2,918		68	3,986							3,986	
Lyford	10,525		200	10,725			37,633		37,633	3,000	40,633	51,358
Malaga	16,619		1	16,420			154,064		154,064		154,064	170,484
Misra							39,000		39,000	16,000	55,000	55,000
Mohanty	8,400		1,082	9,412			610,254		610,254	29,500	639,754	649,166
Rejesus	9,500			9,500			254,718		254,718		254,718	264,218
Segarra	18,000		2,226	20,226	36,000	36,000	42,984		42,984		78,984	99,210
Willis	17,599			17,599			42,983	76,667	119,650		119,650	137,249
TOTAL	167,135*	5,400*	16,800	189,835*	36,000	36,000	1,663,681	76,667	1,740,348	104,167	1,880,515	2,070,350*

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

Appendix C
PUBLICATIONS
2004/05

JOURNAL ARTICLES

^{C,W} Allen, V. G., P. Brown, R. Kellison, E. Segarra, T. Wheeler, P. A. Dotray, J. C. Conkwright, C. J. Green, and V. Acosta-Martinez. "Integrating Cotton and Beef Production to Reduce Water Withdrawal from the Ogallala Aquifer in the Southern High Plains Region." *Agronomy Journal*, 97(2, 2005): 556-576.

^W Chizinski, Christopher J., Kevin L. Pope, David B. Willis, Gene R. Wilde, and Edwin J. Rossman. "Economic Value of Angling at a Reservoir with Low Visitation." *North American Journal of Fishery Management*, 25 (April 2005): 98-104.

Davis, T. D., G.F. Patrick, K.H. Coble, T.O. Knight and A. E. Baquet. "Forward Pricing Behavior of Corn and Soybean Producers." *Journal of Agricultural and Applied Economics* 37(Apr. 2005):145-160.

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Appendix D

PRESENTATIONS THAT WERE NOT

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^R Harri, A., K.H. Coble, C. Buguk, T.O. Knight. “Crop Yield Normality: A Reconciliation of Previous Research. Presentation for the SCC-76 Regional Risk Conference, Myrtle Beach, South Carolina, March 31, 2005.

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^R Knight, T.O., B.K. Goodwin, Coble, K.H, and R.M. Rejesus. “Experience Based Producer Discounts.” Presentation to the Board of Directors of the Federal Crop Insurance Corporation, Washington, D.C., Jan. 13, 2005.

^R Knight, T.O., B.K. Goodwin, K.H. Coble, and R.M. Rejesus. “Unit Division Structure, Experience-Based Producer Discounts, and Reference Yield Project Planning and Updates.” Presentation to RMA staff on the progress and plans for the above-mentioned research projects, Kansas City, MO, June 14-16, 2005.

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^R Rejesus, R.M., B.J. Sherrick, and C.L. Escalante. “Attitudes Toward Government Support Programs: A View from Insured and Non-Insured Farmers.” Presentation at the SCC-76 (Economics and Management of Risk Committee) Annual Meetings in Myrtle Beach, SC, March 31 – April 2, 2005.

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Appendix E

NOTES ON DEPARTMENT RESEARCH

ADVISORY COMMITTEE MEETING

September 24, 2004

Agenda for Research Advisory Committee Meeting

September 24, 2004

- 7:00 a.m. Breakfast, Student Union, Mesa Room
Advisory Committee Members and Deans Office
- 8:00 a.m. Convene in AAEC Conference Room (Ag. Sci. 302)
Remarks by Dean Marvin Cepica and on research areas, with discussion on any aspects that the committee wishes to pursue.
- 8:10-8:40 Discussion of Cotton Economics Program,
led by Dr. Sukant Misra
- 8:40-9:10 Discussion of Water Economics initiative,
led by Dr. Eduardo Segarra
- 9:10-9:40 Break
- 9:40-10:10 Risk Management/ Crop Insurance initiative,
led by Dr. Tom Knight
- 10:10-10:40 International initiative,
led by Dr. Jaime Malaga
- 11:00 a.m. Meet with students working on research projects (Ag. Sci. 302)
- Noon Lunch, Student Union, Mesa Room, 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 the AAEC Research Advisory Committee Meeting; 9-24-04

The Committee convened for breakfast at 7:00 a.m. in the Mesa Room at the Texas Tech Student Union. In attendance were committee members Mr. Ross Barber, Mr. Jim Conkwright, Mr. Tim Snyder, Mr. Chuck Thompson, and Mr. Steve Verett. Also present were Associate Dean Sukant Misra, Don Ethridge, and Lauren Lovelace. Introductions and brief remarks about the days activities were made and the change from the format used in priors years meetings was discussed. The 2003/04 Annual Departmental Report had been previously distributed to the Committee. 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. Misra first gave information about CASNR and AAEC activities and strategic plans on behalf of Dean Cepica. Then Dr. Misra provided an overview of the components of the research program that are related to Cotton Economics, followed by a summary of Water Economics research by Dr. Segarra. Dr. Knight summarized the research under the Risk Management initiative and Dr. Malaga summarized international-related research, including Center for North American Studies activities. The overlaps and synergies among these four research areas were noted and discussed, with Committee members asking questions and providing perspective and suggestions. This format differed from earlier formats in that the emphasis was on research thrusts rather than individual projects. At 11:00 am, graduate students in the department working on research projects met with the Committee to discuss their projects and degree programs.

The Committee and departmental faculty had lunch in the Mesa Room at the Student Union; Dr. Dick Auld met with the group for lunch. The Committee re-convened in the Conference Room at 1:15. Ethridge, Misra, and Phil Johnson provided an overview perspective of the program, answered the Committee's questions, and asked the Committee's input on the new format, direction and focus of the programs, and any other matters the Committee wished to address. 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. Phillip Johnson, Tom Knight, David Willis, Conrad Lyford, Jaime Malaga, and Rod Rejesus) re-convened with the Committee to hear comments and suggestions. Main points emphasized were:

1. The Committee commended the department on its research programs and judged that the areas being emphasized are appropriate. It was noted that only one project (business models for Texas textile plants) may not be currently relevant because of rapidly changing conditions in the U.S. Textile sector.
2. The Committee recommended that we continue with the new format but Committee members should be reminded when annual research reports are distributed that individual projects will not be presented (they are summarized in the written report), although projects are open for questions and discussion. They did not indicate a better time of the year to hold the meeting . They also expressed a preference for a summary sheet

handouts (such as those used by Segarra and Malaga) as useful program summary devices. (copies appended)

3. Ways to increase industry participation at The Commodity Outlook Conference was discussed. It was noted that April is not a good time for some industry groups, and the possibility of holding it in March, perhaps adjacent to the Research/Extension Symposium was raised. We will evaluate that alternative.

The meeting adjourned at 3:00 p.m.

Appendix F

ADVISORY COMMITTEE MEMBERS

2004/05, 2005/06

AAEC Department Research Advisory Committee Members

2004/05

Mr. Ross Barber, Vice President
Dunavant Entrprises, Inc.

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, Interim Director
Texas Cooperative Extension
Texas A&M University
College Station, Texas

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

Mr. Jim Conkwright, Manager
High Plains Underground

Water
Conservation District
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. Tim Snyder, Marketing Director
National Sorghum Producers Association
Lubbock, Texas

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

2005/06

Mr. Ross Barber, Vice President
Dunavant Entrprises, Inc.

Lubbock, Texas
(term expires 2005/06)

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

Mr. Mickey Black
Natural Resources

Conservation
Service/USDA
Lubbock, Texas
(term expires 2007/08)

Dr. Jaroy Moore, Resident Director
Texas Agricultural Experiment Station
Lubbock, Texas
(term expires 2005/06)

(term expires 2006/07)

Dr. John R.C. Robinson
Cotton Marketing and Extension
Risk Management Economist
Texas A&M University
College Station, Texas
(term expires 2007/08)

Mr. Eddie Smith, Farmer
Rt. 3, Box 154
Floydada, TX 79235
(term expires 2007/08)

Mr. Chuck Thompson, Owner and Manager
Southwest Textiles
Abernathy, Texas
(term expires 2005/06)

Mr. Lynn Scherler, Vice President
Cobank - Agribusiness Banking Group
Lubbock, Texas
(term expires 2007/08)

Mr. Tim Snyder, Marketing Director
National Sorghum Producers Association
Lubbock, Texas
(term expires 2006/07)

Mr. Jason Blackshear
Jake's Finer Foods
Houston, TX
(term expires 2007/08)

Appendix G

CERI RESEARCH/EXTENSION SYMPOSIUM

April 7, 2005

**PARTNERSHIP FOR
RESEARCH EXCELLENCE**

**5th Annual
Research/Extension
Symposium**



**Cotton Economics Research Institute
Agricultural & Applied Economics Department
Texas Tech University**

Funding Provided by

College of Agricultural Sciences and Natural
Resources, Texas Tech University

Sponsored by

College of Agricultural Sciences and Natural
Resources, Texas Tech University

Texas Cooperative Extension
Texas A&M University System

Box 42132
Texas Tech University
Lubbock, TX 79409-2132

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

Date: April 7, 2005

Time: 11:45 am

**Merket Alumni Center
Texas Tech University
Lubbock, Texas**

Vision/Objectives

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, Director
Cotton Economics Research
Institute
- 12:20 pm: Comments by Dr. Marvin
Cepica, Dean
College of Agricultural Sciences
and Natural Resources
- 12:30 pm: Comments by Dr. Ed Smith,
Interim Director
Texas Cooperative Extension

RESEARCH SESSION

- 12:45 pm: “Crop Insurance Research at
Texas Tech; Relevance to
Cotton and Texas.”
Dr. Tom Knight
- 1:15 pm: “Economic Analyses Within the
Integrated Water Conservation
Demonstration Project.”
Dr. Vernon Lansford
- 1:45 pm: Break
- 2:00 pm: “Relationships Between Fiber
Quality and Yarn Quality.”
Dr. Eric Hequet
- 2:30 pm: “Selection of Cotton Varieties
That Optimize Lint Yield and
Fiber Quality”
Dr. Dick Auld
- 3:00 pm: “Research on Agricultural and
Trade Policies.”
Dr. Sam Mohanty
- 3:30 pm: Break

EXTENSION SESSION

- 3:45 pm: Dr. Bob Robinson, Regional Program Director – Agriculture and Natural Resources, Texas Cooperative Extension, will address the research-extension partnerships and ways to strengthen them.
- 4:00 pm: Dr. John Robinson, State Extension Cotton Marketing Specialist, Texas Cooperative Extension, will present his perspective on the relevance of the presented research to the Extension Mission and lead a discussion to include suggestions on areas for future research.

WRAP UP SESSION

- 5:00 pm: Open Session for comments and discussions

EVENING ACTIVITIES

- 6:00 pm: “Attitude-Adjustment” Hour
- 7:00 pm: Dinner

Contact person:
Dr. Sukant Misra, Associate Director
Cotton Economics Research Institute

Box 42132
Texas Tech University
Lubbock, TX 79409-2132

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

Appendix H

COTTON ECONOMICS RESEARCH UPDATES

January 2005 and July 2005 Issues



Cotton Economics Research Update

Department of Agricultural and Applied Economics, Texas Tech University



January 2005

Cotton Economics Research Institute

Director:
Dr. Don Ethridge
Associate Director:
Dr. Sukant Misra

In this issue...

New Projects

- An Integrated Approach to Water Conservation for Agriculture in the Texas Southern High Plains

Recent Studies

- China currency Appreciation Analysis

Activities

- Advisory Committee Meeting
- Annual Report
- Research/Extension Symposium
- Agricultural Outlook Conference
- Bankers Agricultural Credit Conference
- The Value of Plains Cotton Cooperative Association
- Beltwide Cotton Conference Activities
- Lubbock Economics Council Presentation
- ICAC Meeting

Vol. 9, No. 1

Cotton Economics Research Institute
Department of Agricultural and Applied Economics
Texas Tech University

New Projects

An Integrated Approach to Water Conservation for Agriculture in the Texas Southern High Plains

Texas Tech University (Departments of Agricultural and Applied Economics, Plant and Soil Science, and Agricultural Education and Communications) and its partners; Texas Cooperative Extension and the High Plains Underground Water Conservation District No. 1 have entered into a contract with the Texas Water Development Board for a study, "An Integrated Approach to Water Conservation for Agriculture in the Texas Southern High Plains". The project will conduct large scale on-farm demonstrations in a 15-mile square area in Floyd and Hale Counties that incorporate alternative technologies and systems for improved water conservation to extend the life of the Ogallala Aquifer. The Agricultural and Applied Economics Department (Dr. Vernon Lansford and Dr. Eduardo Segarra) in cooperation with Texas Cooperative Extension (Dr. Steve Klose) will provide the economic component of the study. Dr. Klose will use the FARM Assistance program to evaluate the financial performance and Drs. Lansford and Segarra will determine the impact of the observed technologies on

producers and water utilization. The project was funded at \$6.2 million with an eight year life through a state appropriation. For more information, contact Vernon Lansford or Eduardo Segarra.

Recent Studies

China Currency Appreciation Analysis

This study analyzed the expected effects of Chinese currency appreciation on world fiber markets. The analysis incorporated regional supply response of cotton, substitutability between cotton and man-made fibers, and linkage between the raw fiber and textile sectors. The simulation results show that appreciation of the renminbi (RMB) will impact the Chinese cotton fiber markets with higher fiber imports and lower prices. In addition, China's cotton production would also be lower due to lower internal prices. At the international level, the cotton A-index and

Recent Studies (cont.)

polyester prices are projected to rise due to higher imports of cotton by China. World trade is projected to rise, with the United States, Brazil and Australia as the major beneficiaries in terms of higher exports.

For more information, contact Sam Mohanty or Suwen Pan.

Bankers Agricultural Credit Conference

The 32nd Annual Bankers Agricultural Credit Conference was held November 12, 2004. Mr. John Heasley, General Council, Texas Bankers Association, gave the Legal and Regulatory Update. Grady Martin, Plains Cotton Cooperative Association, gave the Agricultural Outlook presentation for 2005. The conference is a service of the Thorton Agricultural Finance Institute; Texas Tech University.

For more information, contact Phillip Johnson.

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Activities

Advisory Committee Meeting

The Agricultural and Applied Economics Department Research Advisory Committee met on September 24, 2004. The members in attendance were Ross Barber, Jim Conkwright, Tim Snyder, Chuck Thompson, and Steve Verett. There were discussions on the Cotton Economics Program, the Water Economics Initiative, the Risk Management/ Crop Insurance Initiative and the International Initiative. The committee closed with their remarks and recommendations for these programs. We would like to thank all of the committee members for their valuable service.

International Cotton Advisory Committee Meeting

Dr. Samarendou Mohanty participated in the 63rd ICAC Plenary meeting that took place in Mumbai, India on November 29- December 3, 2004. The meeting is attended by government and industry professionals from around the world. The mission of the ICAC is to assist governments in fostering a healthy world cotton economy. The role of the ICAC is to raise awareness, to provide information and to serve as a catalyst for cooperative action on issues of international significance.

Class Participation with Plains Cotton Cooperative Association

It is important for students of to understand the role of cooperatives and the impact this form of organization plays in agribusiness with its distinct characteristics, strengths, and difficulties. A class project in Dr. Conrad Lyford's Agribusiness Management class provided students with the opportunity to evaluate a strategic situation of Plains Cotton Cooperative Association (PCCA), a successful, innovative, and dominant cotton cooperative headquartered in Lubbock, TX. Students studied how the evolving competitive landscape of the cotton and textile industries affects strategic decision making. They examined the evolution of value creation by PCCA and considered potential future value-enhancing opportunities.

Lubbock Economics Council Presentation

Drs. Don Ethridge and Samarendou Mohanty gave a presentation on the Impacts of the WTO Ruling and China Currency Revaluation on Cotton and Textile Markets to the Lubbock Economics Council on November 4, 2004.

Activities (cont.)

Annual Research Report 2003/04

The department has produced its 2003/04 annual report of research activities and accomplishments conducted within the department including the Cotton Economics Research Institute. If you are interested in receiving a copy please contact the department. You can also access the report on our webpage <http://www.aeco.ttu.edu>.

Agricultural Outlook Conference

The Cotton Economics Research Institute will be organizing its Agricultural Outlook Conference in Lubbock. The conference will be held during the first two weeks of May, 2005. If you are interested in attending or would like additional information, contact Samarendu Mohanty.

Annual Research/ Extension Symposium on Cotton Economics Issues Scheduled for April 2004.

The Cotton Economics Research Institute will be sponsoring the fifth annual research/extension symposium in April, 2004, in collaboration with Texas Cooperative Extension. 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 for 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.



Beltwide Cotton Conference Activities

Seven faculty members and students from the Agricultural and Applied Economics Department attended the National Cotton Council's Beltwide Cotton Conferences in New Orleans, Louisiana held January 4-7, 2005. Papers and posters presented were:

Ragu Kulkarni and Eduardo Segarra. "The Economics of Crop Termination and Use of Field Cleaners."

Ragu Kulkarni, Margarita Velandia, Roderick Rejesus and Eduardo Segarra. "Precision Agricultural Practices for Optimal Use of Phosphorus."

Rebekka Martin, Vernon Lansford, Eduardo Segarra and Vivien Allen. "Economic Evaluation of Integrated Cropping Systems with Cotton."

Ginger Sides, Phillip Johnson, Alyssa Irlbeck and Darcie Schmidt. "Profitability of Cotton Production in the Texas High Plains from 1996-2003."

Mohamadou Fadiga, Dane Sanders, Sukant Misra and Don Ethridge. "Texas-Oklahoma Producer Cotton Market Summary, 2003/04."

Mohamadou Fadiga, Sukant Misra and Don Ethridge. "An Estimated 2004 Texas-Oklahoma Pre-Season Price Schedule Based on Market History."

Suwen Pan, Samarendu Mohanty and Don Ethridge. "Effects of Chinese Currency Appreciation in the World Cotton Market."



Contact Information

Web Site and E-mail Address

The Cotton Economics Research Institute's Web Site provides information on current research projects, publications, and activities.

<http://www.aeco.ttu.edu/cer institute.htm>

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Cotton Economics Research Update



Department of Agricultural and Applied Economics, Texas Tech University

July 2005 Cotton Economics Research Institute

Director:
Dr. Don Ethridge
Associate Director:
Dr. Sukant Misra

In this issue...

Recent Studies

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- Analysis of Step 2 Elimination
- Factors Influencing Producers' Perceptions

Activities

- 5th Annual Research/Extension Symposium
- USDA Outlook Forum
- Chapingo Seminar
- FAO/UN World Outlook Conference
- TACC Meeting
- Cotton, Inc. Conference
- WAEA Annual Meetings
- AAEA Annual Meetings
- SAEA Annual Meetings
- International Agribusiness Presentation

Vol. 9, No. 2
Cotton Economics Research Institute
Department of Agricultural and Applied Economics
Texas Tech University

As the world changes, we correspondingly try to adapt our research and related programs to remain current and relevant. As a part of that adaptation, we have been making changes in our departmental and Cotton Economics Research Institute (CERI) web sites. We invite you to look at it for resources that may be useful. The easiest way to access the CERI website is through the departmental site (www.aaec.ttu.edu), then click on Cotton Economics Research Institute.

Michael Farmer joined the department in July as an Associate Professor in a new position in Water Policy and Natural Resource Management. He is 75% in Agricultural and Applied Economics and 25% in Range, Wildlife, and Fisheries Management.

The purpose of these newsletters is to summarize what we are doing, not provide complete information. If you want details, please contact us.



Don Ethridge, Director

Another item that I would note is the addition of a new faculty member. Dr.

Recent Studies

Effects of WTO On Domestic Policy

Jaime Malaga worked with Darren Hudson (Mississippi State), Parr Rosson, and John Robinson (Texas A&M) to examine the impacts of the WTO cotton programs ruling on overall U.S. agricultural policy. The results were published in *The American Agricultural Economics Association's Choices* magazine (<http://www.choicesmagazine.org/2005-2/wto/2005-10.htm>).

The article analyzes the potential implications of the WTO cotton case for

the future of agricultural policy design in the U.S. The cotton case and the related WTO ruling have focused domestic and international attention and debate. The authors suggest that the WTO decision may not likely lead to a reduction in the overall level of farm program payments by itself, but may lead to a diversion out of traditional commodity payments into programs that can be deemed non-trade-distorting.

Analysis of Step 2 Elimination

The policy group, led by Sam Mohanty, has completed an analysis of effects of Cotton Program step 2 elimination on the industry. Eliminating step 2, with no other changes in other pro-

Recent Studies (cont.)

gram provisions, appears to have little effect on farm prices or production. Its greatest effect would be to reduce exports and cause stocks of cotton to increase cumulatively over time. The briefing paper is available on the website ([www.ceri.ttu.edu/policy/publications/publications/step2program\(final\).pdf](http://www.ceri.ttu.edu/policy/publications/publications/step2program(final).pdf)).

Factors Influencing Producers' Perceptions

Rod Rejesus presented results from work with Bruce Sherrick, Gary Schnitkey (University of Illinois), and Cesar Escalante (University of Georgia) at the Western Agricultural Economics Association meetings. They examined factors affecting producers' perceptions toward the relative importance of government support programs in agriculture. Specific attention was on determining the effect of crop insurance usage on farmers' views about the importance of government program payments. Results show that producers who use yield-or revenue-based crop insurance and direct government support programs tend to be complements rather than substitutes. For more information, contact Rod Rejesus.



Activities

Annual Research/Extension Symposium

The 5th Annual Cotton Economics Research Institute Research/Extension Symposium was held on April 7, 2005. The program can be viewed on our website at www.ceri.ttu.edu/symposium/symposium05program.pdf.

USDA Outlook Forum

Don Ethridge and Sam Mohanty attended the USDA Outlook Forum in Washington, D.C., February 24 and 25.

Chapingo Seminar

Don Ethridge gave a week-long seminar on Research Methodology in Economics at the University of Chapingo, Texcoco, Mexico, May 30 - June 3.

FAO/UN World Outlook Conference

Jaime Malaga and Sam Mohanty attended the FAO/UN World Outlook Conference in Rome, Italy, May 21 and 22. Dr. Mohanty presented the World Cotton Market Outlook at the conference.

TACC Meeting

Phil Johnson and Sam Mohanty attended the Texas Agricultural Cooperative Council Meetings in Ruidoso, NM, July 6-8. Dr. Mohanty made a presentation, "The World Cotton Economy: Marketing and Policy Issues" (available at www.ceri.ttu.edu/policy).

Cotton Inc. Conference

Conrad Lyford attended Cotton Incorporated's Engineered Fiber Selection System Conference in Memphis, TN, June 6-8.

WAEA Annual Meetings

Conrad Lyford, Rod Rejesus, and David Willis attended the Western Agricultural Economics Association Meetings in San Francisco, CA, July 6-8. All presented papers at the meeting. Among them was a paper evaluating consistency of government cotton price incentives with textile mill demand by Conrad Lyford.

AAEA Annual Meetings

Five faculty (Jeff Johnson, Vernon Lansford, Jaime Malaga, Sam Mohanty, and

Activities (cont.)

David Willis), two research staff (Mohamadou Fadiga and Suwen Pan), one graduate student (Raghu Kulkarni), and three undergraduate students (Chris Cogburn, Chris Dannemiller, and Jessica Neitsch) attended the American Agricultural Economics Association Meetings in Providence, RI, July 24-27.

SAEA Annual Meetings

Five people from the department attended the

Southern Agricultural Economics Association meetings in Little Rock, AR, Feb. 5-9.

International Agribusiness Presentation

Mark Welch, Ph.D. student, presented a teaching case study, "The Value of Plains Cotton Cooperative Association," at the International Agribusiness Management Association Meetings, June 27-28, in Chicago, IL.



Contact Information

Web Site and E-mail Address

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Appendix I

THORNTON INSTITUTE ACTIVITIES

- (1) 32ND ANNUAL BANKERS AGRICULTURAL CREDIT CONFERENCE
November 12, 2004
- (2) 2004 BANKERS AGRICULTURAL CREDIT CONFERENCE OFFICERS AND
DIRECTORS
- (3) ANNUAL REPORT – SEPTEMBER 2004 TO AUGUST 2005

**THIRTY – SECOND ANNUAL
BANKERS AGRICULTURAL CREDIT CONFERENCE
INTERNATIONAL CULTURAL CENTER
TEXAS TECH UNIVERSITY
LUBBOCK, TEXAS**

NOVEMBER 12, 2004

**SPONSORS: McCoy Myers and Associates
TIB-The Independent BankersBank**

- 7:30 – 8:30 **Registration**
- 8:00 – 8:15 **General Session**
Presiding: Mr. Jeff Rogers
 President
 Bankers Agricultural Credit Conference
- 8:15 – 9:00 **Legal and Regulatory Update**
Introduction
Kirk Thomas

Mr. John Heasley
General Counsel
Texas Bankers Association
- 9:00 – 9:30 **Agricultural Outlook for Cattle 2005**
Introduction
Boyd Finch

Dr. Richard McDonald
President & CEO
Texas Cattle Feeders Assn.
Amarillo
- 9:30 – 9:50 **Break**
- 9:50 – 11:20 **Financial and General Economic Outlook**
Introduction
Kurt Coor

Mr. Terry Barr
Chief Economist and Vice President
National Council of Farmer Cooperatives
Washington, DC

11:30 – 1:00

Lunch

Hall of Nations

Presentation of Distinguished Banking Service Award

1:00 – 2:00

Where is Ag Lending Headed?

Introduction

Douglas McIntyre

Dr. Danny Klienfelter

Professor and Extension Economist

Texas A&M University

College Station

2:00 – 2:45

“Whiskey is for Drinking and Water is for Fighting”

Introduction

Gary Patterson

Dr. Phillip Johnson

Associate Professor

Agricultural and Applied Economics

Texas Tech University

Lubbock

2:45 – 3:00

Break

3:00 – 4:00

Agricultural Outlook for Cotton 2005

Introduction

Rex Bostwick

Mr. Grady Martin

Plains Cotton Cooperative Assn.

Lubbock

Agricultural Outlook for Grain Sorghum 2005

Introduction

Rex Bostwick

Mr. Tim Snyder

Marketing Director

National Grain Sorghum Producers

Lubbock

Adjourn

**BANKERS AGRICULTURAL CREDIT CONFERENCE
OFFICERS AND DIRECTORS**

2004

President:

Mr. Jeff Rogers
Branch President
Security Bank of Ralls
Abernathy

Vice President:

Mr. Gary Patterson
Vice President
Muleshoe State Bank
Farwell

Directors:

Dr. Douglas McIntyre
Senior Vice President
First National Bank of Abilene
Abilene

Mr. Boyd Finch
Vice President
American State Bank
Lubbock

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

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

Mr. Rex Bostwick
Vice President
Herring National Bank
Amarillo

Coordinator:

Dr. Phillip Johnson
Associate Professor
Department of Agricultural and Applied Economics
Texas Tech University
Lubbock

Sponsored By:

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

Organized By:

Department of Agricultural and Applied Economics
Texas Tech University

Annual Report
September 2004 to August 2005
Thornton Agricultural Finance Institute

The primary 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 assist with conferences, workshops and other public service functions related to agricultural finance and banking. Dr. Phillip Johnson is the current Director of the Institute.

Research

The Institute provides a focus for research on important topics in agricultural finance. Agricultural finance is a broad area that relates to many of the research projects within the Department of Agricultural and Applied Economics, College of Agricultural Sciences and Natural Resources and College of Business Administration. Several research projects were sponsored and wholly or partially funded by the Institute.

Research projects for September 2004 - August 2005 include:

Profitability Analysis of Cotton Production for Texas High Plains. Principal Investigator, Phillip Johnson, Texas Tech University.

Evaluating Yield and Revenue Insurance as a Risk Management Tool for Cotton Producers in the Southern Texas High Plains. Principal Investigator, Phillip Johnson, Texas Tech University. Collaborators, Tom Knight and Eduardo Segarra.

Publications

Johnson, P., and J. Blackshear. 2005. Economic Analysis of Roundup Ready Versus Conventional Cotton Varieties in the Southern High Plains of Texas. Texas Journal of Agriculture and Natural Resources. In Press.

Sides, G., A. Irlbeck, P. Johnson and D. Schmidt. 2005. Profitability of Cotton Production in the Texas High Plains 1996-2003. Proceedings of the 2005 Beltwide Cotton Conference, New Orleans, LA, January 4, 2005. pg. 339-344.

Service

The Institute co-sponsors the Annual Bankers Agricultural Credit Conference. The 2004 Conference held in November was the 32nd annual conference. The conference program each year address 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. The conference is directed by a board of directors made up of representatives from area banks.

The Institute Director, Dr. Phillip Johnson, is serving on the Texas Agricultural Cooperative Council (TACC) board of directors, and has been appointed as vice-chairman of the Education and Members Services Committee. In 2004 – 2005, Dr. Johnson participated in numerous TACC activities which included Cooperative Director Development Programs in Lubbock and Amarillo, the TACC Annual Meeting, TACC Cooperative Managers Conference, and TACC Cooperative Board Chairman's Conference.