

ANNUAL REPORT
RESEARCH PROGRAM
2010/11

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 of the Department of Agricultural and Applied Economics - Texas Tech University during fiscal year 2010/11. The overall research program of the Department of Agricultural and Applied Economics has been characterized by its flexibility in addressing varied issues of economic significance and is applied in nature, although there are strong disciplinary elements within it. We allocate slightly over one-third of departmental full-time faculty resources to research (approximately 6.00 FTEs out of 16.00 FTEs on a 12 -month basis), including our two 25% research appointments with the Texas AgriLife Research– Lubbock, Texas A&M University. Research projects in the department cover a wide range of subject matter areas: production economics (including finance and risk management), market economics, natural resource (including environmentally related issues) economics, international economics, economic policy analysis, and consumer economics.

Fiscal year 2010/11 was a very active year for research activity in Agricultural and Applied Economics. In FY 2010/11 a total of 62 individual research projects were active in the department (quite similar to the total number of projects active the previous fiscal year of 63). Appendix A contains the individual annual progress reports of each active research project in fiscal year 2010/11. Our research program continues being quite diverse reflecting the varied interests and expertise of the faculty. Also, the overall research program continues to possess a good balance among state, regional, national and international research projects.

Total funding secured by faculty in the department for research projects carried out in fiscal year 2010/11 was \$1,823,502 (Table 1), slightly below the \$1.95 million level of last year. Details regarding the funding of specific research projects in 2010/11 are provided in both Appendix A and B. Of the over \$1.82 million research expenditures in 2010/11, slightly over 36% came from state sources, slightly over 61% came from federal sources, and the remaining came from private sources. As depicted in Table 1, and shown in Figures 1 and 2, overall total research funding has been quite stable in the last six years. The three year moving average research funding level has been slightly above \$1.8 million per year for the past seven years. It should be highlighted here that in the last four years significant progress has been accomplished regarding our efforts to enhance the funding of endowed chairs and professorships in our department. In FY 2009/10 one professorship (the Charles C. Thompson Professorship in Agricultural Finance) was upgraded to Endowed Chair – Dr. Phillip N. Johnson is the holder, and a new Professorship (the Emabeth Thompson Professorship in Risk Management – Dr. Thomas O. Knight is the holder) was established.

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 graduate and undergraduate 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 quite valuable to our students when they finish their programs.

**Table 1. Department of Agricultural and Applied Economics
Research Funding by Source, 1981/82 to 2010/11**

Year	Source			
	State	Federal	Private	TOTAL *
-----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
2005/06	281,205	1,406,603	113,416	1,801,224
2006/07	443,437	1,381,152	45,233	1,869,822
2007/08	812,706	942,682	30,167	1,785,555
2008/09	608,033	1,214,264	104,114	1,926,411
2009/10	659,067	1,259,125	32,069	1,950,261
2010/11	659,574	1,117,118	46,810	1,823,502

*The total reflects funding of the specific research projects (in Appendix A), funding associated with cooperative research projects, and other departmental research activities.

Figure 1: 3 Year Moving Average of Total Funding

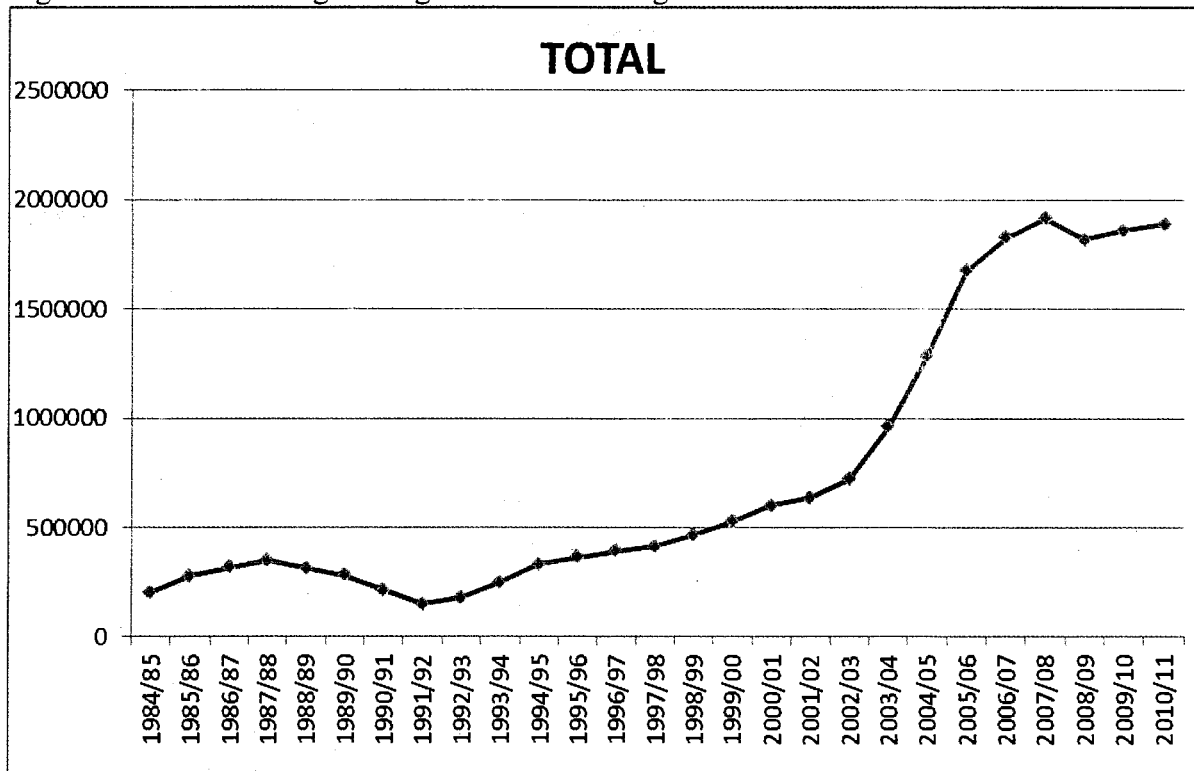
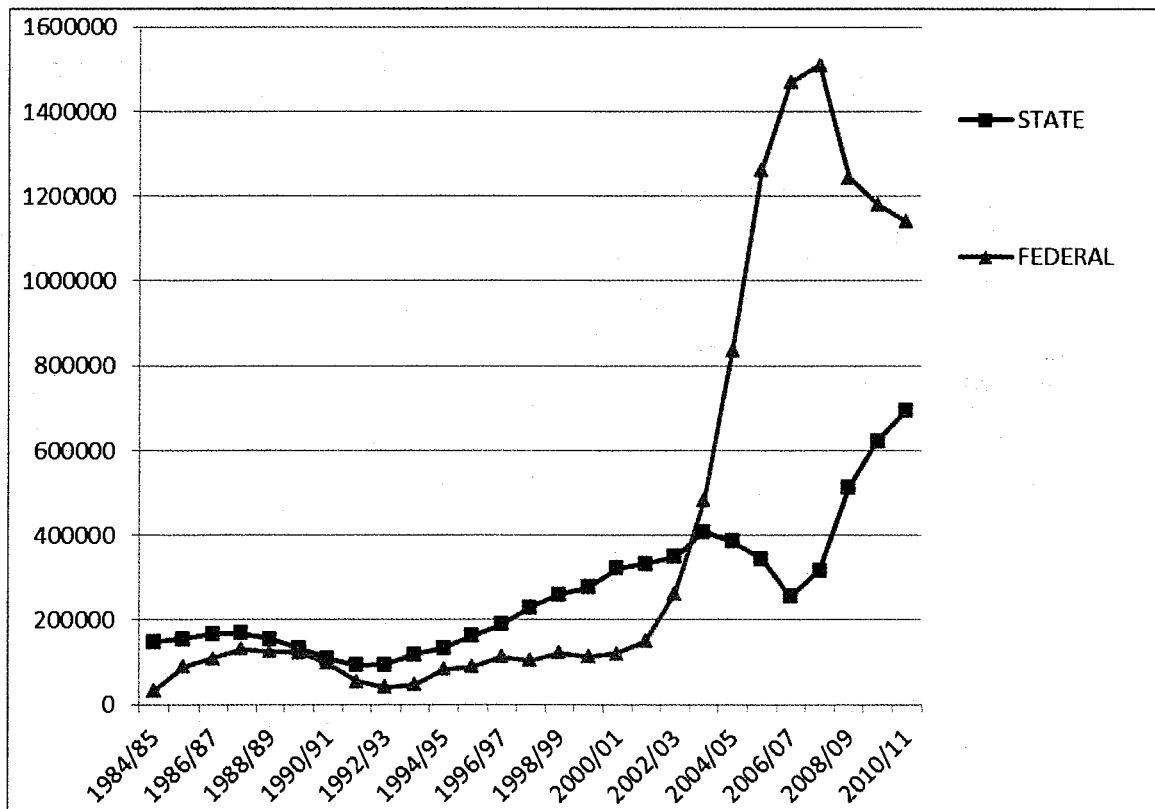


Figure 2: 3 Year Moving Average of State and Federal Funding



Before FY 2009/10, an average of 7 graduate degrees had been awarded per year by the department; nearly 5 Master degrees, and slightly more than 2 Ph.D. degrees per year, respectively (Table 2). As shown in Table 2, 2009/10 proved to be the best year ever for the department, in terms of the number of graduate degrees awarded. In FY 2010/11 a total of 11 graduate degrees were awarded: 2 Ph.D. degrees, 3 MAB, and 6 M.S. Much of the increase in graduate degrees awarded in the last two fiscal years is due to the increased commitment of the departmental faculty towards Texas Tech University's goal of reaching Tier I research status. The department financially supported approximately 40 graduate students from research funds in 2010/11 (we had a total enrollment of 48 graduate students). In addition to graduate student training and degrees awarded, nearly a dozen undergraduate students were supported from research project funds in 2010/11.

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 2010/11 fiscal years. Appendices C and D contain a complete listing of the 2010/11 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 held in Fall 2010 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 Larry Combest Agricultural Competitiveness Endowed Chair; (c) the Thornton Agricultural Finance Institute, (d) the Risk Management/Crop Insurance initiative, (e) the Center for North American Studies – Texas Tech Component, and (f) 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 University 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. CERI focuses both on conducting research and the dissemination of research results to users. Within CERI issues related to production and management, processing, manufacturing, transportation, pricing and marketing, and trade and policy analysis are addressed on an on-going basis. The policy component of the program has become a more prominent part of CERI's activities.

Summary of CERI Activities

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 page. The research program continues to be more nationally and internationally recognized as evidenced by our hosting a Fulbright Scholar from Tajikistan to learn about cotton policy analysis.

Table 2. Graduate Degrees Awarded, Department of Agricultural and Applied Economics, 1982/83 to 2010/11

Year	Master of Agribusiness	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
2005/06	-	1	6	1
2006/07	1	0	3	3
2007/08	-	0	4	3
2008/09	-	0	6	1
2009/10	3	1	8	6
2010/11	3	0	6	2

**Table 3. Department of Agricultural and Applied Economics Publications
And Presentations, 1979/80 to 2010/11**

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
2005/06	21	5	16	11	10	33
2006/07	27	2	11	11	7	32
2007/08	20	0	8	16	4	23
2008/09	20	1	10	8	11	42
2009/10	21	2	7	17	14	41
2010/11	27	1	9	19	26	38

Overall, there were 14 different projects addressing cotton related issues. Total funding obtained in support of these projects was over \$600,000.

Other measures of productivity include publications and service to the cotton industry. The publications list (Appendix C) identifies CERI-related items with a “C” at the beginning of the citation. Overall, the faculty authored/co-authored 17 cotton-related publications during the past year, which included 4 journal articles, 8 proceedings papers at industry and professional meetings, 1 technical research report, and published 4 abstracts of papers presented at 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 annual research/extension symposium in April 2011 (meeting agenda in Appendix G), and one newsletter (Appendix H) which was distributed and posted on CERI’s website. Principal investigators also made 16 additional professional presentations related to cotton, and answered many questions and filled varied requests for information from the industry and the general public on a regular basis, although no formal record for these activities is maintained.

The analytical platform for most of the policy analysis is the “Global Fibers Model,” which is an econometric model developed over years and represents the most comprehensive model of global cotton markets, thus providing timely and reliable information on expected impacts of policy alternatives and changing market conditions to policy-making groups—Congress, USDA, and other cotton and textile industry participants. The model also links with the FAPRI consortium models of other agricultural sectors and the AFPC farm-level income projection model. During the 2010/11 fiscal year, CERI staff produced several important publications on the following issues:

1. The impacts of market structure and subsidies on global prices by China and India
2. Global cotton market baseline
3. The impacts of domestic offsets and cap-and-trade on cotton.

In addition, CERI staff began work on a major project involving the cotton sector in Brazil.

Larry Combest Agricultural Competitiveness Endowed Chair

The Larry Combest Endowed Chair in Agricultural Competitiveness (Chair) was endowed and filled in August 2008. Dr. Darren Hudson was named the chair holder at that time.

1. The Chair is supporting two Ph.D. students examining the future water issues related to agricultural productivity and profitability on the High Plains and the interaction between managers and boards of directors in cooperatives and their performance relating to merger and acquisition activities.
2. The Chair continues to publish a newsletter called *Competing for Profit*. A book entitled *Texas High Plains Agriculture* was published as a compilation of past newsletter articles.

The Chair established an advisory committee. The advisory committee meets annually to discuss research needs and issues.

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 academic and research activities in agricultural finance and related areas, and facilitate public service functions related to agricultural finance and banking industries. Dr. Phillip Johnson is the Director of the Thornton Agricultural Finance Institute, and is the holder of the Charles C. Thompson Endowed Chair in Agricultural Finance.

In FY 2010/11, the institute conducted activities in both the research and service areas. The following sub-sections summarize the activities in those areas.

Research

The institute provides a focus for research on important topics in agricultural finance which is a broad area that relates to a significant number of the research projects conducted within the Department of Agricultural and Applied Economics, the College of Agricultural Sciences and Natural Resources, and the College of Business Administration. Research projects sponsored by or related to the institute's mission included:

- Economic Assessment of Proposed Ground Water Management Strategies for GMA 2,
- An Integrated Approach to Water Conservation for Agriculture in the Texas Southern High Plains,
- Panhandle Groundwater Conservation District Economic Impact of Reduction of Irrigation Water Use,
- Farm and Ranch Succession, and
- Economic Evaluation of Wine-grape Contracts, Risk Sharing, And Implications For The Future Of The Industry

Service

The Institute co-sponsored the 38th Annual Bankers Agricultural Credit Conference in November, 2010, 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. Dr. Phillip Johnson serves on the Texas Agricultural Cooperative Council (TACC) board of directors. He serves on the Executive Board of Directors, is vice-chair of the Services Section, and a member of the Educational and Member Services Committee. Dr. Johnson participated in numerous TACC activities which included Cooperative Director Development Programs, the Managers Conference, Chairman Conference, and the TACC Annual Meeting.

Agricultural Risk Management

The agricultural risk management initiative at Texas Tech University was launched in 2002 with support of “Excellence” funding from the state of Texas. The status of this research thrust in the Department of Agricultural and Applied Economics was further solidified in 2010, with establishment of the Emabeth Thompson Professorship in Agricultural Risk Management. Dr. Thomas O. Knight was named the first holder of this professorship. A majority of the research activities under the program have focused on improving the performance of the Federal Crop Insurance Program. Results from several projects conducted under the program have been directly implemented in the Federal Crop Insurance Program. A wide range of other risk management issues have been addressed including climate change, risk management education, and risk mitigating effects of general farm programs.

Summary of Activities

In 2010/11 there was one active risk management related research project, noted with an “R” symbol in the upper right corner of the project summary in Appendix A. The project was funded by the Risk Management Agency of the USDA. 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 initiative. The program provided support for two Ph.D. students during the 2010/11 fiscal year.

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 traded, primarily with Mexico. There is an obvious synergy between CNAS activities and other projects in our department with international dimension, specifically the Great Plains Sorghum Improvement and Utilization Center and the Cotton Economics Research Institute.

Collaboration with other foreign Universities includes Chapingo University in Mexico through faculty exchange, data sharing, and joint project design. Cooperation is especially important on policy and trade analysis methodologies and data, and with Zamorano, Pan American Agriculture School in Honduras, one of the top agricultural schools in Latin America. This new agreement will allow for research collaboration on the impacts of the CAFTA-DR free trade agreement between the U.S. and Central American countries.

Analysis of Mexican meat demand continued using extensive official household survey data from Mexico. Demand parameters at the table cut level were estimated for the first time providing relevant insights about the different components of Mexican demand. Results are being used to forecast U.S. exports to the Mexican market revealing significant differences among meat cuts. Conclusions and recommendations were presented at professional meetings

and shared with industry representatives. The impact of changes in Mexican sorghum and corn demand over U.S. exports was also analyzed and modeled. The relative competitiveness of U.S. exports in the Mexican market is being analyzed by major commodity groups. The potential challenges for US agricultural exports under potential Mexican trade policy agreements with U.S. competitors are being evaluated, including recent Mexican trade retaliation tariffs.

Impacts of recent BRIC countries (Brazil, China, India, and Russia) agricultural trade expansion on NAFTA countries competitiveness is currently under evaluation.

CASNR Water Center

Scientists from the CASNR Water Center were involved in research activities that included 1 refereed journal article, 3 abstracts, and 15 proceedings papers at multidisciplinary meetings. Funding included 16 projects for a total of \$874,705 in research funding from state, federal, and other sources.

Research results were disseminated to policy makers and industry/public officials through 2 presentations and 5 reports.

At the UCOWR Annual Conference in July 2011, 12 presentations were made by TTU scientists of which 8 were in a double session relating the results of the TAWC project. The Associate Director chaired a panel on water policy at the West Texas Ag Chem meetings in September 2010 and hosted the Consortium on Irrigation Research and Education meetings in April 2011.

Quantitative Information

Research Funds

External

Federal (#/\$)	1 / \$ 50,000
State (#/\$)	1 / \$ 78,067
Other (#/\$)	2 / \$111,1230

Publications

Refereed Journal	1
Abstracts	3
Conference Proceedings	15
Presentations	2
Reports	5
Theses/Dissertations	0

Recent Significant Research Findings/Impact Statements
Department of Agricultural and Applied Economics
Texas Tech University

- Safflower seed biodiesel can be produced with up to 70% carbon savings over petroleum diesel.
- If safflower seed producers receive a portion of the carbon credit paid to safflower biodiesel producers they can be incentivized to decrease input (water and fertilizer) use to zero, while remaining profitable.
- The determinants of technical efficiency (TE) affect in very specific ways farmers with different levels of TE which confirms the hypothesis on the importance of controlling for farm heterogeneity when analyzing the determinants of TE.
- On average, dairy farms in Wisconsin were found to have a TE exceeding 0.9537, with a standard deviation of 0.018.
- Government payments have a positive and significant effect on TE as expected. However, these payments have no statistically significant effect on TE of dairy farms that are already close to the frontier. When moving away from the frontier, the effect of payments on TE increases.
- Fish and seafood products were found to be differentiated products.
- Product characteristics were found to play an important role in demand for fish and seafood products.
- When treated as differentiated products, fish and seafood have elastic demands.
- The packaging size (small, medium, family size) and the types of products (breaded, un-breaded, entrée) are factors that consumers take into account when they buy fish and seafood products.
- The variety offering positively shifts the consumer's utility, meaning that consumers are more likely to purchase a certain yogurt brand, if the variety offering of the latter one increases.
- Consumer price sensitivity increases as the variety offering is taken into account.
- The magnitude of the own-price elasticity increases as the price-variety interaction is included in the indirect utility.
- Supermarket chains exercise some degree of market power when selling yogurt products. However, the degree of market power is reduced as more variety is offered; mainly because of an increase in marginal cost and consumers price sensitivity.
- Bayesian estimation was found to be an effective empirical alternative to the classical estimation of demand.
- Bayesian analysis does not rely on asymptotic assumptions implicit in maximum likelihood estimation.
- Bayesian and classical approaches for the estimation of demand were found to result in different parameter estimates, implying further investigation is needed. This may have implications for marketing mix decisions and market power quantification.
- The choice of the demand estimation model is crucial for antitrust analysis and decision making because different methods can result in different elasticity estimates.
- In the case of ground coffee, the random coefficients logit model provides more realistic estimates than the logit.
- Curb appeal has a positive impact on residential house value, with landscape and house appearance having approximately a similar impact. With improved curb appeal, house price can increase by up to 17%.
- Increasing U.S. chicken exports to Mexico are affecting the growth of domestic poultry production, and consequently Mexican imports of U.S. grain sorghum.
- U.S. market share of global sorghum exports declined from 75% in 2007/08 to 54% in 2010/11, while Argentina's doubled from 12% to 25% and Australia's expanded from 4% to 20% during the same period.
- While traditional large sorghum importers like Mexico and Japan are slowly declining, new emerging markets are thriving, including Sub-Saharan Africa and other Latin American countries (Chile and Colombia).
- Sub Saharan Africa's potential import market for grain sorghum may reach 2.3 million MT by 2020. That is, almost the size of Mexican current imports of that grain.

- Important changes in relative competitiveness occurred in the world market of main agricultural commodities during the last ten years (corn, soybeans, wheat, rice, soybean oil, soybean oil, and cotton). Argentina, Brazil, India, and Russia, increased their market shares and competitiveness indicators.
- U.S. ethanol industry derived demand for sorghum reached 30% of the domestic production in 2010/11, up from 7% in 2007/08.
- During 2009-2010 the direct economic impact generated by the GO TEXAN Partner marketing program was of \$17.74 per every \$1 invested by the Texas Department of Agriculture (TDA).
- Not all activities in the GO TEXAN marketing program have a clearly positive impact. Participation of members in trade shows, media events, and reverse trade missions appear to have a significant large effect on sales increase as well as the use of the program logo on promotional items and web sites.
- TDA budget cost of 26 Hometown STARS and 46 Bootstrap Bucks surveyed events during 09/01/2009-08/31/2011 was \$559,603.
- TDA investment cost of 26 Hometown STARS events was \$456,826. Hometown STARS program supported events averaged \$1,824,070 in economic value per event, which across all 26 events had a total impact of \$47.42 million.
- Direct return on state funds from visitor spending was found to be \$10.86 per every \$1 of GO TEXAN funding.
- Total return from all economic impacts (direct, indirect, and induced) was found to be \$20.92 per every \$1 of the GO TEXAN funding.
- 26 Hometown STARS rural events were found to have attracted 167,505 visitors to rural Texas.
- TDA investment cost of 46 Bootstrap Bucks events was \$102,777. Communities reported that Bootstrap Bucks supported events which averaged \$263,412 in economic value per event, which across all 46 events reached \$12 million in total estimated value.
- The Clean Development Mechanism (CDM) of the Kyoto Protocol is on track to reduce 700 million tCO₂e emissions per year by 2012 and nearly 1,100 million tCO₂e by 2020.
- The Clean Development Mechanism (CDM) projects are characterized with economies of scale and economies of time.
- Simplifying the CDM project regulation/clearance cycle is an essential policy option for further growth of the Clean Development Mechanism (CDM).
- The skewed sector composition of CDM projects indicates that the CDM alone may not be up to the task of fully exploiting known and economically viable sources of mitigation, suggesting a great scope for finding additional ways of investing in the mitigation potential of developing countries.
- Overall beef quality improves with the adoption of carcass value-based grid pricing.
- The cattle feeders' optimal choice of feeding strategy and contract types, and cattle owners' optimal choice of contract parameters and fed cattle pricing method significantly vary across different locations with varied weather attributes.
- A recent study has shown that industrial development in rural areas can contribute to agricultural productivity growth.
- A recent study has shown that, when water supply is low and irrigation capital cost is high, it is economically optimal to concentrate irrigation water in a portion of the field or in a critical stage of plant growth.
- A recent study has shown that the adoption rate of precision farming technology in cotton is lower in Texas than in other southern U.S. states.
- Renewable Portfolio Standards for electricity production are a factor in both the likelihood that a wind farm will be developed in a given county, as well as the intensity (# of name plate megawatts) of wind farm development.
- The use of the virtual water concept grossly overestimates the observed water usage in the region over the period of 1997-2006.

Appendix A

PROJECTS

2010/11

Project Title	Biodegradable Mulches for Specialty Crops Produced under Protective Covers
Principal Investigators	Jennifer Moore-Kucera and Eric J. Belasco
Departmental Involvement	Plant and Soil Science; Agricultural and Applied Economics
Funding Amount	\$112,538 (subcontractor for Washington State University)
Funding Agency	USDA (Specialty Crop Research Initiative)
Beginning Date	August 2009
Ending Date	August 2012
Project Objective	Improve production efficiency, productivity, and profitability over the long term with the priority topic of improving understanding of the environmental, economic, and social implications of specialty crop production, including all inputs and the disposition of wastes and byproducts via systems-based analysis. Identify and address threats from pests and diseases with the priority topic of creating new scientific developments and technologies, and tools that will help reduce the incidence and impact of industry-critical insect and disease problems.
Project Summary and Accomplishments	The focus of the research in this fiscal year has been on site and personnel identification. Three sites have been chosen and are associated with Texas Tech University, Washington State University, and University of Tennessee. Personnel teams have also been identified which include a socio-economics working group, which houses personnel from each of the three institutions. High tunnels and biodegradable mulches have been constructed and experimented with this past year in an effort to be prepared for planting next spring.
Keywords	Sustainability, Pests and Diseases, Risk Management.

Project Title	Development of Winter Safflower as a New Biomass Energy Crop for the Lower Great Plains of North America
Principal Investigators	D.L. Auld, C.L. Trostle, M. A. Foster, S. Angadi, and Aaron Benson
Departmental Involvement	Agricultural and Applied Economics, Plant and Soil Science, Texas Tech University; Texas AGriLife Research, Texas A&M University; Plant and Environmental Science, New Mexico State University.
Funding Amount	Project Total: \$225,000; AAEC Total: \$51,000 (\$23,000, \$27,000
Funding Agency	and \$1,000 in the three years, respectively) USDA Sun Grant
Beginning Date	July 2010
Ending Date	June 2012
Project Objective	Develop new varieties of winter safflower with greater oil content and better suited for biodiesel production, develop cultivation guidelines necessary for successful production of winter safflower and conduct an economic, water use and greenhouse gas lifecycle analysis of safflower production for use in comparison with alternative crops.
Project Summary and Accomplishments	<p>Large-scale cultivation of industrial oilseed crops on the Texas High Plains is likely to positively impact the economic viability of the region, provided that the feedstocks can be produced at a significant input savings (specifically in terms of water) and that the environmental benefits of the feedstocks can be captured by growers. This project focuses on identifying the critical values of feedstock and biofuel price, input cost savings, and captured environmental benefits to improve the economic prospects of farmers in the region.</p> <p>The carbon lifecycle analysis conducted for this project shows that safflower seed oil biodiesel can be produced and used at about a 70% carbon savings over petroleum diesel. The producer decision analysis portion of the project shows that safflower cultivation can be profitable on the high plains with a seed price of about \$0.07/lb, and with water application that is 50%-70% less than is required for irrigated cotton. We also show that if the seed producers are given incentives to lower the carbon emissions (i.e. if producers receive a certain dollar amount for every unit of carbon saved), that they would likely readily decrease water and fertilizer application.</p>
Keywords	Safflower cultivation, Biodiesel feedstock, Life cycle analysis

Project Title	Profit Risk of a Dryland Cattle Ranching System as a Function of Price and Precipitation Risk
Principal Investigators	Ping Zhu, Aaron Benson, Michael Farmer and Carlos Villalobos
Departmental Involvement	Agricultural and Applied Economics, Natural Resources Management, Texas Tech University
Funding Amount	None
Funding Agency	None
Beginning Date	August 2008
Ending Date	--
Project Objective	Determine the profit risk of a new dryland cattle ranching system developed in the Natural Resources Management department at Texas Tech University.
Project Summary and Accomplishments	<p>As Ogallala Aquifer water levels decline, producers need more information on the alternative production practices available to them. Producer welfare can be increased with better understanding of the uncertainty of dryland production practices.</p> <p>This project identified the profit risk of a specific dryland cattle ranching system by incorporating precipitation and price risk. Simulations of precipitation and output prices were used to create 1000 50-year simulations of producer profit. Using the data from these simulations we estimated the profit distribution. This distribution allows producers to make informed decisions regarding this particular dryland production technology.</p> <p>An important outcome of this research is that we found that the available data for dryland range production are severely lacking. The paucity of data on dryland forage at different rainfall and temperatures significantly limited the applicability of the results of this project and will be a detriment to future studies of dryland production technologies.</p>
Keywords	Dryland ranching, Profit risk

Project Title	Irrigation Efficiency in an Endogenously Growing Economy
Principal Investigators	Aaron Benson and Ray Huffaker (University of Florida)
Departmental Involvement	Agricultural and Applied Economics, Texas Tech University; Food and Resource Economics, University of Florida
Funding Amount	None
Funding Agency	
Beginning Date	November 2006
Ending Date	--
Project Objective	Identify the effects on economic growth of water conservation policies that increase agricultural irrigation efficiency.
Project Summary and Accomplishments	<p>We built a multi-sector general equilibrium growth model that incorporates a water resource and analyzed the effects on economic growth of increasing irrigation efficiency. We find that, even in an economically optimal central planner model, increasing irrigation efficiency can have the dual consequence of decreasing water available outside of the agricultural sector <i>and</i> decreasing economic growth. Policies that aim to mitigate negative economic effects of drought by improving irrigation efficiency may actually harm economic growth.</p> <p>We develop simple tax instruments designed to guarantee optimal economic growth and incorporate the user cost of irrigation water in agricultural production decisions, thus inducing farmers to reduce water consumption. We find that increasing irrigation efficiency may be an appropriate policy, but only insofar as it reduces water consumption – which requires a reduction in water withdrawals as efficiency increases.</p>
Keywords	Irrigation Efficiency, Economic Growth

Project Title	A Biological and Economic Model for Grazing Old World Bluestem
Principal Investigators	Aaron Benson and Cody Zilverberg
Departmental Involvement	Agricultural and Applied Economics, Texas Tech University; Plant and Soil Science, Texas Tech University
Funding Amount	None
Funding Agency	
Beginning Date	December 2010
Ending Date	--
Project Objective	Build a realistic bioeconomic model of sustainably grazing old world bluestem that incorporates uncertain forage production.
Project Summary and Accomplishments	<p>Old world bluestem (OWB) grasses, such as WW B. Dahl, are being introduced as forage on the Southern High Plains. Some OWB, WW B. Dahl in particular, are drought-resistant and can possibly provide more high quality protein than some domestic grasses without irrigation. This project aims to identify the biological and economic production risk associated with this grass and to develop an optimal economic model of its production.</p> <p>The optimal production decision is constrained by a sustainability requirement that guarantees that the current use (or grazing intensity) of the rangeland does not harm future productivity</p>
Keywords	Old world bluestem, sustainable grazing, resource management under uncertainty

Project Title	The Economic Effects of Early Snowmelt Due to Aeolian Dust Deposition
Principal Investigators	Aaron Benson and Rahul Kanungoe
Departmental Involvement	Agricultural and Applied Economics, Texas Tech University
Funding Amount	None
Funding Agency	
Beginning Date	December 2010
Ending Date	--
Project Objective	Develop and apply a model to determine the costs of early snowmelt.
Project Summary and Accomplishments	<p>In many parts of the Western United States, and semi-arid areas of the world, a substantial portion of irrigation water is snowmelt from nearby mountainous regions. Agricultural activity can cause windborne dust to settle on higher-elevation snowpack, which reduces the albedo, or reflectivity, of the snow. The snow then absorbs more solar radiation and heats up faster than it would otherwise. Studies in the San Juan mountains in Southern Colorado estimate that dust from ranching and agriculture on the Colorado plateau cause the snowpack to melt 2 to 3 weeks earlier than in absence of the dust.</p> <p>This project consists of developing a simple model of a river system, with reservoirs for irrigation, and that is fed by high-elevation snowpack. The river system has a set capacity for holding water, and the timing of the snowmelt is crucial in determining the amount of water in the system. We will use the model to determine the cost to the system (and producers who rely on the irrigation water) of an early snowmelt, which can be used in later studies to determine an optimal policy, if any, that can be applied to agricultural producers that generate the dust – even if those are the same producers who rely on the snowmelt water for irrigation.</p>
Keywords	Snowmelt, integrated watershed management

Project Title	Playa Lakes and Ecosystem Services
Principal Investigators	Aaron Benson and Dacheng Bian
Departmental Involvement	Agricultural and Applied Economics, Texas Tech University
Funding Amount	None
Funding Agency	
Beginning Date	March 2011
Ending Date	--
Project Objective	Identify and determine the value of the various ecosystem services provided by the playa lakes of the Southern High Plains
Project Summary and Accomplishments	<p>Playa lakes cover a significant portion of the Southern High Plains, but their benefits are not well understood and are often ignored in developing management plans.</p> <p>The goal of this project is to conduct a global analysis of playa lakes in order to determine as many possible ecosystem services that the lakes provide: as wildlife habitat, as water reservoirs, as sources for groundwater recharge, etc. The value of those ecosystem services might not be captured by the landowner or the local economy. Once the services are identified and valued, we will outline methods for conservation of playa lakes that incorporate the ecosystem services they provide.</p>
Keywords	Playa lakes, ecosystem services

Project Title	Analyzing the Determinants of Technical Efficiency among Traditional Dairy Farms in Wisconsin: A Quantile Regression Approach
Principal Investigator/s	Benaissa Chidmi
Departmental Involvement	Agricultural and Applied Economics
Funding Type	None
Funding Amount	
Beginning Date	September 2010
Ending Date	August 2011
Project Objective	To estimate the level of technical inefficiency (TI) among dairy farms in the State of Wisconsin and evaluate the determinants of such inefficiency using a stochastic production frontier (SPF) model, while accounting for potential farm heterogeneity.
Project Summary Accomplishments	This study analyzes the determinants of TE among traditional dairy farms in the State of Wisconsin taking into account dairy farms' heterogeneity. To do so, we first estimate a production frontier and the level of TE using the SPF framework. Then we analyze the determinants of TI using a quantile regression analysis. The results indicate that the determinants of TE affect in very specific ways farmers with different levels of TE. This result confirms our hypothesis on the importance of controlling for farm heterogeneity when analyzing the determinants of TE. This issue is also important from an empirical point of view. Policy makers could improve the effectiveness of their work by targeting specific agricultural services and aid designed for farmers with different level of TE.
Keywords	Technical efficiency, dairy, quantile regression
Publication	This research was published in the Journal of Development and Agricultural Economics, May 2011.

Project Title	Using National Retail Databases to Determine Market Trends for Southern Aquaculture Products
Principal Investigator/s	Benaissa Chidmi
Departmental Involvement	Agricultural and Applied Economics
Funding Agency	USDA-CSREES
Funding Amount	\$40,000
Beginning Date	June 2009
Ending Date	May 2011
Project Objective	The objective of this project is to use national databases to analyze retail supermarket sales of fresh and frozen farm-raised catfish, crawfish, clams, and prawn/shrimp products.
Project Summary Accomplishments	The project will use a range of marketing research methodologies, with an emphasis on participatory approaches. The project will use store scanner data to analyze market trends and retail pricing issues (e.g., retailers' pricing behavior, market competition) for catfish, crawfish, clam, and shrimp, and will use household-based scanner data to analyze consumer behavior. Retail pricing model and retail sales response models will be estimated for various fresh and frozen farm-raised catfish, crawfish, clams, and shrimp products by a two-stage least square procedure based on store level data. Disaggregated demand functions for various seafood products will be estimated by using discrete-choice models based on household-level panel data. The project will analyze competitive position of each product with other products in the market place by considering both the supply (production) and demand (consumption) aspects of the question.
Keywords	Aquaculture, retailers' pricing behavior, scanner data.
Publication/Presentation	Two presentations were made at the North American Association of Fisheries Economics and one journal article is in press at the Marine Resource Economics.

Project Title	The Effect of Variety Offering and Price Competition on Demand and Supermarket Performance: The Case of Yogurt in Houston Supermarket Industry
Principal Investigator/s	Benaissa Chidmi and Madiha Zaffou
Departmental Involvement	Agricultural and Applied Economics
Funding Type	None
Funding Amount	
Beginning Date	September 2010
Ending Date	May 2011
Project Objective	To estimate the effect of supermarket variety offering on demand and price-cost margins in selling yogurt products in the Houston Metropolitan area.
Project Summary Accomplishments	This study proposes to estimate the effect of variety offering on consumer's demand and supermarket chains profit, using the multinomial logit demand model. Using Information Resource Inc. (IRI) data of four supermarket chains sales in Houston metropolitan area, the study estimates the demand for different yogurt brands at the brand-supermarket level. The results show that the variety offering positively shifts the consumer's utility, meaning that consumers are more likely to purchase a certain yogurt brand, if the variety offering of the latter one increases. However, when the price-variety interaction is included not all the own-variety elasticities estimates are negative and not all the cross-variety elasticities are positive. In addition, the consumer price sensitivity increases as we take into account the variety offering. In addition, the results suggest that supermarket chains make more money selling their own brands.
Keywords	Variety offering, price-cost margins, supermarket chains, yogurt, discrete choice.
Publication	The research was published at Innovative Marketing in the June 2011 issue

Project Title	A Bayesian Approach to Estimating Demand for Product Characteristics: An Application to Coffee Purchase in Boston.
Principal Investigator/s	Benaissa Chidmi and Margil Funtanilla
Departmental Involvement	Agricultural and Applied Economics
Funding Type	None
Funding Amount	
Beginning Date	September 2010
Ending Date	August 2011
Project Objective	To estimate the demand for these coffee product characteristics by recovering relevant parameters in a Bayesian fashion. This will shed light on the substitution pattern as well as identify consumers taste for product characteristics.
Project Summary Accomplishments	As coffee remains to be one of the popular beverages in the United States which translates to intense competition between markets, it is useful to investigate the demand for this product's characteristic conferred by the production process as a determinant of consumers' choice. Just like ready-to-eat (RTE) breakfast cereals, coffee provides an interesting multitude of choices available that will challenge the taste buds but even retailer-level demand estimation on coffee are less common in the economic literature relative to richness of resources on the former as past studies have focused more on the supply side. Using scanner data from Information Resource, Inc. (IRI) on fourteen coffee brands in the U.S. over one hundred fifty-six weekly periods, this paper estimates the demand for these coffee product characteristics by recovering relevant parameters in a Bayesian fashion. This will shed light on the substitution pattern as well as identify consumers taste for product characteristics.
Keywords	Bayesian analysis, demand, coffee.
Publication	This research was presented at the INFORMS Marketing Science Conference, June 9-11, 2011, Houston, Texas.

Project Title	Demand System Estimation: An Application to Merger Analysis in the U.S. Coffee Industry
Principal Investigator/s	Benaissa Chidmi and Margil Funtanilla
Departmental Involvement	Agricultural and Applied Economics
Funding Type	None
Funding Amount	
Beginning Date	September 2010
Ending Date	August 2011
Project Objective	To compare the performance of different discrete demand estimations in implementing merger simulation analysis.
Project Summary Accomplishments	<p>There is a growing interest in analyzing horizontal mergers using quantitative techniques as evidenced from a host of studies found on this topic. Along with this, interest on methods of demand estimation that generate the necessary elasticities used in performing this type of simulations has grown given that elasticity parameters are regarded as a vital input to this technique. The purpose of this paper is to compare the performance of different discrete demand estimations in implementing merger simulation analysis. Specifically, we estimate demand parameters using logit model, random coefficients logit model, and nested logit model using retail-level IRI scanner data of coffee purchases in the U.S. from 2001 to 2003. The implied elasticities are then used to implement merger simulations; however, in addition to Bertrand conduct, we consider other conducts, such as Stackelberg, joint profit maximization, and Cournot competition.</p>
Keywords	Merger, discrete choice, nested logit, demand, coffee.
Publication	This research was presented at the Western Agricultural Economics Association, June 29- July 1, 2011, Banff, Alberta, Canada.

Project Title	Analyzing the Impact of Food Safety Information on Food Demand in China
Principal Investigator/s	Benaissa Chidmi
Departmental Involvement	Agricultural and Applied Economics
Funding Type	None
Funding Amount	
Beginning Date	September 2010
Ending Date	August 2011
Project Objective	To estimate the effect of information on foodborne events on the consumption of food in rural and urban China.
Project Summary Accomplishments	Unlike United States where the number of food safety studies is abundant, in China, there is a lack of empirical studies dealing with the impact of food safety information on the consumption of food. The problem is even worse when put in the actual context where China's role in the global economy is apparent, not only for being a source for inexpensively produced goods but also for a rapidly growing consumer market due to increase in middle-class consumers with higher buying power. To fill the gap of the lack of empirical studies of the impact of food safety information on food consumption in China, this paper estimates the effect of information on foodborne events on the consumption of food in rural and urban China, using a non-linear almost ideal demand system (NL-AIDS) model. Consumption of grains, vegetables, oils, meat, eggs, fish, and dairy products is estimated using annual data from 1992 to 2008.
Keywords	Merger, discrete choice, nested logit, demand, coffee.
Publication	This research was presented at the Agricultural and Applied Economics Association, July 24-26, 2011, Pittsburgh, Pennsylvania.

Project Title	Cotton Wizard: A Cotton/Cottonseed Variety Selection Model
Principal Investigator	Emmett Elam
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	None
Funding Agency	
Beginning Date	September 2010
Ending Date	August 2011
Project Objective	<p>The overall objective of this project was to develop a cotton variety selection model to provide cotton industry decision makers with a common set of tools and procedures for consistent evaluation of cotton varieties. The specific objectives were:</p> <ol style="list-style-type: none">1) To develop a database system for archiving of cotton varietal performance test data.2) To develop varietal assessment tools that can be used to evaluate varietal performance.
Project Summary and Accomplishments	<p>The Cotton Wizard cotton/cottonseed variety selection model was specifically developed at Texas Tech University with CI support to aid industry decision makers in evaluation of cotton varieties. The model provides a comprehensive estimate of the economic value of the fiber and seed produced from an acre of cotton. Users can simultaneously consider complex agronomic and economic characteristics of a group of varieties, allowing informed decisions that otherwise would be difficult. The model is available at:</p> <p>http://www.aaec.ttu.edu/webapps/cottonwizard/cotwizweb3/. A user's manual and one technical report were published.</p>
Keywords	Cotton, variety selection.

Project Title	Curb Appeal Impact on the Price of Single-Family Houses
Principal Investigators	Emmett Elam
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	None
Funding Agency	
Beginning Date	September 2010
Ending Date	August 2011
Project Objective	This research was conducted to evaluate the impact of curb appeal on house value. A hedonic house price model was specified with house price expressed as a function of house characteristic variables and a curb appeal variable with curb appeal conceptualized as having two components—house curb appeal and landscape curb appeal.
Project Summary and Accomplishments	<p>It is well understood in the real estate industry that “curb appeal” affects house values, but a quantitative estimate of the size/magnitude of the effect is not available. This study developed a quantitative indicator of curb appeal, included it in a hedonic house pricing model, and determined its independent effect on values. Results confirmed that curb appeal has a positive impact on house value, with landscape and house appearance approximately equal in impact. With improved curb appeal, house price can increase up to 17%.</p> <p>One article has been published and one article is under review.</p>
Keywords	Curb appeal, residential house price, hedonic house price model.

Project Title	Supplemental Biomass for a Multi-Product Biorefinery on the Southern High Plains
Principal Investigator	Michael C. Farmer, Darren Hudson and Aaron Benson
Departmental Involvement	Agriculture and Applied Economics
Collaborators and Collaborating Agencies	Cotton, Inc.
Beginning Date	January 2011
Ending Date	December 2011
Project Objective	<p>In 2009 work by PIs and students (for Cotton, Inc and Ogallala Aquifer Project) predicted rainfall on the southern high plains less than 2 inches from Sept 15 – Sept 14 every 92.3 years, an event which occurred from 9/2010-9/2011.</p> <p>Bio-energy and Biorefinery production in the region has to account for such biomass scarcity to sustain any biomass to energy or bio-product production. Ability to supplement biomass cheaply in extreme years and in more frequent very short years (about one in 7 to 10 yrs depending on critical biomass needs) becomes critical to assessing the economic scale of these operations before plant investment decisions are made.</p> <p>Two supplements are examined for mid-scaled bio-energy/biorefinery products: Range grasses that might other-wise become a fire hazard or manure at CAFOs.</p>
Project Summary And Accomplishments	<p>Defensive grass harvesting with herd reduction over fall and winter supplement biomass well at \$80/ton cost of delivery. Drying trailers and mobile bio-oil machines patented by colleagues make this feasible without removing reducing feed.</p> <p>Supplements worth more than \$1.8million to help pay ranchers</p>
Key Words	Biorefinery, fire mitigation, operations research, peaking power electricity
Important Publications and Presentations	<p>MS Thesis to defend in October 2011.</p> <p>in review. "The adaptable Biorefinery." <i>Biomass and Bioenergy</i></p>
Contact Investigator	Michael C. Farmer

Project Title	Economic Benefits of Urban Ecology Structure in Lubbock TX
Principal Investigator	Michael C. Farmer
Departmental Involvement	Agriculture and Applied Economics and NRM
Collaborators and Collaborating Agencies	Mark Wallace (NRM), Michael Shiroya, AECO
Beginning Date	March 2008
Ending Date	December 2010
Project Objective	Assess the contribution of urban ecologically valuable landscapes and select wildlife on single family residential home prices in Lubbock, TX, water use and physical activity in neighborhood. Also to provide field experience for undergraduate wildlife biologists and economic analysis experience in real estate economics for economists.
Project Summary And Accomplishments	Landscapes that lower water use and support a diverse species habitat in city are also highly valued for home prices. Parks do little for ecology or for home values; but private landscapes on a block make a street scape that improves home values and lowers watering needs with little effort. The same landscapes also increase physical activity of local residents at levels medically significant.
Key Words	Urban Ecology, Hedonic Price Analysis, Health promotion
Important Publications and Presentations	<p>"Bird Diversity Indicates Ecological and Economic Value" Farmer, Wallace and Shiroya. <i>Urban Ecology</i>. October, 2011 on line. Forthcoming in print, December.</p> <p>Shiroya, Michael. M.S. Thesis. 12/10. Department of Agricultural Economics. "<i>A Hopscotch Equilibrium in Residential Housing Sub-market Dispersion: Diverse Preference Orderings by home-owners over houses and across neighborhoods who occupy the same neighborhoods.</i>"</p> <p>Featured in <i>Conservation Magazine</i>, Oct. 2010 Three professional conferences 2011.</p>
Contact Investigator	Michael C. Farmer

Project Title	Optimal Transition to Dryland: Effects of Policy Reform and Natural Resource Research Priorities
Principal Investigator	Michael C. Farmer
Departmental Involvement	Agriculture and Applied Economics
Collaborators and Collaborating Agencies	Aaron Benson and Jonathaniel Principe (AECO) Ogallala Aquifer Initiative
Beginning Date	January 2009
Ending Date	December 2011
Project Objective	How does the myopic or the Hoteling forward looking motivation for Irrigation compare?
Project Summary And Accomplishments	We found a dynamically optimal path that considered the cost tomorrow of irrigating today (marginal user cost) differ from a myopic path but only after almost 20 years. At that point the costs of ignoring marginal user costs noticeably reduce profits and any myopic irrigator could easily convert to an optimal path. Also, the proximity of optimal and myopic irrigation in early years makes the optimal path easy to locate, removing a key obstacle that finding the optimal path is too difficult a cognitive decision process.
Key Words	Dynamic Optimality; Hoteling Extraction; Marginal user Cost Producer Irrigation Decisions
Important Publications and Presentations	Ph.D. Dissertation, Jonathaniel Principe; due to defend 12/11.
Contact Investigator	Michael C. Farmer

Project Title	A Simpler Method to Identify Submarkets Using Direct Household Information.
Principal Investigator	Michael C. Farmer
Departmental Involvement	Agriculture and Applied Economics
Collaborators and Collaborating Agencies	Eric Belasco, Agr Econ, MSU Cliff Lipscomb, VP., Greenfield Advisors
Beginning Date	October 2009
Ending Date	October 2010
Project Objective	A model of submarket identification using household surveys found three distinct types in one neighborhood – generally hedonic models impose homogeneity at this level; yet the method used to assure thoroughness in the first investigation was very laborious and careful. This work uses the same data set to beta test an easier data collection process, testing whether that process replicates the same heterogeneity.
Project Summary And Accomplishments	Using a mixture model over demographic information to establish a large set of candidate submarkets from tractable household information, a hedonic model regressing against housing characteristics was run simultaneously to eliminate cross equation correlation in the residuals. Novel to this exercise, households were assigned not to a single submarket but as a probability distribution over all three identified; so those most closely similar to a type would be assigned a greater weight in estimating their implicit hedonic values. The weighting system not only replicated the same three submarkets, endogenously choosing the same three, but estimates forced a crisp delineation between markets. This allows a large region to be submarket divided where multiple types can live in the same neighborhoods to assess hedonic characteristics with greater consistency and efficiency.
Key Words	Hedonic price estimation, real estate submarket identification Finite mixture models

**Important
Publications and
Presentations**

Using a Finite Mixture Model of Heterogeneous Households to Delineate Housing Submarkets. 2011. *Journal of Real Estate Economics*. Forthcoming.

**Contact
Investigator**

Michael C. Farmer

Project Title	Managing Invasive Animal Species at the Local Level Using Non-professional, Local Human Capital
Principal Investigator	Michael C. Farmer
Departmental Involvement	Agriculture and Applied Economics Natural Resource Management (NRM)
Collaborators and Collaborating Agencies	Gad Perry (NRM)
Beginning Date	July 2008
Ending Date	August 2011
Project Objective	Methods to reduce biological invasives by economists have centered on imposing Pigovian Taxes (pay for expected damage) or other efficient import restrictions at port of entry; yet none of these methods appears to overt biological invasions, especially of invasive animals. Objective is to design methods that better prevent and respond to animal invasions using a broader set of economic incentives.
Project Summary And Accomplishments	This work uses pet stores and local policing authorities (usually fire departments) to work in concert both to prevent and then respond rapidly to escapes. Standard economic instruments tend to favor the <i>least</i> responsible importers who reduce costs and allow for a larger number of invasions. This work directly removes that perverse incentive to 'do the wrong thing' and not the right thing. Pet stores and hobbyists join local authorities to reduce their liability in the form that the original Superfund model was conceived, where potentially responsible parties are not taxed for expected damages but assume liability for damages and for clean in the event of an invasion. In game theoretic terms this can create very strong incentives for everyone to work together to prevent and rapidly respond to any escapes at far lower social costs and far larger social benefits than current economic instruments.
Key Words	Invasive Species, Economic incentives of local participation, policy implementation.
Important Publications and Presentations	Farmer, M.C., Perry, G. 2011. "Reducing the Risk of Biological Invasion: Creating Incentives for Pet Sellers and Owners to Do the Right Thing" <i>Herpetology</i> . 24:2. 34-58.

Powell, R., Farmer, M.C., Perry, G., Henderson, R.W., Latenberg, R and Echternacht. 2011. "Non-native Amphibians and Reptiles in the Greater Caribbean: patterns of arrival and resulting distributions." In *Conservation of Caribbean Island Herpetofaunas. Volume 1*. Ed. Adrian Hailey Kluwer Press.

**Contact
Investigator**

Michael C. Farmer

Project Title: Structural Models of the U.S. and World Fiber Markets (Cotton FAPRI)
Principal Investigators: Darren Hudson
Funding Amount: \$456,598
Beginning Date: September 2010
Ending Date: August 2011

Project Objectives:

To estimate and maintain a structural econometric model of U.S. and global fiber markets to be used in policy and market analysis.

**Project Summary
And**

Accomplishments:

This project is a continuation of the FAPRI-consortium model that has been a mainstay of cotton policy analysis both nationally and internationally. We continue to update, revise, and refine the model and utilize the model for policy analysis and baseline projections. Results of the baseline and policy analysis have been presented to Congressional staff, USDA researchers, and private industry, and has been featured in popular press outlets such as Bloomberg.com, *Southwest Farm Press*, and other regional and local media.

Several critical research projects were completed or are underway related to this project:

1. Impacts of carbon offsets on U.S. cotton production
2. Global baseline projections
3. Impacts of Brazilian currency appreciation
4. Impacts of Chinese market power on the effects of U.S. cotton subsidies

Keywords: cotton, structural models, forecasting, international markets, policy analysis

Project Title: The Impacts of Biofuels on the Infrastructure of the U.S. Cotton Industry

Principal Investigators: Darren Hudson

Funding Amount: \$8,000 (\$8,000 Spent through 8/10)

Beginning Date: January 2011
Ending Date: December 31, 2011

Project Objectives: To examine the impacts of changing cotton acreage resulting from biofuels mandates and other reasons on the structure and costs of cotton ginning in the United States.

**Project Summary
And
Accomplishments:** Dramatic shifts of cotton acreage that has occurred especially in the Midsouth and Southeast regions are having significant impacts on affiliated sectors such as ginning. This project is examining those changes. Currently, we have identified relevant data and are in the process of estimating models of these changes that can be used in further cost/policy analysis.

Keywords: cotton, cotton gins, policy analysis

Project Title: Emerging Cotton Issues in World Policy

Principal Investigators: Darren Hudson

Funding Amount: \$3,000 (\$0 Spent through 8/11)

Beginning Date: January 1, 2011
Ending Date: December 31, 2011

Project Objectives: To examine and document the role of internal subsidization of cotton production in global cotton markets.

**Project Summary
And
Accomplishments:** As a part of this project, we have completed and released a revised version of the "Subsidy Handbook" that documents the use of differing trade policies and internal subsidization across global agriculture. In addition, we began work on country specific analyses of policies and programs.

Keywords: Cotton, subsidies, policy analysis

Project Title: A Comparative Analysis of the Economics of Cotton Farming: Subsidies and Production Costs of the World's Leading Producers

Principal Investigators: Darren Hudson

Funding Amount: \$7,500 (\$0 Spent through 8/11)

Beginning Date: January 1, 2011
Ending Date: December 31, 2011

Project Objectives: To examine and document differing production costs, subsidies, and market outcomes in the world's leading cotton producing countries.

Project Summary And Accomplishments: We began in-depth country analyses of cotton and other agricultural production systems, markets, and subsidies. We have a draft of these reports for Central Asian countries and have a beginning draft of the same for Ukraine. These reports will be completed and published early next fiscal year.

Keywords: subsidies, agriculture, costs of production, marketing systems, policy analysis

Project Title: An Analysis of the Costs of Production and Excess Capacity in China's Manmade Fiber Sector

Principal Investigators: Darren Hudson, Dean Ethridge, Maria Mutuc

Funding Amount: \$0 (Supported in part by CERI)

Beginning Date: January 1, 2011
Ending Date: December 31, 2011

Project Objectives: To examine subsidies, costs of production, and excess capacity in China's manmade fiber sector.

**Project Summary
And
Accomplishments:** This project uses cost data to determine the relationship between inputs and costs of production in polyester production in China. Preliminary results show evidence that China is subsidizing electricity prices because all other inputs are complements to electricity. Thus, by subsidizing the single input, they are subsidizing the entire production process, resulting in mounting excess capacity in China, thereby keeping global prices for the product low.

Keywords: textiles, polyester, cost of production, China

Project Title: Larry Combest Endowed Chair Research

Principal Investigators: Darren Hudson

Funding Amount: \$74,442

Beginning Date: September 1, 2010
Ending Date: August 31, 2011

Project Objectives: To conduct research relevant to the long-term competitiveness of Texas and U.S. agriculture.

**Project Summary
And
Accomplishments:** This project supports a number of projects related to agricultural competitiveness and other research as the need arises. Currently, the Chair is supporting one Ph.D. student's research on agricultural land values.

Keywords: agricultural competitiveness

Project Title: Economic Research, Education, and Outreach in Brazil

Principal Investigators: Darren Hudson, Sukant Misra, A.C. Correa

Funding Amount: \$117,013 (\$58,000 Spent by 8/11)

Beginning Date: September 1, 2010
Ending Date: August 31, 2013

Project Objectives: To conduct research on Brazilian agriculture and conduct policy education seminars in Brazil.

**Project Summary
And
Accomplishments:** We travelled to Brazil in summer 2010 for our initial meetings and conducted research in the Bahia and Northeast regions of Brazil.

Keywords: cotton, Brazil, infrastructure

Project Title: Farm Forward IMPLAN Analysis of Water Policy

Principal Investigators: Darren Hudson, Rebekkah Dudensing, Steve Amosson

Funding Amount: \$40,753 (\$2,400 Spent by 8/11)

Beginning Date: June 1, 2010

Ending Date: December 31, 2011

Project Objectives: To estimate the economic impacts of changes in water policy on sectors beyond the farm gate.

**Project Summary
And
Accomplishments:** We currently have developed the procedures and are gathering data to complete the analysis,

Keywords: water policy, economic impacts, IMPLAN

Project Title: Creating a Searchable Database of Foreign Subsidies

Principal Investigators: Darren Hudson

Funding Amount: \$10,000 (\$8,600 Spent by 8/11)

Beginning Date: January 1, 2011
Ending Date: December 31, 2011

Project Objectives: To develop a searchable database of foreign agricultural subsidies.

**Project Summary
And
Accomplishments:** The database is now online and regular modifications are being made. It is publicly available at the CERI website.

Keywords: foreign agricultural subsidies, database

Project Title: The Carbon Footprint and Bio-Fuel Possibilities for Texas Cotton

Principal Investigators: Darren Hudson and Michael Farmer

Funding Amount: \$29,000 (\$16,210 spent by 8/11)

Beginning Date: January 1, 2011

Ending Date: December 31, 2011

Project Objectives: To evaluate the impacts of carbon emissions, sequestration, and carbon management policies on Texas cotton and to assess biofuel possibilities from cotton and byproducts.

Project Summary And Accomplishments: The baseline model is being estimated and scenario analysis is coming soon.

Keywords: carbon, biofuels, cotton

Project Title: Evaluation of Risk Management for Representative Grain Sorghum Farms in the Southern High Plains

Principal Investigators: Darren Hudson, Eric Belasco, and Tom Knight

Funding Amount: \$75,000 (\$72,000 spent by 8/11)

Beginning Date: September 1, 2010
Ending Date: August 31, 2011

Project Objectives: The objectives are to develop simulation models of representative grain sorghum producing farms in the Southern High Plains and to utilize those models to evaluate alternative risk management and policy options. The representative farms will include Texas and Kansas farms within important grain sorghum production counties.

**Project Summary
And
Accomplishments:** A sample model of a Crosby county sorghum farm has been developed and initial results were presented at the Texas Tech Sorghum Field Day. This model is being refined and the relevant data are being collected for the remaining representative farms in Texas and Kansas. Once that process is complete, we will be able to begin simulating impacts of risk management and policy alternatives.

Keywords: carbon, biofuels, cotton

Project Title	Economic and Policy Implications of Underground Water Use in the Southern Ogallala Region – FY10
Principal Investigators	Billy B. Golden - Kansas State University, Steve Amosson - Texas A&M University (TCE) Jeff Johnson - Texas Tech University Lal Almas - West Texas A&M University
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	Total funding \$200,000; TTU portion \$50,000
Funding Agency	USDA ARS
Beginning Date	January 2011
Ending Date	December 2012
Project Objective	The research objectives for this project are to 1) evaluate the water use and economic impact of the swine industry and 2) provide economic analysis of experimental results from five studies <ul style="list-style-type: none"> a. Economic analysis of agriculturally based ET weather networks, b. Growing dryland sorghum in clumps, c. Characteristics of complementary forage systems, d. Economic analysis of sorghum silage potential, e. Understanding climate variability for improving management decisions.
Project Summary and Accomplishments	This is an on-going project. No results are available yet.
Keywords	Water policy, Ogallala Aquifer, regional economics.

Project Title	Climate Change Impacts on Water Supply in West Texas
Principal Investigators	Katharine Hayhoe, Ken Rainwater, Annette Hernandez, and Jeff Johnson
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	Total funding \$54,188; AAEC portion \$15,000
Funding Agency	National Commission on Energy Policy
Beginning Date	November 2009
Ending Date	November 2010
Project Objective	The primary objective of this project is to demonstrate the potential impacts of climate change on surface and groundwater consumption for agricultural and municipal uses in the Southern High Plains of Texas.
Project Summary and Accomplishments	Projected climate change impacts have led to escalated concerns about the effects on the receding groundwater resources of the Texas High Plains. Climate change impacts were incorporated into regional economic models using weather projections to develop crop response functions from crop models. These weather projections are based on quantitative projections of precipitation, potential evapotranspiration and temperature trends driven by simulations from the latest IPCC AR4 climate models under two specific emissions scenarios, A1B (mid-range) and A1FI (higher). Hale County was selected as the study region. The objective of the study is to quantify the weather projections generated by the climate change models in terms of crop response and incorporate them in the economic optimization models and socioeconomic model to predict the behavior of the farming systems, associated water use, and regional economic impacts over a 90 year horizon. The results indicated that under both the emission scenarios, saturated thickness, water use per cropland acre and irrigated acreage declined under climatic predictions by all four models. Significant differences were observed for changes in average net income per acre under predictions by different models. Over the 90 year horizon, the A1B scenario resulted in a smaller negative impact than the A1FI scenario on net farm income and regional economic activity.
Keywords	Water policy, Ogallala Aquifer, regional economics.

Project Title	Cotton Crop Production Decision Support System (CropDSS): Knowledge Synthesis, Integration, and Web-Based Tool Delivery – FY08
Principal Investigators	Yubin Yang, Texas AgriLife Research, Beaumont Carlos Fernandez, Texas AgriLife Research, Corpus Christi Jeff Johnson, Texas AgriLife Research, Lubbock Meg Parajulee, Texas AgriLife Research, Lubbock L.T. Wilson, Texas AgriLife Research, Beaumont
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	Total funding \$100,000; TTU portion \$10,182
Funding Agency	TAMU
Beginning Date	January 2007
Ending Date	December 2012
Project Objective	<p>The focus of this proposal is to develop a cotton crop production decision support system. The objectives for the first two years follow:</p> <p><i>Research – Knowledge Synthesis and Integration</i> Develop a physiologically-based cotton cropping system model by adapting and integrating existing process-level modules and by calibrating and validating the developed modules using existing large data repository of field experiments from past precision agriculture projects. Use the cotton cropping system model as a platform to develop a decision support system for cotton crop production that will help producers determine in real-time the best timings and rates of water and fertilizer applications.</p> <p><i>Technology Transfer – Demonstration and Training</i> Conduct multi-site large-scale paired field validation and demonstration trials of CropDSS on grower fields and analyze its economic benefits in scheduling water and fertilizer applications. Provide hands-on training to major stakeholders on the use of CropDSS in determining the best timings and rates of water and fertilizer applications as related to crop stage, site-specific weather, soil, and production practices via workshops and online videos.</p>
Project Summary and Accomplishments	This is an on-going project. No results are available yet.
Keywords	DSSAT, cotton.

Project Title	Integrated Production, Harvesting, and Ginning Systems to Enhance Cotton Quality for Global Markets– FY11
Principal Investigators	J.W. Keeling, Co-PIs: J.P. Bordovsky, R.K. Boman, J.D. Wanjura, J.W. Johnson, E.F. Hequet.
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	Total funding \$39,600; TTU portion \$3.960
Funding Agency	ICRC
Beginning Date	September 2010
Ending Date	August 2012
Project Objective	To evaluate the effects of cultivar, irrigation and nitrogen levels, and harvesting and ginning methods in sub-surface drip irrigation on cotton lint yield, fiber quality, and profitability.
Project Summary and Accomplishments	Project is on-going. No results are available.
Keywords	Cotton harvest

Project Title	An Integrated Approach to Water Conservation for Agriculture in the Texas Southern High Plains
Principal Investigators	Vivien Allen, David Doerfert, Phillip Johnson, Eduardo Segarra, Rick Kellison, Calvin Trostle, Steven Klose, and Jim Conkwright
Departmental Involvement	Agricultural and Applied Economics, Agricultural Education and Communications, Plant and Soil Science
Funding Amount	\$610,565 (AAEC part of \$6.8 million) (9/10-8/11 \$78,067)
Funding Agency	Texas Water Development Board
Beginning Date	September 2004
Ending Date	August 2013
Project Objective	The overall objective of this project has been to develop environmentally sustainable and economically feasible integrated production systems that will ensure the viability of agricultural activities in the Texas High Plains.
Project Summary and Accomplishments	<p>The 2010 crop year represented the sixth year of the project. The primary responsibility of the Economic Task has been to develop and maintain profitability records along with various agronomic and economic components for each demonstration site and system within the project. Analysis for each site includes cost and return budgets, energy and carbon use within each system, and the production and financial viability of producers with declining water availability and/or water use restrictions imposed by regional water policies.</p> <p>A web based decision tool has been developed to assist producers in allocation of available irrigation water. The decision tool optimizes available water to maximize net income and will assist producers as they plan cropping decisions under declining water resource conditions. The decision tool is part of the web based TAWC Solutions which also includes an irrigation scheduling tool based on ET measurement and soil water balance. These tools are in integral part of the implementation phase of the TAWC project.</p> <p>Accomplishments include the completion of a Ph.D dissertation titled "Farm Level Financial Impacts of Water Policy on the Southern Ogallala Aquifer." Presentations have been presented at the annual meeting of the WAEA, University Council on Water Resources, and industry forums.</p>
Keywords	irrigation, energy, carbon, water policy, resource allocation

Project Title	Crop-Livestock Systems for Sustainable High Plains Agriculture
Principal Investigator	Vivien Allen
Project Participants	Phillip Brown, David Doerfert, Michael Galyean, Phillip Johnson, Rick Kellison, David Wester
Departmental Involvement	Plan and Soil Science, Agricultural and Applied Economics, Agricultural Education and Communication, Animal and Food Sciences and Natural Resource Management
Funding Amount	\$10,000 (AAEC part of \$200,000) (9/10-8/11, \$0)
Primary Funding Agency	Sustainable Agricultural Research and Education – Southern Region
Beginning Date	January 2009
Ending Date	August 2011
Project Objective	The specific objective of this project relative to the economic component was to determine energy use, energy efficiency, and energy economics of integrated systems and monocultures, representing crop and livestock production.
Project Summary and Accomplishments	Energy and carbon budgets have been prepared for each of the sites within the TAWC project for the years 2005–2010. In addition, energy and carbon budgets have been prepared for cow-calf production across several regions of the U.S. to estimate the embedded energy and carbon in stocker cattle that may be grazed on project sites. The energy and carbon budgets account for the direct and indirect energy related to production inputs.
Keywords	irrigation, energy, sustainability

Project Title	Economic Assessment of Proposed Ground Water Management Strategies for GMA 2
Principal Investigators	Phillip Johnson, Jeff Johnson and Steve Amosson
Project Participants	Justin Weinheimer and Bridget Guerrero
Departmental Involvement	Agricultural and Applied Economics – Texas Tech University and Texas AgriLife Extension – Amarillo, TX
Funding Amount	\$55,000 (AAEC part of \$70,000) (6/10 – 8/11,\$55,000)
Funding Agency	High Plains Underground Water Conservation District #1;
Beginning Date	June 2010
Ending Date	August 2011
Project Objective	The objective of this study is to estimate the county and regional-level economic impacts of proposed groundwater management strategies within Groundwater Management Area 2 (GMA2). Specific objectives include: 1) evaluation of groundwater management strategies at the county level; and 2) estimation of the socio-economic impacts of groundwater management strategies within the GMA 2 planning region.
Project Summary and Accomplishments	<p>The evaluation included a baseline or status quo scenario with no change in current groundwater management rules and the scenarios representing proposed groundwater management strategies for each groundwater district in GMA 2. The results of the baseline scenario and groundwater management strategy scenarios were compared to estimate impacts on crop production, present value of net returns, regional economic activity, and hydrologic factors resulting from the policy implementation.</p> <p>The results indicated that the selected water management policies implemented by the UWCDs in GMA2 will have very little negative impact on the regional economy. It is possible that specific areas or farms within the region could be impacted by the proposed strategies. These farms or areas must exhibit very high well yields and have the capability to apply irrigation water over an abnormally long period in order for the proposed management strategies to have a negative economic impact.</p> <p>Accomplishments include the completion of a technical report submitted to GMA 2 August 31, 2011.</p>
Keywords	irrigation, water policy

Project Title	Economic Considerations for Sorghum Management in the Southern High Plains
Principal Investigators	Phillip Johnson, Justin Weinheimer and R. Louis Baumhardt
Project Participants	Jeff Johnson and Eduardo Segarra
Departmental Involvement	Agricultural and Applied Economics – Texas Tech University and USDA-ARS, Bushland, TX
Funding Amount	\$15,000 (9/10 – 8/11, \$0)
Funding Agency	USDA - ARS
Beginning Date	September 2009
Ending Date	August 2014
Project Objective	The objective of this study is to analyze from an economic perspective various decision factors that could be considered when planting sorghum. These include: 1) planting date, 2) seed selection, 3) row spacing, and 4) irrigation.
Project Summary	Data collected at the USDA-ARS site in the Texas Panhandle will be evaluated using enterprise budgeting procedures to associate economic determinants with management practices. Variations in simulated and field level yields and revenue; and dryland and irrigated management practices will be analyzed for economic and profitability comparisons within different field practices and irrigation treatments.
Keywords	grain sorghum, irrigation, management

Project Title	Economic Viability of Integrated Dryland Cropping Systems
Principal Investigators	Phillip Johnson, Justin Weinheimer and R. Louis Baumhardt
Project Participants	Jeff Johnson and Eduardo Segarra
Departmental Involvement	Agricultural and Applied Economics – Texas Tech University and USDA-ARS, Bushland, TX
Funding Amount	\$15,000 (9/10 – 8/11, \$0)
Funding Agency	USDA - ARS
Beginning Date	September 2009
Ending Date	August 2014
Project Objective	The objective of this study is to determine the economic viability of two dryland wheat, sorghum, fallow (WSF) rotations and how stocker cattle grazing can be included to maximize grain yields and revenue.
Project Summary	Data collected at the USDA-ARS site in the Texas Panhandle will be evaluated using enterprise budgeting procedures to analyze the WSF rotation with grazing and without grazing and under two tillage practices.
Keywords	grain sorghum, cropping systems

Project Title	A Tool for Making Wheat and Stocker Cattle Production, Insurance, and Price Risk Management Decisions
Principal Investigator	Thomas O. Knight
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	\$362,057 (9/10-8/11: \$49,246)
Funding Agency	USDA-Risk Management Agency
Beginning Date	October 2007
Ending Date	September 2012
Project Objective	Stocker cattle grazing on small grain and cool season annual pastures is a growing agricultural enterprise in the Southern Great Plains and Southeastern United States. The decision-making environment confronted by stocker cattle producers is quite complex. Three types of decisions—production, cattle pricing, and insurance—must be made in an integrated business management environment. The objective of this project is to develop a decision support system for use by producers in evaluating the expected profitability and risk associated with stocker cattle production utilizing alternative interrelated forage and livestock production systems and considering alternative pricing and insurance strategies. The decision tool will address multiple risks, in that it will integrate decisions relating to forage and livestock management, pricing, and insurance. Supporting educational materials will also be developed.
Project Summary	The decision model, with all components complete except LRP livestock insurance, was converted from spreadsheet and SAS formats to a Web-based tool. That tool is now being validated against the SAS and spreadsheet computations. When validation is complete, and an LRP component has been added, the tool will be tested by outside reviewers. After all modifications are complete, supporting educational materials will be developed.
Keywords	Risk management, stocker cattle

Project Title	Making Quality Pay for Irrigated West Texas Cotton
Principal Investigators	Conrad Lyford Eric Hequet Jeff Johnson
Departmental Involvement	Agricultural and Applied Economics Plant and Soil Sciences
Funding Amount	\$80,188 (9/10 - 8/11 \$40,094)
Funding Agency	International Cotton Research Center – USDA
Beginning Date	September 1, 2010
Ending Date	August 31, 2012
Project Objective	<p>This project proposes to use data produced by the project cooperators as well as data in the public domain to design and evaluate a system aimed at achieving higher-value quality by: (a) Evaluating the impact of harvesting methods on returns; (b) Determining the needed ginning requirements for high-value market segments; (c) Evaluating the demand levels and trends in the selected market segments; (d) Estimating the potential increases in revenues and costs to the Texas cotton production and marketing sectors that would result from reaching higher-value market segments.</p> <p>There is currently ongoing interest within the industry in achieving these outcomes. Success in achieving these objectives would inform producers' judgment and help the cotton industry respond to the felt need to achieve improved pricing for superior West Texas cotton.</p>
Project Summary and Accomplishments	The focus of the research in this fiscal year is to develop an economic analysis of the choices and value potential from improving the marketing and production of high value cotton production. Data from other ongoing studies on cotton production quality, harvesting effects and market potential are in process of being assembled into a master economic analysis to achieve project objectives.
Keywords	Cotton, Pricing, Harvest Method, Value.

Project Title	Expanding US Sorghum Exports to Sub-Saharan Africa: A Key Fast Growing Market
Principal Investigators	Conrad Lyford Jaime Malaga Benaissa Chidmi
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	\$144,851 (9/10 - 8/11 \$89,139)
Funding Agency	International Cotton Research Center – USDA
Beginning Date	January 1, 2011
Ending Date	January 31, 2012
Project Objective	<p>Sub-Saharan Africa (SSA) is poised to become a key importer of sorghum as incomes and population increase within these countries. Currently, there is considerable demand and consumer acceptance for sorghum. Within these countries, Ethiopia, Nigeria and South Africa have been selected for a particular focus because they represent the countries within the region with the highest potential consumption or import growth. It would be hoped that success in marketing to these countries would prove to be a stepping stone to success in expanding sorghum exports to the entire region.</p> <p>The overall goal of this project is to develop a comprehensive assessment of SSA sorghum markets for expanding US sorghum exports. Several key outcomes from achieving this objective are: (a) An assessment of SSA sorghum import demand to meet both human and feed needs. The results of this assessment will be disseminated for free to the public; (b) An evaluation of the competitive situation for US sorghum in SSA relative to other sources; (c) Provide a comprehensive set of recommendations for US sorghum marketers to more effectively expand into SSA markets.</p>
Project Summary and Accomplishments	At this point, the overall analysis of the market potential and obstacles in SSA are well underway including developing preliminary estimates and field visits. It is expected that a final report will be completed by early 2012.
Keywords	Sorghum, Sub-Sahara Africa, Export Expansion.

Project Title	A Public-Private Partnership for Cancer Prevention in Rural Communities
Principal Investigators	Conrad Lyford Barry McCool Eric Belasco
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	\$292,339 (9/10 - 8/11 \$73,084)
Funding Agency	Cancer Prevention Research Institute of Texas
Beginning Date	March 1, 2011
Ending Date	February 28, 2013
Project Objective	<p>The primary purpose of this project is to develop, implement, and evaluate a multi-tiered approach designed to enhance primary cancer prevention in the targeted rural communities. The secondary purpose is to help cancer survivors reduce their risk for cancer recurrence. The targeted population is defined by its distance from the resources of metropolitan areas and is a population that is currently underserved in terms of access to a proper diet, education, and medical services for cancer prevention. This program will be delivered to this population by working with a major supermarket chain that serves these rural areas.</p>
Project Summary and Accomplishments	<p>At this point, the project is progressing ahead of schedule. Baseline data on cancer prevention and current health outcomes have been collected in the targeted communities. Initial interventions have been developed and implemented including providing customized cancer prevention information and a health information for selected community members, media (e.g. newspaper articles, posters, etc.) are being developed to promote cancer prevention and food demonstrations are in process.</p>
Keywords	Prevention, Cancer, Rural Health.

Project Title	Center for North American Studies (CNAS)
Principal Investigator	Jaime E. Malaga
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	\$ 117,331
Funding Agency	USDA CSRESS
Beginning Date	June 2009
Ending Date	May 2012
Project Objective	Promote stronger agricultural trade relationships among North American partners (USA, Mexico, and Canada). Analyze the impacts of the growing integration of US and Mexican agricultural industries on the regional economy.
Project Summary and Accomplishments	<p>A ten year forecast of potential Mexican imports of US meat products was finalized and published. The study projects Mexican imports at table cut level for beef, poultry, and pork products. The analysis used previously estimated parameters at disaggregated for Mexican meat demand system at table cut level Official Mexican survey data on 17,000 households was used for the research. The study forecasts Mexican imports of table cuts of meats (i.e., beefsteak; ground beef; pork steak; ground pork; chicken legs, thighs and breast; etc.), Results suggest significant differences among different meat cut demand imports, particularly in beef and chicken meat. For example US exports of beefsteak would be growing at much higher pace than exports of ground beef. A detailed study was finished on the competitiveness and performance of US agricultural exports to Mexico before and through the 2009 recession. The results suggest that the main increases in competitiveness occurred in cattle and calves, non-fat dry milk, and cheese; while, the main declined occurred in un-milled wheat, fresh or frozen chicken, and soybeans. Mexican imports of US chicken products has steadily increased after the 2008 total elimination of trade barriers affecting the expansion of local poultry industry which resulted in reduction US grain sorghum exports to that country.</p>
Keywords	NAFTA, Mexico, International Trade, Demand Analysis

Project Title	Great Plains Sorghum Improvement and Utilization Center – Economic Analysis
Principal Investigator	Jaime E. Malaga
Departmental Involvement	Agricultural and Applied Economics Plant and Soil Sciences Agricultural Education and Communications
Funding Amount	AAEC: \$ 75,000
Funding Agency	USDA –CSRESS – Kansas State University
Beginning Date	September 2010
Ending Date	August 2012
Project Objective	To develop economic modeling tools that will provide the US sorghum industry with information relevant to domestic and international policy strategies pertaining to the profitability of grain sorghum.
Project Summary and Accomplishments	The Texas Tech's partial equilibrium international trade model for grain sorghum (GS) had been updated, maintained, and expanded. In recent past, the US has been Mexico's only supplier and Mexico has been the main market for US GS, importing about 60% of the amount available for international trade. However, in recent years the US share of the world sorghum market has been declining and new exporters like Argentina and Australia are expanding their shares. In the demand side, new importers are slowly growing, among them the European Union, Africa, other Latin American countries. The Texas Tech trade sorghum model can forecast ten years of impacts on future sorghum supply, demand, and trade of alternatives scenarios for key exogenous variables. US supply equations were estimated at regional level (Texas, Kansas, and other states). The current model includes supply, demand, trade, and price transmission equations for the US, Mexico, and Japan. Simulations included impacts of corn prices, poultry production in Mexico, sorghum yield improvements, expansion of exports to other countries, and derived demand from the US ethanol industry. Results of this research have been presented at professional agricultural economics conferences and to a national symposium of sorghum research. Additionally, the project has performed analysis on potential impacts of Sub Saharan African imports and on the nature of the European Union sporadic import demand.
Keywords	Grain Sorghum, International Trade, Trade Forecasting Models.

Project Title	Evaluation of the GO TEXAN Marketing Program
Principal Investigator	Jaime E. Malaga
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	\$7,500
Funding Agency	Texas Department of Agriculture (TDA)
Beginning Date	September 2010
Ending Date	August 2011
Project Objective	To evaluate the effectiveness of the GO TEXAN marketing program analyzing the data gathered by TDA through annual member surveys.
Project Summary and Accomplishments	<p>The focus of the project is to analyze general demographic details, and selected business practices of GO TEXAN members, as well as their participation patterns in GO TEXAN events, perceptions regarding benefits associated with GO TEXAN membership, usage of the GO TEXAN logo, media contacts made as a result of GO TEXAN participation, and the types of assistance obtained from TDA marketing activities. Additionally, respondents provide an opportunity to make general statements – both pro and con- regarding the GO TEXAN program.</p> <p>The GO TEXAN program promotes all Texas agricultural products under one easily recognizable trademark: a glowing brand in the shape of Texas. This signature logo helps shoppers pick Texas products at a glance. In addition, TDA offers a multitude of marketing and promotion services and programs in support of GO TEXAN members. Membership in GO TEXAN costs \$25 a year, and applicants must meet certain eligibility criteria to ensure that the program markets and promotes only Texas products. There are currently more than 2,300 GO TEXAN members representing food, fiber, forestry, wine, horticulture, and other product categories. The 2010 GO TEXAN evaluation report has been finalized and delivered to TDA. A second report on the evaluation of the GO TEXAN events for 2010-2011 was also concluded and submitted to the Texas Department of Agriculture. These reports emphasize the importance of TDA marketing promotion programs and recommend their continuation in the future.</p>
Keywords	Agribusiness, Marketing, Promotion Programs

Project Title	Impact Evaluation for the Go Texan Partner Program (GOTEPP)
Principal Investigator	Jaime E. Malaga
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	\$20,000
Funding Agency	Texas Department of Agriculture (TDA)
Beginning Date	September 2010
Ending Date	August 2011
Project Objective	To evaluate and analyze the impact and success of the Texas Department of Agriculture's (TDA) Go Texan Partner Program (GOTEPP). GOTEPP is a marketing program oriented to help Texas agribusinesses in their promotion efforts under a matching fund scheme
Project Summary and Accomplishments	<p>The focus of the project is to analyze the data provided by partner firms during the reporting period; specifically analyze the effectiveness of the matching grant GOTEPP in terms of its impact on Texas' agricultural and state economies.</p> <p>The program costs are described as the direct funds used by partner companies in their business promotion efforts. The program also aims to summarize GOTEPP partners' marketing efforts and describes program successes.</p> <p>The data includes firms' unaudited reporting of both gross sales and sales increases during participating in this program. There are currently approximately 42 GOTEPP member companies across Texas. The GOTEPP marketing programs include every sector of agricultural production and processing in Texas, including food, shrimp, wine, fiber, horticulture/forestry, livestock, nutrition, restaurants, market news reporting, livestock export facilities and rural communities and businesses. The "2009-2010 Biennium Impact Evaluation of the GO TEXAN Partner Program (GOTEPP)" was finalized and submitted to the Texas Department of Agriculture</p> <p>Impact reports show that \$1 invested by TDA in the program generates \$7 in sales by partner agribusinesses and \$11 in direct value added to Texas economy.</p>
Keywords	Agribusiness, Business Promotion, Economic Impact, Marketing

Project Title	Analysis of Specialty Coffee Differentiation in the US Retail Market
Principal Investigator	Jaime E. Malaga, Benaissa Chidmi
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	Universidad de Puerto Rico
Cooperating Agency	
Beginning Date	September 2010
Ending Date	December 2011
Project Objective	To estimate the demand parameters at retail level of regular and differentiated coffees in the US market, particularly in the cities of Chicago, Houston, Los Angeles, New York, and Seattle.
Project Summary and Accomplishments	<p>When a commodity is transformed into a differentiated product it offers unique, heterogeneous products to consumers. The differentiated goods are best described as close but imperfect substitutes. They perform the same basic functions but have differences in quality attributes such as origin, style, flavor, reputation, appearance, and location that tend to distinguish them from each other. In the coffee case the major differentiation process has been related to type, flavor, reputation, and denomination of origin.</p> <p>The demand parameters for regular and differentiated coffee are being estimated using retail scanner data. Price and expenditure elasticities will be estimated for major differentiated lines. The research will have implications related to methodologies of forecasting coffee demands, as well to innovative production, and marketing strategies for both regular and differentiated products.</p>
Keywords	Agribusiness, Marketing, Demand Analysis, Product Differentiation

Project Title	Hometown STARS and Bootstrap Bucks GO TEXAN Rural Community Programs
Principal Investigators	Olga Murova, Conrad Lyford
Departmental Involvement	Agricultural & Applied Economics
Funding Amount	\$90,000 (\$30,000 spent between 09/01/10 – 08/31/11)
Funding Agency	Texas Department of Agriculture
Beginning Date	September 1, 2010
Ending Date	August 31, 2011
Project Objectives	The overall objective of this project has been to investigate the impact of tourism promoting rural development programs on the economy of the entire state of Texas, as well as the impact of these programs on the welfare of each participating community.
Project Summary And Accomplishments	<p>Two programs promote tourism in the state of Texas by providing to the community reimbursement funds for putting events like: fine arts festivals, local heritage festivals, history events, music events, cook-offs, and other. Each program requires data collection, which is reported through a set of surveys during the reporting period. Return on investment from visitor spending and return on investment from all economic impacts are calculated for each event. Later overall return for the state of Texas across all events is estimated.</p> <p>Collected data set will be used in educational and professional research to further expand analyses on impacts of these two programs.</p>
Keywords	Rural Development, Return on Investment, Rural Tourism

Project Title	Market Assessment and Opportunity Identification for Export of U.S. Wine to the Dominican Republic
Principal Investigator	Olga Murova
Investigators	Tim Dodd, Natalia Kolyesnikova
Departmental Involvement	Agricultural & Applied Economics Department and Texas Wine Marketing Research Institute of the Nutrition, Hospitality, and Retailing Department at TTU
Funding Amount	\$50,000 (\$20,000 spent between 02/10/11 – 08/31/11)
Funding Agency	Foreign Agricultural Service of USDA, EMP program
Beginning Date	February 10, 2011
Ending Date	December 31, 2011
Project Objectives	The objective of this project is to assess wine market and demand needs in the emerging market of the Dominican Republic, with the goal of exporting U.S. and Texas wine to the Dominican Republic.
Project Summary And Accomplishments	<p>This project will investigate the opportunities of exporting U.S. wine to the Dominican Republic. Qualitative and quantitative data will be collected through interviews of agents within this industry. Market analysis will be used to assess if there is a niche for exporting U.S. wine to the DR.</p> <p>Two trips to the DR are planned to meet with FAS of USDA in Santo Domingo and to discuss the current situation of the wine market in DR by conducting interviews with wine importers, distributors, hotel and supermarket managers, and managers of all-inclusive hotels.</p> <p>Consumer data will be collected and analyzed. The collected data set will be used in educational and professional research to further expand analyses of the DR wine market. The final report will be compiled for FAS of USDA.</p>
Keywords	U.S. wine export market, market analysis, Dominican Republic

Project Title	The Clean Development Mechanism: Mitigation, Diffusion, and Adoption
Principal Investigators	Shaikh M Rahman, Ariel Dinar, and Don Larson
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	None
Duration	January 2009 - June 2012
Project Objective	<p>The overall objective of this project has been to examine the incidence, extent, and scope of the Clean Development Mechanism (CDM) in mitigating Kyoto obligation of the industrialized countries and sustainable development of the developing countries. Specific objectives of the project include: 1) examine the global diffusion pattern of the CDM and provide forecast of future growth; 2) examine the factors affecting CDM adoption by developing and developed countries; 3) estimate the cost structure of the CDM and design policies to align incentives of the industrialized and developing countries to attain the objective of the mechanism as outlined by the Kyoto Protocol; and 4) examine bi- and multi-lateral cooperation between developing and developed countries, and how such cooperation contribute to cleaner environment and sustainable development.</p> <p>The CDM is a market-based provision that allows industrialized countries to contribute to compliance with part of their quantified emission limitation and reduction commitment by investing in GHG abatement projects in developing or transitional economies, allowing for reduction in global emissions at a lower cost. Another stated objective of the CDM is to assist the host countries in achieving sustainable development through the mobilization of direct private foreign investment and technology transfer. This research project first examines the current trajectory of potential mitigation entering the CDM pipeline and projects it forward under the assumption that the diffusion of the CDM will follow a path similar to other kinds of innovations. Second, this project examines the determinants (including time and country-specific attributes) that explain differences in the probability and level of CDM adoption over time and across countries, with distinction between developing (host) and developed (investor) countries. Third, this project examines the cost structure of emissions abatement through various types of CDM</p>

projects located in different developing countries. Finally, this research examines the CDM market as a cooperative involvement between developing (host) and developed (investor) countries. The main findings of the project are that 1) the mechanism is on track to reduce 700 million tCO₂e emissions per year by 2012 and nearly 1,100 million tCO₂e by 2020, 2) CDM projects are characterized with economies of scale and time, 3) simplifying the CDM project regulation/clearance cycle is an essential policy option for further growth of CDM activities, and 4) the skewed sector composition of CDM projects indicates that the CDM alone may not be up to the task of fully exploiting known and economically viable sources of mitigation, suggesting a great scope for finding additional ways of investing in the mitigation potential of developing countries.

Key Words

Kyoto, CDM, Mitigation, Diffusion, Adoption, Cooperation

Project Title	Contracting for Cattle Feeding: Assessment of Climatic Conditions and Value Based Pricing of Fed Cattle
Principal Investigators	Shaikh M Rahman and Richard E. Just
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	\$0
Funding Agency	None
Beginning Date	September 2009
Ending Date	August 2012
Project Objective	The general objective of this project is to examine the optimal behavior of cattle owners and feeders under various climatic conditions. The specific objective of this research is to examine the cattle feeders' optimal choice from alternative contract forms and cow-calf producers' optimal choices of contract parameters and fed cattle pricing system under alternative weather conditions.
Project Summary and Accomplishments	<p>While cattle feeders' choice of feed and health management practices alter average daily gain, feed efficiency, and beef yield and quality, feedlot performance of cattle also depends crucially on environmental attributes, especially temperature, humidity, sunshine, wind speed, precipitation, and mud depth. The feeders' actions are not observable or verifiable, and the feeders' contribution to cattle's feedlot and carcass performance cannot be distinguished from weather impacts. The only practically measurable and verifiable attributes of finished cattle are feed cost, live weight gain by each animal, and the length of time the animal stays in the feedlot. These are the enforceable variables included in cattle feeding contracts in current use.</p> <p>However, this gives rise to a potential moral hazard problem, especially when fed cattle are priced based on actual yield and carcass characteristics. A multitask principal-agent model is developed to analyze optimal cattle feeding contracts under alternative fed cattle pricing methods and risk-preferences of the contracting parties. In order to evaluate the theoretical predictions, a biophysical model for beef cattle growth simulation is adopted from the animal science literature and employed to simulate feedlot and carcass performance outcomes of a large set of feeder steers under several beef production technology. The main findings of this research are as follows. First, a low-powered incentive contract such as the yardage-feed contract is optimal under the value-based grid pricing, while a relatively high-powered incentive contract such as the cost-of-gain contract is optimal under the traditional live- and</p>

dressed-weight pricing. Second, overall beef quality improves with the adoption of grid pricing. Third, the cattle feeders' optimal choice of feeding strategy and contract forms significantly vary across different locations with varied weather attributes. Based on this research, two preliminary manuscripts are prepared to submit in peer reviewed academic journal.

Keywords

Contracting, Beef Yield, Beef Quality, Value-based Pricing, Climatic Condition, Multitask Principal-Agent Model, Biophysical Growth Model.

Project Title	The Impact from High Resolution Climate Projections on Fed Cattle Productivity
Principal Investigators	Shaikh M Rahman
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	\$0
Funding Agency	None
Beginning Date	January 2011
Ending Date	August 2012
Project Objective	The main objective of this research project is to examine the impact of climate change on feedlot and carcass performance of fed cattle. In particular, this research combines past/projected weather outcomes and a well-established livestock growth model in order to evaluate the predicted impact of climate change projections on livestock production.
Project Summary and Accomplishments	<p>Large amounts of resources are currently devoted to evaluating the impact of predicted global climate changes on agriculture, and many studies currently focus on the implied impacts on crop yields. However, few research studies have focused on the impact of climate change on the livestock industry. This research uses Monte Carlo simulation methods to combine past/projected weather outcomes and a well-established livestock growth model in order to evaluate the predicted impact of climate change projections on livestock production. We focus on four main cattle feeding areas that present a range of distinct weather patterns and heterogeneous impacts from projected climate change: Amarillo, TX; Ames, IA; central valley, CA; and Dodge City, KS. Data used in this study comes from three major sources. First, historical daily weather data (min. temp., max. temp, mean temp, total precipitation, hours of sunlight, average wind speed, and average relative humidity) are from the National Oceanic and Atmospheric Administration (NOAA). Second, future climate projections at 25, 50 and 100 year intervals are based on a global climate, or atmosphere-ocean general circulation model (GCM). Third, futures price predictions are from FAPRI projections for corn and cattle prices and used to compute profitability. In using probabilistic weather draws with a deterministic animal growth model, we are able to compare production parameters of interest given current and predicted weather scenarios.</p>
Keywords	Climate, Impact, Livestock, Productivity.

Project Title	Precision Agriculture in the Texas High Plains
Principal Investigators	Chenggang Wang
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	\$14,900 (\$2,000 from September 2010 to August 2011)
Funding Agency	Texas A&M University/Texas AgriLife Research – Lubbock
Beginning Date	June 2007
Ending Date	June 2012
Project Objective	The overall objective of this project has been to develop data analysis tools for site-specific management, taking into consideration interactions between soil nutrients and environmental factors. Specific objectives include: 1) developing cost-effective methods of identifying yield-limiting factors in the field; 2) evaluating profitability of site-specific management in the Texas High Plains.
Project Summary and Accomplishments	In the 2010-2011 project year, we developed a model to determine the optimal extensity and intensity of irrigation on a farm facing limited water supply. We applied the model to the cotton production conditions in Hale county, Texas to evaluate the outcomes of government-sponsored cost-sharing programs aimed at improving irrigation efficiency. The research results were presented at the 2011 CAES-WAEA Joint Annual Meeting, and a manuscript submitted for publication consideration.
Keywords	Precision farming, deficit irrigation.

Project Title	Determine the Status of Precision Farming Technology Adoption by Cotton Farmers in the 2007-2008 Crop Season in 12 States – Texas
Principal Investigators	Chenggang Wang, Eduardo Segarra, and Jeff Johnson
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	\$19,000 (\$7,000 from September 2010 – August 2011)
Funding Agency	Cotton Incorporated
Beginning Date	January 2009
Ending Date	December 2011
Project Objective	Determine the status of precision farming technology adoption by cotton farmers in the 2007-2008 crop season in 12 states (Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, Texas, and Virginia).
Project Summary and Accomplishments	Using the 2009 Southern Cotton Precision Farming Survey data, we examined the effects of farmer and farm characteristics on the adoption of Variability Detection Technologies (VDTs) and Variable Rate application Technology (VRT). The results show that farm size and exposure to extension activities are important factors affecting the choice of VDTs. And adoption of VDTs by a producer can increase the likelihood that he adopts VRT. The adoption rate of VRT in Texas was found to be significantly lower than that in other surveyed southern US states. The research results have been presented at the 2011 AAEA-NAREA Joint Annual Meeting. And a paper is being prepared for publication.
Keywords	Precision farming, technology adoption.

Project Title	Optimal Spatial and Temporal Allocation of Irrigation Water
Principal Investigators	Chenggang Wang, Eduardo Segarra, and Stephen Maas (Co-worker: Shyam Nair)
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	\$40,604 (\$29,036 from September 2010 to August 2011)
Funding Agency	USDA/CSREES through TTU/CASNR/ICRC
Beginning Date	September 2010
Ending Date	August 2012
Project Objective	To develop the economically optimal strategy for field partitioning and irrigation scheduling under limited water availability in center-pivot-irrigated cotton production.
Project Summary and Accomplishments	We have conducted two separate studies to explore the best way of utilizing a limited amount of irrigation water in cotton production. One attempts to determine the optimum fraction of a center pivot irrigated cotton field to be irrigated, and the other explores the best way to allocate the given amount of water over three growth stages of cotton. Both studies employed an optimization model in which the water-yield response function was generated from a plant growth simulation model, cotton2k. Both studies confirmed that, when water supply is low, it is profitable to concentrate the water in portion of the field or in a certain period of the growth season.
Keywords	Irrigation management, water economics, cotton.

Project Title	A Hydro-Econometric Analysis of Producer Water Use and Aquifer Hydrology in the Texas High Plain
Principal Investigators	Chenggang Wang, Jim Bordovsky, Jeff Johnson, Eduardo Segarra, and Zhuping Sheng
Departmental Involvement	Agricultural and Applied Economics, Texas Tech University and Texas AgriLife Research and Extension, Texas A&M University
Funding Amount	Total amount: \$261,662; TTU portion: \$160,087 (\$50,528 spent from September 2010 to August 2011)
Funding Agency	USDA/NIFA/AFRI
Beginning Date	September 2009
Ending Date	August 2012
Project Objective	The primary objective of the project is to develop a groundwater policy assessment model for the Texas High Plains aquifer system, in order that the impacts of water conservation policies can be soundly evaluated and better strategies developed to preserve the ground water resources.
Project Summary and Accomplishments	In the 2010-2011 project year, our efforts have been focused on developing and estimating an econometric model to predict county-level acreage shares of crop-irrigation technologies in the Southern Texas High Plains. The econometric model now is ready to be integrated with the hydrological model developed by collaborators at Texas A&M university. The econometric model was presented at the 2011 AAEE&NAREA Joint Annual meeting and at the 2011 UCOWR/NIWR Annual Conference.
Keywords	Groundwater, Texas High Plans, technology adoption, crop choice, land use.

Project Title	Agricultural Land Use and Development of Energy Crops in Illinois
Principal Investigators	Chenggang Wang
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	\$26,595
Funding Agency	Illinois Department of Commerce and Economic Opportunity
Beginning Date	June 2011
Ending Date	December 2011
Project Objective	The purpose of this project is to develop an econometric model of rural land use for the state of Illinois, in order to determine key factors affecting agricultural land use patterns and evaluate regional impacts of bioenergy policies.
Project Summary and Accomplishments	Ongoing research.
Keywords	Bioenergy crop, rural land use management.

Project Title	Evaluating the Factors Influencing Wind Energy Development
Principal Investigators	Ryan B. Williams, Eric J. Belasco (Montana State University), and H. Allen Klaiber (Ohio State University)
Departmental Involvement	Agricultural and Applied Economics
Funding Amount	
Funding Agency	
Beginning Date	October 2009
Ending Date	ongoing
Project Objective	This project aims to identify and quantify the factors which are important in a particular tract of land being selected as suitable for wind farm development. We are particularly interested in the role that Renewable Portfolio Standards (RPS) play in wind farm development.
Project Summary and Accomplishments	More appropriate statistical methods have been implemented and additional data collected. RPS, availability of appropriate wind, and access to electric transmission lines are statistically significant variables in siting wind projects. A voluntary RPS decreases the likelihood of development to the point that it negates the positive impact of the standard itself. Greater crop use in a region also decreases the likelihood of development. The extent of development (nameplate MW potential) is increased with RPS and the availability of electric transmission lines.
Keywords	Wind Energy, Land Use, Renewable Portfolio Standard

Project Title	Virtual Water and Limitedly Renewable Water Resources
Principal Investigators	Ryan Williams, Rashid Al-Hmoud
Departmental Involvement	Agricultural and Applied Economics; Economics
Funding Amount	
Funding Agency	
Beginning Date	September 2008
Ending Date	ongoing
Project Objective	Investigate the concept of virtual water as it relates to the production of agricultural commodities on the Southern High Plains of Texas. The project aims to provide a unique perspective on the virtual water concept due to the limitedly renewable nature of the primary water source for agricultural production in the region.
Project Summary and Accomplishments	We utilize high resolution data over a remarkably homogeneous production region to determine the water resources contained within the various agricultural commodities produced on the Llano Estacado of West Texas. The project demonstrates that the study region is a net exporter of water-intensive commodities, which is inconsistent with being a semi-arid region with a limitedly renewable water resource. Additionally, the project highlights that the measures of virtual water grossly overestimate water usage in this region.
Keywords	Virtual Water, Ogallala Aquifer, Water Footprint

Project Title	Estimation of the Shadow Price of Water in the Southern Ogallala Aquifer
Principal Investigators	Ryan Williams, Rashid Al-Hmoud, Eduardo Segarra
Departmental Involvement	Agricultural and Applied Economics; Economics
Funding Amount	
Funding Agency	
Beginning Date	September 2008
Ending Date	ongoing
Project Objective	Generate a value for water that is intentionally left in the Southern portion of the Ogallala aquifer, on a county by county level, to provide a basis for socially optimal policy surrounding withdrawals of water resources from the aquifer.
Project Summary and Accomplishments	The study evaluates the Gisser-Sanchez result that the withdrawals of water from a confined aquifer are the same under both competition and the control of a social planner using high resolution hydrologic and agricultural production data. We find that there is in fact a divergence between the two regimes and that the value of not extracting water from the aquifer over the study area is relatively low compared to its current use value. We are currently working on introducing livestock and other non-agricultural water users into the model.
Keywords	Groundwater, Optimal Resource Extraction

Appendix B

RESEARCH FUNDING

2010/11

Research Funding (\$), Department of Agricultural and Applied Economics, Texas Tech University

September 1, 2010 through August 31, 2011

	Internal				External												
	Applied	Economics	Endowments	Other	State				Federal								
					TOTAL	Outside	TTU	CASNR	Other	STATE	USDA	Other	FEDERAL	PRIVATE	TOTAL	GRAND TOTAL	
					INTERNAL												
Belasco																	
Benson	10,000				10,000												
Chidmi	10,000			18,000	28,000												
Elam	9,200				9,200												
Farmer	9,500			18,000	27,500			10,000									
Hudson	6,000		74,442	50,793	131,235												
Johnson, P			71,557		71,557												
Johnson, J								10,812									
Knight	6,000				6,000												
Lyford																	
Malaga																	
Middleton	12,000				12,000												
Murova	20,500				20,500												
Pan																	
Rahman	10,000				10,000												
Wang																	
General Operating	64,290			11,234	75,524												
TOTAL	157,490	145,999	98,027	401,516	22,812	0	235,246	258,058	1,052,872	64,246	46,810	1,117,118	46,810	46,810	46,810	1,823,502	

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

Appendix C
PUBLICATIONS

2010/11

JOURNAL ARTICLES

- ¹ Adhikari, S. J.E. Malaga, and E.J. Belasco. "Exchange Rate Volatility Impact on Soybean Trade: Evidence from a Multi-Country Analysis Framework." *Journal of International Agricultural Trade and Development*. Vol. 7, No. 1 (2011).
- ^R Belasco, E.J., T.C. Schroeder, and B.K. Goodwin. "Quality Risk and Profitability in Cattle Production: A Multivariate Approach." *Journal of Agricultural and Resource Economics*. Vol. 35, No. 3 (2010): 385-405.
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- ^O Chidmi, B., D. Solis, and V. Cabrera. "Analyzing the Sources of Technical Efficiency Among Heterogeneous Dairy Farms: A Quantile Regression Approach." *Journal of Development and Agricultural Economics*, 3(7): 318-324, 2011.
- ^O Chidmi, B., and E. Segarra. 2011. Dynamics of Demand Behavior and Supermarket Performance During a Price War. *Innovative Marketing*, in press.
- ^O Färe, R., C. Wang, and C.F. Seavert. "A Model of Site-Specific Nutrient Management." *Applied Economics*, 2011. DOI:10.1080/00036846.2011.589820.
- ^O Farmer, M. and E.J. Belasco. "A Finite Mixture Model of Heterogeneous and Distinct Anchoring Patterns." *Applied Economic Letters*. Vol 18, No. 2 (2011): 137-141.
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- ^O Hussein, A., I. Munn, D. Hudson, and B. West. "Attribute-based Analysis of Hunters' Lease Preferences." *Journal of Environmental Management*, 91(2010): 2565-2571.

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^I Li, L., N. Zhibiao, E. Segarra, and C. Wang. 2011. Migration, Remittances and Agricultural Productivity in Small Farming Systems of Northwest China. *China Agricultural Economic Review*, in press.

^O Malaga, J, B. Xu, and. P. Martinez-Mejia “Marketing Promotion of Texas Agricultural Products: The Rural Dimension of the GO TEXAN Program “*Journal of Agricultural and Applied Economics*. 43(3):1:10, 2011.

^I Malaga, J., S. Pan and T. Duch-Carvallo. "Mexican Meat Demand Parameters Before and After NAFTA: Evidence from Household Surveys, 1992-2004" *Journal of Food Distribution Research* 41(3):75-83. November 2010.

^O Murova, O. and R. Hanagriff. “Determinants of Returns in Rural Tourism.” *Journal of Agricultural & Applied Economics*, 43, 3, (August 2011): 423-432.

^{C,I} Mutuc, M., D. Hudson, and D. Ethridge. “Lessons Learned from the Phase-Out of the MFAs: Moving from Managed Distortion to Managed Distortion.” *Estey Centre Journal of International Law and Trade Policy*, online.

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^O Zaffou, M, and B. Chidmi. "The effect of Variety Offering on Demand and Supermarket Competition: Yogurt in the Houston Metropolitan Area." *Innovative Marketing*, 2, Issue 2, 2011.

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^O Pate, D.K., E. Hellman, and J. Johnson. "Texas Vineyard Budgets – Costs of Production for Commercial Vineyards in Texas." Department of Agricultural and Applied Economics, Texas

Tech University. College of Agricultural Sciences and Natural Resources Report T-1-602. December 2010.

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^{C, W} Nair, S., C. Wang, S. Maas, and E. Segarra. "Optimal Spatial and Temporal Allocation of Irrigation Water for Cotton in Texas High Plains." *Proceedings of the 2011 Beltwide Cotton Conferences*. Atlanta, Georgia. January, 2011.

^C Nair, S., C. Wang, E. Segarra, E. Belasco, J. Reeves, and M. Velandia. "A Multinomial Logit Analysis of the Adoption of Cotton Precision Farming Technologies." *Proceedings of the 2011 Beltwide Cotton Conferences*. Atlanta, Georgia. January, 2011.

^C Pan, S., D. Hudson, and M. Mutuc. "The Effect of Eliminating Direct Payments on the U.S. Cotton Market." Paper presented to the 2011 Beltwide Cotton Conferences, Atlanta, GA, January 2011.

^O Rahman, S. M., D. F. Larson, and A. Dinar. 2010. "Diffusion of Kyoto's Clean Development Mechanism," *Technological Forecasting and Social Change* Volume 77, Issue 8, October 2010, Pages 1391-1400.

^W Rainwater, K. and J.W. Johnson. When is the Aquifer Officially Depleted? *Proceedings of 2011 Conference of the Universities Council on Water Resources*. Selected for presentation at the 2011 Conference of the Universities Council on Water Resources, July 13, 2011. Boulder, Colorado.

^{C, I} Singla, R., P. Johnson, and S. Misra. 2011. "The Implications of Refuge Requirements for Bt Cotton in India on World Cotton Markets." *2011 Beltwide Cotton Conferences Proceedings*, in press. Selected for presentation at the 2011 Beltwide Cotton Conference. Co-sponsored by the National Cotton Council and the Cotton Foundation, January 4-7, 2011, Atlanta, GA.

^W Tewari, R., J.W. Johnson, J.P. Bordovsky. Evaluating Water Marketing Options Under Declining Water Availability for Cotton Production in the Southern High Plains. Selected for presentation at the 2011 Beltwide Cotton Conferences, January 6, 2011. Atlanta, Georgia.

^O Tewari, R., J.W. Johnson, K. Rainwater, K. Hayhoe, and A. Hernandez. Impacts of Climate Change on Groundwater Use on Texas Southern High Plains. Proceedings of 2011 Conference of the Universities Council on Water Resources. Selected for presentation at the 2011 Conference of the Universities Council on Water Resources, July 13, 2011. Boulder, Colorado.

^C Wright, A. and D. Hudson. "The Effects of Carbon Reducing Policies on Production on the High Plains." Paper presented to the 2011 Beltwide Cotton Conferences, Atlanta, GA, January 2011.

ABSTRACTS

^I Adcock, F., P. Rosson, L. Kennedy, J. Malaga and M. Paggi. "Economic Impacts of U.S. Agricultural Trade on the South.". *Journal of Agricultural and Applied Economics*. 43 (2011,3): 479.

^{O, I} Duch-Carvalho, T. and J. Malaga. "United States Chicken and Grain Exports to Mexico: Competing for the Same Market?" *Journal of Agricultural and Applied Economics*. 43 (2011,3): 469.

^I Duch-Carvalho, T. and J. Malaga. "United States chicken and grain exports to Mexico: competing for the same market?" Proceedings of the Southern Agricultural Economics Association Annual Meeting, Corpus Christi, TX, February 6-9, 2011.
<http://ageconsearch.umn.edu/bitstream/98828/2/Pollo%202010-paper.pdf>.

^O Funtanilla, M. and B. Chidmi. Demand System Estimation: An Application to Merger Analysis in the U.S. Coffee Industry. Selected for presentation at the annual meeting of the Western Agricultural Economics Association, June 29- July 1, 2011, Banff, Alberta, Canada.

^W Guerrero, B., J.W. Johnson, S. Amosson, P. Johnson, E. Segarra, and J. Surles. The Economic Impact of Ethanol on the Southern High Plains of Texas. Poster presentation at the annual meeting of the Southern Agricultural Economics Association, February 8, 2011. Corpus Christi, Texas.

^W Guerrero, B., J.A. Weinheimer, S.H. Amosson, J. Smith, J.W. Johnson, and P.N. Johnson. Economic Impacts of Virtual Water Imported through Feedgrains. Selected for presentation at the 2011 Joint Annual Meeting of the Canadian Agricultural Economics Society and Western Agricultural Economics Association. July 1, 2011. Banff, Alberta.

^O Hanagriff, R. and O. Murova. Selected paper at the Southern Meeting of Agricultural Economics, Corpus Christi, February 5-8, 2011, under title "Analysis of Texas Winery Visitor Spending and GO TEXAN Efforts to Promote Winery Tourism."

^I He, D., B. Chidmi and D. Zhou. Analyzing the Impact of Food Safety Information on Food Demand in China. Selected for presentation at the annual meeting of the Agricultural and Applied Economics Association, July 24-26, 2011, Pittsburgh, Pennsylvania

^W Johnson, J.W., P.N. Johnson, B. Guerrero, J. Weinheimer, S. Amosson, L. Almas, B. Golden, and E. Wheeler-Cook. Water Conservation Policies to Mitigate Declining Groundwater Availability in High Plains Aquifer. Presented at the annual meeting of the Southern Agricultural Economics Association, February 8, 2011. Corpus Christi, Texas.

^O Lange, K., J. Johnson, D. Hudson, P. Johnson, and B. Gustafson. "Equal or Just? Intergenerational Allocations within Farm Family Businesses." Paper presented at the 2011 Southern Agricultural Economics Association Annual Meeting, Corpus Christi, TX, February 2011.
<http://ageconsearch.umn.edu/bitstream/98814/1/SAEA%20Selected%20Paper%202011.pdf>

^O Lange, K. J. Johnson, P. Johnson, D. Hudson and E. Belasco. "Parental Motivation and Family Farm Intergenerational Transfers." Paper presented to the 2011 American Agricultural Economics Association Annual Meetings, Pittsburgh, PA, July 2011.
<http://ageconsearch.umn.edu/bitstream/103231/2/AAEA%20Poster.pdf>

^{C,^I} MacDonald, S., S. Pan, D. Hudson, and F. Tuan. "Toward a Consumer Economy in China: Implications for U.S. Cotton Exports of Changing Wage Policies." Paper presented to the 2011 American Agricultural Economics Association Annual Meetings, Pittsburgh, PA, July 2011.

^O Murova, O. and R. Hanagriff. Presented at the invited paper session for Southern Meeting of Agricultural Economics, Corpus Christi, February 5-8, 2011, under the title "Determinants of Returns on Investment in Rural Tourism."

^I Mutuc, M., S. Pan, and D. Hudson. "U.S.-Sino Price Transmission in Agricultural Commodities: How Important are Exchange Rate Movements?" Paper presented to the 2011 American Agricultural Economics Association Annual Meetings, Pittsburgh, PA, July 2011.

^C Nair, S., C. Wang, E. Segarra, E.J. Belasco, M. Velandia, and J. Reeves. "Adoption of Variability Detection and Variable Rate Application Technologies by Cotton Farmers in Southern United States." Presented at the 2011 American Agricultural and Applied Economics & Northeastern Agricultural and Resource Economics Association Joint Annual Meeting, Pittsburgh, PA, July, 2011. (Paper accessible online at AgEcon Search).

^O Nichols, J. P., and E. Segarra. Keys to Successful Joint Research and Outreach Projects. 2011. Abstract in American Journal of Agricultural Economics, in press. Selected for presentation at the annual meeting of the American Association of Agricultural Economics, July 24-26, Pittsburg, Pennsylvania.

^{C,^I} Pan, S., D. Hudson, and M. Mutuc. "The Effects of Domestic Offset Programs on the U.S. Cotton Market." Paper presented at the 2011 Southern Agricultural Economics Association Annual Meeting, Corpus Christi, TX, February 2011.

^I Pandit, M., Paudel, K.P., Mishra, A.K., Segarra, E. 2011. Precision Agriculture Technology Adoption by Cotton Farmers. Abstract in American Journal of Agricultural Economics, in press. Poster selected for presentation at the annual meeting of the American Association of Agricultural Economics, July 24-26, Pittsburg, Pennsylvania.

^R Pate, D.K., J.W. Johnson, E.W. Hellman, and C. Wang. Risk Sharing through Winegrape Contracts. Selected for presentation at the 2011 Joint Annual Meeting of the Canadian Agricultural Economics Society and Western Agricultural Economics Association. July 1, 2011. Banff, Alberta.

^W Wang, Y., C. Wang, and S. Pan. "The Impact of Nonfarm Activities on Agricultural Productivity in Rural China." Presented at the 2011 American Agricultural and Applied Economics & Northeastern Agricultural and Resource Economics Association Joint Annual Meeting, Pittsburgh, PA, July, 2011. (Paper accessible online at AgEcon Search).

^W Wang, C. and S. Nair. "Optimal Irrigation Intensity and Extensity under Deficit Water Supply." Presented at the 2011 Canadian Society of Agricultural Economics and Western Agricultural Economics Association Joint Meeting, Banff, Canada, June 2011. (Paper accessible online at AgEcon Search).

^W Weinheimer, J., and P. Johnson. 2011. Evaluating the Implications of Regional Water Management Strategies: A Comparison of County and Farm Level Analysis. Presentation at the Western Agricultural Economics Association Meeting, Banff, Alberta, Canada. June 2011.

^W Willis, D.B., J. Stovall, J.W. Johnson, K. Rainwater, L.S. Barbato, K. Mulligan, and E.B. Fish. The Impact of Spatial Heterogeneity in Land Use Practices and Aquifer Characteristics on Groundwater Conservation Policy Cost. Presented at the annual meeting of the Southern Agricultural Economics Association, February 8, 2011. Corpus Christi, Texas.

^W Wright, A. and D. Hudson. "The Effect of Water Use and Water Availability on Optimal Cropping Patterns in the Texas High Plains." Paper presented at the 2011 Southern Agricultural Economics Association Annual Meeting, Corpus Christi, TX, February 2011.

^W Zhao, S., C. Wang, J. Bordovsky, Z. Sheng, and J.R. Gastelum. "Estimating the Spatial Distribution of Groundwater Demand in the Texas High Plains." Presented at the 2011 American Agricultural and Applied Economics & Northeastern Agricultural and Resource Economics Association Joint Annual Meeting, Pittsburgh, PA, July, 2011. (Paper accessible online at AgEcon Search).

^W Zhao, S., C. Wang, J. Bordovsky, Z. Sheng, and J. Gastelum. "Estimating Spatial Water Demand Distributions in the Texas High Plains." Presented in 2011 UCOWR/NIWR Annual Conference, Boulder, Colorado, July, 2011.

THESES AND DISSERTATIONS

^R Adhikari, Shyam, Ph.D. in Agricultural Economics, “Essays on Crop Insurance Yield Guarantees and product Choice Decisions.” Completed May 2011 (Dr. Eric Belasco & Dr. Tom Knight, co-chairs)

^O Elhelou, Rami S. M.S. in Agricultural and Applied Economics. Committee Chair. Thesis Title: “Effects of Futures market manipulation on Crude Oil Prices: An Empirical Approach.” Completed in May 2011.

^C Nair, Shyam S. “Three Essays on the Economics of Precision Agriculture in Cotton Production.” Ph.D. Dissertation, May 2011.

^{R, O} Pate, Daniel. Economic Evaluation of Winegrape Contracts, Risk Sharing, And Implications For The Future Of The Industry. Unpublished Master’s Thesis. Department of Agricultural and Applied Economics, Texas Tech University, Lubbock, Texas. May 2011.

^O Subedi, Dipak. MS Thesis under title “Predicting the Aggregate Economic Impact of Rural Tourism Events.” Graduated in May 2011.

^I Wang, Ye. “The Impact of Non-farm Activities on Agricultural Productivity in Rural China.” M.S. Thesis, May 2011.

Appendix D

Presentations That Were Not Published In Any Outlet

2010/11

^R Adhikari, S., E.J. Belasco, and T.O. Knight. "The Impact of Weather Cycles and Crop Insurance Yield Autocorrelation on Crop Insurance Guarantees." Selected paper presented at the joint annual meeting of the Agricultural and Applied Economics Association and the Northeastern Agricultural and Resource Economics Association, Pittsburg, Pennsylvania. July 2011.

^R Adhikari, S., T.O. Knight, and E.J. Belasco. "Yield Guarantee Level and the Producer Welfare Benefits of Crop Insurance Under Upward Yield Trend." Selected paper presented at the annual meeting of the Southern Agricultural Economics Association, Corpus Christi, Texas. February 2011.

^R Belasco, E.J. "The Impact and Insurability of Extreme Weather Events on Cattle Feeding." American Agricultural Economics Association Annual Meeting, Pittsburgh, PA, July 2011.

^O Chidmi, B. Demand for Product Characteristics for Fish and Seafood Products. Selected for presentation at the sixth forum of the North American Association of Fisheries Economists, May 11-13, 2011, Manoa, Hawaii.

^O Chidmi, B. Modeling Consumer Demand for Type, Form, and Package Size in the Seafood and Fish Industry. Selected for presentation at the INFORMS Marketing Science Conference, June 9-11, 2011, Houston, Texas.

^C Dotray, P. W. Keeling, and J. Johnson. Synergistic/Antagonistic Effects of Glyphosate and Glufosinate in Tank Mixture in GlyTol plus LibertyLink. Presented at the CERI/ICRC Symposium on March 29, 2011. Lubbock, Texas.

^O Funtanilla, M. and B. Chidmi. A Bayesian Approach to Estimating Demand for Product Characteristics: An Application to Coffee Purchase in Boston. Seafood and Fish Industry. Selected for presentation at the INFORMS Marketing Science Conference, June 9-11, 2011, Houston, Texas.

^O Hanagriff, R. and O. Murova. "Texas Department of Agriculture's Wine Marketing Passport Program that Promotes Tourism and Texas Wineries: Are There Measurable Economic Returns?" Paper presented at the 5th Annual Conference of the American Association of Wine Economists (AAWE), Bolzano, Italy, June 23-26, 2011.

^I Hanson, T., B. Chidmi and G. Nguyen. Substitutions between US and Imported Aquaculture Products: A Store-Level Analysis. Selected for presentation at the sixth forum of the North American Association of Fisheries Economists, May 11-13, 2011, Manoa, Hawaii.

^C Hudson, D. "Agriculture Outlook for Cotton." Presentation to the 2010 Bankers Agricultural Credit Conference, November 2010, Lubbock, TX.

^C Hudson, D. and S. Pan. "FAPRI Cotton Baseline Review." FAPRI Baseline Review Annual Meeting, December 2010, Washington DC.

^{C,F} Hudson, D. "The Macro and Ag Economy." Presentation to the 2010 Agricultural Cooperatives Directors Development Conference, February 2011, Amarillo, TX.

^{C,F} Hudson, D. "The Macro Economy and Agriculture." Presentation to the 2011 Texas Agricultural Cooperative Council Annual Meeting, March 2011, San Antonio, TX.

^C Hudson, D. "The World Outlook for Cotton." Presentation to the EMBRAPA/Texas Tech Joint Cotton Seminar, Goiana, Brazil, August 2011.

^{C,F} Hudson, D. "The Macro Economy and Cotton Outlook." Presentation to the Cotton Warehouse Association Annual Meeting, Miami, FL, July 2011.

^{C,F} Hudson, D. "The Macro Economy and Cotton Outlook." Presentation to the New Mexico Cotton Ginners Association Annual Meeting, Ruidoso, NM, July 2011.

^{C,F} Hudson, D. "The Macro Economy and Cotton Outlook." Presentation to the TACC Directors Annual Meeting, Ruidoso, NM, July 2011.

^{C,F} Hudson, D. "The Macro Economy and Cotton Outlook." Presentation to the Martin County Cotton Association Annual Meeting, Stanton, TX, August 2011.

^O Lange, K., J. Johnson, P. Johnson, D. Hudson, and E.J. Belasco. "Parental Motivation in Family Farm Intergenerational Transfers." Poster presented at the 2011 AAEA & NAREA Joint Annual Meeting. Pittsburgh, Pennsylvania. July 25, 2011.

^O Liu, Bing and Aaron Benson. "Winter Safflower Biodiesel: A Green Biofuel for the Southern High Plains." Presentation at the Southern Agricultural Economics Association meetings, Corpus Christi, TX, 2011.

^{C,W} Lyford, Conrad, Eric Hequet, Jeff Johnson and Abbas Aboohamidi. "Making Quality Pay for Irrigated West Texas Cotton." Poster session presented at the The 11th annual Cotton Economics Research Institute & International Cotton Research Center Research and Outreach Symposium, March 29, 2011.

^C Maas, S.J., J. Johnson, and C. Wang. Development of Cotton2K Model Parameters for Cotton Varieties Currently Grown in the Texas High Plains. Presented at the CERI/ICRC Symposium on March 29, 2011. Lubbock, Texas.

^{C,I} Malaga, J. "Recent Trends in US Cotton and Sorghum Exports and their Impact on the South." Presented at the 2011 Annual Meetings of the Southern Agricultural Economics Association. Corpus Christi, TX, February 2011.

^I Malaga, J., P. Martinez-Mejia, and T. Duch-Carvallo. "Grain Sorghum International Market: Outlook and Forecast Modeling." Presented at the 2011 Sorghum Research and Extension Symposium. Lubbock TX, July 2011.

^O McCool, A.C., Belasco, E.J., Lyford, C.P. & McCool, B.N.” Innovations in Technology Applications: Incorporating Interactive Tools to Reduce Childhood Obesity.” Poster session presented at the annual conference of the American Dietetic Association, November 2010.

^O Murova, O. and B. Chidmi. Presented at the 7th International Conference on Environmental, Cultural, Economic and Social Sustainability, January 5-7, 2011, University of Waikato, Hamilton, New Zealand. Presentation under the title “Sustainable Tourism. How Tourism Contributes to the Development of Rural Texas.”

^O Murova, O. and R. Hanagriff. Presented at the 5th Annual Conference of the American Association of Wine Economists (AAWE), Bolzano, Italy, June 23-26, 2011, paper under the title “Consumers’ Decisions on Purchasing Texas Wine.”

^{C, W} Nair, S., C. Wang, S. Maas, and E. Segarra. “Spatial Allocation of Irrigation Water in Center-Pivot Irrigation.” Presented at the 2011 CERI/CIRC Annual Research and Outreach Symposium, Lubbock, TX, April, 2011.

^C Neupane, D., M. Parajulee, S.C. Carroll, C. Wang. “Effect of nitrogen application rate on cotton growth parameters and arthropod activity in Texas cotton.” Presented at the ESA 58th Annual Meeting, San Diego, CA, December, 2010.

^O Philips, Billy, Gordon Gong, Kristopher Hargrave, Eric Belasco and Conrad Lyford. “Factors Affecting Early Detection of Cancer in Texas.” Poster session presented at the 2011 TTUHSC Annual Cancer Symposium, April 29 – May 1, 2011.

^O Rahman, S. M. “The Clean Development Mechanism: Diffusion and Cost Structure.” Invited paper presented at the Bangladesh Institute of Development Strategies (BIDS), January 03, 2011, Dhaka, Bangladesh.

^O Rahman, S. M. “The Clean Development Mechanism: Diffusion and Cost Structure.” Invited paper presented at the Economic Research Group, December 25, 2010, Dhaka, Bangladesh.

^O Rahman, S. M. “The Clean Development Mechanism: Diffusion and Cost Structure.” Invited paper presented at the Ag Eco Graduate Student Association (AEGSA), Texas Tech University, September 24, 2010, Lubbock, Texas.

^W Sheng, Z, J. Rejesus, C. Wang, S. Zhao, J. Johnson, E. Segarra, J. Bordovsky. “Historic Pumping and Future Desired Conditions of the Stressed Aquifers within a Groundwater Management Area in Texas.” Presented at the 2011 NRI/AFRI Water Project Directors Meeting, Washington D.C., February, 2011.

^{C, W} Tewari, R., D.K. Pate, J. Johnson, and J. Bordovsky. Water Marketing Options for Irrigated Cotton Production in the Texas Southern High Plains. Poster presented at the TTU Graduate School Tenth Annual Graduate Student Research Poster Competition. April 9, 2011. 2nd place in Business/Economics/Financial category.

^W Wang, C. "Estimating Irrigation Water Demand in the Texas High Plains." Presented at the 2011 Consortium for Irrigation Research and Education, Lubbock, TX, April, 2011.

^W Weinheimer, J., P. Johnson, J. Pate, and J. Yates. 2011. Economic Considerations for Water Conservation: Texas Alliance for Water Conservation. Presentation at the Universities Council on Water Resources, Boulder, CO. July 2011.

^O Williams, Ryan. "Evaluating the factors influencing wind energy development." Invited Presentation, Agricultural Economics Lecture Series, Department of Agricultural and Applied Economics, Texas Tech University, Lubbock, TX, January 2011.

Appendix E

NOTES ON DEPARTMENT RESEARCH ADVISORY COMMITTEE MEETING

2010/11

**Agenda for AAEC Research Advisory Committee Meeting
November 22, 2010**

- 7:00 a.m. Breakfast, Student Union, Mesa Room
Welcome and Remarks by Dean John Burns
Advisory Committee Members and Deans Office
- 8:00 a.m. Convene in AAEC Conference Room (Ag. Sci. 302)
- 8:15-8:45 Water Economics Activities
Dr. Jeffrey Johnson, Associate Director of the Water Resources Center - CASNR
- 8:45-9:15 Agricultural Competitiveness and Cotton Economics Research Institute
Dr. Darren Hudson, Larry Combest Endowed Chair in Agricultural Competitiveness
- 9:15-9:30 Break
- 9:30-10:00 International Economics Activities
Dr. Jaime Malaga
- 10:00-10:30 Land Resource Management Activities
Dr. Michael Farmer
- 10:30- 10:45 Brief Review of Past Year's Activities
Dr. Eduardo Segarra
- 10:45-11:00 Break
- 11:00 a.m. Meet with students, research staff working on research projects (Ag. Sci. 302)
- Noon Lunch, Student Union, Mesa Room, Advisory Committee, PI's, Dean's Office, Phillip Gipson – NRM (invited), Alon Kvashny – LA (invited), Kevin Pond – AFS (invited), Steve Frazee – AEC (invited), and Tom Thompson – PSS (invited)
- 1:15 p.m. Reconvene in AAEC Conference Room (Ag. Sci. 302). Executive committee meeting - AAEC Research Advisory Committee (excluding department and college representatives).
- 2:00 p.m. Recommendations, etc., provided to the department; faculty encouraged to attend.
- 2:30 p.m. Adjourn

Notes on the AAEC Research Advisory Committee Meeting – November 22, 2010

The committee convened for breakfast at 7:00 am. in the Mesa Room of the Student Union at Texas Tech University. In attendance were the following committee members: Mr. Todd Straley, Mr. Eddie Smith, Mr. Clint Robinson, Mr. Sam Hill, Dr. John R. C. Robinson, Mr. Bart Royce, Mr. Mike Mauldin, and Dr. Jaroy Moore. Also in attendance were Dean John Burns, Associate Dean Sukant Misra, Associate Dean Norman Hopper, and Dr. Eduardo Segarra. Introduction and brief remarks were made by Dean Burns highlighting the role played by departmental advisory committees, and the importance of research partnerships efforts within and outside of the University. Also, he made brief remarks regarding university budgetary issues as well as enrollment figures at the college and university levels.

The Advisory Committee re-convened at 8:00 am. in Room 302 of the Agricultural Sciences Building to formally begin the AAEC Research Advisory Committee Meeting. The committee members had previously received a copy of the 2009-2010 Annual Research Report of the Department of Agricultural and Applied Economics. A copy of the Agenda for the meeting is attached to these notes. The meeting's agenda included presentations covering Water Economics Activities, Agricultural Competitiveness, International Economics Activities, and Land Resource Management Activities. Each of these presentations highlighted the previous year's research projects included in each of these departmental research thrusts and briefly summarized some of the most significant findings. Then, Dr. Eduardo Segarra made a presentation highlighting the overall departmental research program for the past year. Several faculty members, as their schedules permitted, were present during these presentations.

Shortly after the research presentations were made by faculty, a meeting of the Research Advisory Committee with several of departmental Graduate Students, Research Associates, and Post-Doctorate Research Associates took place. This is important because it is imperative that the Research Advisory Committee members get to personally know our research staff and students who in many ways enable us to be able to make it possible for us to carry out our departmental research program.

The Advisory Committee members, Dean's office personnel, Dr. Alon Kavashny (Chairman from the Department of Landscape Architecture Department), and departmental faculty had lunch in the Mesa Room of the Student Union at Texas Tech University. The Advisory Committee re-convened at 1:15 pm. in Room 302 of the Agricultural Sciences Building and the Advisory Committee began its executive session to discuss the research program, and their observations and recommendations.

At 2:00 pm. several faculty members re-convened with the Advisory Committee to listen to comments and suggestions from the committee. Relevant issues addressed included:

- The Advisory Committee was pleased with the overall departmental research program and its multidisciplinary characteristics in addressing varied issues of relevance to agriculture and the Texas High Plains.
- The Advisory Committee highlighted that the graduate students felt well supported and had excellent access to both, faculty and equipment to be able to accomplish their research related tasks.
- The Advisory Committee highlighted their desire for the faculty to keep making contributions related to specific commodities, but highlighted the importance and significance of cross-commodity issues such as water use and management as one of the issues with one of the highest priorities.
- The Advisory committee was very concerned regarding impending budgetary issues the department, college and university, and the state in general are likely to go through, and expressed a desire to try to assist in any way they could.

The meeting adjourned at 2:45 pm.

Appendix F
ADVISORY COMMITTEE MEMBERS

2010/11

Research Advisory Committee 2010 – 2011

Addresses and Phone Numbers

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Appendix G

COTTON ECONOMICS RESEARCH INSTITUTE AND INTERNATIONAL COTTON RESEARCH CENTER SYMPOSIUM

CERI/ICRC Annual Research and Outreach Symposium
Merket Alumni Center
March 29, 2011
Agenda

- | | |
|----------------|--|
| 7:30 – 8:00a | Registration/Continental Breakfast |
| 8:00 – 8:10a | Welcome by Dr. John Burns, Dean College of Agricultural sciences and Natural Resources |
| 8:10 – 8:20a | Welcome and Introductions by Dr. Darren Hudson, Director Cotton Economics Research Institute |
| 8:20 – 8:30a | Welcome and Introductions by Dr. Norman Hopper, Co-Director International Cotton Research Center |
| 8:30 – 9:00a | Hon. Mike Conaway (R-TX), 11th District
Deputy Majority Whip
House Agriculture Committee Member
Subcommittee Chair on General Farm Commodities and Risk Management
“Future Directions in Farm Policy” |
| 9:00 – 9:30a | A View from the Industry – Moderated by Dr. Darren Hudson
Steve Verett, Plains Cotton Growers Executive Vice President
Joe Reed, Texas Corn Producers Board Director
Wayne Cleveland, Texas Grain Sorghum Producers Executive Director
Jimbo Grissom, Western Peanut Growers President |
| 9:30 – 10:00a | Break & Poster Session |
| 10:00 – 11:00p | Cotton Management Research -- Moderated by Dr. Sukant Misra |
| 10:00-10:15 | Cotton Production Systems in a Changing High Plains Environment
J. Bordovsky and D. Auld |
| 10:15-10:30 | Development of Cotton2K Model Parameters for Cotton Varieties Currently Grown in the Texas High Plains
S. Maas, J. Johnson, and C. Wang |
| 10:30-10:45 | Spatial Allocation of Irrigation Water in Center-Pivot Irrigation
S. Nair, C. Wang, S. Maas, and E. Segarra |
| 10:45-11:00 | Integrating Multiple Tactics for Verticillium Wilt Management
T. Wheeler, J. Woodward, J. Bordovsky, and W. Keeling |

11:00-12:00p	Short- and Long-Term Outlook for Cotton Markets J. Robinson and D. Hudson
12:00 – 1:30p	Lunch
1:30 – 2:00p	Outlook for U.S. Agriculture D. Hudson
2:00 – 3:00p	Cotton Management/Processing Research – Moderated by Dr. Norman Hopper
2:00-2:15	Bringing a Portion of Texas Plains Cotton into Premium Yarn Markets E. Hequet and N. Abidi
2:15-2:30	Texas High Plains Lygus Bugs: Investigation of Predisposition Factors Causing Outbreaks in Order to Strengthen Cotton Pest Management Strategies M. Parajulee, R. Shreshtha, and T. Matis
2:30-2:45	Synergistic/Antagonistic Effects of Glyphosate and Glufosinate in Tank Mixture in GlyTol® plus LibertyLink®cotton. P. Dotray, W. Keeling, and J. Johnson
2:45-3:00	The Impacts of Carbon Management Policies on Farm Structure in the High Plains Wright and D. Hudson
3:00p	Adjourn

Appendix H

COTTON ECONOMICS RESEARCH INSTITUTE UPDATES

2010/11



CERI

Coordinating economic research activities on all aspects of cotton research within Texas Tech University and other research units throughout the United States and other countries.

Cotton Economics Research Institute

Presentations

Chinese Domestic Textile Demand

Bloomberg Radio Interview featuring Dr. Hudson

Cotton Market "Outlook"

Cotton on the High Plains

Crop Market Outlook

A Multinomial Logit Analysis of the Adoption of Cotton Precision Farming Technologies

Optimal Spatial and Temporal Allocation of Irrigation Water for Cotton in Texas High Plains

The Effect of Carbon Reducing Policies on Production on the Texas High Plains

The Impacts of Eliminating Direct Payments on the U.S. Cotton Market

These and additional presentations can be found on our website: www.ceri.ttu.edu

Letter from the Director:

Another year has passed and the Institute has had considerable success in many areas. Dr. Suwen Pan has been working with a Ph.D. student and USDA-ERS on a joint project examining the future of Chinese textile demand and its impact on world cotton markets. We will highlight the results of that research in a future issue of the newsletter. At the same time, Dr. Maria Mutuc has led an effort to update the popular "Foreign Subsidies Database" that highlights the subsidies and trade barriers used by other major agricultural producers around the world. We have also been involved in a project to digitize that report and make it accessible via an online searchable database. That database is currently available on the CERI website.

The faculty and staff at CERI have been very involved with many aspects of cotton research and outreach this year. From local water policy to international cotton meetings, CERI has had a presence and made major contributions to policy debates and cotton-related research. Dr. Suwen Pan led an analysis of the impacts of eliminating direct payments on cotton, and Andrew Wright (Ph.D. student) has worked on examining the impacts of carbon management policies on agricultural producers.

Finally, as many of you know, federal funding will be a real challenge this year. We are working with our partners at the Agricultural and Farm Policy Center (Texas A&M) and the Food and Agricultural Policy Research Institute (FAPRI-University of Missouri) to insure that everyone is aware of funding issues and the relevance and importance of our research to the agricultural sector.



Dr. Darren Hudson, CERI Director



Gildan Benefits from Dip in Cotton Prices

The price of cotton has more than doubled since last summer, although it has come off record highs of more than \$2 (U.S.) a pound reached in March.

Many clothing companies and retailers have increased prices on items such as jeans and all-cotton sheets by between 10 per cent and 20 per cent in recent months, although there's no sign that shoppers have cut back.

Darren Hudson, economist at Texas Tech University's Cotton Economics Research Institute, says cotton prices had reached "unrealistically high levels" because of weather-related shortages and panic buying.

It remains to be seen if there will be more clothing price hikes at the retail level, he said.

Bob Kirke, executive director of the Ottawa-based National Apparel Federation, says clothing manufacturers are keenly aware there's a breaking point of consumer resistance to further price increases.

"Nobody wants to frighten away the consumer," he said.

"Last year was a decent year and everyone wants to see that continue into 2011. The result is that [companies] try to squeeze costs out every which way" to avoid having to pass on price hikes to the consumer, Mr. Kirke said.

Gildan has been astute in playing the cotton futures market so as to better manage price volatility, he added.

Other companies, such as U.S. basic apparel giant Hanesbrands Inc., are seeking out new lower-cost fibres to replace cotton, said Mr. Kirke.

from *The Globe and Mail*.
Read full story at
<http://www.theglobeandmail.com/globe-investor/article2018006.ece>

Recent Research

GLOBAL COTTON OUTLOOK 2010/11 - 2020/21

*Darren Hudson, Suwen Pan, Maria Mutuc,
Samantha Borgstedt and Don Ethridge*

Real GDP growth is projected at 3.8% in 2010 with an annual average of 3.45% thereafter. A more favorable exchange rate between the Chinese yuan and the U.S. dollar is expected, which will allow for U.S. cotton to be more attractive to China's cotton textile industry. Cotton fiber use is projected to grow by about 30 million bales over the next 10 years (26%). Mill use is projected to remain concentrated in Asia. Production gains to meet increased mill use will come largely from enhanced yields due to technological advances (20% in 10 years) and increased areas (7% in 10 years) due to higher prices. World trade in cotton is projected to continue its upward trend, growing by 6 million bales by 2020/21, a 16% increase from 2010/11. China is projected to account for bulk of this increase: Chinese cotton imports are projected to expand by 4 million bales. The U.S. is projected to remain the world's leading cotton exporter in 2020/21 with a 39% market share. For further details please [click here](#).

EFFECTS OF AN INCREASE IN CHINESE GOVERNMENT PURCHASING PRICE ON THE WORLD COTTON MARKET

Suwen Pan, Darren Hudson and Maria Mutuc

The purpose of this report is to evaluate the effects of this government procurement price (GPP) increase in China on the world cotton market using the partial equilibrium structural econometric model of the world fiber market developed by the Cotton Economics Research Institute at Texas Tech University. Overall, it is projected that a higher GPP in China would increase Chinese cotton imports, Chinese ending stocks and the world cotton price in the first year. Whether these effects are sustained over a longer period depends on how many years China will adopt the higher GPP price. World mill use, however, is projected to decline as a result of a higher world cotton price. The impacts of the one-year GPP increase on U.S. farmers are only modest at best. Even if the GPP is extended over the entire 5 year period, U.S. farm prices are only 1.22% higher, on average. For further details please [click here](#).

Recent Activities

NATIONAL COTTON COUNCIL (NCC) BELTWISE COTTON CONFERENCE

January 4-7, 2011

Atlanta, Georgia

Texas Tech's Department of Agricultural and Applied Economics was well represented by a number of faculty, staff and students who attended and presented research at the 2011 NCC Beltwide Cotton Conference. The conference included four days of individual reports, panel discussions, hands on workshops and seminars designed to provide attendees with valuable cotton information. Presentations made by the department included: The Impacts of Eliminating the Direct Payments on the U.S. Cotton Market; A Multinomial Logit Analysis of the Adoption of Cotton Precision Farming Technologies; Optimal Spatial and Temporal Allocation of Irrigation Water for Cotton in Texas High Plains; The Effect of Carbon Reducing Policies on Production on the Texas High Plains; Optimal Spatial and Temporal Allocation of Irrigation Water for Cotton in Texas High Plains;

A Multinomial Logit Analysis of the Adoption of Cotton Precision Farming Technologies.

SOUTHERN AGRICULTURAL ECONOMICS ASSOCIATION ANNUAL MEETING

Feb. 5-8, 2011

Corpus Christi, Texas

Several members of the Department of Agricultural & Applied Economics represented Texas Tech at the 2011 SAEA Annual Meeting while presenting in the categories of: Water Scarcity - Future Uses and Implications for Policy; Marketing and Industrial Organization; Resource and Environmental Economics; International Agriculture and Trade; Marketing and Industrial Organization; Production Economics; Resource and Environmental Economics; Agricultural Policy; Teaching/Resource and Environmental Economics; Research and Quantitative Methods / Ag Policy; Applications and Innovations in Spatial Econometrics; Economic Sustainability of Rural Areas; Farm Management.



11TH ANNUAL CERI/ICRC RESEARCH SYMPOSIUM

March 29, 2011

Lubbock, Texas

This year's CERI/ICRC Research Symposium was once again a success with informative presentations dealing with Cotton Management Research as well as Cotton Management/Processing Research. The Symposium led off with a welcome from Dean John Burns, Dr. Darren Hudson and Dr. Norman Hopper. Hon. Mike Conaway spoke on the "Future Directions of Farm Policy." A panel consisting of Steve Verett, Plains Cotton Growers; Joe Reed, Texas Corn Producers; Wayne Cleveland, Texas Grain Sorghum Producers; and Jimbo Grissom, Western Peanut Growers, gave "A View from the Industry." Dr. Darren Hudson delivered the Outlook for U.S. Agriculture. The 2011 Symposium was held at the Market Alumni Center on the campus of Texas Tech University.

USDA ECONOMIC RESEARCH SERVICE SEMINAR

May 16-20, 2011

Washington D.C.

The presentation "Chinese Textile Demand" by Stephen MacDonald, Suwen Pan, Darren Hudson and Francis Tuan was presented in Washington D.C. at a seminar in USDA Economic Research Service.

2011 COTTON WAREHOUSE ASSOCIATION OF AMERICA ANNUAL CONVENTION

June 22-25, 2011

Miami, Florida

Dr. Darren Hudson presented at the 74th CWAA Annual Convention. This convention focuses on bringing the latest information on key challenges and opportunities facing agriculture and the cotton industry, as well as the latest update on activities and issues directly impacting the warehouse industry.

TEXAS AGRICULTURAL COOPERATIVE COUNCIL'S COOPERATIVE MANAGER'S CONFERENCE

July 6-8, 2011

Ruidoso, New Mexico

Dr. Darren Hudson will present "World Events and Their Impact on Trade Policy and Economic Projections" at the TACC Manager's Conference. This conference annually attracts 65-70 co-op managers and consists of nationally recognized speakers who present throughout the three, half-day sessions.

AGRICULTURAL & APPLIED ECONOMICS ASSOCIATION AND NORTHEASTERN AGRICULTURAL AND RESOURCE ECONOMICS ASSOCIATION MEETING

July 24-26, 2011

Pittsburgh, Pennsylvania

Texas Tech's Department of Agricultural and Applied Economics will be represented by several faculty, staff and students at the 2011 AAEA & NAREA Joint Meeting. Some presentations that will be presented at this meeting and produced by CERI staff include: Food Calorie Intake and Food Security under Grain Price Inflation: Evidence from Malawi; Sino-U.S. Price Transmission in Agricultural Commodities: How Important are Exchange Rate Movements?; The Impact of Nonfarm Activities on Agricultural Productivity in Rural China; Toward a Consumer Economy in China: Implications of Changing Wage Policies for U.S. Cotton Exports.

VISIT TO BRAZIL

August 2011

Brazil

Drs. Darren Hudson and Sukant Misra along with graduate student Andrew Wright will be attending a cotton conference in Goiana, Brazil. Hudson will present the global baseline projections for cotton, but the majority of the trip will be spent in meetings with logistics and infrastructure experts to gather information on infrastructure development in Brazil. Also attending is Dr. Parr Rosson from Texas A&M University.

USDA Projections Indicate High Prices in Production in 2011

Americans could expect higher levels of agricultural production, commodity prices and consumer food prices this year, according to agricultural projections analysts. That means everyone, not just the farmer, will feel the impacts of this unique situation on their spending.

In February, the U.S. Department of Agriculture released its annual agricultural long-term projections consisting of the production, trade and price changes the country could see through 2020.

USDA forecast 2011 may have the highest prices and production totals — namely for corn, cotton, wheat and soybeans — and may reach a new record in U.S. agricultural exports.

While these are just estimates of what's to come, these numbers give the public a window into the state of agriculture and show them the truth behind higher commodity prices and retail prices, said Darren Hudson, director of the Cotton Economics Research Institute at Texas Tech.

"The general public needs to be cognizant of the facts of what drives their food prices," he said. "The more they understand about what's driving their food prices, the more they'll understand how that market works and what changes they are likely to have on their pocketbooks."

from Lubbock AJ. Read full story at <http://lubbockonline.com/local-news/2011-03-13/usda-projections-indicate-high-prices-production-2011>

Recent Publications/ Presentations

OUTLOOK REPORTS

"Global Cotton Baseline 2009/10 - 2019/20"

CERI-OR11-01

Darren Hudson, Suwen Pan, Maria Mutuc, and Samantha Borgstedt

BRIEFING PAPER

"Effects of an Increase in Chinese Government Purchasing Price on World Cotton Market"

CERI-BP-11-01

Suwen Pan, Darren Hudson and Maria Mutuc

JOURNAL ARTICLES

"Response of Cotton to Oil Price Shocks."

Maria Mutuc, Suwen Pan, and Darren Hudson.
Forthcoming in *Agricultural Economics Review*.
Vol. 12, No. 2 (2011).

"Lessons Learned from the Phase-out of the MFAs: Moving from Managed Distortion to Managed Distortion."
Darren Hudson, Don Ethridge, and Maria Mutuc
The Estey Centre Journal of International Law and Trade Policy. Vol. 12, No. 1 (2011).

2011 BELTWISE COTTON CONFERENCE PRESENTATIONS, ATLANTA, GA

"The Impacts of Eliminating the Direct Payments on the U.S. Cotton Market."
Pan, S., D. Hudson, and M. Mutuc

"A Multinomial Logit Analysis of the Adoption of Cotton Precision Farming Technologies."
Nair, S., C. Wang, E. Segarra, J. Reeves, E. Belasco, and M. Velandia

"Optimal Spatial and Temporal Allocation of Irrigation Water for Cotton in Texas High Plains"
Nair, S., C. Wang, S. Maas, and E. Segarra

"The Effect of Carbon Reducing Policies on Production on the Texas High Plains."
Wright, A., D. Hudson

"Optimal Spatial and Temporal Allocation of Irrigation Water for Cotton in Texas High Plains."
Nair, S.S., C. Wang, S. Maas, E. Segarra.

"A Multinomial Logit Analysis of the Adoption of Cotton Precision Farming Technologies."
Nair, S.S., C. Wang, E. Segarra, E. Belasco, J. Reeves, M. Velandia.

CERI/ICRC SYMPOSIUM PRESENTATIONS

Bringing a Portion of Texas Plains Cotton into Premium Yarn Markets - presented by Dr. Eric Hequet

Synergistic/Antagonistic Effects of Glyphosate and Glufosinate in Tank Mixture in GlyTol plus LibertyLink Cotton - presented by Dr. Peter Dotray

Cotton Production Systems in a Changing High Plains Environment - presented by Dr. James Bordovsky

Integrating Multiple Tactics to Manage Verticillium Wilt of Cotton - presented by Dr. Terry Wheeler

Cotton Market Outlook - presented by Dr. John Robinson

Long-Term Cotton Outlook - presented by Dr. Darren Hudson

U.S. Agricultural Outlook - presented by Dr. Darren Hudson

Texas High Plains Lygus Bugs: Investigation of Predisposition Factors Causing Outbreaks in Order to Strengthen Cotton Pest Management Strategies - presented by Dr. Megha Parajulee

Development of Cotton2K Model Parameters for Cotton Varieties Currently Grown in the Texas High Plains - presented by Dr. Stephan Maas

The Effect of Carbon Reducing Policies on Production on the Texas High Plains - presented by Andrew Wright

PRESENTATIONS MADE BY CERI

"The Effects of Domestic Offset Programs on the Cotton Market"
Southern Agricultural Economics Association Meeting
February 2011

"Chinese Textile Demand"
Seminar at Economic Research Service, USDA, Washington D.C.
May 2011

"Crop Market Outlook"
Texas Alliance for Water Conservation, March 15, 2011

"Cotton Market Outlook"
Farmer's Cooperative Compress Annual Board of Director's Meeting, Dallas, TX, April 4, 2011

"Cotton on the High Plains"
PCCA/PCG Meeting with Myron Kandel (founder of CNN-FN)
April 6, 2011.

"Crop Market Outlook"
Texas Agricultural Cooperative Council Joint Meeting
San Antonio, TX, March 2011.



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Upcoming CERI Events

TACC Cooperative Managers' Conference

July 6-8, 2011

Ruidoso, New Mexico

AAEA & NAREA Joint Meeting

July 24-26, 2011

Pittsburgh, Pennsylvania

39th Annual Bankers Agricultural Credit Conference

November 11, 2011

International Cultural Center - Texas Tech Campus - Lubbock, Texas

NCC Beltwide Cotton Conference

January 3-6, 2012

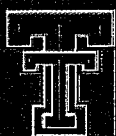
Orlando World Center Marriott - Orlando, Florida



JULY 2011

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CERI

*Coordinating economic
research activities on all
aspects of cotton
research within
Texas Tech University
and other research units
throughout the
United States and other
countries.*



Cotton Economics Research Institute

Presentations

Macro-Economic
Considerations Going
Forward

Agricultural Outlook for
Cotton

Farm Programs: What
Changes Can be
Expected?

Lessons Learned from
the Phase-Out of the
MFA's from Managed
Distortion to Managed
Distortion

An Outlook for the U.S.
Economy and
Agricultural Sector

Some Perspective on
the Next U.S. Farm Bill

*These and additional
presentations can be
found on our website:
www.ceri.ttu.edu*

Letter from the Director:

It seems almost yesterday that we were preparing for another Beltwide Cotton Conference. Reflecting on 2010, we have had a very productive year at CERI. Our baseline analysis and policy work continue to be the stalwart engines for activity within the institute. We have had one of our most successful years in terms of leveraging funding and research output. But, there is always room for improvement.

CERI was awarded and completed its first year of a project on the cotton industry in Brazil. Dr. Misra and I travelled this past summer to portions of Brazil to gather data on ginning costs and infrastructure. This second year will continue that process, but we will also be gathering data on farm-level cost of production. These data should assist us in better understanding the cotton sector in Brazil and improve our forecasts of crop production and trade from that region.

We have completed a number of important projects. First, we analyzed changes in gin industry structure after the implementation of the Renewable Fuel Standard and found that changes to biofuel crops has significant impacts to gin structure, especially in the Mid-South/Delta region, and increased the overall cost of ginning by as much as \$10 a bale in that area. Second, we have completed a first draft at placing our popular "Guide to Foreign Subsidies" in a searchable database format on the web. That product should go live on our website early in the year. Be looking for it. We will be updating the content and adding some "bells and whistles" to that this coming year as well.

Finally, CERI had the honor of being invited to speak at the 69th Plenary Session of the International Cotton Advisory Committee. We prepared a report entitled: "Lessons Learned from the Phase-out of the MFAs: Moving from Managed Distortion to Managed Distortion." The paper highlighted to an international audience that while developed countries have ended their quotas on textiles, the world is no less distorted due to trade limitations and domestic subsidization in developing countries.

We look forward to another exciting and productive year. Happy New Year to everyone and may it be a prosperous one!



Dr. Darren Hudson, CERI Director

Southwest Cotton Appears to Have Brighter Future

While U.S. cotton production has diminished, Southwest cotton production will increase and be dominant. Southwest cotton farming will see a growth spurt over the next few years, contrary to the national trend.

From the early 1990s to mid-decade, national cotton production was running full bore, jumping more than 11%. But that pattern stopped back in 2006, says Darren Hudson, lead author of a new national analysis, and director of Texas Tech University Cotton Economics Research Institute in Lubbock.

"Early this decade, many farmers moved from pure cotton monoculture to rotations that included corn and soybeans, partly because of agronomic reasons, but primarily due to price movement," says Hudson.

Reduced U.S. cotton acres, in turn, ultimately meant lower cotton production.

In fact, the average number of bales processed per cotton gin in the United States dropped from a high of 26,920 bales in 2006 to 17,453 in 2008.

Texas Tech researchers now are forecasting that while 4.6 million acres of cotton will be grown in the Southwest region this season, they are predicting that number should climb to 5.57 million acres by 2018.

This analysis uses data from the Texas Tech World Fiber Model, a long-term series of projections founded on assumptions about normal weather patterns, current trade policies, and stable economic fundamentals such as population and income growth, and the prices for crops in market competition with cotton.

from *Farm Progress*,
Kansas Farmer. Read full
story at
<http://kansasfarmer.com/story.aspx/southwest/cotton/appears/to/have/brighter/future/14/39125>

Recent Research

A SIMULATION ANALYSIS OF COTTON GIN FINANCIAL VIABILITY UNDER RISK

Phillip Johnson

Simulation models for representative ginning firms were constructed using and SIMETAR to evaluate potential impacts on their financial viability of changes in stochastic variables, such as cotton production, debt levels, and operating expenses. The most important stochastic variable is the variability in the amount of cotton produced from year-to-year within a gin's trade territory. Ginning volume determines the revenues available and can vary widely from year to year. The models will help to determine what gin size and financial structure may be less susceptible to financial pressures in times of lower production or higher costs.

INDUSTRY ORGANIZATION AND OUTPUT SIZE DISTRIBUTION OF COTTON GINS IN THE U.S.

Maria Mutuc and Darren Hudson

With cotton output declining by 46 percent from 2005-2008 (from 23.89 M bales in 2005 to 12.8 M bales in 2008), gins are processing less cotton. This paper examines how output size distribution of cotton gins in the U.S. has evolved and the extent to which the developments in the U.S. ethanol industry, specifically the passage of the Energy Policy Act in 2005 (and its subsequent

revisions), have influenced this structural process. Markov transitional probability matrices (TPMs) are estimated for two periods: 1994-2004 and 2005-2008 to determine changes in output size distribution of gins. TPMs indicate that relative to the pre-2005 period, gins had a greater propensity to process lower outputs after 2005. It is purported that in industries constrained by declining demand, bigger firms with excess capacity operate at higher costs than smaller firms that operate closer to their minimum efficient scale.

ECONOMIC EFFICIENCY ANALYSIS OF COTTON PRODUCTION IN THE TEXAS HIGH PLAINS

Chenggang Wang, Kevin Bronson, and Eduardo Segarra

Traditional optimal input application recommendations have been based on the quantitative relations between lint quantity and inputs, taking no account of the quality effects of input choices. This study represents a first effort to quantify the potential income gain from incorporating the quality effects for Texas High Plains' cotton producers. Our findings indicate that lint quality should not be an important factor in determining the most profitable input application rates in the Texas High Plains.

Recent Activities

WESTERN ECONOMIC ASSOCIATION INTERNATIONAL (WEAI) 2010 CONFERENCE

June 29- July 3, 2010

Portland, Oregon

Several Department of Agricultural and Applied Economics faculty and staff members attended this year's WEAI conference in Portland, Oregon.

10TH INTERNATIONAL CONFERENCE PRECISION AGRICULTURE

July 18 - 21, 2010

Denver, Colorado

Several members of the Department of Agricultural and Applied Economics faculty and staff members attended the 10th Annual International Conference on Precision Agriculture in Denver, Colorado.

AMERICAN AGRICULTURAL AND APPLIED ECONOMICS ASSOCIATION 2010 MEETING

July 25-27, 2010

Denver, Colorado

Faculty and staff members from the Department of Agricultural and Applied Economics

traveled to Denver, Colorado, to present and attend the AAEA 2010 Conference. Several papers dealing with cotton were presented by members of the department.

PLAINS COTTON GINNER'S ASSOCIATION ANNUAL MEETING

August 31, 2010

Lubbock, TX

Dr. Darren Hudson presented "Some Perspective on the Next U.S. Farm Bill" at the 2010 Plains Cotton Ginner's Association Annual Meeting in Lubbock, Texas.

INTERNATIONAL COTTON ADVISORY COMMITTEE 69TH PLENARY MEETING

September 20-25, 2010

Lubbock, Texas

Several from the Department of Agricultural and Applied Economics attended and presented at the ICAC meeting in Lubbock, TX, including CERI's presentation "Lessons Learned from the Phase-Out of MFAs From Managed Distortion to Managed Distortion."



TACC/PCCA JOINT MEETING

November 4, 2010 Corpus Christi, Texas
Dr. Darren Hudson presented "Macro-Economic Considerations Going Forward" which concluded with the following remarks: 1) Budgets are creating serious uncertainty in both taxes and farm program future, 2) While the current weak dollar is helping U.S. exports, it is inflationary.

38TH ANNUAL BANKERS AGRICULTURAL CREDIT CONFERENCE

November 12, 2010 Lubbock, Texas
Dr. Darren Hudson presented "Agricultural Outlook for Cotton" at this year's 2010 Banker's Agricultural Credit Conference. Some of his presentation's concluding comments were that prices for next year's cotton reaching \$1.50 are not terribly unlikely and that an expected supply response is likely.

2008/09 FAPRI BASELINE FORECAST

November 15-19, 2010 Iowa State University
Dr. Suwen Pan participated in a series of communication efforts to form preliminary baseline projections for the World Fiber Market: 20010/2011 through 2020/2021. The baseline projections are made as part of the cooperation with the Food and Agricultural Policy Review Institute (FAPRI) and estimates the next ten years' cotton production, import, export, and mill use competing with other crops such as corn, soybean, and rice.

TEXAS COMMODITY SYMPOSIUM & AMARILLO FARM & RANCH SHOW

December 1, 2010 Amarillo, Texas
Dr. Darren Hudson presented "Farm Forward Economic Analysis of Irrigation Impacts on Agriculture" at the Texas Commodity Symposium and Amarillo Farm & Ranch Show. Dr. Hudson talked about the project they are working on

calculating water impacts of changes in water policy, specifically looking at what happens after the farm. This study will show what changes in the farm sector will have on the overall economy in the region. Estimates from this study are expected soon.

2009/10 FAPRI COTTON BASELINE

December 12-14, 2010 Washington D.C.
Dr. Suwen Pan and Dr. Darren Hudson presented "2010/2011 - 2020/2021 International Cotton Preliminary Baseline" at the baseline review sponsored by the Food and Agricultural Policy Research Institute (FAPRI).

NATIONAL COTTON COUNCIL (NCC) BELTWISE COTTON CONFERENCE

January 4-7, 2011 Atlanta, Georgia
Texas Tech's Department of Agricultural and Applied Economics will be represented by a number of faculty, staff and students who will be attending and presenting their research at the 2011 NCC Beltwide Cotton Conference. The conference will feature four days of individual reports, panel discussions, hands on workshops and seminars designed to provide attendees with valuable cotton information.

11TH ANNUAL CERI RESEARCH SYMPOSIUM

March 29, 2011 Lubbock, Texas
This year's CERI Research Symposium will be held at the Merket Alumni Center located on Texas Tech Campus. It will include an impressive line-up of speakers and presentations, as well as breakfast and lunch. Be checking your email for more information as plans are finalized and the symposium nears, but for now, mark you calendars and plan to join us Tuesday, March 29th.

South Plains' 2010 Cotton Crop Looks Promising, But Rain Still Needed

Although cotton plants are just in the final stage before boll opening in the region, cotton industry experts predict the 2010 cotton crop will produce substantially higher yields than last year.

These promising forecasts bring good tidings to producers as well since the global demand for cotton is strong and that could result in higher prices.

That is evident with the low ending stocks of 2009 and the anticipated high beginning stocks of 2010, said Gary Adams, National Cotton Council vice president of economic and policy analysis. There is a wide gap between demand and forecasted production because cotton supplies are short at textile mills worldwide.

Darren Hudson, director of the Cotton Economics Research Institute at Texas Tech, said buyers have already booked cotton to fill the need at the mills so once the cotton is harvested, it should not stay in warehouses for very long.

"We're fortunate that we have a short supply and so the impact of the large crop is less on the price," Hudson said. "But, if you continue to have another good crop and don't see much of an increase in demand for cotton that will lower the overall price."

The question that remains is the long-term demand in the global market depending on the supplies and increasing cotton production in import countries like China and India, he said.

from Lubbock A.J. Read full story at <http://lubbockonline.com/agriculture/2010-08-18/south-plains-2010-cotton-crop-looks-promising-rain-still-needed>

Recent Publications/ Presentations

JOURNAL ARTICLES

"Politique d'Adoption de l'Agriculture de Précision: Evaluation des Impacts Potentiels sur le Marché Mondial du Coton." Malaga, J., S. Pan, and R. Kulkarni. *Cahiers Agriculture (France)*. 19 (1): 48-53, Jan-Feb 2010.

"Market Liberalization and Crop Planting Decisions: A Case of China." Pan, S., Malaga, J., and X. He. *China Agricultural Economic Review*. 2 (3), 2010.

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Upcoming CERI Events

Beltwide Cotton Conference

January 4-7, 2011

Atlanta, Georgia

Southern Agricultural Economics Association

February 5-8, 2011

Omni Hotel - Corpus Christi, Texas

CERI Research Symposium

March 29, 2011

Merket Alumni Center - Texas Tech Campus - Lubbock, Texas

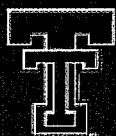
Texas Cotton Ginners Assn. Trade Show

March 31 - April 1, 2011

Civic Center - Lubbock, Texas

CERI FACULTY & STAFF

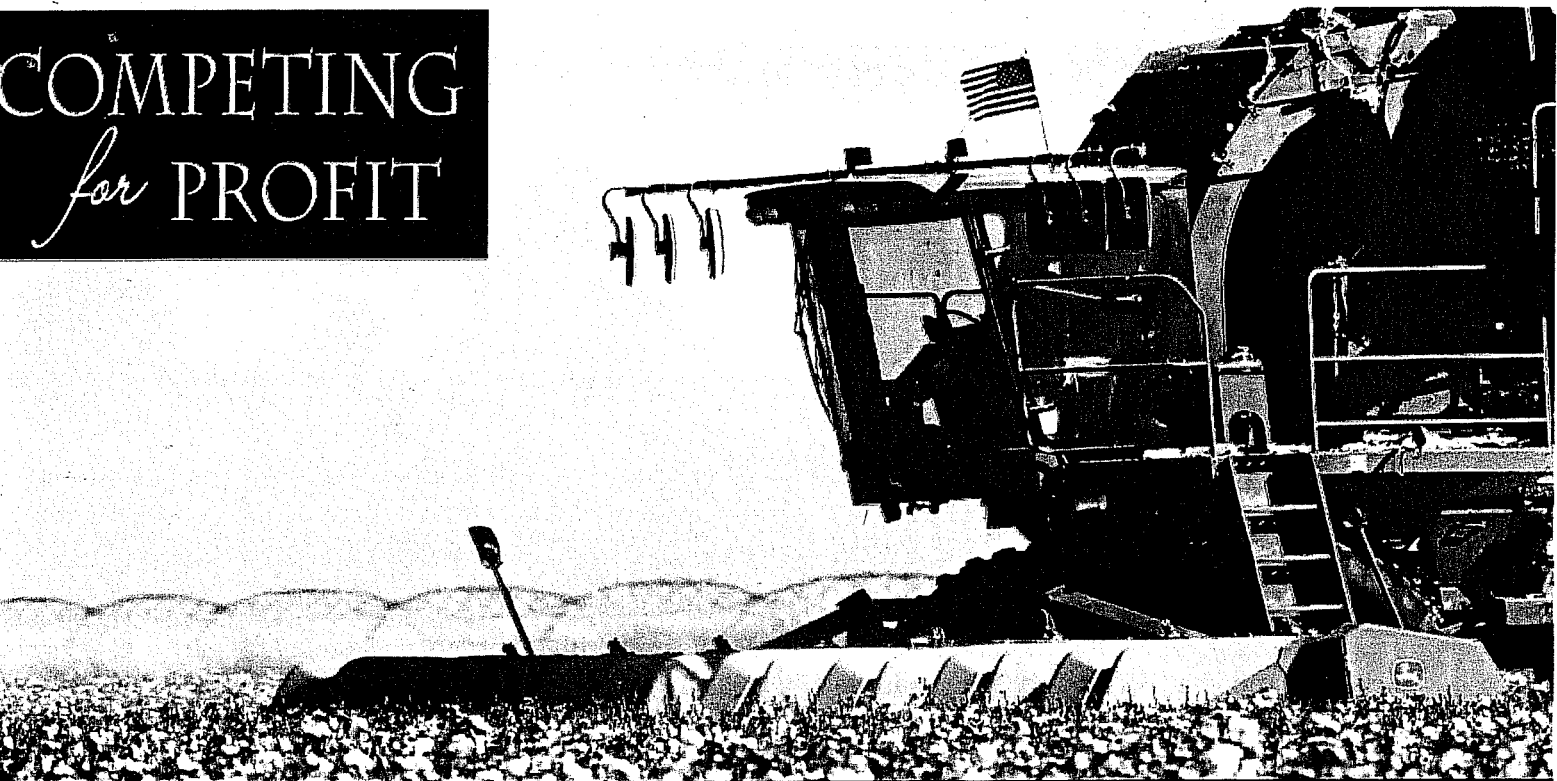
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Appendix I
COMPETING FOR PROFIT

2010/11

COMPETING *for* PROFIT



Issue XXIII : January 2011

Texas Tech University

DAN SMITH - LOCKNEY, TX

STORY, PHOTOS, & DESIGN BY: SAMANTHA YATES BORGSTEDT

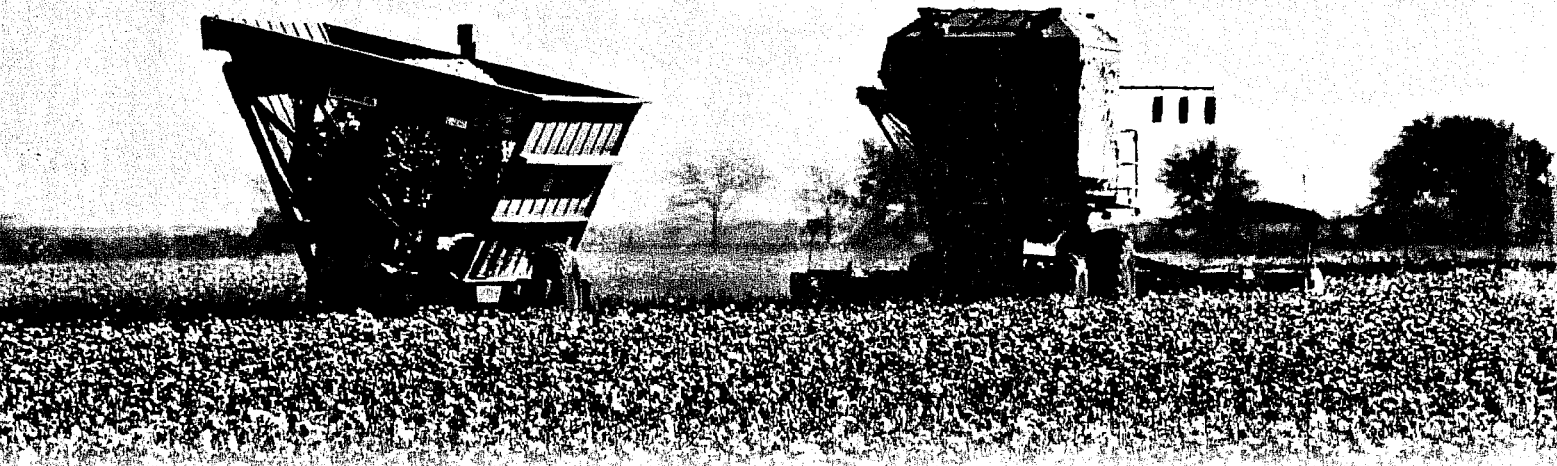
Some people have known exactly what they want to do for as long as they can remember. Dan Smith is one of those people. From the time he could play in the dirt with his tractors, he knew it was what he wanted to do the rest of his life.

Although the tractors Smith plowed dirt with quickly changed from small ones he pushed around to large ones he drives, his love for tending the land has remained the same. He is a fourth generation farmer and continues to farm land settled by his great grandfather. The 4,300 acres Smith now manages in Lockney, Texas, is planted in a variety of cotton, corn, sorghum, wheat, and triticale.

"I was born into this business and it is all I ever wanted to do," Smith said. "My dad told me I had to go to college. I went one semester and came home with all my belongings thinking I would just go ahead and start farming, but Dad told me I had to bring him a degree before I could come back and farm. So I finished it out, and I'm sure glad I did."

Smith earned his degree in Agricultural & Applied Economics at Texas Tech University. It was during Christmas break of his junior year that a man came by to ask if Smith's father wanted to start farming 140 acres of his land. Smith's dad declined the offer, but passed it along to his son, and there his farming career began. Smith continues to rent and farm that same 140 acres, and he just harvested his 36th crop from it.





"I started with 140 acres and have picked up more land here and there over the years," Smith said, "When I came home from college to begin farming, I knew we were going to have to increase our acreage in order to be successful. My goal was to reach 1,500 acres, which was twice what my dad farmed, and I never dreamed I would be at the level I am at today."

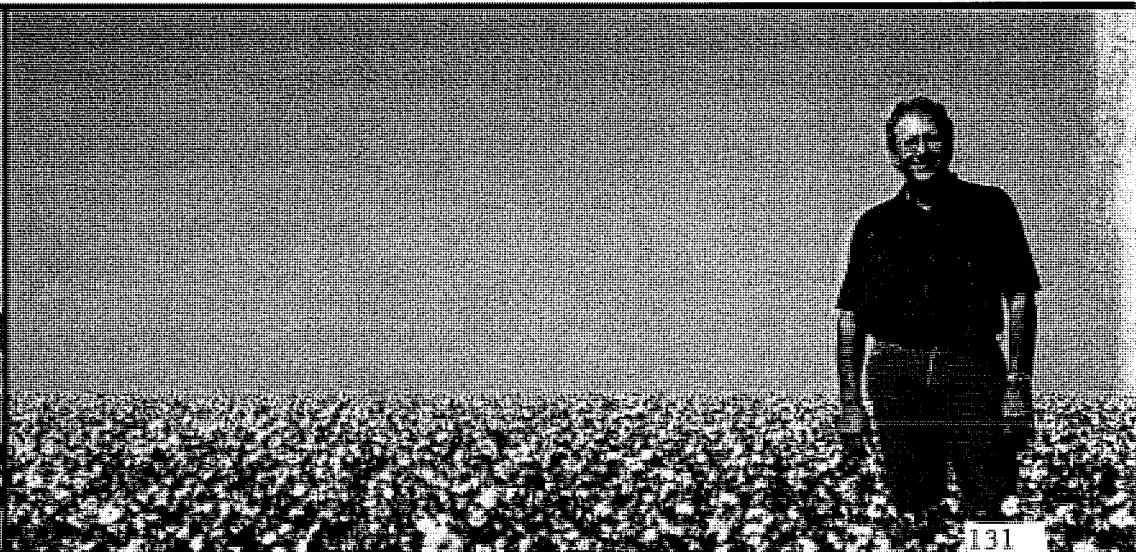
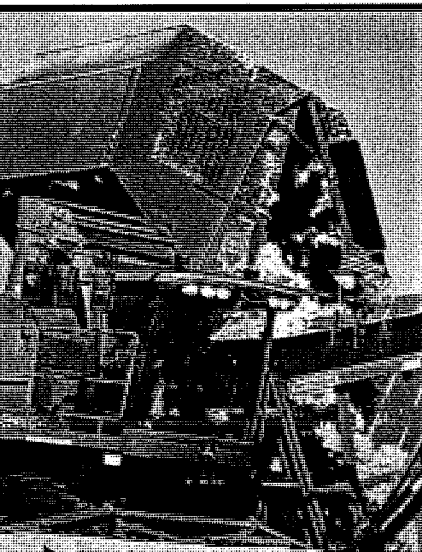
Throughout his 36 years of farming, Smith has built his farm up to a successful operation better than anything he had envisioned. He has learned the various types of soils on his farms have different fertilizing and tillage needs. He has also come to realize the amount of water each pivot is capable of producing and how to get the most out of the plants and water under those pivots.

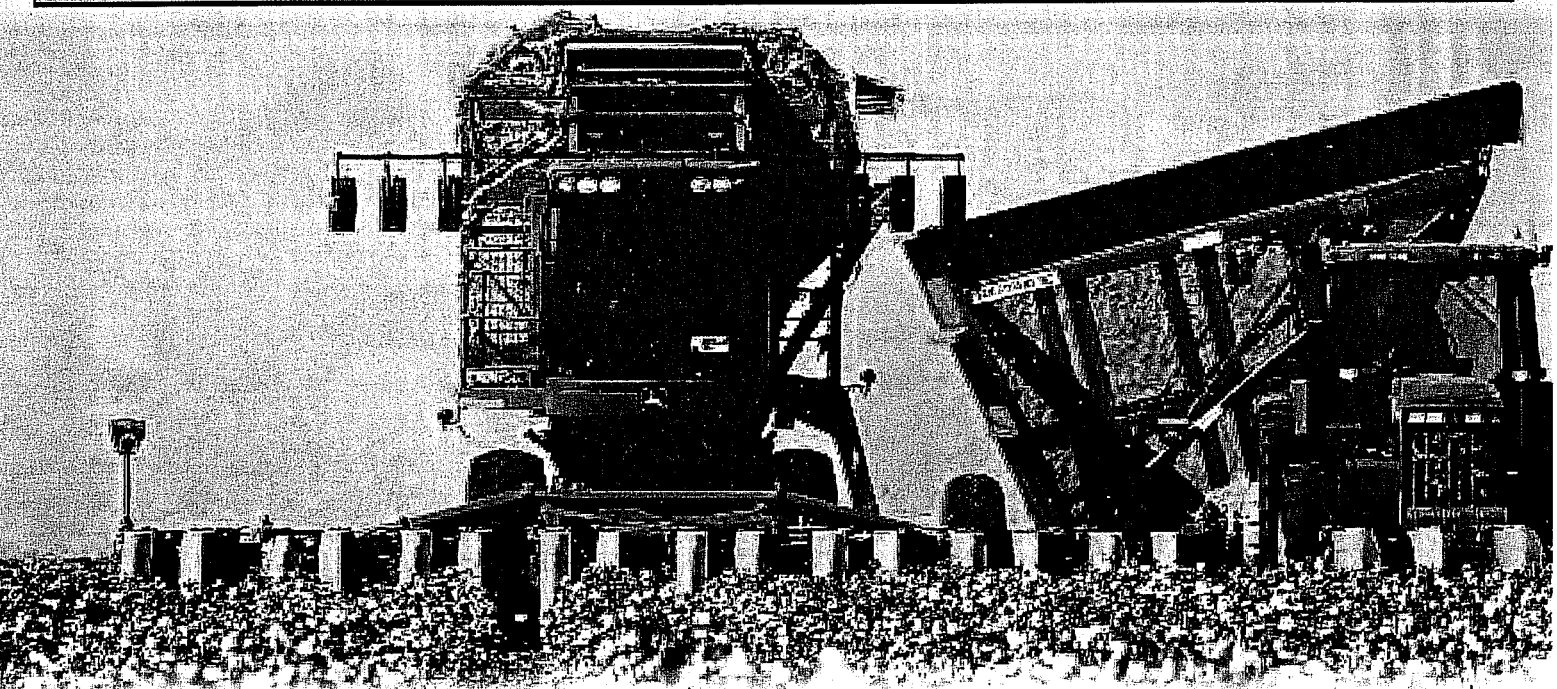
Smith is a strong believer in water and land conservation. He uses crop rotation, and has taken a recent interest in a corn, cotton, and triticale rotation producing three crops in

two years. Smith plants corn silage in April on 20 inch rows, harvests it in August, deep rips the ground, and plants triticale in September. He then cuts the triticale as silage in mid-April, sprays Round-up to kill the remaining triticale, and plants cotton on 40 inch rows in May. The cotton is harvested in the fall and the stalks are left standing so two rows of corn can be planted no-till between them on 20 inch rows in April.

Smith said although this rotation is very rewarding when done correctly, it is high risk and expensive. The triticale must be over fertilized so there is enough nitrogen in the ground to get the cotton started. Precision agriculture is also extremely important to ensure the two 20 inch rows of corn are planted exactly between the 40 inch rows of cotton.

"This is an intense cropping cycle," Smith said, "and it is not for the faint of heart or weak of pocketbook."





Smith plants 600 acres using this rotation. The corn he produces is sold to a feed yard, Caprock Industries #6 at Lockney. The triticale is sold to Legacy Farms Dairy in Plainview.

Smith's cotton is ginned at the Edcot location of Windstar Gins. He has served on the board of directors of Windstar since 2008. Smith said when he first started farming there were six gins in his immediate area, none of which are around today. Through consolidation and technological improvements, the area can now gin more cotton with fewer gins, causing many locations to shut down operation and close.

Smith has seen gins shut down, farmers move within the city limits and begin new careers, entire towns become vacant, and it has all happened within ten miles from his front porch and over a period of three decades.

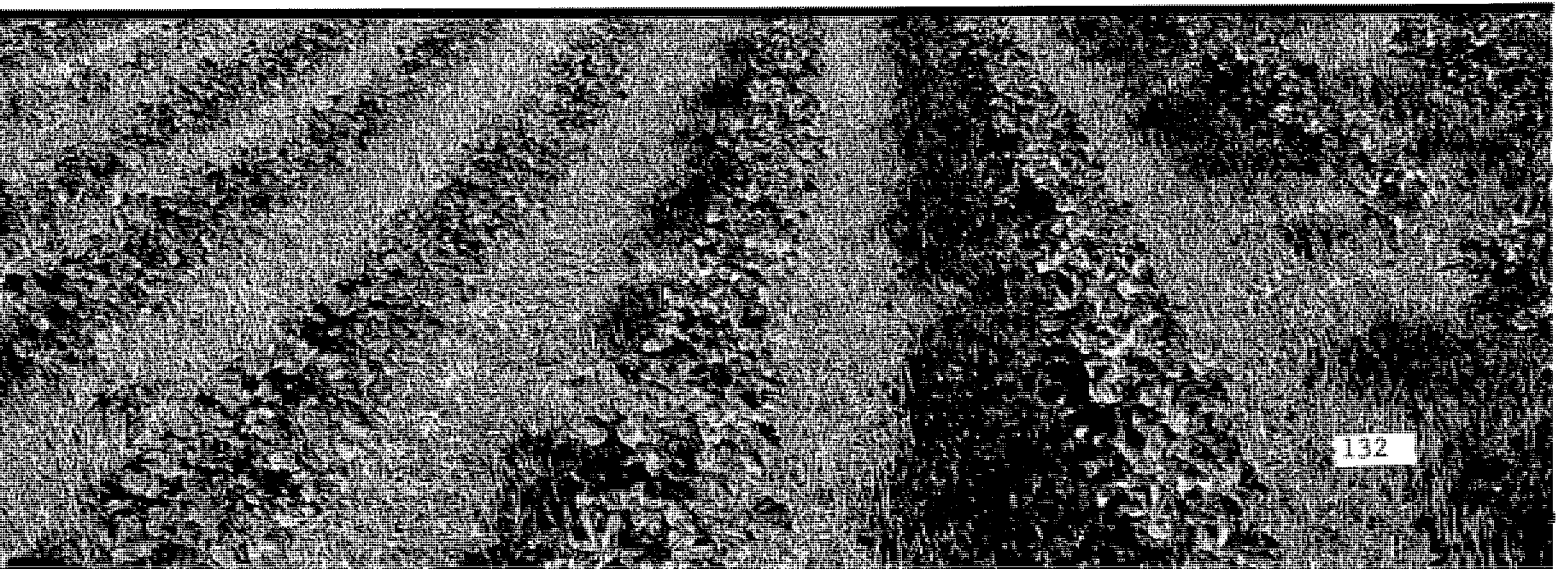
"You could write a book over the changes I have seen in our area and in farming," Smith said, "and things will continue changing with time."

Smith went on to say some of the changes recently impacting South Plains farmers include improved cotton varieties with increased yields, eight row cotton strippers allowing faster harvest time, better defoliation chemicals, and a climate change causing cotton to open in September and early October and be harvested by late November.

"I can remember when we hoped to be finished stripping cotton by Christmas," Smith said. "Now I am disappointed if I don't have it all out of the field by Thanksgiving."

Smith said while many changes in farming have increased crop size and quality, they have also become more expensive.

"It takes my breath away to think about the





amount of money it takes to farm today," Smith said, "and when you throw in all the risk there is on top of the cost, it will keep a farmer very alert."

Smith said labor is a major expense for farmers. On his operation, Smith has one part-time and two full-time employees. His grain crops are custom harvested, and during cotton harvest, he has eight employees driving strippers, boll buggies and module builders. Smith said good employees are key to a successful farm, and he has been fortunate to have several dedicated ones work by his side throughout the years.

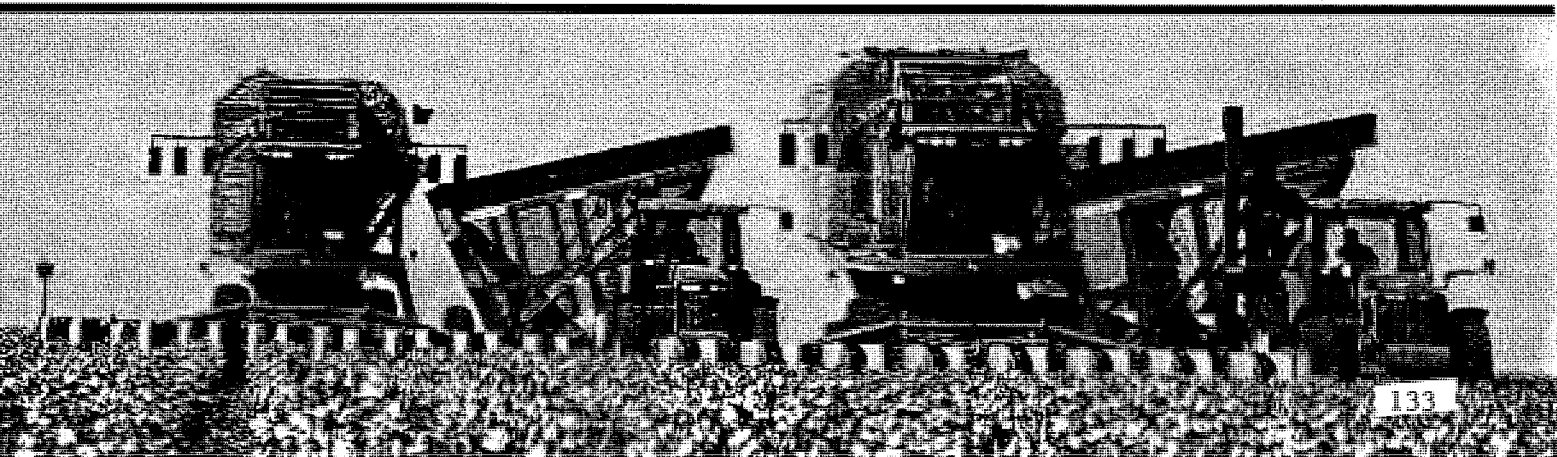
With increasing expenses, employees to manage, and ever-changing markets, Smith highly advises upcoming farmers to acquire business and accounting knowledge.

"I did not want to go to college, and certainly did not want to finish college," Smith said, "but looking back now, I am glad I took those business and farm management classes, especially accounting, to help me on down the road."

Smith said his farmland is now leased for wind energy and may soon be the location of numerous wind turbines, creating more change to his farm. He said the contract states the wind turbines cannot block his irrigation pivots or hinder his drip irrigation. However, roads and pads surrounding the wind generators will take up several production acres.

As for changes in water availability to Smith's farms, he said it has been on a slow and steady decline for 30 years now. In an effort to support water conservation, Smith participates in the Texas Alliance for Water Conservation Project and uses a water management tool called AquaSpy to track soil moisture levels for improved water use efficiency.

"AquaSpy technology allows me to know how much moisture is in the ground down to a depth of 42 inches," Smith said. "By being aware of the soil moisture, I knew to not water more than needed this past July and early August when the moisture level was high. In late August up to September 15, however, AquaSpy told me my moisture level was low and



I needed to water the cotton very intensely. That field ended up producing four bale per acre cotton, and is a double crop field that cut 14 tons of triticale silage in April. That is pretty impressive, and I contribute a lot of it to the AquaSpy technology."

Smith said this was his first year to use AquaSpy, and he plans to use the technology again since it proved to be successful. Smith said he did not use less water than usual this past year due to a dry August and September. He was able to use his water in a timelier manner, resulting in an impressive boll load on his cotton.

Beyond his farm, Smith enjoys serving agriculture by being on many boards including Plains Cotton Growers Executive Board of Directors, Floyd County Farm Bureau Board of Directors, and Northern High Plains Boll Weevil Steering Committee Board of Directors. In the past he has served his community as Mayor of Lockney, Lockney ISD Board of Trustees, and President of Lockney Cooperative Gin. He is also on the National Sorghum Producers Legislative Affairs Committee and represented Sorghum Producers at the House Agriculture Committee Farm Bill hearing in Lubbock, Texas, in May 2010.

Smith is dedicated to staying educated and involved in farm policy. He said he is concerned about the next Farm Bill and is going to fight for his and all other farmers' rights. Smith knows that although things are good now, they can take a turn for the worse, as they have done in the past, and a strong Farm Bill will be necessary for farmers to pull through those tough times.

"In 2000, drought and especially the boll weevil caused many farmers in our area to go bankrupt," Smith said. "I can remember walking out of the bank in January of 2001 and wondering 'what in the world am I going to do in order to keep farming?' It was the 2002 Farm Bill that later saved many of us from that tough year, and although things are good now, we cannot get complacent. We cannot let politicians think we do not need as much now and we have to be careful with our rights. I know I am not going to give on any of it."

Smith said the boll weevil eradication program has been very successful in his area. The insect that once destroyed their crops and caused many of Smith's neighbors to fold from farming, is now in management and is not seen in their cotton fields. He credits the success of the eradication program to the success of his own farm.

Dan Smith has seen good and bad years on his farm. He has seen his expenses rise and keep rising. He has also seen improvements in irrigation, machinery, and seed technology. Through it all, just about the only thing that has not changed is Dan Smith's love of farming.

"We may have bad years that can sometimes overshadow the good," Smith said, "but when you are up on a cotton stripper looking down on a great harvest, it is about the best feeling in the world."



COMPETING *for* PROFIT



Issue XXXII : October 2011

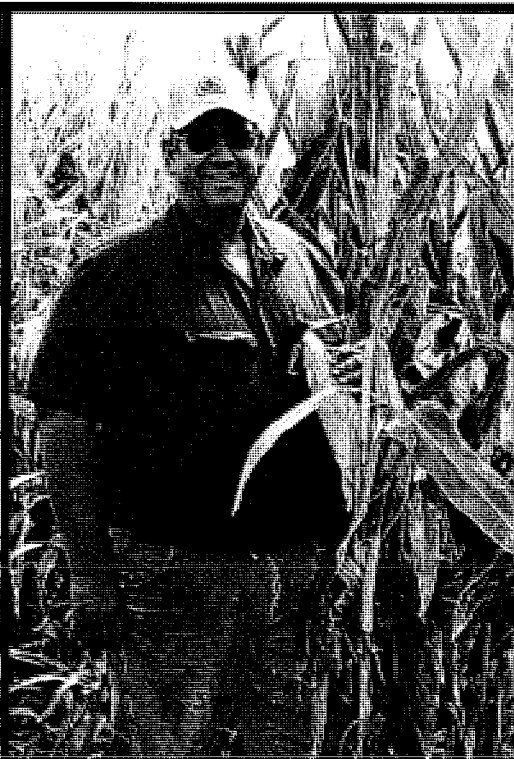
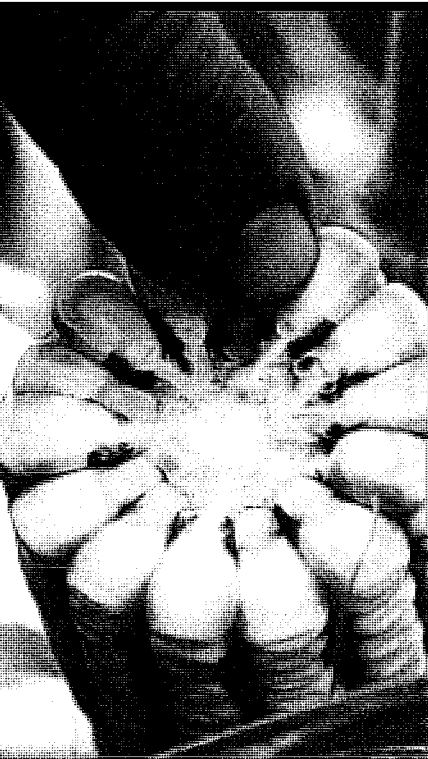
Texas Tech University

DAVID FORD - DUMAS, TX

STORY, PHOTOS AND DESIGN BY: SAMANTHA BORGSTEDT

When it comes to farming, coffee shop talk is often one of the best sources of information, and this year, the one phrase you will most likely hear in any small town coffee shop on any given day is, "I've never seen a year like this one."

That same phrase is what David Ford, who farms near Dumas, Texas, told me as we drove around his corn fields varying in size and maturity. Ford said if he would have known this past spring the severe heat and wind his crops would endure through the summer months, he would have planted a thinner population and backed up his planting date.





"This year we have dealt with a lot we have never dealt with before in agriculture," Ford said. "No rain, horrible heat and wind, and it just never seemed to let up. We will learn from this year, though, and come out of it smarter than before. We will have to."

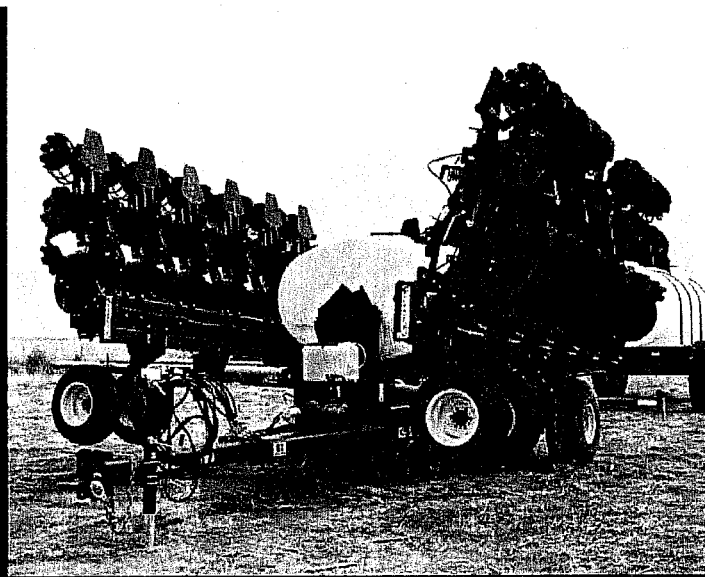
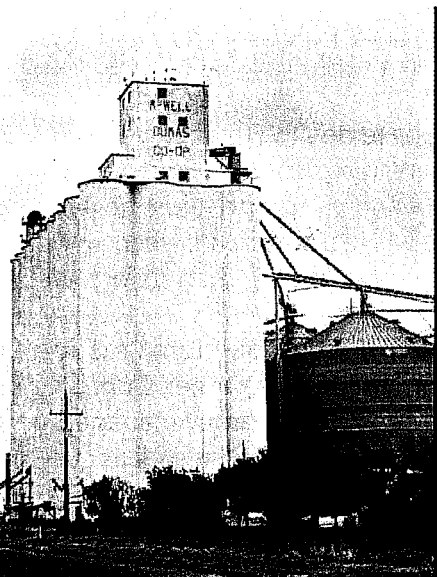
Ford, who serves on the Texas Corn Producer Board of Directors, farms with his brother, Donald, and two sons, Jeff and Kevin. The family manages 5,000 acres which they own or lease, as well as custom farm 5,000 additional acres. Of their own 5,000 acres, the Ford family produces about 70 percent corn, 20 percent cotton, and 10 percent wheat. However, Ford said if this severe drought continues, they will be looking into producing less corn and more cotton, wheat, and triticale.

Although Ford's farms have received only one and a half inches of rain from September 2010 to September 2011, he is expecting to harvest 180-200 bushel an acre corn and 1 ½ - 2 bale an acre cotton. Ford had to chop 240 acres, about 10 percent, of his corn crop due to heat, wind and drought. He said while he hated to abandon those acres, it allowed the remaining corn to receive the irrigation it needed to survive. He was able to sell his chopped corn to local dairies.

Ford said if the drought continues, several adjustments will be made throughout his farm to better ensure a successful crop. One of those changes will possibly be planting shorter season varieties of corn in order to back up his planting date. He said the 115 day hybrid planted this past June 1 did not have to deal with the April and May winds, and was at an early enough age when the heat and winds hit mid-June to avoid the stress his older plants endured. That later planting corn now stands 12 plus feet tall with little variability, making it Ford's best looking crop.

Ford said he will also change the nozzle types and possibly the spacing on his center pivots. He renozzled several pivots this past summer to reduce evaporation and water output in hopes of stretching his water supply. If a lack of rain continues, Ford said he will switch from spray to bubble and wobbler nozzles, and possibly go from 60 inch spacing to 30 inch spacing between nozzles.

"Hopefully by this coming February we will have an idea of what we need to do next year and can make needed adjustments," Ford said. "In this country it seems extreme follows extreme. We had an extremely cold winter and extremely hot summer. Hopefully we will have an extremely dry summer and wet winter. Who knows, maybe we



won't, but we have to plan and be ready for whatever comes our way."

Ford purchased adequate insurance in preparation for this year's crop. In order to better protect his revenue, he said he will likely up his coverage next year to 70 or 75 percent from the 65 percent level he purchased this year. He emphasized the importance of protecting farm revenue.

"Any insurance policy that comes along that can better protect revenue, people need to look into," Ford said. "Yield is only part of the package. Yes, it helps to have good yields, but revenue is what you have to protect."

In order to protect his water supply, Ford has installed water meters on all his wells to monitor water output. He said the meters allow him to know exactly how much water he is pumping and help determine what varieties of seed to plant under specific pivots.

Ford contributes a great deal of his water and soil management to strip-tillage, a soil conservation method used to improve soil conditions, reduce fertilizer needs, and increase moisture retention. This is Ford's eighth year to use the practice, and it has proved to be advantageous both in his fields and to his pocketbook.

Ford said when he used conventional tillage he was pumping 24 to 25 inches of water on his corn, costing him about \$123 per acre. Since using strip-tillage, the organic matter remaining in the field retains water, reducing Ford's water output and lowering irrigation costs to \$92 an acre.

Strip-tillage also decreased the amount of trips Ford must pass over his fields with a tractor, reducing labor, fuel costs and soil erosion. Ford considers the combine, when harvesting the prior

year's crop, to be his first trip across the field in preparation for the next year's crop. He cuts the stalks low so they can remain in the field to preserve soil and water throughout the following crop year. He then strip-tills the land, and follows that up with planting. Other than applying herbicide with a spray-rig, Ford is able to tend his land in three trips.

"When using conventional tillage, I might make up to seven trips across my fields," Ford said. "That took a lot of labor and fuel. Now I only make three trips and can drive down my turn-rows and not see water running out (of the field) like I did when using conventional tillage. The strip-tilled fields' organic matter holds the moisture long enough to allow it to soak into the ground. Making every inch I put down count."

Ford said although his water supply has not decreased drastically, it has indeed decreased over his years of farming, causing him to be more aware of and careful with his output. He is hoping first and foremost for a good rain and a continuation of moisture throughout the next crop year. But knowing drought years like this will come along in his farming future, he is also hoping advanced varieties of seed, irrigation methods and strip-tillage will allow him to continue conserving water while harvesting successful yields.

David Ford is passionate about his crops, land and water, and he will be the first to tell you it takes grit to farm in his area. This year is as good example of that as any. But if there is one thing I have learned about agricultural people throughout the High Plains of Texas, it is that they have grit, and David Ford is as good example of that as any.

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Issue XXIV : February 2011

Texas Tech University

SLOAN JACKSON - ACUFF, TX

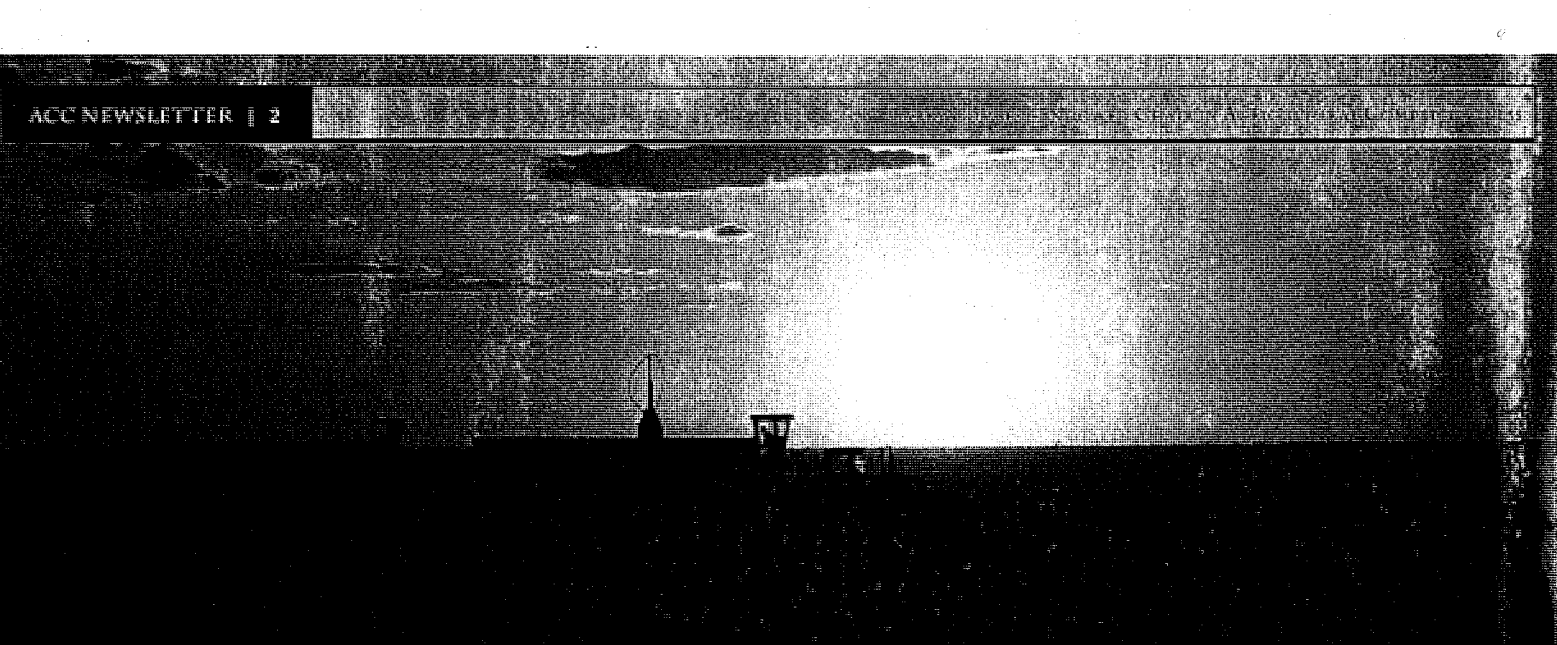
STORY, PHOTOS, & DESIGN BY: SAMANTHA YATES BORGSTEDT

The most valuable and important component to a farm cannot be found at the local tractor dealership or hardware store. It is used most often, during planting, growing and harvesting seasons, as well as on all crops, whether it be cotton, sorghum, wheat, corn or anything else. This priceless tool is mentorship, and it is exactly what Sloan Jackson needed to begin his farming career.

Jackson grew up in the farming communities of Idalou and Acuff, Texas. He worked on various farms throughout junior high and high school, helping however he could and learning along the way. He listened to the advice and knowledge of older farmers in his area and learned from their wisdom and experience. Jackson always knew he wanted to farm, but also knew he needed someone to help him get started in the business. Luckily, a farmer Jackson admired and respected while growing up took the young man under his wing and offered Jackson the opportunity he needed to get his start farming.

Chris Marshall has farmed irrigated and dryland cotton in the Acuff area for many years. When Jackson's grandfather retired in 2009, he called Marshall asking if he would take over a quarter-section of his dryland. Marshall agreed under one condition, that Jackson would be able to farm the 160 acres.





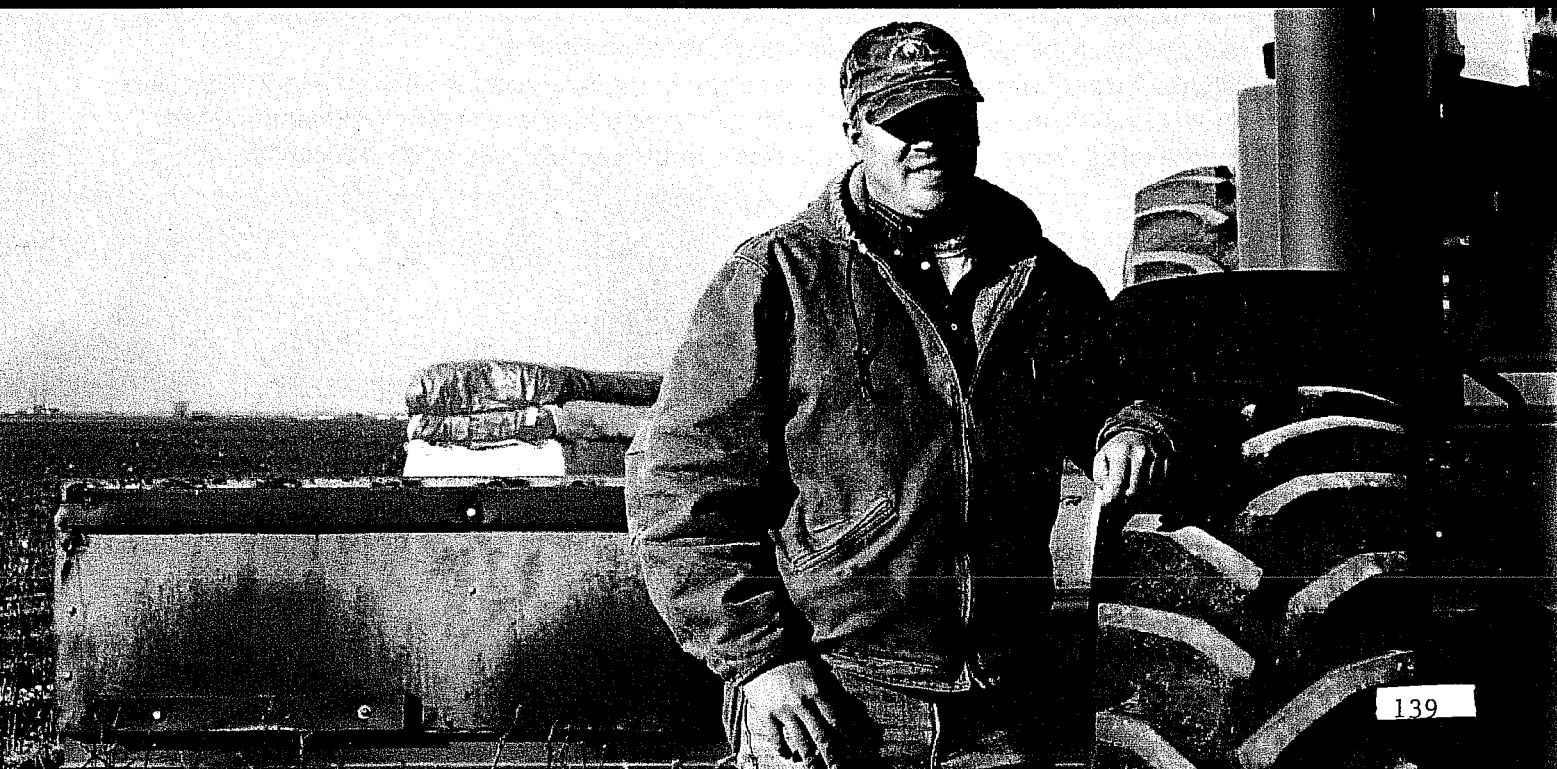
Jackson, who is 21 years old, now tends to that quarter-section, and works for Marshall earning a salary. From the beginning, Marshall told Jackson he thought of their relationship as a partnership with the end goal being Jackson having the ability to farm on his own. Freddy Lee Brown and Marshall's son-in-law, Josh Gandy, are also members of the partnership, and together the men share labor and equipment, working in collaboration throughout the entire farm.

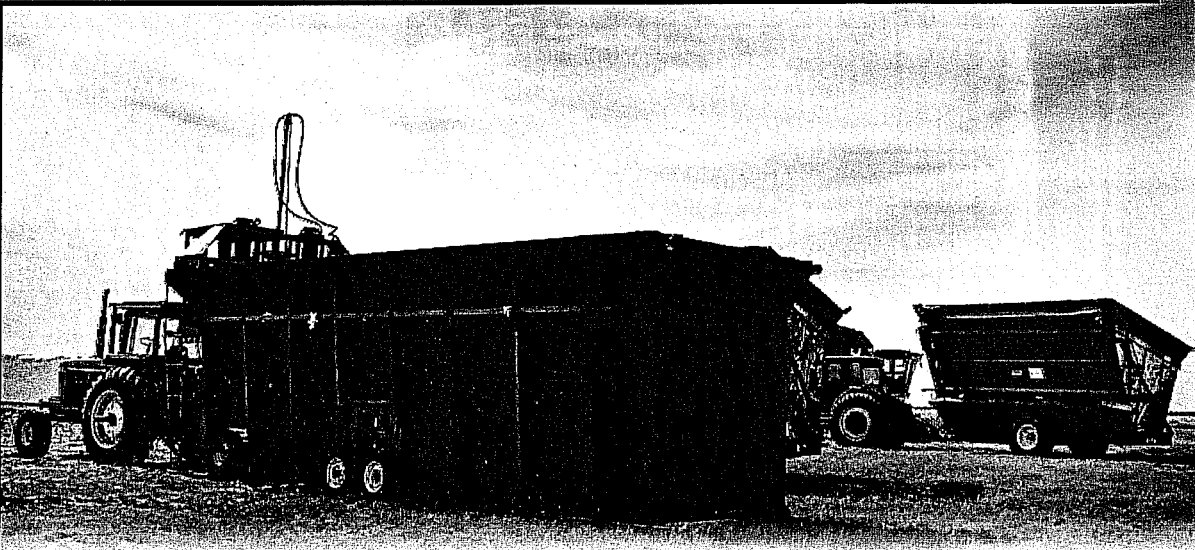
"Chris has been great to me," Jackson said. "He has offered me advice and guidance when I needed it, but has also always told me that no matter what he says, I need to go with my gut feeling and do what I think is right, which has given me the confidence I need to

make my own farming decisions."

Jackson said when it came time to plant and fertilize his 160 acres, it was helpful to discuss his choices with Marshall in order to decide on his best options. While much can be learned by reading seed and fertilizer labels, sometimes the best way to make a choice on what variety to plant and fertilizer to put down on a field is to visit with those who have experienced success and/or failure with certain products.

In addition to Marshall's mentorship, the opportunity to share equipment has been a major help to Jackson. As any farmer knows, equipment is expensive, and it would have been impossible for Jackson to purchase all that is needed to plant, maintain and harvest





his crop. By partnering with Marshall, Jackson gained access to implements he needs to properly farm his cotton.

While the partnership has helped Jackson get his start farming, it has proved to be beneficial for Marshall as well. By having someone he can trust and rely on to perform various tasks on his farm, he is able to spend more time with his family and enjoy his grandkids.

Marshall and Jackson are working on a five-year plan, where at the end Marshall will have more flexibility with his time and Jackson and Gandy will continue farming Marshall's land as partners. The two younger farmers are also looking at acquiring additional acreage from retiring producers in an effort to expand as farmland becomes available and finances allow.

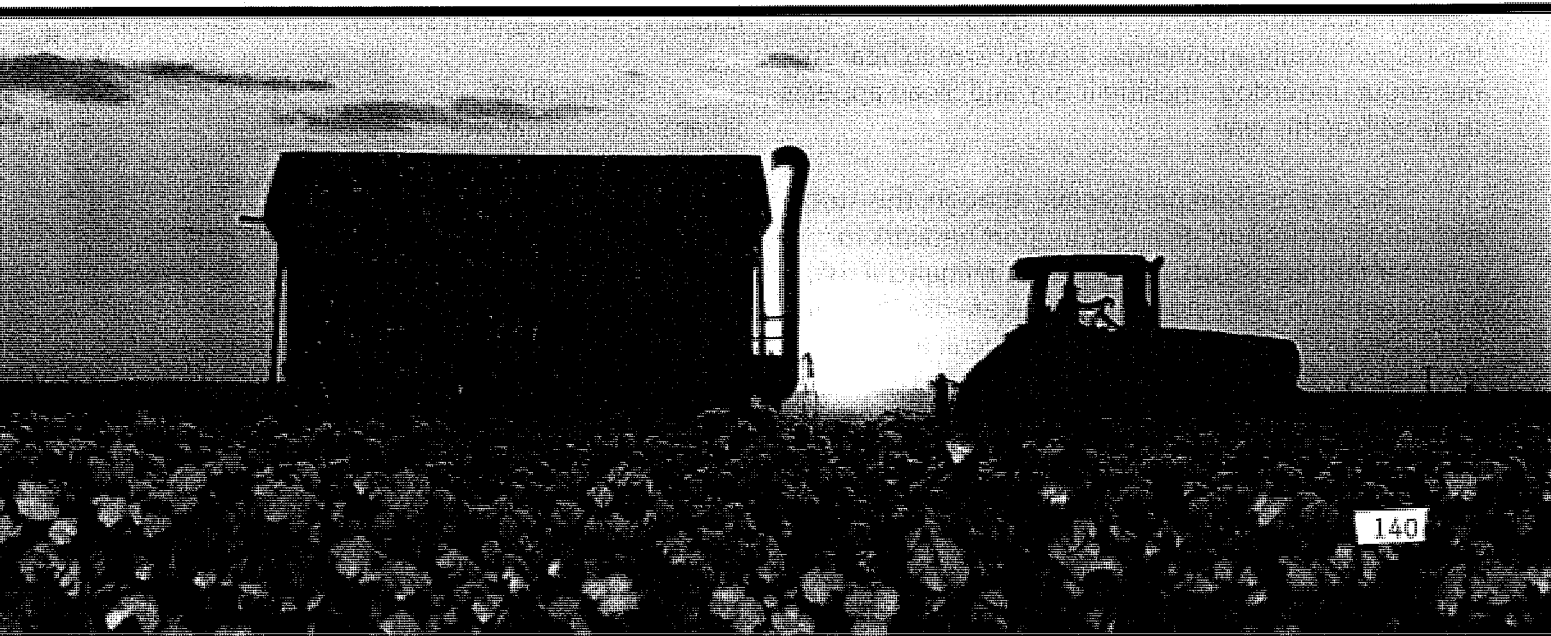
"I have no idea what to expect out of the next five years," Jackson said, "but hopefully I will make the right decisions and be able to farm

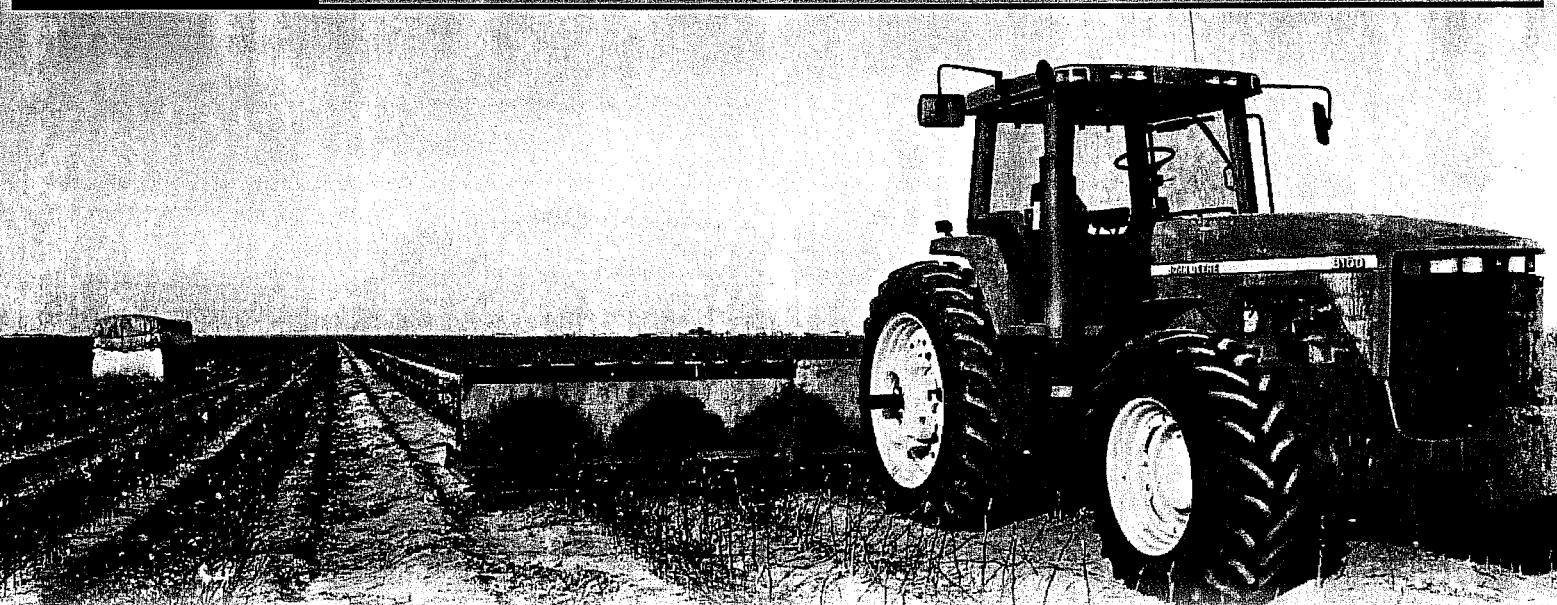
more of my own acres somewhere around that amount of time."

As for his first year, Jackson said it went about as he expected. He said there were some tough times along the way due to heavy rains in July and not enough rain at the end of August, but overall it was a good year.

"I've been around farming enough to know you can't live this lifestyle and expect everything to be great and easy," Jackson said. "There will be good days and there will be some bad days, but you have to keep your head up through them all."

Jackson said he was lucky to start out farming cotton on a year when its market reached record highs. He said Marshall told him he might not want to take his advice any more because he told Jackson early on to put his cotton in a pool rather than waiting to sell it at the end of the season for market value. However, Jackson said he





is glad he went ahead and entered the pool and will do the same next year, rather than taking his chances with the market.

"If I wanted to gamble like that, I would go to Vegas," Jackson said. "Farming is enough of a gamble as it is, and I would rather be safe with my cotton in a pool."

While Jackson realizes farming is often full of uncontrollable factors that will result in some tough times, he has no doubt it is the lifestyle he wants to live, and he is willing to bear all the burdens it may bring his way. He said although he cannot control the wind or rain, he would rather be out trying to keep it

from hurting his crop, rather than be watching it out an office widow without any worries of what destruction it may cause.

Luckily for Jackson, once the wind and rain clears and he is forced to make a decision on what to do next, he is able to ask the advice of someone who has experienced it all before and has knowledge of what the best options are. Although it may only be his first year of farming, Jackson knows the value of Marshall's mentorship, and realizes if he is to make it on his own as a farmer, he must never stop listening to or learning from those who have plowed the land before him.

CHAIR'S COMMENTS

DR. DARREN HUDSON

The Sloan Jackson story is interesting on several levels. First, it is a great human interest story about a young man embarking on his journey as a farmer with the help of family and friends. People love to hear stories about underdogs making it big, and Sloan appears to be well on his way.

From a broader perspective, though, this story highlights the importance of a support network for younger farmers. Costs, and with them financial risk, are higher than ever, product choices are diverse, and production technologies are often difficult to grasp. And, as we have discussed in previous issues, the traditional model of fathers passing on their farms to sons (or daughters) appears to be fading so that new entrants into farming often have little or no experience.

So, a support system that provides young farmers with good environments to learn and experience farming is critical to the long term success of the regions farms.

The moral of Sloan's story is that we need to continue to develop the support networks. If you have an opportunity to participate in a mentoring program and/or mentor a local young farmer, do it. I think if you ask Chris Marshall, he would tell you it has been a rewarding experience for him as well.



Dr. Darren Hudson, ACC Chair

COMPETING *for* PROFIT



Issue XXV : March 2011

Texas Tech University

WESLEY SPURLOCK - STRATFORD, TX

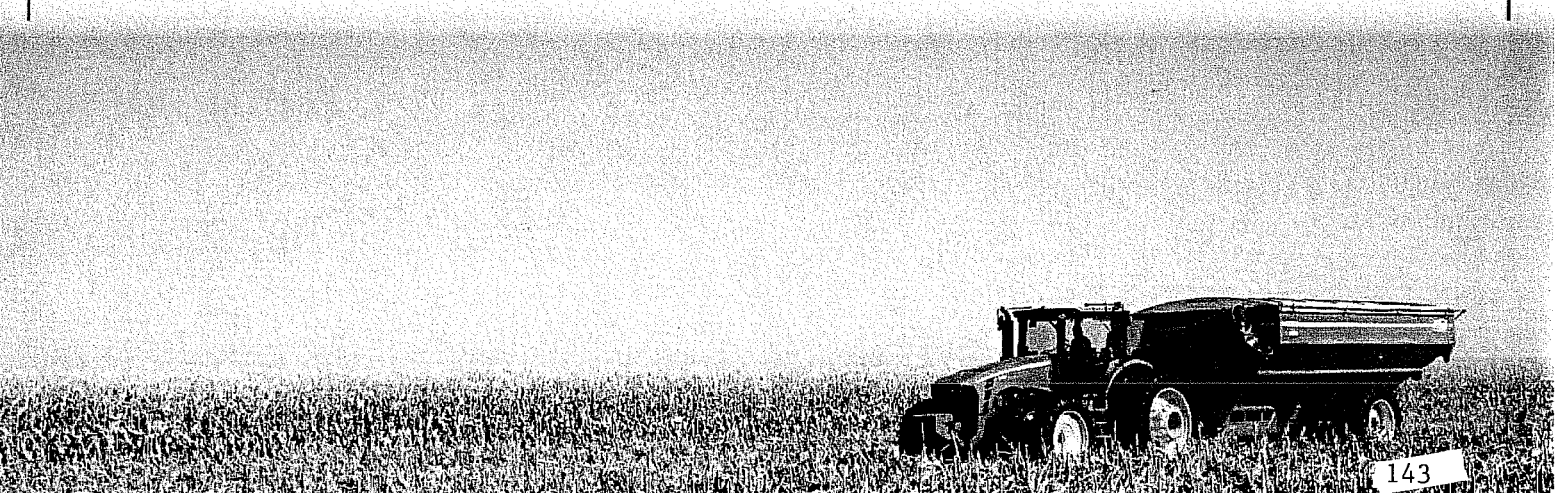
STORY, PHOTOS, & DESIGN BY: SAMANTHA YATES BORGSTEDT

When I arrived at Wesley Spurlock's farm headquarters near Stratford, Texas, he was unloading cases of water and soft drinks from his pickup truck. He greeted me and said to just follow him around while he finished up a few things. We went in the bunkhouse, equipped with a kitchen, where he put on a big pot of beans and checked to make sure the two huge casseroles in the oven were cooking like they needed to be.

"We feed all of our crew lunch and supper," Spurlock told me. "My cook is out on a spray rig this morning, so I told him I would put the beans on."

Once the beans were cooking to suit him, we jumped in the pickup and headed out to check on the corn harvest. Spurlock had two combines running as hard as they could, with grain carts relaying back and forth between the combines and trucks waiting to fill up and haul the corn to the Sunray Coop. As an outsider looking in, it appeared to be a continuous flow of flawless movement. Each piece of equipment moved in perfect synchronization with the other, leaving behind a field full of stubble and a truck full of corn.

"We got these 9870 John Deere combines last year," Spurlock told me, looking approvingly towards them, "and we have been really pleased with how well they are performing."



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While his crop this year is down about ten percent from last year, Spurlock said it is looking like he is still going to have a good harvest.

"Last year our yields were about 240 to 295 bushels per acre," Spurlock said. "This year, with hail and heat, we are looking at 175 to 240 bushels per acre."

Wesley markets all his corn through the Sunray Coop. While I was there, his trucks were hauling corn to the coop's main location in Sunray, however it also has locations in Etter, Coldwater, Conlen, Gruver, and Capps Switch, with a total capacity of over 23 million bushels.

Corn harvest in the area began earlier than normal this year due to dry, hot weather in August and early September. Spurlock said he started cutting corn on the sixteenth of September, when normally he starts around the end of September to the first of October.

He also said with all the farmers in the area harvesting earlier than usual, it created a large incoming of corn to the Sunray Coop, and the day before our visit his trucks were backed up two hours in the unloading line. They were all back on track and moving steadily when Spurlock and I drove by the coop the next day, and the large piles of corn grew higher and higher as each truck drove off to receive its next load.

"Sunray has always taken great care of my corn. They will market it anyway I need

them to," Spurlock said. "I guarantee them the grain, and they take care of the rest. It works out really well for all of us."

Spurlock manages 11,000 acres of farmland covering a wide stretch just south of Stratford, Texas. His wife, Susie, and kids, Jennie and Walter, are all involved with the farm, as are his parents. Spurlock also custom harvests 10,000 acres for the Lavake family, who neighbor them.

"We have lots of acres to cover and are at the mercy of the weather come harvest time," Spurlock said, "but we've got a great crew that knows how to work hard and get the job done."

Spurlock runs a corn and cotton rotation on his irrigated center pivots, which help with land and water conservation. All water usage on the farm is metered to track data that can be used to help researchers determine irrigation's economic value. Spurlock is very involved with the North Plains Groundwater Conservation District, serving as director for Sherman County.

Spurlock said metering his water has helped him make more economical farm management decisions. One of those decisions was to rotate his corn with cotton. Spurlock did some calculations and came to the conclusion that he could economically plant two and a half acres of cotton to every one acre of corn with equal irrigation. This led to him planting more cotton acres and partnering with the Lavake family to purchase four cotton strippers, three



boll buggies, and four module builders.

"We are going to be about two weeks ahead on our cotton harvest this year," Spurlock said. "This is just our sixth crop of cotton, and we are learning that because of heavy dew in the mornings or wind blowing too hard in the day, cotton harvest takes patience."

By the looks of his fields, Spurlock's cotton crop will be worth any needed endurance. He said the rains had perfect timing up to August, giving his crop the moisture it needed until the very end, leaving him with a favorable cotton crop. In addition to corn and cotton, Spurlock also farms wheat, triticale and seed milo.

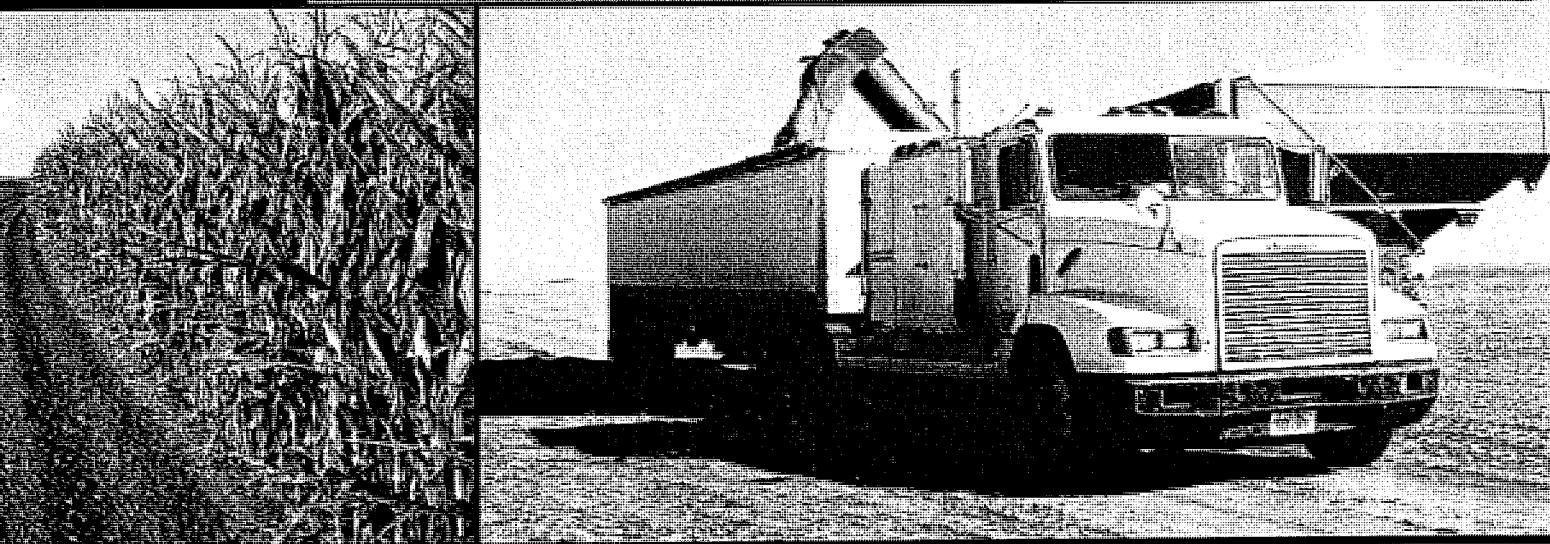
The majority of Spurlock's land, however, is planted in corn, and he is dedicated to the crop that has allowed him to wake up each morning and do what he loves. Spurlock was recently

elected to the National Corn Growers Association Board and serves as Treasurer of the Texas Corn Producers Board. He knows the role of each organization is important to the producers they serve, and he hopes his contributions will enable future generations to enjoy farming the way he has been able to.

"I am the fourth generation of my family to work this land," Spurlock said. "As the story goes, in 1898, when he was fourteen-years-old, my granddad rode his horse here from Arkansas. He sent word back to his family that he had found where they needed to settle, and the rest of them followed. I guess we've been here ever since."

While Spurlock's kids are very involved on the farm, they are dedicated to earning their college degrees and pursuing careers beyond the fields. Both attend Texas Tech University where





Walter is a senior and Jennie is a sophomore.

As for Spurlock's extended farm family, there is Domingo Baeza who has been a valuable part of the operation 25 years. Domingo's son, Noel, grew up on Spurlock's farm and is now responsible for many of its day to day management tasks. Greg Hudson, Spurlock's cousin, has also been a long-time member of the farm. Hudson is in charge of all spraying duties and runs the farm's custom spraying service. There is also Abraham, who started working for Spurlock about eight years ago as a grain cart driver and now manages all trucks and drivers (seven total) hauling

Spurlock's grain from the field to the coop.

Spurlock appreciates each person on his crew and the effort they put into their job. He knows without any one of them, his operation would be less efficient, costing money and time.

"It takes all of us to keep things rolling and get the job done," Spurlock said. "We have a good crew, which makes for a good farm, and I am proud and grateful for every bit of it."





Comments from the Chair

Wesley Spurlock's farm provides the classic example of families and neighbors engaged in growing the food and fiber for America and the world. Wesley and his family are actively engaged in farming after several generations on the farm. He has loyal workers because of his care for them and their families, and he is a good steward of the land through innovative conservation farming techniques. Like his fellow farmers and ranchers, Wesley loves what he does and it shows.

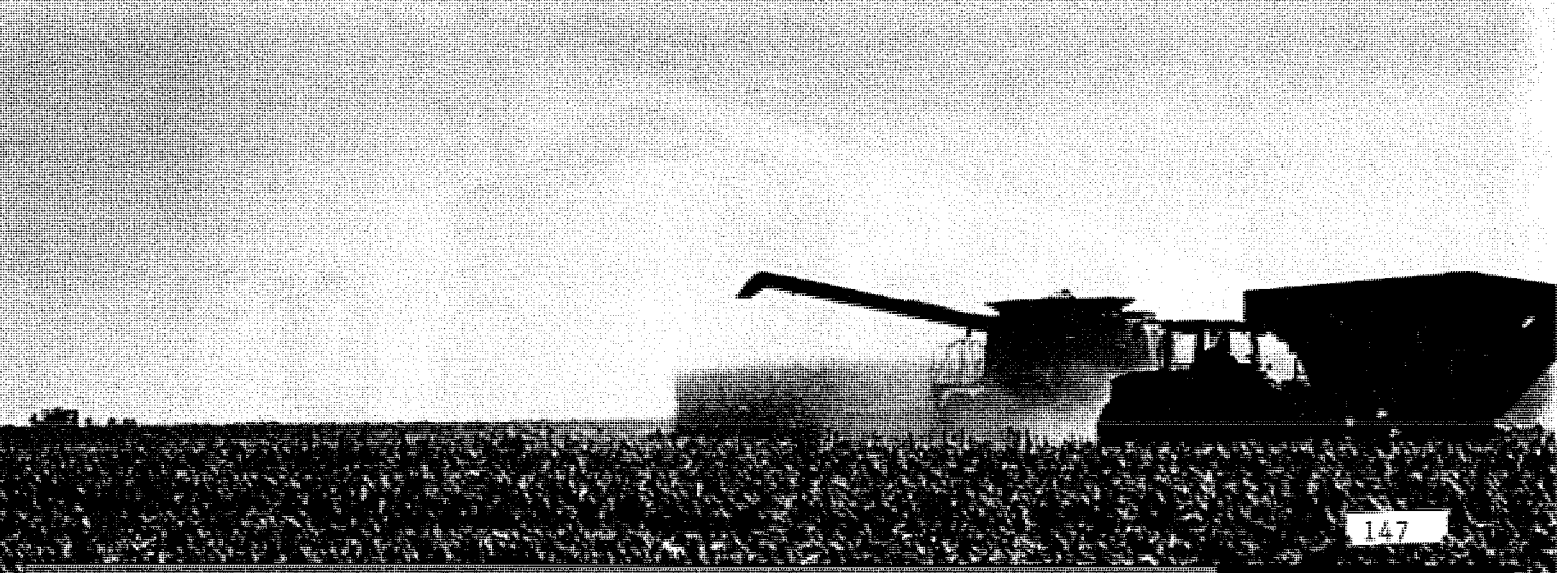
But, Wesley does not stop at farming. He actively participates in research on water conservation and is involved with the North

Plains Groundwater Conservation District. As such, he helps set water policy based on research and the needs of farmers in the area. In addition, he is active in the Texas Corn Producers Board and the National Corn Growers Association.

Forward thinking will be required to keep the U.S. corn industry competitive, and leaders like Wesley are needed to be at the forefront of those debates.



Dr. Darren Hudson, Chair



COMPETING *for* PROFIT

Issue XXVI : April 2011

Texas Tech University

ROGER HALDENBY - PLAINS COTTON GROWERS

STORY, PHOTOS, & DESIGN BY: SAMANTHA YATES BORGSTEDT

For over twenty years now a major voice for Texas High Plains cotton was not one with a slow, southern drawl, but rather one carrying a charming English accent. It is a voice that has been heard all over the world promoting the high quality cotton grown by Plains Cotton Growers, and although this particular voice will be missed at future area agricultural meetings and functions, one thing is certain, it will continue speaking the praises of High Plains cotton.

If you ask Myrl Mitchell, a long-time cotton producer in Lenorah, Texas, he may tell you Roger Haldenby began speaking that unique way after a tragic accident leaving him in need of a voice transplant, in which case he received an English voice. Of course one can't believe too much Mitchell tells them, although he gets a kick out of it if they do.

"I remember one time when we were all in Austin passing out cotton towels for Cotton Day at the Capitol," Mitchell said. "Roger was speaking to this young lady who kept looking at him funny. I finally asked



her if she was trying to figure out why someone promoting Texas cotton was speaking with that funny accent. I gave her that spill about the voice transplant, and you know I sure had that poor little girl believing me for a while."

Mitchell went on to say what a great asset Haldenby, who began working for Plains Cotton Growers (PCG) in 1989, has been to the cotton industry as a whole, and especially the cotton industry on the Texas High Plains. He also said while Haldenby will be missed locally, Mitchell knows he will continue to serve Texas High Plains cotton in his upcoming ventures.

Haldenby will be moving to Saigon, Vietnam, this month where he said the customer base for cotton is growing and promising. He will be starting a consultancy to advise and aid mill buyers and spinners in the Asia/Pacific area better obtain and use the cotton fiber produced on the Texas High Plains.

"High Plains cotton is always looking for a home," Haldenby said. "Hopefully I will now be better able to help find a home for it."

Haldenby has been a long time supporter of cotton throughout the Texas High Plains. Prior to his employment with PCG, he worked within the area's cotton industry as a commercial spray applicator. He was a strong leader in the fight against the boll weevil, a pest causing

major destruction to cotton fields all throughout the High Plains.

His high involvement with the boll weevil eradication program led to Haldenby being a much recognized face by area producers, and while in the beginning he may not have always been greeted with an abundance of friendliness, the success of the boll weevil eradication program was quickly prevalent and accepted by High Plains cotton growers.

"I have known Roger a long time, since about 1990," Dan Smith, cotton producer from Lockney, Texas, said. "He is a trusted friend and I have always been amazed at his dedication to the cotton industry, which he has represented so well."

Smith said he remembers occasions during the boll weevil controversy in the mid 1990's when Haldenby stood his ground and accepted debate with poise and grace. Smith said although Haldenby endured many strong comments that would set any person back, he continued to do his job, do it well, and go on to become one of the most respected members of the cotton industry.

Haldenby said he is very proud of the success the boll weevil eradication program has had and he believes the eradication of the boll weevil, along with improved cotton seed



varieties, has allowed High Plains cotton growers to produce more quantity with better yields.

While Haldenby remains involved in making the final transitions to ousting the boll weevil from Texas cotton fields, some of his other work during his time at PCG focused on what he described as the four headings PCG functions under: legislation, service, research and promotion.

Locally, Haldenby has served his community on numerous occasions and has been a long-time member of the Lubbock Chamber of Commerce's Agriculture Committee, which led to him being one of two volunteers recognized by the Chamber as co-Volunteer of the Year in 2007.

"Roger served three years as co-chairman of our Agriculture Committee," Mary Jane Buerkle, Vice President-Communications, Lubbock Chamber of Commerce, said. "He led efforts to ensure

agriculture was included in the Lubbock Centennial Celebration, helped oversee the development of our new website devoted to agriculture (lubbockag.com), and emceed and spoke at several of our events. We always knew we could count on him to help with whatever he could, whenever he could. He truly is a friend to the Chamber, the Lubbock business community, and the entire agricultural industry."

Throughout his years of service, Haldenby has developed a combination of knowledge and experience giving him great credibility in the cotton industry worldwide. It is this credibility that has caused the groups he has worked with, both foreign and domestic, to listen to and respect his promotion of the benefits and value of Texas High Plains cotton.

"Roger has contributed greatly to the mis-





sion of PCG since 1989," Steve Verett, Executive Vice President, PCG, said. "From his original responsibilities as director of the High Plains Boll Weevil Program, developing a superior communications effort through e-mail, to promoting Texas cotton to our International customers, he has done these and many other responsibilities superbly. U.S. cotton has benefited from his tireless efforts and I will personally miss his day to day counsel."

Through PCG's close working relationship with Cotton Council International, whose mission is to increase exports of U.S. cotton, cottonseed and U.S. manufactured cotton products through activities that affect every phase of the marketing chain, Haldenby has hosted many groups and traveled many places on cotton missions in an effort to sell the benefits of U.S. cotton.

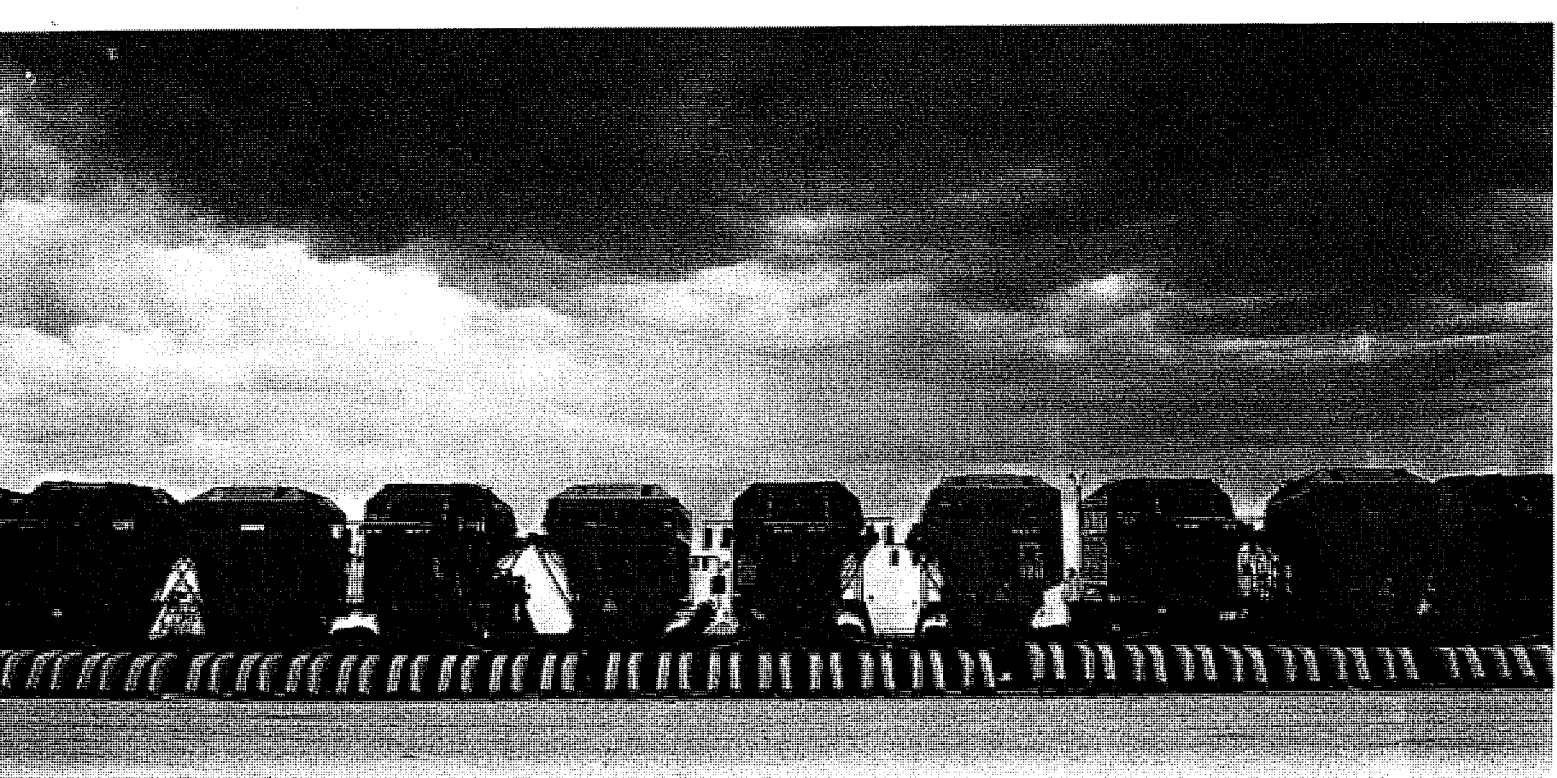
Some of his travels include spinning mills in India, Bangladesh, Thailand, Vietnam and others where Haldenby developed relationships with for-

eign buyers. He continued to develop these relationships through continued efforts and travel in hopes of establishing trust, knowledge, and respect for his self and High Plains cotton.

Most recently, Haldenby has been frequently traveling to Vietnam where he said the cotton mills are rapidly growing and advancing, creating a demand for high quality cotton which the United States, and the Texas High Plains in particular, can provide. Haldenby said the type of cotton grown by PCG producers is perfect for these mills, and he hopes that through close, working relations, he can help Texas High Plains producers take advantage of what he believes to be a potential market creating great opportunity.

"Relationships are much like farming," Haldenby said. "You have to plant the seed, water it, and watch it grow. Hopefully, with good tending, our relationships with foreign countries will grow and prosper, benefiting both us and them."





Comments from the Chair

This month, we say farewell to a longtime friend of the High Plains (and U.S.) cotton industry. Although he will remain connected, Roger Haldenby's presence here on the South Plains will be greatly missed. Roger has been a great friend to me personally, helping to guide me through and acclimate me to the High Plains cotton industry when I returned. He was always present with sage advice and a good joke whenever I saw him at meetings and events.

I am sure that my story is just one of many from farmers and agribusinesses across the region. Roger has been the consummate chairman and English gentleman for many years. He has seen most of us have even grown up here and today he is a British agent as he became a natural voice for South Plains agriculture.

Now, Roger (who is not "retiring" but "relocating") is moving on to the next chapter in his life. But, even then, he remains tied to the region through his marketing and advocacy for U.S. cotton in Southeast Asia.



Dr. Darrien Hudson, Chair

This critical growth region will provide a great source of demand for U.S. cotton to compete with Chinese markets.

So, I can say adieu to my friend. I know he will be successful in his next venture, and I definitely know that he will be missed here.



COMPETING *for* PROFIT



Issue XXVII : May 2011

Texas Tech University

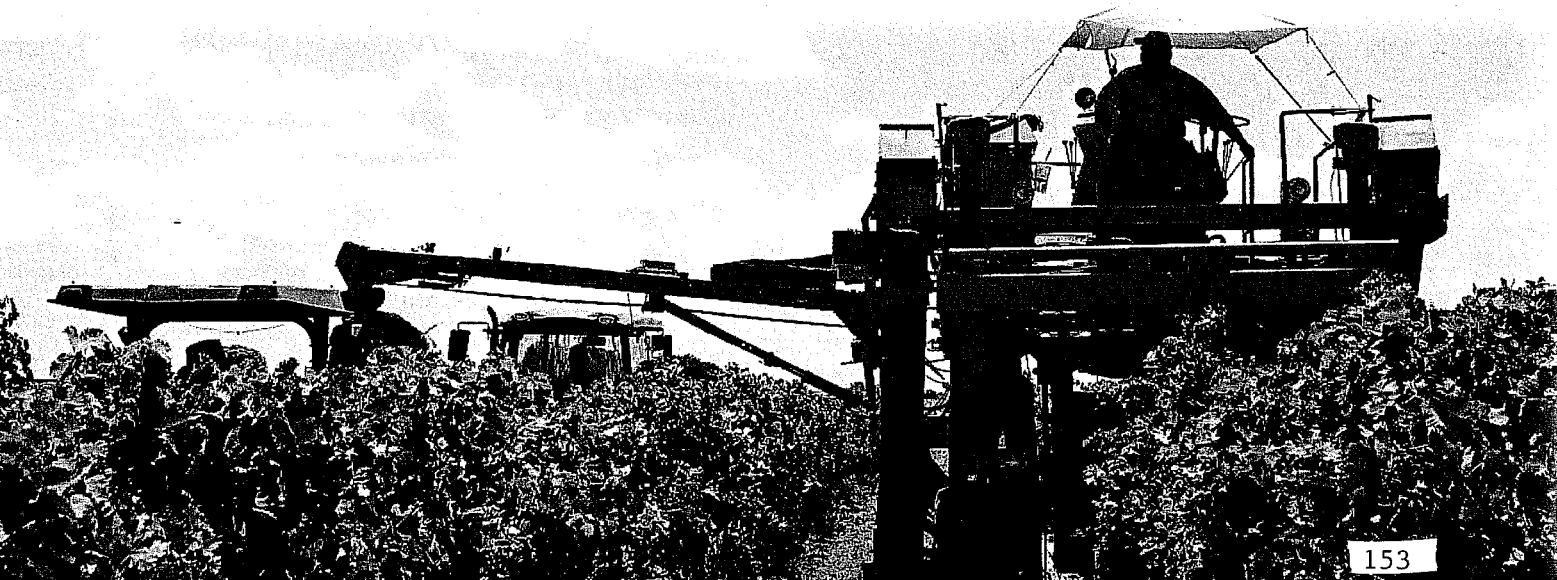
ANDY & DUSTY TIMMONS - BROWNFIELD, TX

STORY & DESIGN BY: SAMANTHA YATES BORGSTEDT

In a county where cotton and peanuts have long ruled the ground, a new crop has begun to make its way on the scene. Vineyards are being established all over Terry County, and farmers are impressed with the profits and benefits they are seeing. In less than ten years, the county has gone from almost no grape production, to having an estimated 20 percent of Texas grape acreage and accounting for about 50 percent of its production.

Like all their crops, Terry County farmers take their grapes seriously. They would not risk the time, labor and money on the crop unless they had complete confidence in it. Andy and Dusty Timmons, of Brownfield, Texas, are two Terry County farmers who decided the risks were worth a shot.

"We decided to get into grapes in 2006," Andy said. "At that time cotton prices were low, my water was running low, and the farm bill was so up in the air we didn't know what was going to come out of it. At that time, grapes were a good fit for us, and as it turns out, it was a good decision."



Andy, who in addition to grapes also farms four thousand acres of row crops, all of which will be planted in cotton this year, said he now wishes he would have begun his vineyard earlier. He is seeing a higher return on fewer acres and less water with grapes compared to his other crops.

"We put 18-20 inches of water on our grapes throughout the year," Dusty, who is the AgriLife Extension viticulture advisor for West Texas, said. "During the growing season we apply three inches a month, so most of our watering is done during that time."

The Timmons plant their grape vines four foot apart with ten feet between rows. They use an above ground drip system to water and have an annual irrigation cost of around \$50 an acre. Their soil is rich in potassium and phosphate, helping minimize fertilizer input. Pruning costs run them anywhere from \$500 to \$750 an acre and requires skilled labor, which is not easy to find. Their largest expense, however,

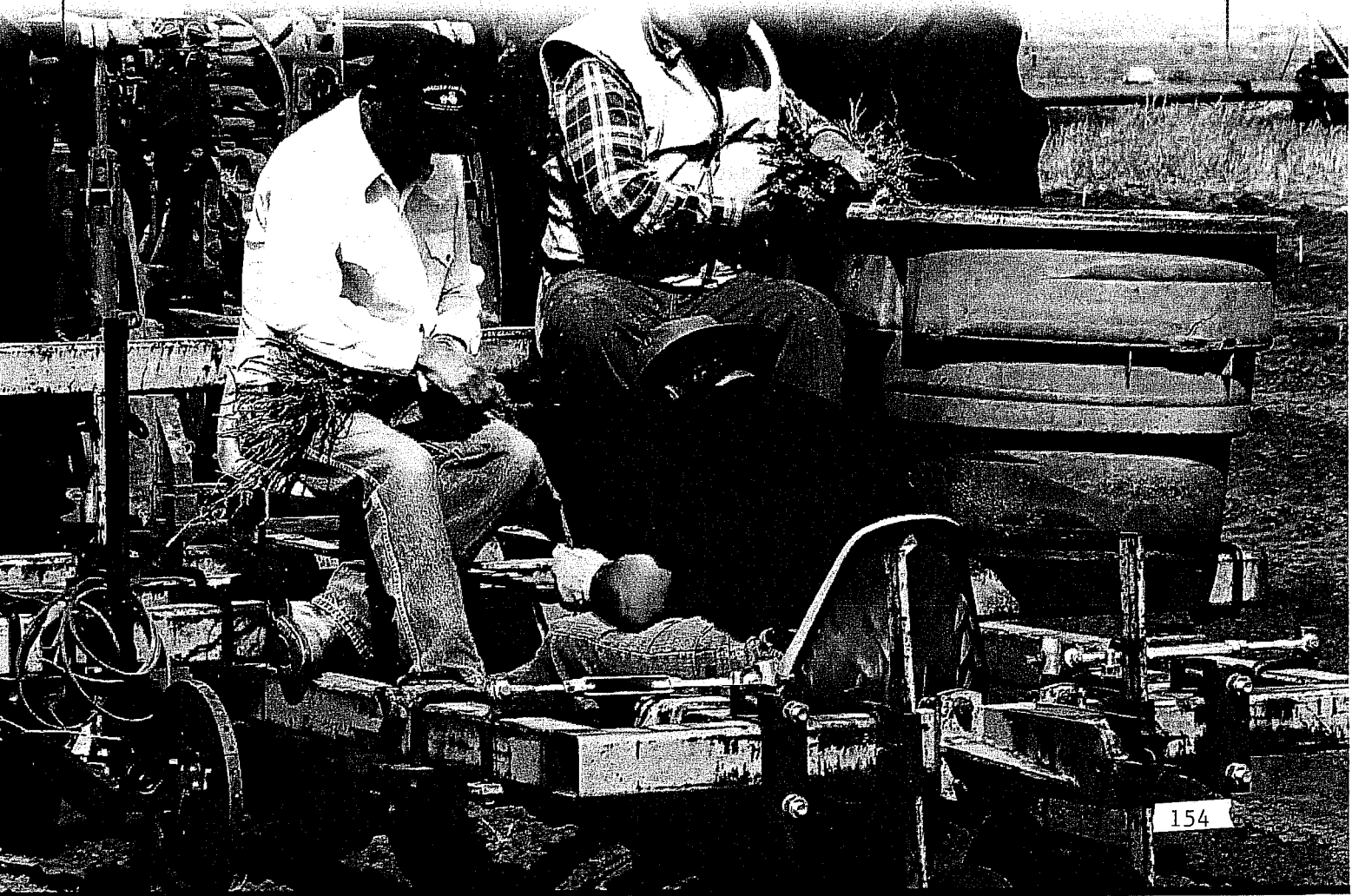
is fungicide. They said they spray their vineyard about 7 to 8 times a year, depending on weather.

Andy said the dry climate Terry County has had this year helped prevent the need to apply as much fungicide, and they have already been able to skip one of their usual sprayings. He said foggy mornings and heavy dew cause need to spray fungicide, and since the area has not experienced those conditions lately, it is reducing his usual fungicide cost.

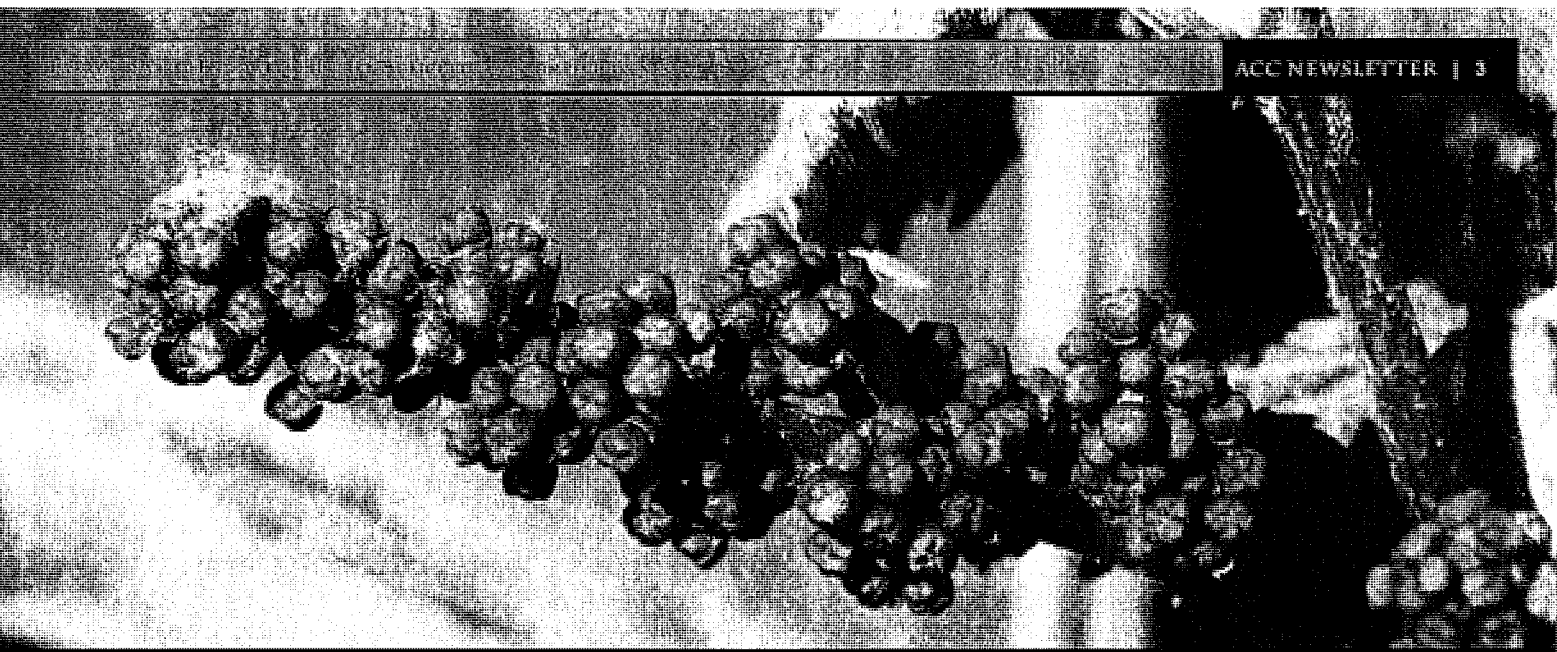
"There is not a thing that's cheap about owning a vineyard," Andy said, "but when done right, it can be rewarding and you can make a lot of money on much less acreage."

The initial cost to put in a vineyard can run anywhere from ten to seventeen thousand dollars an acre, and Dusty said the general rule of thumb is that it will take three years before you are able to harvest your first crop.

Fortunately for Andy, he was able to have a harvestable crop in 2007, only a year



Andy Timmons planting grapes.



after planting his first five acres of Merlot. Dusty said this sort of fast turnaround is rare; however, Andy was able to harvest the additional 10 acres he planted in 2007 in 2008.

Andy gave credit to the Young family, who also grow grapes in Terry County, for greatly helping him start his vineyard and for its success. With their guidance, Andy has been able to add acreage and varieties every year since 2006 and reach where he is today, 45 acres of grapes and 9 varieties.

"I am already bigger than I ever thought I would be," Andy said, "but I recently purchased some more land in Lubbock County where I will put ten more acres of grapes on next year, so I guess I will just keep growing."

The two brothers said they have their worries of the grape market getting flooded and

prices falling, but they feel grape production is, in a way, self limiting.

"Although the high initial cost is enough to keep many people from investing in a vineyard, you also have to worry about so many other factors that play a major role in its success," Dusty said. "Late frost and hail can easily ruin a crop overnight, and it takes a thick skin to come back and try again after experiencing that."

Dusty said on his own 10 acres of grapes, he has had nine hails in four years, and although they have not completely prevented him from having a harvestable crop, they have certainly had a negative influence on his production.

"Sometimes that is just the kind of luck you have," Dusty said. "It's not always good, and I think it will keep a lot of people from growing grapes."

The brothers said grape production is





either something you love or something you get out of. There is not any in-between. For them, it is a love. They said although labor is intense and much of it is done by hand, it is rewarding to watch their vineyard grow and be able to see the end product, wine.

The Timmons brothers market their grapes to several different Texas wineries. Andy said he hits the road and visits the wineries in person when contracting his grapes. He said there is a lot of trust involved when selling grapes and a personal relationship must be established between the grower and winery so each knows they can rely on the other to provide what they have promised.

Andy's grapes are locked in on five year contracts with wineries he has established a trusting relationship with. He said the market price is good for grapes right now, and he believes this trust factor will continue to keep his prices up as long as he provides good grapes.

I asked the brothers if they expect a Terry County winery to be seen in the future, and although they did not think it was completely out of the question, they said it will probably be a couple years before you will be stepping into a tasting room when passing through the Brownfield area.

"Terry County grape production is certainly growing and has proven to produce good, quality grapes," Dusty said. "There are now 25 different vineyard sites and 600 acres of grape production in this county alone. Once growers reach their expansion limit and their capital is regained, we may see some wineries pop up."

The brothers said the more vertically integrated they are the more profit can be made. They

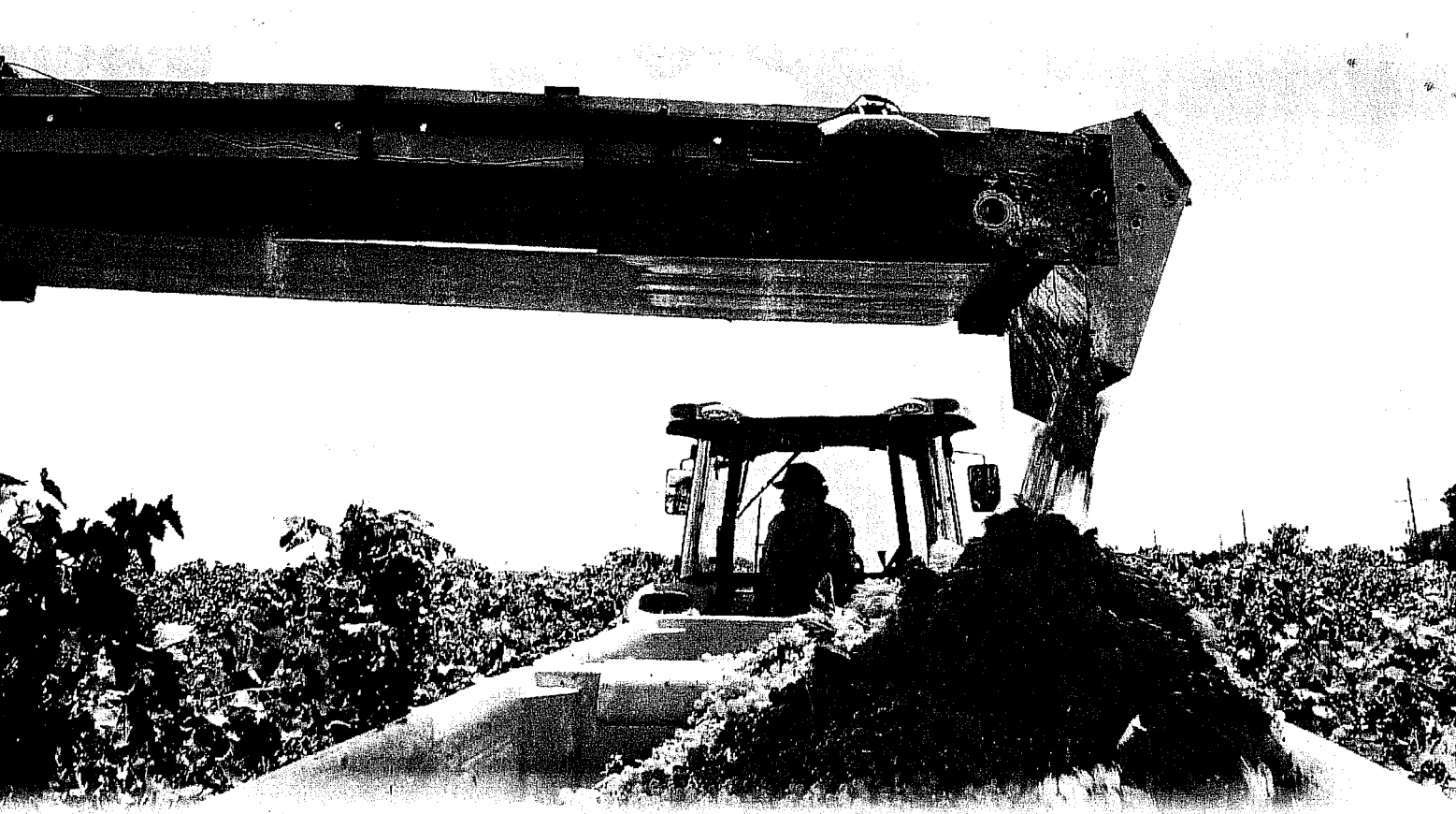
said while grapes make money for farmers, they make more money for wineries, so the next logical step, after reaching expansion capacity and regaining capital, would be to vertically integrate with a winery. Yet starting a winery is expensive, much like starting a vineyard, so another less expensive option for growers is to start their own wine label. This allows the grower to brand and market their grapes through a unique wine by using an already established winery.

Andy said the Texas wine and grape industry is continuing to grow in knowledge and research, allowing growers and wineries to better determine what grapes grow best in the area and what maximum yields can be produced in order to still make great tasting wine. However, the \$4.3 million appropriated to the Texas Department of Agriculture to conduct this research is in danger of being cut, which could potentially slow down advancement in determining these and other factors.

The Texas wine and grape industry has an economic impact of \$1.7 billion. According to a 2009 economic impact report conducted by MKF Research, the industry supplied 10,756 full-time jobs, paid \$379 million in wages, and paid \$78.5 million in state taxes. All this from a mere 3,300 grape-bearing acres, 315 growers, and 188 wineries.

Thanks to producers in Terry County, these numbers will continue to grow and stay strong. While the labor is intense and input costs are high, farmers such as the Timmons brothers seem to find it fits them perfectly. So next time you are in the grocery store wine section check the label and make sure you get some Texas wine, it could have been grown closer to home than you thought.





Comments from the Chair

The Timmons story represents one that is playing out all over the South Plains...what do I do with declining water? One strategy we often see in other settings is the shift to higher valued, but riskier, crops. For example, on the fringes of urban areas, you often see a transition from traditional row crops to higher valued vegetable crops or "pick-your-own" type operations. They yield higher average returns with an increase in risk, but the higher average returns are used to offset the pressure for non-agricultural land development. In our case, declining water means that every acre inch becomes more valuable (or more expensive to pump). One can concentrate that water in traditional crops. For example, irrigating half a circle with the other half dryland is one approach. Alternatively, one may focus that water resource on more value per acre inch in something like grapes.

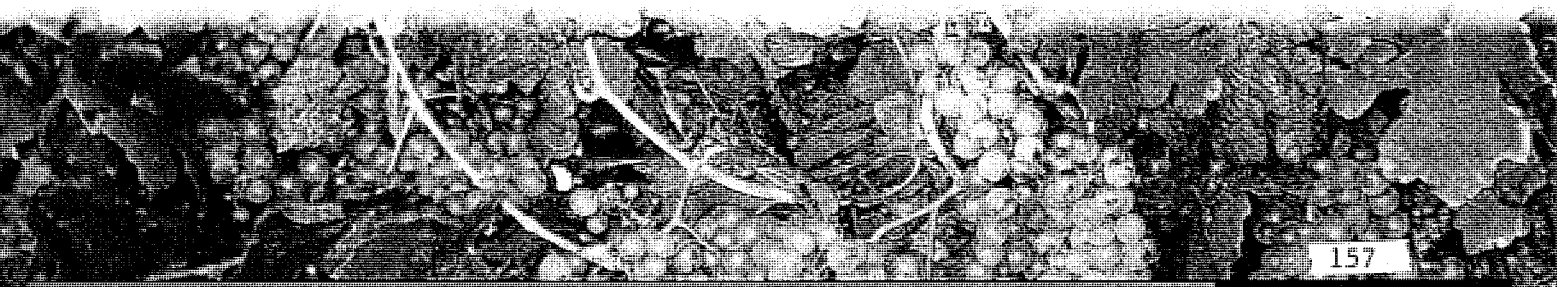
This story highlights the case of coping with that rising water cost through expansion into higher valued crops. But, as you will note in the

story, that does not come without costs. There is risk involved. Imagine the tension with thunderstorms building when you have thousands of dollars per acre, as opposed to a wheat crop at a few hundred dollars per acre, at risk of being hailed out. Then there is the long delay between planting and full production (several years).

Couple these with high management and input costs, and you get a recipe for heartburn. However, as farmers struggle with what to do in the face of rising water costs, uncertain political environments, and changing technologies and opportunities, it may pay well to think outside the box and get out of the comfort zone a bit to maintain long-term competitiveness.



Dr. Darren Hudson, Chair



COMPETING *for* PROFIT



Issue XXVIII : June 2011

Texas Tech University

BRAD HEFFINGTON - LITTLEFIELD, TX

STORY, PHOTOS & DESIGN BY: SAMANTHA YATES BORGSTEDT

It's that time of year again. Cotton planters have been rolling through fields across the High Plains, and for the most part, they are putting seed in dry ground. As every farmer knows, sometimes Mother Nature smiles down and grants rain when you need it, sometimes it comes mixed with a little (or a lot) of hail, and sometimes it just doesn't seem to come at all.

Brad Heffington, who farms 6,000 acres in Littlefield, Texas, and current president of Plains Cotton Growers, knows years like this come and go. He has planted his seed, started his pivots, and is now hoping for the best.

"When you watch dirt fly up behind the planters like it is doing now," Heffington said, "it doesn't get you too fired up about planting."

Nonetheless, Heffington said all he can do is plant his seed and be patient. He said he really needs a rain by at least June 5, but he is fearful that a good rain may be accompanied by some bad hail. However, he



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acknowledges that dealing with the weather is a major part of a farmer's business, and so he will take it as it comes.

Heffington said although bad years come along with the good, he remains thankful that in 1989 a small town banker took a chance on him, which allowed him to do what he continues to love today, farm.

"I was a junior at Texas Tech when some land became available for me to farm," Heffington said. "I tried to get a loan from several places with no luck. Mr. Lee decided to take a shot on me, and I am sure glad he did."

James Lee, of the First National Bank of Littlefield, must have seen a drive in Heffington that has continued to grow and prosper to this very day. Besides striving to learn and remain educated on seed, fertilizer, and equipment, Heffington has worked hard to gain knowledge about the marketing side of his operation.

Heffington, who graduated from Texas Tech University with a Bachelor's of Business Administration and from the Texas A&M Master Marketer program, uses technical and fundamental analysis, and stays in tune with local and world markets. He said being able to market his cotton has earned him income and success. He went on to say marketing is a very

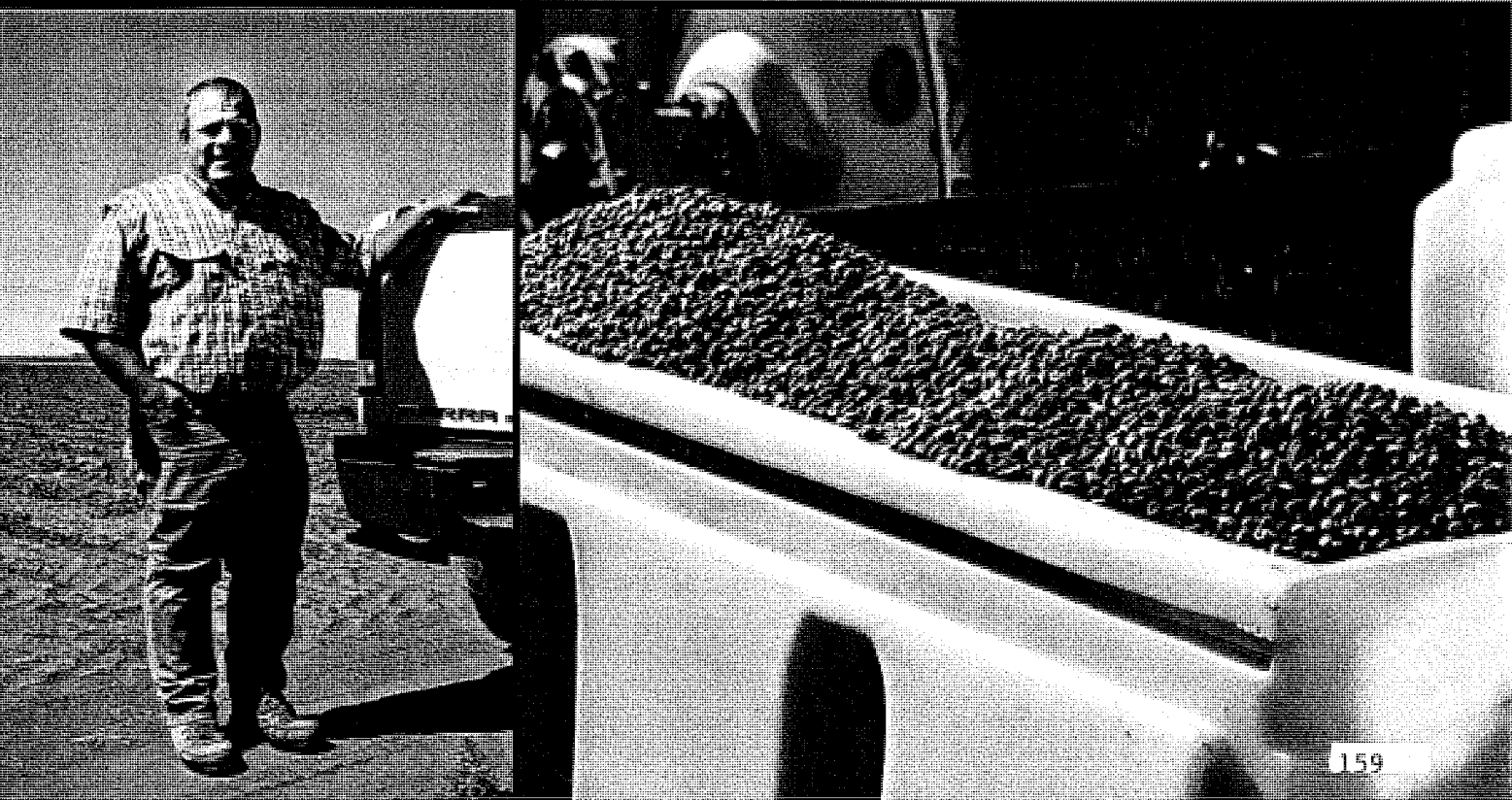
important aspect of his business, and he tries to take advantage of every opportunity he can to capture the best prices for his cotton.

Heffington earned an average selling price of \$1.08 on his cotton last year, selling some towards the end for \$1.50. He said everything kept falling in place for him as he grew and sold his cotton. Rain came pretty steadily, and prices rose. And although the growing season may not be as favorable this year as last, Heffington said he continues to see prices staying strong.

"If crops remain as dry as they are now, dryland acres may not be there and our irrigated production is liable to decrease, which means prices this fall could stay up," Heffington said. "However, those high prices won't do much good if we don't have cotton to sell."

Heffington said with the rising input costs farmers have to deal with, they cannot stand to sell cotton for 60 to 70 cents anymore. Seed, fuel, labor, fertilizer, equipment, technology, they have all gotten significantly more expensive in a short amount of time, making every cent count to the farmer.

"In order to be successful in farming you must figure out what pays and what doesn't," Heffington said. "Some technology may cost





you a little more up front, but make you more in the end. Some may not. You just have to figure out what will be the most profitable on your farm and go with that."

Heffington has helped several equipment and technology dealers test their newest products on his farm. He has adopted a Case and John Deere cotton picker with on-board module-building capabilities. He said that although the cost of these machines was significant, they have reduced his need for many other pieces of harvesting equipment, fuel, and labor.

"I remember having boll-buggies, module-builders and strippers going everywhere," Heffing-

ton said. "We would have to hire on several more people to help run everything, and hope everyday that everyone showed up. With these pickers it takes one guy to run them, some fuel, and that is it."

Heffington also uses Trimble precision agricultural products that utilize 27 satellites enabling him to stay within a half-inch variance on all of his fields. Heffington gives credit to his wife Kim, their three sons, and his three employees, all of which have worked for him close to 20 years, for being knowledgeable of the technology and his farm in general. He said good help is not always easy to find, and he is lucky to have had such great help



from his employees and family for many years.

While Heffington can rely on good help through what looks to be a tough year, he is worried about his limited water and dryland crops. Although the majority of Heffington's fields are irrigated, he said the irrigation is set up to supplement rainfall, as most of the High Plains irrigation is set up to do. His wells are continuing to pump an adequate supply of water for now, but he needs to continue to be cautious with his water output to ensure that enough water will be available in the future, and to do that Heffington needs timely and adequate rains.

"The weather and policy you cannot control," Heffington said, "which creates lots of challenges for farmers. We may have better seed varieties and technologies for using water, but no matter what, we still need the rain."

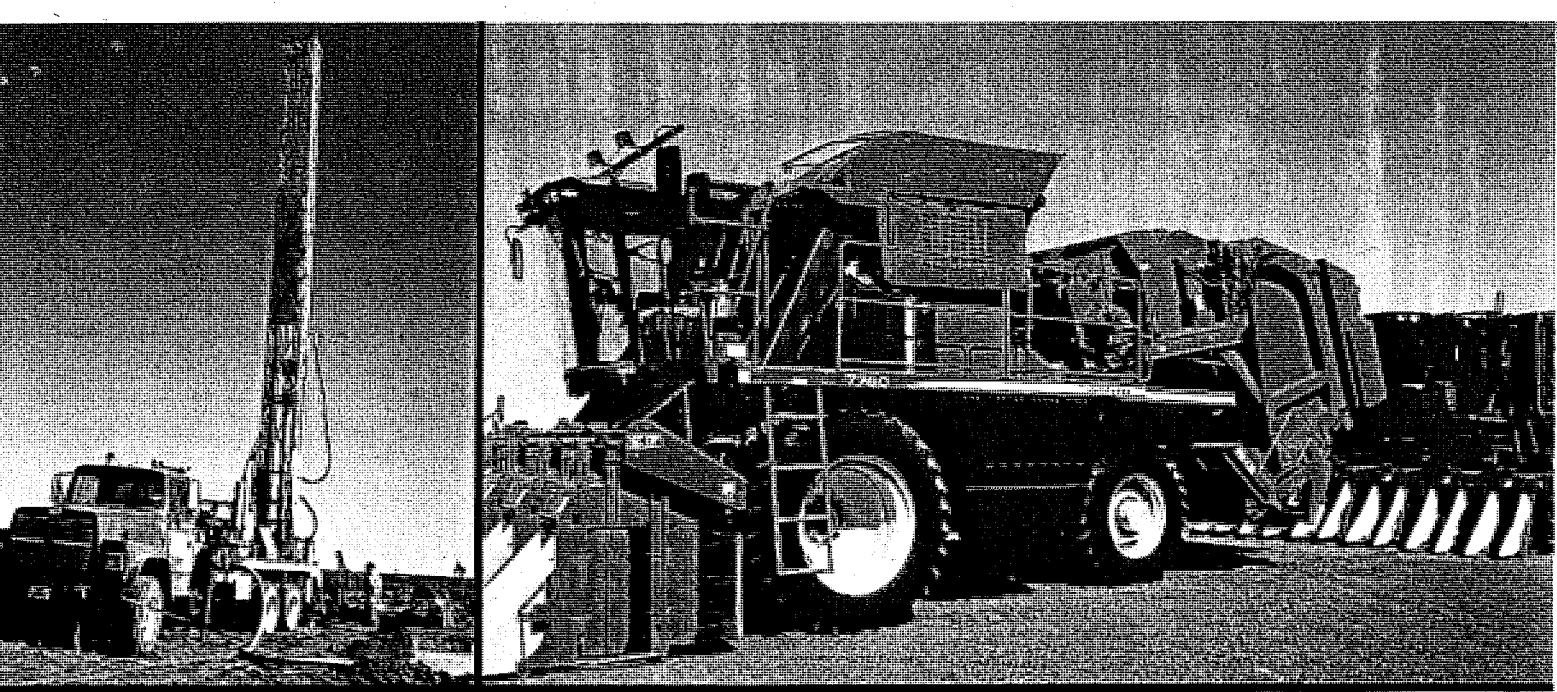
Along with rain, Heffington said farmers also need good policy.

"Farm policy is geared to small farmers," Heffington said. "We aren't small farmers anymore. We are big businesses, real businesses, and we are a very few feeding and clothing a lot of people."

Heffington said in order to continue supplying food and fiber for the world, policy must be written that provides valuable safety nets for farmers and is focused on keeping U.S. commodities competitive in the international marketplace.

"We are coming off a good year," Heffington said. "We made a good crop, received some good prices, and saw our local economies benefit from all of that. The thing we must remember is that at the end of the day it all comes down to the number one economic rule: supply and demand. If textile mills need the cotton, then we will see a demand and good prices. I just hope we have the cotton to supply them with."





Comments from the Chair

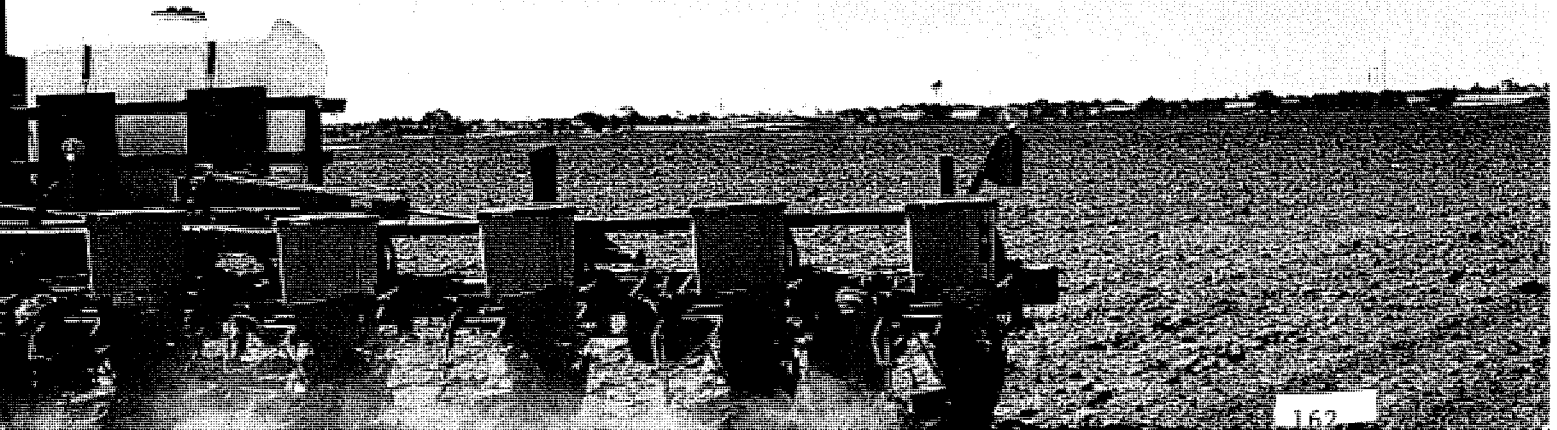
Mr. Heffington is the prototype for the next generation farmer. Tech savvy and farming oriented can be used to describe him. But, perhaps a better description is a “complete package.” Brad knows how to grow a crop for sure, but he is also a great marketer and a great advocate for agriculture. It is his marketing, though, that should be a good example for remaining competitive. As everyone knows, cotton markets have experienced big increases in market volatility in recent years. To protect yourself from downturns and take advantage of good prices takes time, effort, and knowledge. One certainly does not have to be an ‘expert’ in cotton prices...I am not sure any of us are ‘experts’...but careful attention to potential opportunities and seeking out information about how those options work (or do not work) for your operation are critical to long-term success.

Brad has definitely exemplified the meaning of “marketing.” His academic training helped, of course. But it has been his “can do” attitude that

has led him to seek out the additional training and spend the time learning the markets and risk management options that are available to him. Of course, there are varying degrees of sophistication, and more sophisticated marketing strategies take more time to execute. All producers are not suited to these approaches, which is certainly fine. But, with the extra time and energy comes extra earnings. So, the less time you spend, the less you will make, generally. Brad, of course, is first concerned about making a crop. But, his success does not stop with yield. Marketing is his passion and is also a key factor in his competitiveness.



Dr. Darren Hudson, Chair



COMPETING *for* PROFIT



YT RANCH

Issue XXIX : July 2011

Texas Tech University

SCHUYLER WIGHT - GOLDSMITH, TX

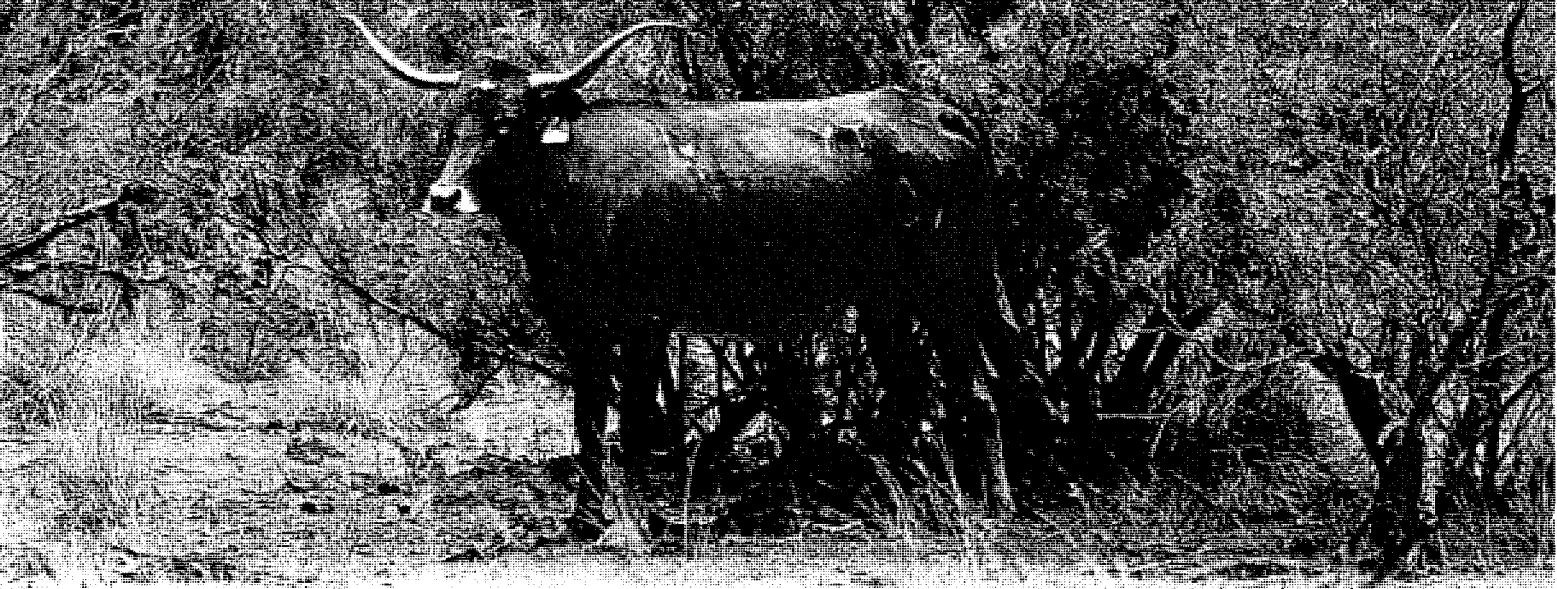
STORY, PHOTOS & DESIGN BY: SAMANTHA YATES BORGSTEDT

When Schuyler Wight, owner and manager of YT Beef, told me he had a ranch near Pecos with some green grass, I had my doubts. After all, it's been about a full year since the area has seen any rain, and most of the Permian Basin's ranches now have more burnt grass than green grass. To my surprise, however, Wight wasn't telling me a fairy tale. There was beautiful green grass, clear cool water, and for a minute I forgot I was in hot and dry West Texas. For a minute.

All it took was getting a couple feet away from the natural spring Wight has restored to its original, lush state to be reminded the area is in a drought. Wight said he has been through dry times like this before and has learned how to successfully ranch with little rain.

The Wight family has ranched in this area since 1883, when AW Wight drove a herd of sheep from Nebraska to Odessa, Texas. He found good water beneath a large mesquite tree and settled. The water well he originally drilled still furnishes water for the YT ranch, and while the Wight's do not continue to run





sheep, they do continue to carry out many of the ranching traditions their great-grandfather originally practiced.

The YT was the second registered brand in Ector county and can be found on every head grazing throughout the family's 13 ranches. On the 7 ranches in Pecos and Ector counties Wight manages himself, several hundred head of Longhorn x Corrientes crosses are ran on a rotational grazing program.

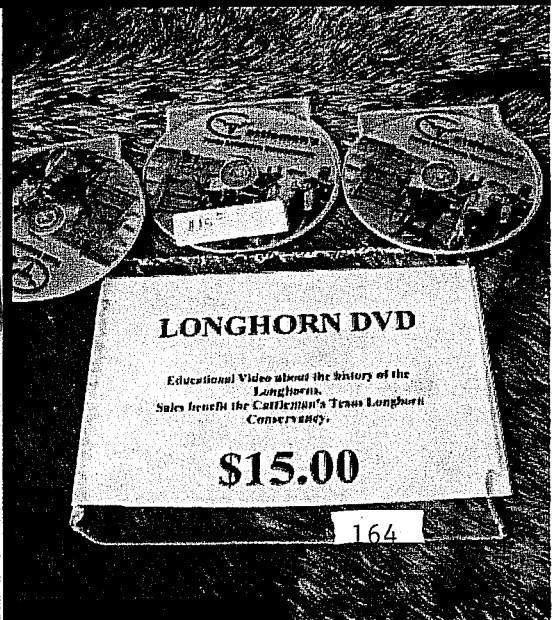
Wight, who graduated from Abilene Christian with a degree in Range Science, knows how important conserving his land and water is and makes sure to never overstock or overgraze any of his pastures. He is careful to make certain his grass and water is in the best shape for the land and his cattle.

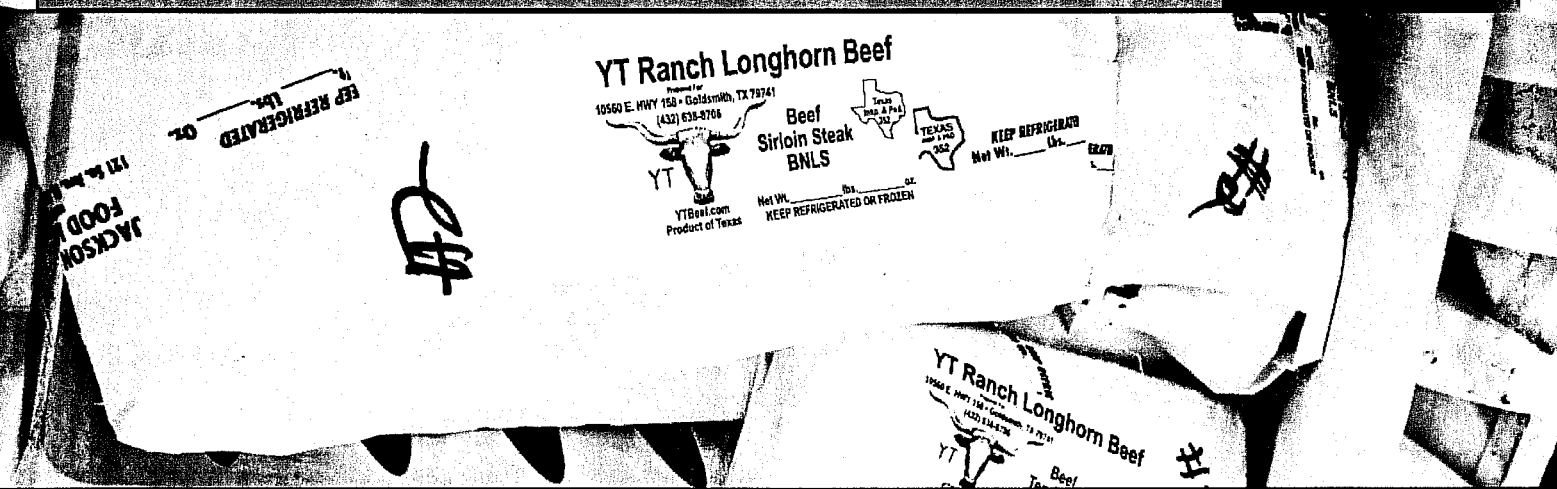
The natural spring we visited was once pumped dry by irrigation farmers and then was choked out by saltcedars. To make matters

worse, in 2001 Wight found an old abandoned water well flowing salt water into the spring. At that time, Wight's finances were tight due to a long drought and he was not able to plug the well using his own funds. Wight said he spent many days in Austin and allowed several reporters and representatives to visit the spring and old well sight, and through public exposure and lobbying, he was able to receive a grant to plug the well in 2004.

"It cost \$113,000 to plug that well," Wight said. "That is more than I paid for the ranch."

Once the well was plugged, the spring replenished itself. He sprayed the saltcedars that were sucking up the spring's water at an approximate rate of 200 gallons a day each. With the well plugged and saltcedars gone, Wight's spring was able to flow, which he said it now does at a rate of 1,200 gallons a minute.





The spring is currently about 15 feet deep, crystal clear, and stays at a constant cool temperature all year round. He has stocked it with several varieties of fish and leases it to two men from Midland for fishing and several others for bird hunting. It provides great water and green grass for his cows, a little extra income from the fishing and hunting leases, and a nice escape for him and his family from the dry heat.

Wight is proud of his natural spring and wants to continue conservation practices to restore the land to the way his great-grandfather originally found it. He uses control burns to eliminate woody species such as mesquites and cat-claws, and as mentioned before, rotational grazing.

Wight's initial plan, when returning to the ranch after college, was to get in the stock contracting business. He said the Longhorn x Corrientes are hardy cattle that can live on grass without supplemental feed, which was a good match for Wight and his ranches. However, in the late 1990's

he saw that the market was getting overloaded and decided to get out of the stock contracting business.

He began putting Charbray bulls on his Longhorn x Corrientes cows and marketing the beef. He now uses a variety of marketing techniques, including video auctions, a website, and selling his beef at the Midland Farmer's Market. Wight said he uses three different feedyards located in the panhandle, near Sweetwater, and South Texas, to feed out his cattle. He uses packing houses located near these yards.

Wight said while it takes longer to get a Longhorn x Corrientes market ready, 160 days, versus the more packer popular British and Continental breeds, that take about 120 days, he finds it to be more economical for him to feed calves than cows.

"Longhorns are efficient and can survive without supplemental feed," Wight said. "They can do good without me having to bring them feed every three days, which allows me to take care of





seven ranches without having to hire help."

Wight said he does supplement his cows with range mineral and regularly rotates grazing. He said while Longhorns may not be popular with packers due to their lack of fat and lighter carcass weight, he realizes the demand for grass fed and lean meat has risen in the last few years.

Wight's original reason for starting to market and sell his beef through the Midland Farmer's Market and his website was due to the Mad Cow crisis in 2003. The feedlot manager holding Wight's calves called to say the calves were fat but he wasn't going to be able to sell them. Wight said his only option was to have them processed, get the meat, and figure out how to sell it on his own.

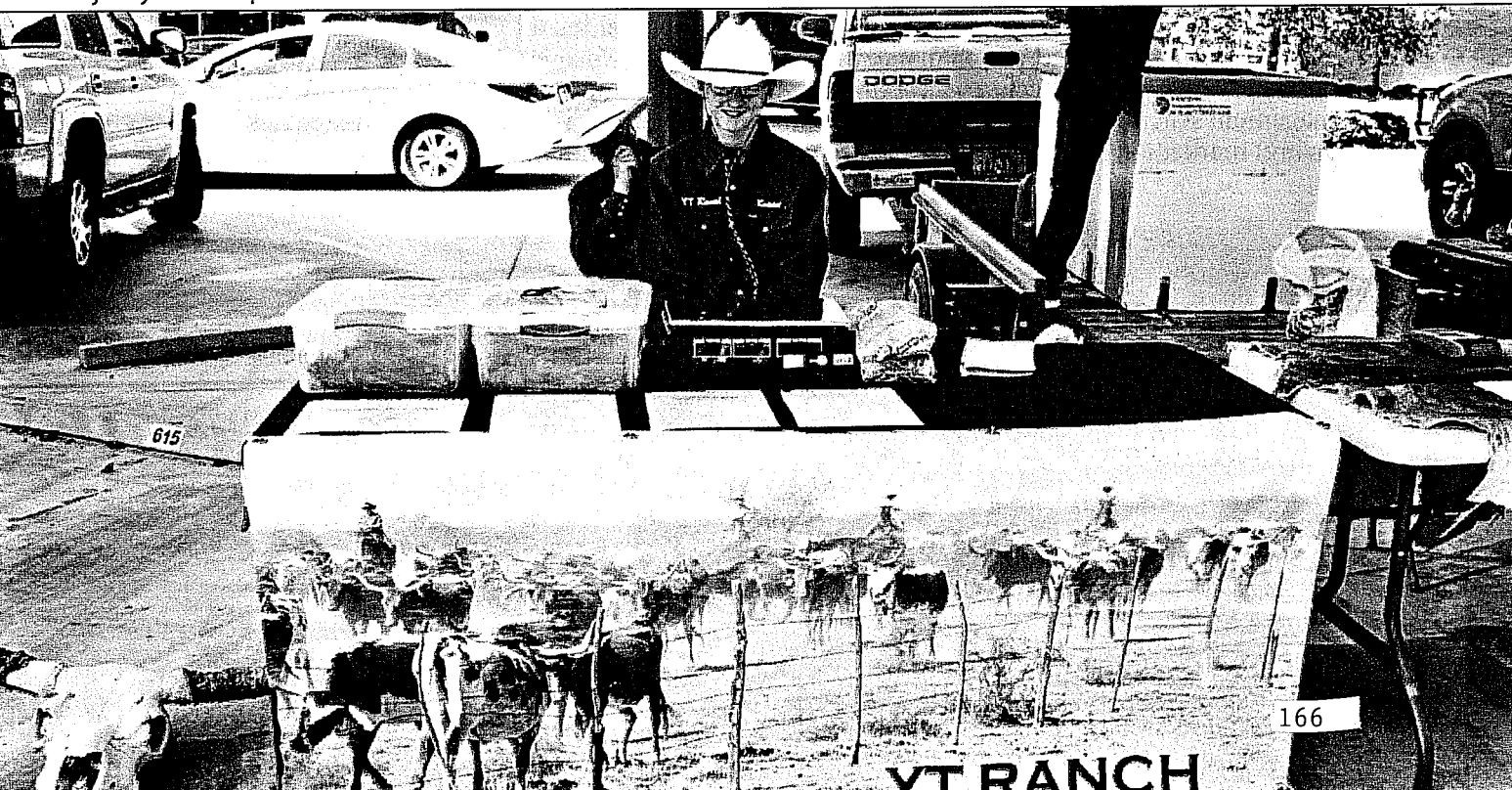
He originally put an advertisement in the Midland paper classified section, and in 2004 he launched the website and began selling at the Farmer's Market. He now receives calls daily asking for orders of his lean beef. He sells whole beefs, halves and quarters. At the Midland Farmer's Market, individual steaks, roasts, packages of hamburger meat, as well as jerky can be purchased.

Wight said he feels the American public has become too far removed from their food source. He likes selling his meat directly to the consumer in order to give them a better understanding of exactly where their beef comes from.

"There have gotten to be so many misconceptions about the agriculture industry," Wight said. "The truth is that we as ranchers do everything we can to best conserve our land and water and provide the best environment possible for our cattle. It takes a lot of work, a lot of sacrifices, and that is what the general public needs to understand."

Wight, his two daughters, Kalinda and Kristal, and wife, Kristina, perform the labor on his ranches. They work all week on the ranch, as well as setting up their booth and selling at the Midland Farmer's Market on Saturdays. There are few breaks on the YT ranch, after all, cows do not know the difference between a weekday and the weekend.

"It is a lot of work," Wight said, "but it is what we have loved to do for generations. You can't beat making a living by doing what you love."





Comments from the Chair

The YT Ranch story provides an interesting perspective on what motivates different producers. Of course, profit is a central motive for long-term survival. But, producers often have other objectives that influence their decision-making...conservation, historical preservation, providing for multiple families, etc. These additional objectives are important to the producer, but can often lead to profitable opportunities as well.

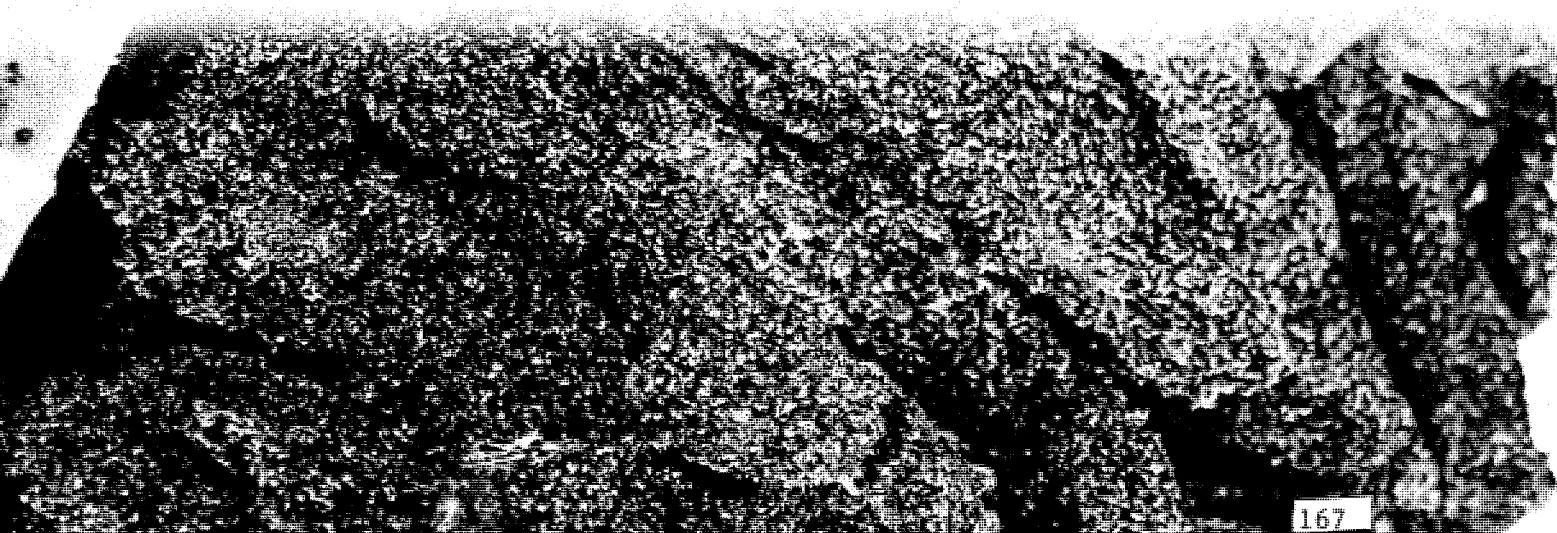
I was once told you need to find something you like to do and figure out a way to get paid for it. Here, Mr. Wight has worked to find a way to make money doing what he believes is right for his ranch...the answer focusing on marketing cattle that work best in his conservation-minded management scheme. There is a (still small, but growing) market for grass-fed beef. Mr. Wight's

choice to use longhorn-type cattle put him at a disadvantage in traditional fed-cattle market, but these cattle perform well in grass-fed situations, especially where grass availability is limited.

The key point here is that being successful does not necessarily mean that one must operate within normal markets. It is possible to find ways of making a successful business fit within your objectives by finding alternative routes for profit. These alternative routes can be rewarding both financially and personally.



Dr. Darren Hudson, Chair



COMPETING *for* PROFIT

SUNBURST MARKET

OPEN
TUES-SAT. 9:00 ^{am} 5:30

ENTRANCE



Issue XXX : August 2011

Texas Tech University

BERNIE THIEL - SUNBURST FARMS

STORY, PHOTOS & DESIGN BY: SAMANTHA YATES BORGSTEDT

There's just something about fresh vegetables, straight off the farm, that tastes better to the body and soul. I never have been able to understand when people talk about kids not liking vegetables. Maybe it was because all the veggies we ate were freshly picked from my mother's garden, but growing up squash, zucchini, and cream peas never lasted long on my sister's nor my plate, and still don't to this day.

That is why I love summer time. Tomatoes are ripe and red, squash is bright and yellow and our plates become colorful and delicious. Bernie Thiel, owner and manager of Sunburst Farms and Market in Lubbock, Texas, is to thank for many of the vegetables we eat and enjoy. This marks the 40th year Sunburst Farms has supplied the public with fresh vegetables, and they are busier than ever.

"This time of year we work pretty much twenty-four, seven around here," Thiel said. "We have a lot of people working and helping us, and everyone does everything. One minute you may be loading a truck, the next you may be hoeing weeds in the field, the next you may be on the phone with a distributor. There's always something that needs doing."

Sunburst Farms grows about 350 acres of vegetable crops in the Lubbock area, as well as Carrizo Springs. They use drip irrigation, pivots, LEPA (low energy precise application) and row water to irrigate. Their



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SUNBURST FARMS

main crops are yellow squash and zucchini, of which they farm around 120 acres that produce in the summer. About that same amount of acreage is grown in turnips on the farm in Carrizo Springs during the Lubbock farm's off season.

Sunburst sells their main lines of produce to buyers such as United, HEB, Ben E. Keith, Affiliated Foods, Watson Sysco, and others.

Besides their main vegetable crops, Sunburst also produces several hundred acres of cotton and wheat for rotation purposes. Tomatoes, eggplant, okra, melons, black-eyed peas and other veggies are also grown in the farm's garden. These vegetables can be purchased at Sunburst Market located on 88th Street and Martin Luther King Boulevard in Lubbock. It is open Tuesday to Saturday from June 15 through October.

"Our market is in its 11th year," Thiel said. "My wife and daughter started it, and we sell to people from all over. While many of them are from the Lubbock area, we have customers from New Mexico, Dallas, Midland, South Texas, just everywhere."

Cynthia, Thiel's wife, continues to work at the market along with other family members. She said she enjoys working with her family and meeting all the people that come in to purchase their products.

"It's so great to visit with the customers that come see us," Cynthia said. "We always stay busy, but Saturdays are our busiest days. People enjoy coming in on their day off to buy their produce, and we enjoy seeing them come in."

Produce in the market not grown directly on Sunburst Farms, such as the potatoes they had from Muleshoe when I visited, is purchased from local farmers. They also sell local honey





and eggs, as well as salsa, pickles, and breads made from their own vegetables.

"We are vertically integrated," Thiel said. "We put the seed in the ground. We pick it. We have the coolers to store it, trucks to ship it, and do all the marketing ourselves."

Each year the farm employs about 50 workers. Their jobs vary, but a great deal of their time is spent picking produce. They field pack everything to avoid double handling and then place the boxes in the cooler. Thiel said some of his employees have worked with him over 30 years, and many of them have been with him for 15 to 20 years. He said the key to keeping good help is to show up every day and work hard right along beside them.

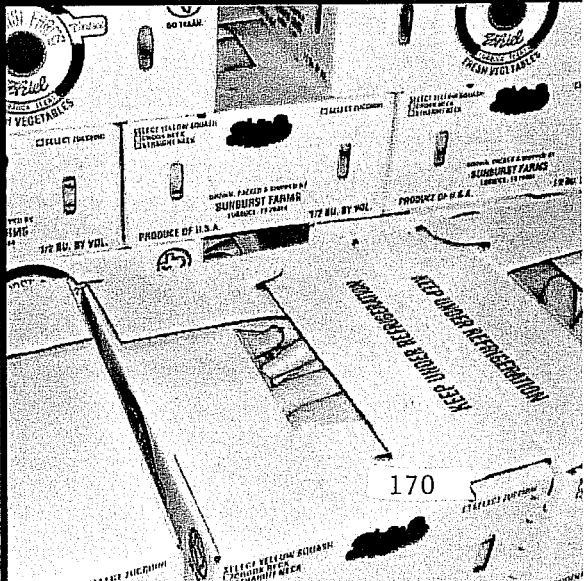
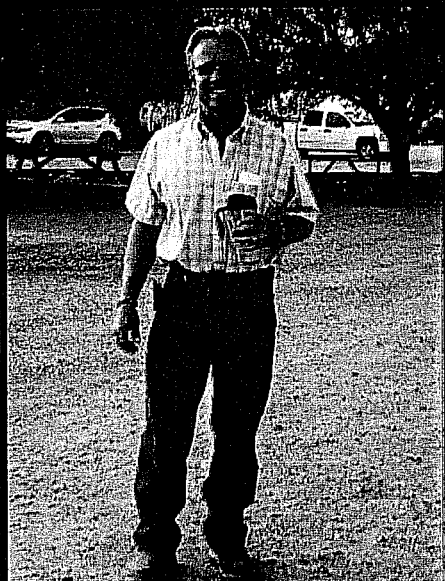
Thiel said some of the employees work for Sunburst Farms in the Lubbock area during the summer and fall and then move to Carrizo Springs to work on the farm there during the winter and spring. Others find winter jobs around Lubbock

and then come back to the farm and work for Sunburst during the summer.

"The people working on this farm are the salt of the earth," Thiel said. "They make it possible for us to stay competitive and successful, and this is a very competitive and risk taking business."

Thiel emphasized the importance communication and education is to his business, and he strives to keep current on technology and legislative issues. Thiel is an active member of Farm Bureau, serving as past president of Lubbock County, horticulture chairman, and national labor chairman. He also visits Washington D.C. and Austin regarding policy matters affecting his business.

A current issue he feels will have a large influence on the agriculture industry is the Food Safety Modernization Act that was signed into law by President Obama on January 4, 2011. According to the FDA website, this act enables FDA to better protect public health by strengthening the food safety system by focusing more on prevent-



ing food safety problems rather than relying primarily on reacting to problems after they occur. The law also provides FDA with new enforcement authorities designed to achieve higher rates of compliance with prevention- and risk-based food safety standards and to better respond to and contain problems when they do occur.

Thiel said while he believes safety and avoiding contamination is very important and first priority, he fears that over-regulation will cause many farmers to reduce in size or go out of business altogether, causing a reduction in food supply and higher prices at the grocery store. This year alone, Thiel has spent \$30 thousand in order for his farm to be in compliance and meet all FDA standards.

"I know that guidelines and regulations need to be in place," Thiel said. "After all, if a contaminated squash is found anywhere in the nation, it will affect my business. All farmers know that, and all farmers are careful to make sure the produce they grow is safe to eat. However over-regulation is going to cost many farmers out of business, and when that happens, the public will be forced to pay high prices for their produce."

Sunburst Farms recently passed all FDA's regulations once again, and they continue to be innovative in all areas of their business in an ongoing effort to remain competitive.

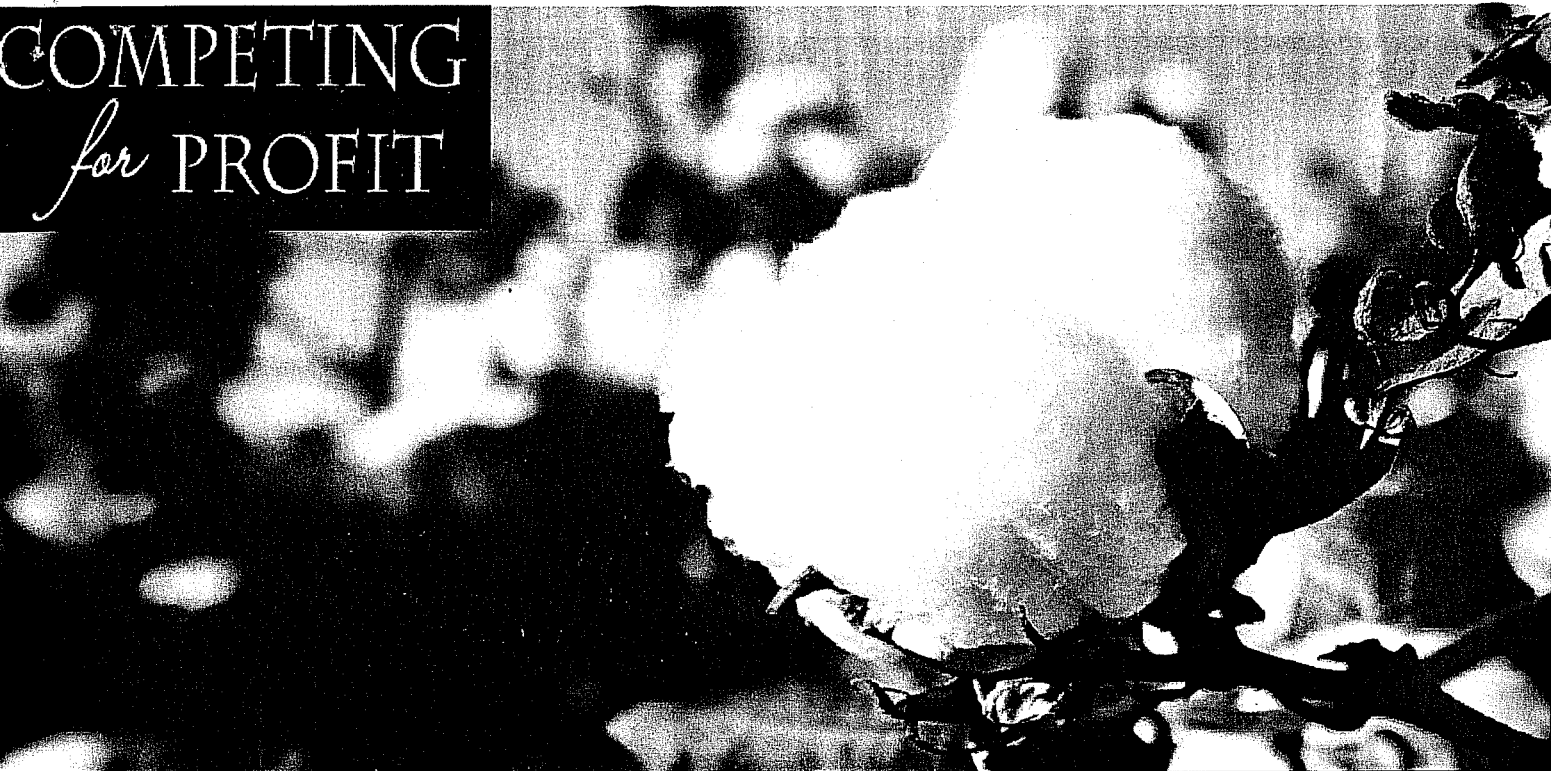
"We must always be forward thinking and learning," Thiel said. "There's always new products, policy, advertising, fertilizers, wholesalers and so much more that we must keep current on. Communication is a key factor in this business, and we have to communicate on all these issues affecting our business."

Thiel said it is important for the agriculture industry to stay vibrant and for the American public to realize the importance agriculture plays in each and every one of their lives.

"People have become disconnected from their food supply and have lost the understanding of just how important this industry is to our nation," Thiel said. "That understanding is what our country was built on and what will continue to keep it strong as long as our agriculture industry remains strong. It is important for the American public to realize what happens in agriculture impacts their lives, no matter how far from the farm they live."



COMPETING *for* PROFIT



Issue XXXI : September 2011

Texas Tech University

THE COMPETITIVENESS OF BRAZILIAN COTTON

DR. DARREN HUDSON

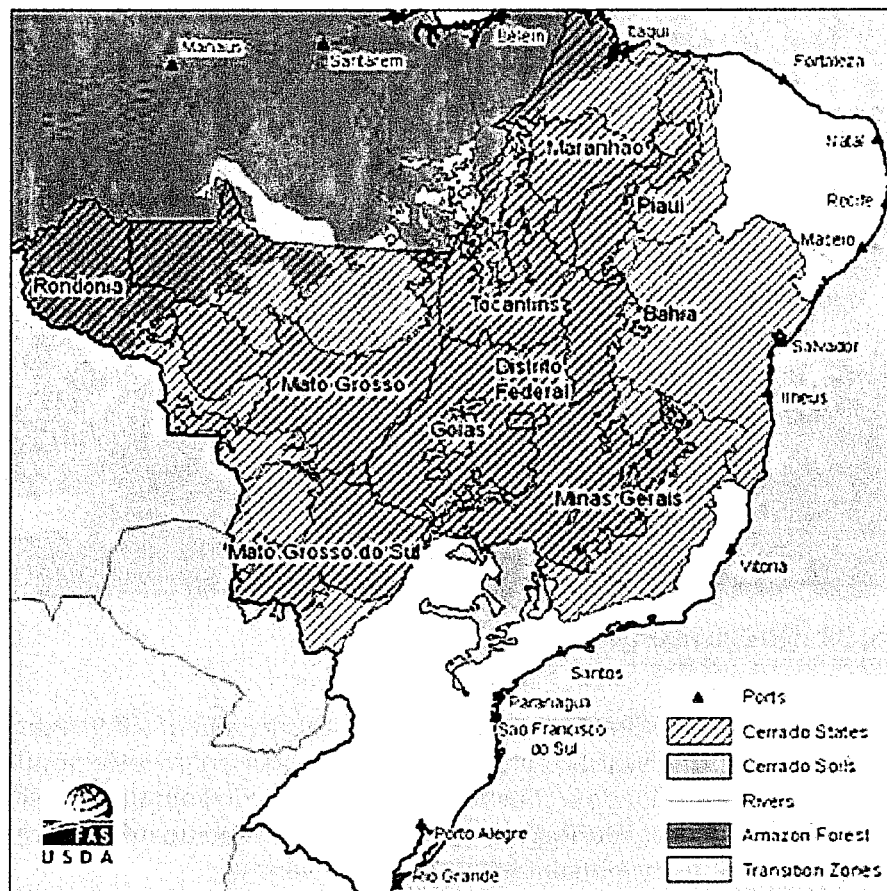
I recently had the opportunity to travel to Brazil again. This is the second year of a four-year project to learn more about the Brazilian agricultural and logistics situation. Our involvement revolves around the need to produce better forecasts of Brazilian production, consumption, and trade in conjunction with our broader efforts to model global cotton production. During our work, we have picked up information that may be of interest here to better aid the U.S. industry in maintaining competitiveness.

COTTON PRODUCTION

The USDA has published, on a number of occasions, cost of production differentials between the U.S. and Brazil. Generally, cash cost of production per pound of cotton is a little higher in Brazil, depending on the region, but yield is generally higher as well. In the Cerrado (savannah) region (shown in the figure below), chemical use intensity is very high. This region is characterized by very acidic soils with low nutrient value, so chemical fertilization is very intense (you do not hear that in the OxFam or Greenpeace brochures). Consequently, yields are high, but costs are high too, meaning that actual costs per pound are higher than they are in the U.S.



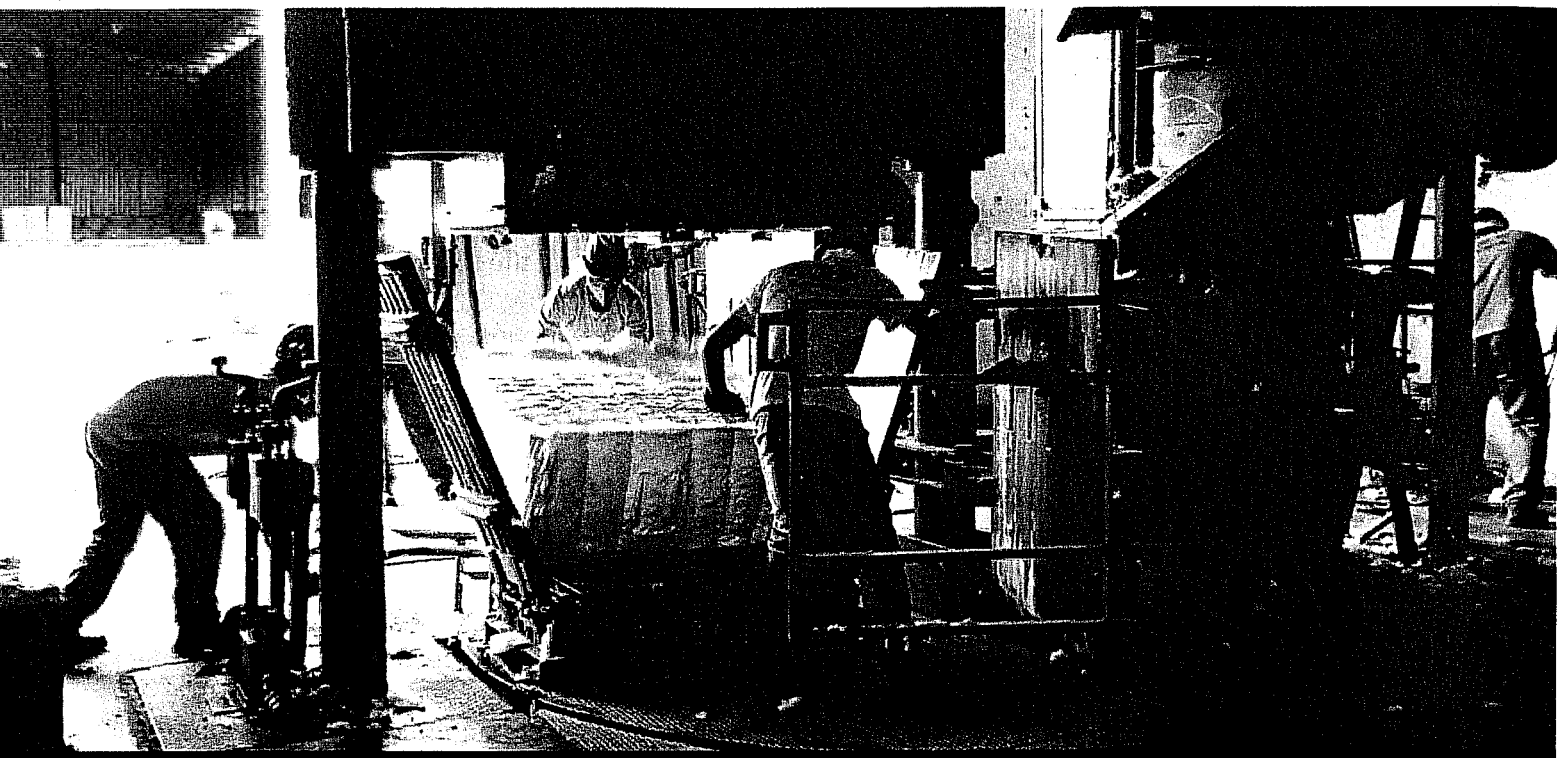
Ten Cerrado States and Port Locations



Here, I wanted to focus on a few things that get less attention in the popular literature. Brazil has been experimenting with ultra-narrow row cotton production, primarily in hopes of increasing yields and decreasing herbicide use. Pest pressure is still a problem. Data from EMBRAPA (their version of USDA) on several tests for quality characteristics are shown below:

Ultra-Narrow Row Test Results

Sample	Length (in.)	Strength	Micronaire	Leaf Grade
1	1.14	28.75	3.30	4
2	1.13	30.78	3.99	1
3	1.14	30.29	3.57	5
4	1.20	31.52	3.44	3
5	1.19	32.26	3.39	4
6	1.18	31.29	3.44	4
7	1.20	30.76	4.00	4



As you might expect, and consistent with work by Eric Hequet at the Fiber and Biopolymer Research Center and Randy Bowman, formerly of Texas AgriLife, length and strength are consistent with U.S. growths, leaf is high, and micronaire is generally low. Of course, as Dr. Hequet has documented, the UNR cotton generally performs poorly for higher quality products, and may ultimately lead to larger discounts for this type of cotton.

These researchers reported an average yield of 4.2 bales per acre (remember they get around 65-70 in. of rainfall per year). The UNR exhibited a 32% lower chemical cost than conventional cotton, on average, but seed costs were higher. Overall, UNR did show lower overall costs of roughly \$0.69/lb produced versus a regional average of \$0.82/lb for conventional cotton.

GINNING COSTS

The structure of the ginning industry is quite varied, with many gins in the 14 bale per hour range all the way up to large scale gins in the 100 bale per hour range. Costs, of course vary by size with most of the gins we have visited ranged from \$42-\$55/bale. In some cases, smaller gins are handling their own cotton and then contract gin for others for as little as the seed (although at recent values, that could be a lucrative deal).

So, ginning costs appear at least comparable to U.S. ginning costs. There are a couple of critical differences, however. First, there is no organized grading within the system. There are privately operated HVI laboratories and proactive ginners will sample and send off for grading. But, there is not systematic version of the U.S. cotton classification system. Second, there is very little inland storage for cotton. This limits options for marketing of cotton, and potentially adds to the transport costs as discussed later.

TRANSPORTATION

The core of the project in Brazil focuses on understanding transportation. There are a couple of items to consider here. First, around 70% of the cotton produced moves through one port, Santos (see the previous figure) while the preponderance of production is in Goias, Mato Grosso, and western Bahia. So, cotton must be moved a considerable distance.

Unlike the United States that has a rather diversified transportation matrix of road, rail, and water, Brazil is almost completely dependent on roads. Over 60% of cargo moves across road (compared to 32% in the U.S.), much of which is of poor quality. For example, according to their Ministry of Transportation, only 22.5% of their roads are

paved, and many of those are very small (think a farm-to-market road in Texas). Also, for comparison, Brazil only has 28,000 km of rail compared with the U.S. at 275,000 km.

The result of this dependence on roads is severe congestion. One picture here shows soybean trucks awaiting entry along a major highway into a port city. Trucks may wait a week or more to offload their cargo before returning with back-haul. This congestion, of course, increases overall costs. For example, the transport costs from Goias to Santos is around \$0.08/lb for cotton. Transportation from Lubbock, TX to the port of Los Angeles is in the neighborhood of \$0.05/lb, and that is with the inefficiency of having to first truck to Dallas to load on a train.

Brazil is attempting to remedy their transportation deficiencies. They have an ambitious plan of expanding both water and rail transportation. Some small projects are underway, but lack of cash is hampering growth in their network. Some private investment is stepping in to move projects along, but even that is limited as well. Like the United States, they have laws requiring environmental impact assessments before projects can begin. For water projects, they lack the procedures to execute those assessments, so projects are being held up because they cannot complete their own paperwork...sounds strangely familiar...

CONCLUSIONS

Brazilian cotton is competitive with the United States. Right now, the U.S. maintains perhaps a small total (including transport) cost advantage. But, Brazil has experienced rapidly rising yields and has not, as of yet, had (legal) access to many of the stacked gene transgenic varieties. So, per pound costs of production may still have room to decline.

Unlike the U.S., however, Brazil has a growing textile sector. They consume roughly 60% of their domestic production, and that share has grown over time. Good land is becoming harder to come by, so land prices are increasing and there is beginning to be real competition between crops for land area. These data suggest that Brazil is beginning to mature as an agricultural producer.

While many factors can and will affect the competitive position of the U.S. with respect to Brazil. If their textile sector continues to grow, Brazil may be less of a foreign competitor in export markets, but their costs will still influence world prices. My trips, so far, have confirmed one of my recommendations for the United States, though...reinvestment in transportation infrastructure (rails, locks and dams on rivers, and highway quality) will be a key to the continued competitiveness of U.S. agriculture.



Appendix J

THORNTON INSTITUTE ACTIVITIES

2010/11

THIRTY-EIGHTH ANNUAL
BANKERS AGRICULTURAL CREDIT CONFERENCE
INTERNATIONAL CULTURAL CENTER
TEXAS TECH UNIVERSITY
LUBBOCK, TEXAS

NOVEMBER 12, 2010

- 7:30 - 8:30 a.m. **Registration**
- 8:00 - 8:10 **General Session**
Presiding: Mr. Brady Yeary
 President
 Bankers Agricultural Credit Conference
- 8:10 - 9:10 **Legal and Regulatory Update**
Mr. John Heasley
General Counsel
Texas Bankers Association
Austin
- 9:10 - 9:45 **Agricultural Outlook for Cattle 2011**
Mr. Ross Wilson
President & CEO
Texas Cattle Feeders Association
Amarillo
- 9:45 - 10:15 **Break**
- 10:15 - 10:50 **Agricultural Outlook for Cotton 2011**
Dr. Darren Hudson
Combest Chair of Agricultural Competiveness
Director of the Cotton Economics Research Institute
Department of Agricultural and Applied Economics
Texas Tech University
Lubbock
- 10:50 - 11:30 **Agricultural Outlook for Grains 2011**
Dr. Mark Welch
Assistant Professor and Extension Economist
Texas AgriLife Extension
College Station

11:30

Lunch

Hall of Nations

Presentation of the 2010 Distinguished Banking Service Award

1:00 - 2:30

Economic Outlook

Dr. Stephen Kiser

Regional Economist

Federal Deposit Insurance Corporation

Dallas

2:30 - 3:15

What is Ahead for Water Policy?

Mr. Jim Conkwright

General Manager

Mr. Bill Mullican

Groundwater Consultant

High Plains Underground Water Conservation District, No. 1

Lubbock

3:15 - 4:00

Farm Programs: What Changes Can Be Expected?

Dr. Darren Hudson

Combest Chair of Agricultural Competiveness

Director of the Cotton Economics Research Institute

Department of Agricultural and Applied Economics

Texas Tech University

Lubbock

4:00

Adjourn

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