

**ANNUAL REPORT**  
**RESEARCH PROGRAM**  
**2013/14**

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

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## General Summary

This report presents research and related outreach activities of the Department of Agricultural and Applied Economics – Texas Tech University during fiscal year 2013/2014. The research program of the Department of Agricultural and Applied Economics addresses various issues of economic significance with a strong applied focus, although there are strong disciplinary elements with the research program. Over one-third of full-time faculty resources are devoted to research. Two faculty positions are joint appoints (25% research) with Texas A&M AgriLife Research – Lubbock. Research projects in the department cover a wide range of subject matter areas: production economics (including finance and risk management), marketing, natural resource economics (including water, energy and environmental), international economics (including trade and development), economic policy analysis, and consumer economics.

During FY 2013/14, there were 59 active individual research projects in the department. Appendix A contains the individual annual progress reports of each active research project. Total funding for research projects carried out in FY 2013/14 totaled \$1,027,629 (Table 1), a 19% decline from FY 2012/13. Funds from Federal sources increased due to the restoration of funding from USDA for the FAPRI cotton policy analysis, however, state sourced funding declined. Details regarding the funding of specific research projects are provided in both Appendix A and B. Of the \$1.027 million in research expenditures in FY2013/14, 43% was from state sources, 43% from federal sources and 14% from private sources. As shown in Figures 1 and 2, total research expenditures have been declining in recent years, primarily from reduced federal funding. Research support from the four endowments in the department - Larry Combest Agricultural Competiveness Endowed Chair, Emabeth Thompson Professorship in Agricultural Risk Management, Charles C. Thompson Chair in Agricultural Finance, and Thornton Agricultural Finance Institute – has provided about 9% of annual research expenditures.

The Ph.D. and M.S. programs in the department are primarily supported through funding from research grants, state line-item funding, university research incentive funding, and departmental endowments. Therefore, the number of graduate students within the department has been closely tied to the amount of research funding available. Several years ago the department instituted the Masters of Agribusiness (MAB) degree program which is more scholarship based and not dependent on the presence of research dedicated funding. The MAB program has been growing and in fall 2014 reached the highest level of enrollment (15) since its inception. The introduction of the 150-hour BS/MAB program has been instrumental in increasing MAB enrollment. A total of seven graduate degrees were awarded in FY2013/14, one Ph.D., three M.S. and three MAB. Graduate enrollment in fall 2013 was 33; 18 Ph.D., 8 M.S., and 7 MAB. Graduate enrollment in fall 2014 increased to 54; 22 Ph.D., 17 M.S., and 15 MAB.

A summary of publications and presentations regarding research is provided in Table 3. The department has been very productive over the past several years in journal publications, abstracts, proceeding papers and technical reports. During FY 2013/14, our publication output declined, which is a function of the research funding environment and the lower levels of graduate enrollment experienced the past few years. Publications tend to lag the level of graduate degrees conferred given that publications are often a product of graduate student research. We anticipate that publications will increase with the increased graduate enrollment. Appendices C and D contain a comprehensive list of all FY 2013/14 publications and presentation, respectively.

The Cotton Economics Research Institute was renamed the International Center for Agricultural Competitiveness to better reflect its mission to coordinate and foster research on all aspects of agricultural competitiveness. During FY 2013/14 the activities of the Larry Combest Agricultural Competitiveness Endowed Chair – Dr. Darren Hudson, and the Emabeth Thompson Professorship in Agricultural Risk Management – Dr. Thomas Knight, were focused on research and outreach associated with the passage of the 2014 Farm Bill.

The department had its six year (2007/08-2012/13) graduate program review in the fall of 2013. A self-study was submitted by the department to the Graduate School and an onsite review was conducted by a review committee composed of three Texas Tech University representatives and two outside representatives. The committee's report was generally positive and made several recommendations. The department developed one-year and five-year action plans address the concerns and suggestions of the review committee. The main points of the action plans relate to updating the departments strategic plan, emphasize grant funding efforts, encourage submission of publications to the highest quality journals, and continue development of international programs.

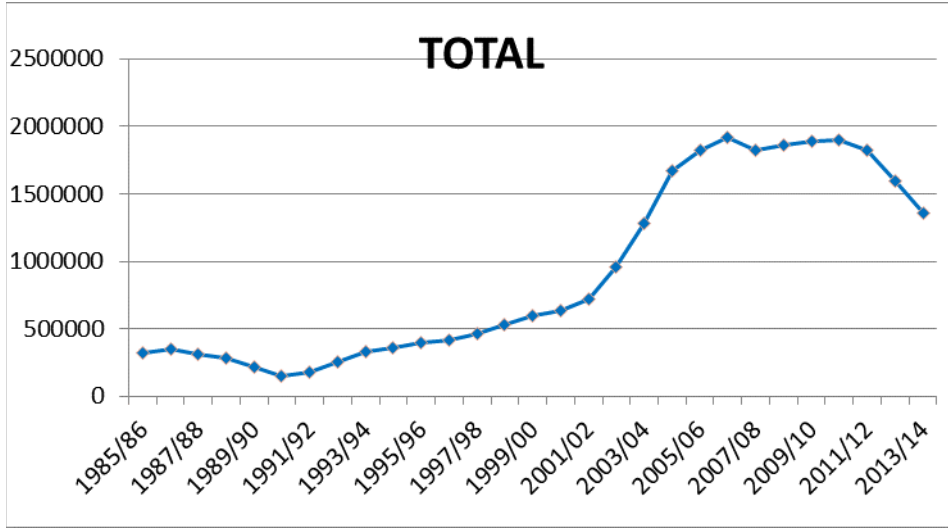


**Table 1. Department of Agricultural and Applied Economics  
Research Funding by Source, 1981/82 to 2010/11**

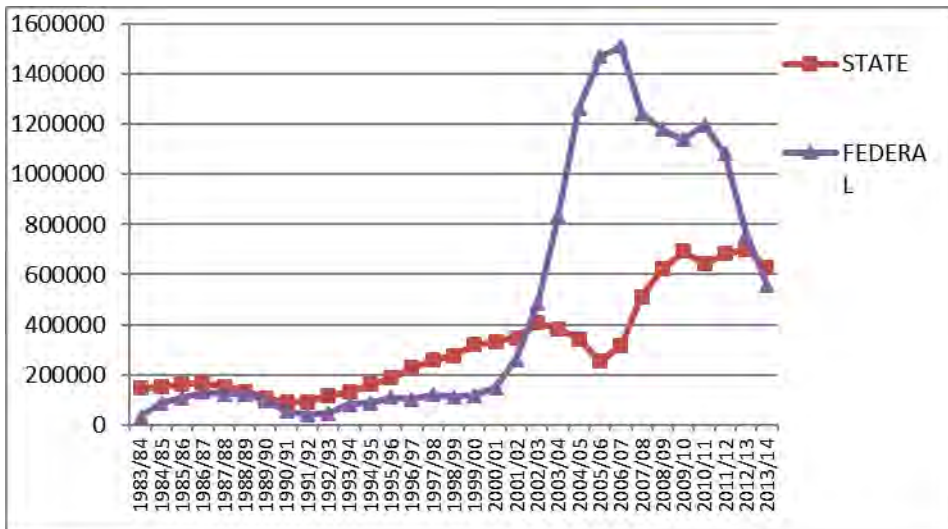
Year	Source			TOTAL*
	State	Federal	Private	
-----Dollars-----				
1981/82	148,983	2,000	27,180	178,163
1982/83	127,105	19,424	19,650	166,179
1983/84	167,660	70,413	29,687	267,760
1984/85	164,292	174,065	68,837	407,194
1985/86	165,413	80,067	33,381	278,911
1986/87	173,392	138,077	54,400	365,869
1987/88	123,265	155,202	22,700	301,167
1988/89	102,134	78,533	0	180,667
1989/90	99,531	57,700	3,000	160,231
1990/91	72,221	25,000	12,525	109,746
1991/92	109,437	40,000	123,475	272,912
1992/93	171,429	75,379	121,825	368,633
1993/94	115,776	130,699	106,250	352,725
1994/95	197,947	60,054	109,686	367,687
1995/96	251,932	145,576	64,500	462,008
1996/97	236,607	104,377	67,400	408,384
1997/98	287,576	116,750	121,232	525,558
1998/99	302,788	116,239	227,016	646,043
1999/00	371,803	126,400	130,705	628,908
2000/01	322,057	203,386	109,734	635,177
2001/02	349,003	457,508	95,508	902,407
2002/03	547,904	787,186	89,321	1,342,474
2003/04	256,145	1,258,791	93,072	1,608,008
2004/05	225,835	1,740,348	104,167	2,070,350
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
2011/12	730,582	867,647	91,795	1,690,024
2012/13	716,052	287,427	261,144	1,264,623
2013/14	433,004	446,857	147,768	1,027,629

\*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. Three Year Moving Average of Total Funding**



**Figure 2. Three Year Moving Average of State and Federal Funding**



**Table 2. Graduate Degrees Awarded, Department of Agricultural and Applied Economics, 1982/83 to 2013/14**

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
2011/12	4	0	10	5
2012/13	4	0	3	7
2013/14	3	0	3	1

**Table 3. Department of Agricultural and Applied Economics Publications and Presentations, 1979/80 to 2013/14**

Year	Journal Articles	Books & Chapters	Technical Res. Rpts.	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	28	1	9	19	26	38
2011/12	17	1	2	18	16	46
2012/13	53	1	4	10	20	21
2013/14	23	0	3	5	1	39

## **International Center for Agricultural Competitiveness**

The International Center for Agricultural Competitiveness (ICAC) (formerly known as the Cotton Economics Research Institute (CERI)) coordinates and fosters economic research activities on all aspects of agricultural competitiveness 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. ICAC focuses both on conducting research and the dissemination of research results to users. Within ICAC, production and management, processing, manufacturing, transportation, pricing and marketing, and trade and policy analysis are key research issues. The policy component of the program has become a more prominent part of ICAC's activities.

### Summary of ICAC Activities

ICAC funding was restored this past year. Since reinstatement, we have been focusing on policy analysis in cotton and general farm bill implementation as well as expanding our sorghum world model to include more regions of the world. Policy continues to be a staple of the center, but we have also expanded work into international agricultural development as well.

## **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 initial 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.
2. Other on-going research is related to land value, managerial/board relations and firm performance in cooperatives, and edible oil demand in Europe.
3. We continue to be involved in our relationship with the United States Military Academy and completed a research project for Bayer Crop Science and a study abroad program in Ethiopia.

## **Thornton Agricultural Finance Institute**

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

In FY 2013/14, 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 number of research projects 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 include:

- An Integrated Approach to Water Conservation for Agriculture in the Texas Southern High Plains.
- Texas High Plains Initiative for Strategic and Innovative Management and Conservation

#### Journal Publications

None

#### Proceedings

Stokes, K.\*, P. Johnson, B. Robertson, and B. Underwood. 2014. FieldPrint Calculator: A Measurement of Agricultural Sustainability in the Texas High Plains. *2014 Beltwide Cotton Conferences Proceedings*, pg. 406-412. Selected for presentation at the 2014 Beltwide Cotton Conference. Co-sponsored by the National Cotton Council and the Cotton Foundation, January 4-7, 2014, New Orleans, LA.

#### Technical Reports

Kellison, R., *et al.* 2014. An Integrated Approach to Water Conservation for Agriculture in the Texas Southern High Plains. Texas Alliance for Water Conservation 9<sup>th</sup> Annual Report submitted to the Texas Water Development Board, under project number 141G-44-B819, 237 pgs., College of Agricultural Sciences and Natural Resources, Texas Tech University. July 2014.

#### Presentations

Johnson, P. and K. Stokes. FieldPrint Calculator: A Measurement of Agricultural Sustainability in the Texas High Plains. Presented at the Texas Agricultural Cooperative Council Managers Conference. July 9-11, 2014. Ruidoso, NM.

#### Service

The Institute co-sponsored the 41<sup>th</sup> Annual Bankers Agricultural Credit Conference in November, 2013, 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, and the TACC Annual Meeting.

### **Agricultural Risk Management**

The agricultural risk management initiative at Texas Tech University was launched in 2002. 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 is the current 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 and on helping farmers assess the benefits of various insurance options offered under the program.

#### Summary of Activities

In 2013/14 there were no active, funded projects under this initiative. This is in significant part due to delays in enactment of a new Farm Bill. Passage of the 2014 Farm Bill earlier this year created a need for research on the new crop insurance programs contained in the legislation. Hopefully this will renew Federal funding opportunities in the area of crop insurance and risk management. The initiative is currently supporting the research of one Ph.D. student and one M.S. student. The dissertation research of the Ph.D. student focuses on evaluating the risk reducing benefits of new shallow-loss insurance offered under the 2014 Farm Bill while the thesis research of the M.S. student evaluates the usefulness of a new Rainfall Index insurance product for annual forage, which can be used by stocker cattle producers in Texas and Oklahoma to manage their production risk.

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

- Farmers in the High Plains Underground Water Conservation District have been, on average, unaffected by the explicitly unenforced policy that was implemented in 2010 requiring farmers to restrict irrigation. We find some evidence that, in some cases, irrigation actually increased after the policy was implemented.
- Demand elasticities obtained using the Bureau of Labor Statistics Consumer Expenditure Survey (CEX) data and the ACNielsen Homescan are not only statistically different but also economically different.
- All the own-price elasticities obtained from the CEX data based demand model are more inelastic than those obtained using ACNielsen Homescan data.
- The results of our analyses also suggest that it is possible to accurately estimate a demand system of equations even in the absence of price information.
- Simulation results exploring the impact of the Risk Management Agency (RMA) premium estimation inaccuracy show a surprisingly wide spread in the effective subsidy levels to where some agricultural producers might not be receiving any subsidies (i.e., they actually pay close to their full actuarially fair premium) while others only pay a small fraction of their actuarially fair premiums. More importantly, the results show that “shrinkage” estimators such as the one used by the RMA have the unintended negative consequence of disproportionately subsidizing the producers who are less effective in managing risk, i.e., those whose farms exhibit higher yield variability receive much more generous subsidies than the producers with lower levels of yield variability.
- The study “Distribution-free Methods for Estimation of Willingness to Pay (WTP) Models Using Discrete Response Valuation Data” which develops two new distribution-free methods to analyze interval-censored WTP data show the following:
  - The proposed semiparametric (*SPILM*) and nonparametric (*NIAM*) estimators are valid alternatives to the traditionally used Turnbull approach. Relative to the correctly specified parametric model, the robustness gains of using *SPILM* to estimate the mean and marginal effects do not seem to result in significant efficiency losses. The relatively mild assumption used in *NIAM*, that the mean distribution function is of the additive form, results in significant efficiency gains and bias reduction relative to the Turnbull approach which does not require the specification of the mean function.
  - The proposed estimation techniques were also shown to have three additional advantages relative to the Turnbull approach: 1) they provide point estimates of the mean WTP; 2) allow the estimation of the marginal effects of covariates on the mean WTP; and 3) allow the estimation of the underlying WTP probability distribution functions at any point.



- The study “The Standard Linear Taylor Rule: The Case of Central Bank of Jordan” has shown the following:
  - The Central Bank of Jordan (CBJ)’s monetary policy found to satisfy the Taylor principle as the CBJ’s policy rate responds more than proportionally to changes in the inflation, while the paper finds that monetary policy in Jordan focuses more on stabilizing the output gap.
  - Given the ruling pegged exchange rate regime, estimation results of the extended Taylor rule suggests highly significant effect of the U.S. Federal funds rate on setting the interest rate in Jordan
  - The empirical evidence from the monetary policy implementation in Jordan proves the existence of the monetary policy inertia. The sum of the coefficients of the lagged interest rate is estimated to be 0.92, means that the CBJ tends to rely on smoothing out the changes in its policy rate relative to the targeted interest rate implied by the estimated Taylor rule.
  
- The study “Is Monetary Policy in Jordan Asymmetric? An Investigation on Threshold Effects in Central Bank of Jordan (CBJ) Reaction Function” has shown the following:
  - The empirical results of the threshold regression model, picks the CBJ’s policy rate as the threshold variable, since it fits the CBJ’s behavior with the lowest values of the SSE and MSE relative to the ones obtained using the inflation rate and the output gap.
  - The results also reveal that the CBJ’s response to contemporaneous movements in inflation tended to be weak and statistically insignificant during the low policy rate regime, while it turns out to be significant and more active whenever the overnight policy rate exceeds the estimated threshold value of 3.25%.
  - Remarkably low levels of the short term policy rate in Jordan are more common during the low economic activity and the declining in the inflationary pressures.
  - It is more likely that the CBJ’s priority in the lower regime is to stimulate the economy rather than to contain the inflation or to track the changes in the federal funds rate, which is more apparent from the positive and highly significant CBJ’s response to the output gap associated with inactive and statistically insignificant response to changes in the federal funds rate.
  - In the higher policy rate regime, the CBJ proved to act more aggressively to control the rising inflationary pressures driven by upturn in the aggregate demand and economic activity.
  - The CBJ is found to sacrifice much of its autonomy by tracking the changes in the federal funds rate very closely compared with a remarkably low and neglected response in the lower policy rate regime.
  - The CBJ’s responses to inflation, output gap, and the federal funds rate turned out to be stronger and statistically significant in the high policy rate regime than in the low policy rate regime.
  
- The study “Can Smooth Transition Models Better Fit Asymmetric Monetary Policy?” has

shown the following:

- The smooth transition regression (STR) model provides smooth endogenous regime switches between two distinct regimes rather than sudden jump from one regime to other, as in the process that is characterizing the threshold regression models.
  - The empirical findings of this paper select the exponential STR (ESTR) model to be the best fitting specification for the Jordan's case, with the output gap to be the best transition variable that capturing the CBJ behavior with the least value of SSE.
  - the estimation results of the ESTR model reveal that the rate of change in the output from its potential level in Jordan relative to the estimated threshold value of 1.127% in either direction are seen as equally bad, when the CBJ assumes to adjust asymmetrically to small and large absolute values of output gap relative to the threshold value.
  - The output is the only concern of the CBJ in the inner regime, with no concern attached to the inflation rate.
  - CBJ is found to be irresponsive to the changes in the U.S. federal funds rate, indicating more monetary policy autonomy in the inner regime, associated with unexpectedly high persistence in the CBJ's policy rate in the inner regime relative to the outer regime.
  - The CBJ is found to be remarkably sensitive to changes in the U.S. federal funds rate in the outer regime, compared with a little or no response in the inner regime.
  - Inflation change shows to be a concern to the CBJ in the outer regime than in the inner regime (in deep slumps or booms than around the threshold value of the output gap), but it fails to meet the Taylor principle.
  - The results of the ESTR model provide a new evidence to the monetary policy autonomy in Jordan. On the one hand, the CBJ showed to be focusing on the changes in the output, with no response to changes in the U.S. federal funds rate in the inner regime. While the monetary policy sacrifices some of its autonomy in the outer regime by partially adjusting to the changes in both the U.S. federal funds rate, and the inflation rate.
  - The results of the logistic STR (LSTR) model support the fact that monetary policy autonomy is a regime dependent in Jordan. Monetary policy autonomy tends to weaken as the U.S. federal funds rate drifts up away from the threshold level of 4.78%.
  - The CBJ is found to follow the changes in the U.S. federal funds rate more closely the larger is the positive gap between the level of the U.S. federal funds rate and its estimated threshold level. At the same time, the CBJ's policy rate showed to be less persistent to cope with changes in the domestic inflation rate and the stance of U. S. monetary policy. On the other side, the results reveal that the CBJ gains more independence in the low regime when the U.S. federal funds rate gets closer to the threshold level.
- The study "Sources of Monetary Policy asymmetry in Jordan: A Structural Modeling

Approach” has shown the following:

- The results provide evidence for a nonlinear and convex aggregate supply (AS) in Jordan. A convex AS implies that the CBJ is more responsive to the changes in the inflation rate that is associated with positive output gaps, since positive output gaps place stronger and more persistent pressures on the inflation rate than in the linear AS. Therefore, the proved nonlinearity in the AS, suggests the existence of monetary policy asymmetry in Jordan.
  - The inflation/output gap interaction term, which has been added to the baseline CBJ’s reaction function to capture such source of policy asymmetry, proves to be positive and statistically significant. This finding suggests the evidence of a nonlinear CBJ reaction function driven by a nonlinear AS.
  - On the other hand, the estimation results of the paper find no evidence for nonlinear monetary policy rule due to asymmetric CBJ’s preferences, though the conditional variance of inflation proved to be volatile.
  - Comparing the results of the symmetric versus the asymmetric CBJ’s rule, driven by the nonlinear AS, reveals that the sum of interest rate smoothing coefficients, inflation, and the federal funds rate coefficients have not altered in both models.
  - The results also indicate stabilizing responses of the CBJ with respect to inflation in both models, while the conduct of monetary policy in Jordan turns to be destabilizing toward the output gap only when the nonlinear policy rule is considered.
  - The empirical results indicate that the linear model is preferred over the nonlinear model, since the nonlinear model fails to capture the policy interest rate dynamics in Jordan.
- 
- Providing an inexpensive toy as a reward for finishing fruits and vegetables for a short period of time was cost effective in encouraging young school children to both try and consume fruits and vegetables.
  - Preliminary findings indicate that government intervention in agriculture can derail optimal technological development path(s) which in turn can negatively impact long-term productivity.
  - A recent study has shown that obtaining precision agriculture information from consultants affected the timing of adoption of certain precision farming technologies.
  - A recent study has shown a persistence of surplus labor in Chinese rice-producing households, albeit in the form of underutilized labor capacity.
  - A recent study has shown that rural industrial enterprises have contributed significantly to agricultural productivity growth in China.

- We estimate the mean willingness to pay for glass-bottled milk to be a 60 cent premium over a half-gallon of milk sold in a plastic container. The willingness to pay is driven by individuals that perceive the glass bottle to be more environmentally friendly and demonstrate behaviors consistent with willingness to return the glass bottle to the store.
- We estimate that the social costs of alternative milk packaging are quite similar, with high density plastic having the lowest cost except under relatively extreme reuse and return rates for glass packaging.

**Appendix A**  
**PROJECTS**  
2013/14

<b>Project Title</b>	The Effects of Nonbinding Restrictions on Farmer Irrigation
<b>Principal Investigators</b>	Aaron Benson
<b>Departmental Involvement</b>	Agricultural and Applied Economics, Texas Tech University; Texas AgriLife Research, Lubbock
<b>Funding Amount</b>	\$15,000
<b>Funding Agency</b>	Ogallala Aquifer Project, USDA-ARS
<b>Beginning Date</b>	February 2014
<b>Ending Date</b>	
<b>Project Objective</b>	Determine the effect on farmers in the High Plains Underground Water Conservation District of the unenforced regulation that they restrict irrigation water
<b>Project Summary and Accomplishments</b>	<p>Farmers who irrigate are likely to make decisions about how much water to use without considering a regulation that is explicitly unenforced. We wish to determine whether the unenforced policy has the additional effect of increasing irrigation by farmers who fear that the unenforced policy signals that an enforced policy will be implemented in the near future. If that were the case, it might be that farmers increase irrigation in the current period, to capture the value of the water now, before they face restrictions in a future period</p> <p>We created production models of three major crops in six High Plains counties. The models are systems of supply equations derived from a normalized quadratic profit function, assuming that each county can be modeled as a single profit-maximizing producer. We then test whether the acreage of harvested corn has changed in the years since the policy was created.</p> <p>We find that, on average, the policy has an insignificant effect on irrigation decisions by farmers (as measured by the amount of corn acreage harvested). In two counties, the policy has a significant effect, but of opposite sign – that is, in one county, the policy seems to have significantly decreased corn acreage, while it has increased corn acreage in another county.</p>
<b>Keywords</b>	Irrigation policy, policy uncertainty

<b>Project Title</b>	Playa Lakes and Ecosystem Services
<b>Principal Investigators</b>	Aaron Benson, Ryan Williams
<b>Departmental Involvement</b>	Agricultural and Applied Economics, Texas Tech University
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	March 2011
<b>Ending Date</b>	
<b>Project Objective</b>	Identify and determine the value of the various ecosystem services provided by the playas of the Southern High Plains
<b>Project Summary and Accomplishments</b>	<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>We develop a model of Ogallala aquifer recharge at a well that uses well drawdown as a (negative) proxy for recharge. The surface area of playa lakes within a given radius is included as a variable that affects recharge. We use data from wells in three Texas counties to determine the marginal effect of an increase in playa surface area on well drawdown. We use a cotton production model to value the decrease in drawdown. We find that additional playa surface area has a miniscule value for irrigated cotton producers. Due to data limitations, our results can only be viewed as preliminary. A complete study would require more data on the management and status of the playas near each well, and would require data on well drawdown.</p> <p>The playa lake region provides habitat for migratory waterfowl. The extent and/or distribution of playas within the region may have an effect on the ability of the region to supply this service. We are developing a network model of playas within the playa lake region to identify the optimal spatial extent/location/areas for playa preservation and restoration.</p> <p>In order to determine the value to consumers of playa-provided biodiversity, we conducted a brief survey in some areas of West and Central Texas. The survey has been completed and returned and preliminary analysis suggests that there is some small value in preserving playas for promoting native ecological biodiversity.</p>
<b>Keywords</b>	Playa lakes, ecosystem services

<b>Project Title</b>	Data Sources and Food Demand Estimation: A Comparison of Homescan and Consumer Expenditure Survey Data
<b>Principal Investigators</b>	Carlos E. Carpio Tullaya Boonsaeng
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	Total funding \$40,389 (Expenditures 09/01/2013-08/31/2014 \$0)
<b>Funding Agency</b>	USDA - Agriculture and Food Research Initiative - Foundational Program
<b>Beginning Date</b>	February 2014
<b>Ending Date</b>	December 2015
<b>Project Objective</b>	This project tries to answer three interrelated questions: 1) Are there any differences between demand model estimates obtained using Homescan data and Bureau of Labor Statistics data? If that is the case, 2) What are the sources of the differences? and 3) Are there procedures currently available that can help to eliminate/reduce measurement error induced biases?
<b>Project Summary and Accomplishments</b>	<p>Demand models play an important role in the analysis and measurement of consumer preferences as well as the evaluation of agricultural and food policy; however, only a small number of demand studies have evaluated the quality, statistical properties and/or the impact of the data on the final results of their analyses. Hence, the main research objective for this project is to evaluate the potential of using publicly available datasets and state of the art econometric methods in lieu of the privately owned Homescan data. The first part of the project which focuses on the analyses to answer question 1 (see project objectives) has been completed. Some highlights for the results of phase 1 include:</p> <ul style="list-style-type: none"> <li>- Demand elasticities obtained using the Bureau of Labor Statistics Consumer Expenditure Survey (CEX) data and the ACNielsen Homescan are not only statistically different but also economically different.</li> <li>- All the own-price elasticities obtained from the CEX data based demand model are more inelastic.</li> <li>- The results of our analyses also suggest that it is possible to accurately estimate a demand system of equations even in the absence of price information.</li> </ul>
<b>Keywords</b>	AC Nielsen Homescan, food demand elasticities



**Project Title** The Supplemental Nutrition Assistance Program and Household Spending: A Flexible Demand System Approach

**Principal Investigators** Tullaya Boonsaeng – Texas Tech University  
Carlos E. Carpio – Texas Tech University  
Chen Zhen – RTI

**Departmental Involvement** Agricultural and Applied Economics

**Funding Amount** Total funding \$53,602 (Expenditures 09/01/2013-08/31/2014: \$49,342.69)

**Funding Agency** USDA-Food Assistance and Nutrition Research Program

**Beginning Date** September 2013  
**Ending Date** August 2016

**Project Objective** The research objectives for this project are: 1) to evaluate the effect of SNAP on households’ expenditures on food and nonfood items, and 2) to analyze the influence of location, economic conditions and demographic characteristics effects on households’ allocation of expenditures on food and nonfood items.

**Project Summary and Accomplishments** The main goal of this was to examine the impact of the SNAP program on the allocation of food and nonfood spending expenditures across six subgroups: food, utilities, apparel, transportation, medical care, and other nonfood spending. The empirical analysis is being conducted using a consumer demand approach instead of the traditional Engel curve approach used to evaluate the effect of SNAP participation on household spending. . Endogeneity and measurement error of the SNAP participation variable and endogeneity of total expenditures are being accounted for with the use of specialized econometric procedures.

**Keywords** Measurement error, binary variable, generalized method of moments, bounds

<b>Project Title</b>	Keeping the Value of the Farm: Expanding Market Opportunities Through Regional Branding
<b>Principal Investigators</b>	Carlos E. Carpio, Texas Tech University Tullaya Boonsaeng, Texas Tech University Leah Mathews, University of North Carolina-Ashville Charlie Jackson, Appalachian Sustainable Agricultural Project Allison Perret, Appalachian Sustainable Agricultural Project Katie Descieux, Appalachian Sustainable Agricultural Project
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	TTU component: \$124,918 (Expenditures 09/01/2013-08/31/2014: \$57,822.28)
<b>Funding Agency</b>	USDA Agriculture and Food Research Initiative –Agricultural Economics and Rural Communities
<b>Beginning Date</b>	August 2013
<b>Ending Date</b>	December 2015
<b>Project Objective</b>	The long-term goals of this project are to enhance and expand economic opportunities for small and medium-sized farms located in Western North Carolina. To support this goal, this project integrates research and extension activities to develop and test local food messaging that will ultimately impact the purchasing practices of consumers. The Texas Tech team of researchers are involved with two project objectives: (1) measure the impact of specific promotional strategies on the purchasing practices of consumers; and (2) measure the impact of Appalachian Grown branding on farms.
<b>Project Summary and Accomplishments</b>	This is an on-going project. No results are available yet.
<b>Keywords</b>	Local foods, contingent valuation, food marketing

<b>Project Title</b>	Producer Welfare Implications of the RMA’s “Shrinkage” Crop Insurance Premium Estimator
<b>Principal Investigators</b>	Octavio Ramirez, The University of Georgia Carlos E. Carpio, Texas Tech University Alba Collart, Mississippi State University
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2014
<b>Ending Date</b>	December 2015
<b>Project Objective</b>	The main objective of this project is to explore the potential impact of Risk Management Agency (RMA) premium estimation inaccuracy on the distribution of crop insurance subsidies across the producers participating in the program.
<b>Project Summary and Accomplishments</b>	<p>The federal crop insurance program provides U.S. agricultural producers important tools to manage yield and revenue risks in their farm operations. In 2013, the program covered close to 296 million acres, or 90% of the insurable crop land, assuming nearly \$124 billion in liabilities through 1.22 million individual policies. The Risk Management Agency (RMA), a division of the USDA, is charged with administering this program. The traditional product offered by the RMA, which for the purpose of simplicity is the focus of this paper, is a farm-level, multiple-peril, crop yield insurance policy (MPCI). This policy protects against low yield and crop quality losses due to adverse weather and unavoidable damage from insects and disease (Barnett, 2000).</p> <p>Our simulation results show a surprisingly wide spread in the effective subsidy levels to where some agricultural producers might not be receiving any subsidies (i.e., they actually pay close to their full actuarially fair premium) while others only pay a small fraction of their actuarially fair premiums. More importantly, the results show that “shrinkage” estimators such as the one used by the RMA have the unintended negative consequence of disproportionately subsidizing the producers who are less effective in managing risk, i.e., those whose farms exhibit higher yield variability receive much more generous subsidies than the producers with lower levels of yield variability.</p>
<b>Keywords</b>	Crop insurance, subsidies

<b>Project Title</b>	Distribution-free Methods for Estimation of Willingness to Pay Models Using Discrete Response Valuation Data
<b>Principal Investigators</b>	Samuel Zapata, Clemson University; Carlos E. Carpio, Texas Tech University
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	October 2014
<b>Ending Date</b>	December 2015
<b>Project Objective</b>	The purpose of this study is to develop alternative distribution-free methods for the estimation of WTP models using nonparametric conditional imputation and local regression procedures.
<b>Project Summary and Accomplishments</b>	<p>The Turnbull method is the standard approach used in contingent valuation studies to estimate willingness to pay (WTP) models using discrete responses without making assumptions about the distribution of the data. However, this approach has several limitations. The purpose of this study is to develop alternative distribution-free estimation approaches that can be used to analyze interval-censored WTP data. The proposed estimators involve iterated procedures that combine nonparametric kernel density estimation of the errors of the WTP function with parametric linear or nonparametric kernel regression of its conditional mean function. Simulation techniques are employed to compare the performance of the proposed estimators with that of the Turnbull approach and the true parametric model. We also illustrate the use of the propose estimation techniques using a real data set.</p> <p>Overall, the simulation results show that the proposed semiparametric (<i>SPILM</i>) and nonparametric (<i>NIAM</i>) estimators are valid alternatives to the Turnbull approach. Relative to the correctly specified parametric model, the robustness gains of using <i>SPILM</i> to estimate the mean and marginal effects do not seem to result in significant efficiency losses. The relatively mild assumption used in <i>NIAM</i>, that the mean distribution function is of the additive form, results in significant efficiency gains and bias reduction relative to the Turnbull approach which does not require the specification of the mean function. The proposed estimation techniques were also shown to have three additional advantages relative to the Turnbull approach: 1) they provide point estimates of the mean WTP; 2) allow the estimation of the marginal effects of covariates on the mean WTP; and 3) allow the estimation of the underlying WTP probability distribution functions at any point.</p>
<b>Keywords</b>	Additive models, double-bounded elicitation, kernel functions, iterated conditional expectation, non-parametric regression, Turnbull

<b>Project Title</b>	The U.S. Financial Crisis and the Changes in Wealth of U.S. Households
<b>Principal Investigator/s</b>	Abbas Aboohamidi and Benaissa Chidmi
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Type</b>	N/A
<b>Funding Amount</b>	N/A
<b>Beginning Date</b>	September 2013
<b>Ending Date</b>	August 2014
<b>Project Objective</b>	To investigate the factors and forces that influence wealth accumulation during the 2007-2008 financial crisis in United States.
<b>Project Summary Accomplishments</b>	This research seeks to understand factors that affect wealth accumulation for US households during the 2007-2008 financial crisis, taking into account the sector of activities in which the head of household operates as well as different household characteristics, such as age, education, income and household size. Unlike previous studies, we hypothesize that the financial crisis and the household characteristics affect household wealth accumulation differently depending on the sector of activity.
<b>Keywords</b>	Wealth accumulation, financial crisis, survey of consumer finance
<b>Publication</b>	Working paper

<b>Project Title</b>	The Saving Motives and the U.S. Financial Crisis: A Household Analysis
<b>Principal Investigator/s</b>	Abbas Aboohamidi and Benaissa Chidmi
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Type</b>	N/A
<b>Funding Amount</b>	N/A
<b>Beginning Date</b>	September 2013
<b>Ending Date</b>	August 2014
<b>Project Objective</b>	To use the follow up data set of the Survey of Consumer Finance (SCF) 2007-2009 to investigate the impact of the financial crisis on the saving behavior (habit) of individual households and the precautionary saving motive
<b>Project Summary Accomplishments</b>	The purpose of this study is to use the follow up data set of the Survey of Consumer Finance (SCF) 2007-2009 to investigate the impact of the financial crisis on the saving behavior (habit) of individual households and the precautionary saving motive. The relevance of the topic in particular emanates from the crucial role of precautionary saving as a household response to uncertainty in the future market.
<b>Keywords</b>	Saving motives, precautionary saving, financial crisis, survey of consumer finance
<b>Publication</b>	Working paper

<b>Project Title</b>	Factors Influencing the Choice of Financial Advisors by the U.S. Households Before and After the Financial Crisis
<b>Principal Investigator/s</b>	Abbas Aboohamidi and Benaissa Chidmi
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Type</b>	N/A
<b>Funding Amount</b>	N/A
<b>Beginning Date</b>	September 2013
<b>Ending Date</b>	August 2014
<b>Project Objective</b>	To analyze the factors that explain the household choice for financial advisors.
<b>Project Summary Accomplishments</b>	The purpose of this study is to shed light on the effect of household characteristics (age, income, sector of activity and so on) on the choice of financial advisors (bankers, brokers, financial planners ...) by US households, especially in the wake of the financial crisis. In our analysis, we employ multinomial logistic models by which we can examine the effect of the potential changes in the independent variables on the alternatives.
<b>Keywords</b>	Financial advising, financial crisis, survey of consumer finance
<b>Publication</b>	Working paper

<b>Project Title</b>	The Standard Linear Taylor Rule: The Case of Central Bank of Jordan
<b>Principal Investigator/s</b>	Nedal Azzam and Benaissa Chidmi
<b>Departmental Involvement</b>	Economics; Agricultural and Applied Economics
<b>Funding Type</b>	N/A
<b>Funding Amount</b>	N/A
<b>Beginning Date</b>	September 2013
<b>Ending Date</b>	August 2014
<b>Project Objective</b>	To examine the monetary policy reaction function for Jordan by analyzing three expanded models of the Taylor rule; the within-month rule, the backward-looking rule, and the forward-looking rule
<b>Project Summary Accomplishments</b>	This study looks at the effects of inflation and output gap on setting the policy interest rate by the Central Bank of Jordan (CBJ). The empirical part of the study employs two estimation methods; the nonlinear GMM and the nonlinear FIML estimators, using monthly data over the period (1998:08-2013:10). Findings of this study yield some interesting results, the CBJ's monetary policy fails to satisfy the Taylor principle as the CBJ's policy rate responds less than proportionally to a change in the inflation, while the paper finds that monetary policy in Jordan focuses on stabilizing the output gap. Estimating the extended Taylor rule suggests the highly significant effect of the U.S. Federal funds rate on setting the interest rate in Jordan. Finally, the empirical evidence from the Jordanian economy shows that monetary policy inertia is highly significant in Jordan. The coefficient of the lagged interest rate is estimated to be 0.92, which means that the CBJ uses interest rate smoothing in managing its monetary policy.
<b>Keywords</b>	Taylor rule, monetary policy, Central Bank of Jordan,
<b>Publication</b>	Paper in submission phase



<b>Project Title</b>	Is Monetary Policy in Jordan Asymmetric? An Investigation on Threshold Effects in CBJ Reaction Function
<b>Principal Investigator/s</b>	Nedal Azzam and Benaissa Chidmi
<b>Departmental Involvement</b>	Economics; Agricultural and Applied Economics
<b>Funding Type</b>	N/A
<b>Funding Amount</b>	N/A
<b>Beginning Date</b>	September 2013
<b>Ending Date</b>	August 2014
<b>Project Objective</b>	To examine the empirical evidence for a Taylor rule in a nonlinear framework using the threshold regression model approach
<b>Project Summary Accomplishments</b>	This study examines the empirical evidence for a Taylor rule in a nonlinear framework using the threshold regression type models. For this purpose, three types of threshold regression models have been estimated; the basic threshold regression model, the opportunistic model and the full opportunistic model, using Jordan monthly data over the sample period (1998:03-2013:10). For each of the estimated models, the paper investigates three potential transition variables; the inflation rate, the output gap, and the CBJ's policy rate. The empirical results of the threshold regression model, picks the CBJ's policy rate as the threshold variable. The results also reveal that the CBJ's response to contemporaneous movements in inflation tended to be weak and statistically insignificant during the low policy rate regime, while it turns out to be significant and more active whenever the overnight policy rate exceeds the estimated threshold value of 3.25%.
<b>Keywords</b>	Taylor rule, monetary policy asymmetry, Threshold regression, Central Bank of Jordan,
<b>Publication</b>	Paper in the submission phase

<b>Project Title</b>	Can Smooth Transition Models Better Fit Asymmetric Monetary Policy?
<b>Principal Investigator/s</b>	Nedal Azzam and Benaissa Chidmi
<b>Departmental Involvement</b>	Economics; Agricultural and Applied Economics
<b>Funding Type</b>	N/A
<b>Funding Amount</b>	N/A
<b>Beginning Date</b>	September 2013
<b>Ending Date</b>	August 2014
<b>Project Objective</b>	To examines the nonlinear behavior of the CBJ's monetary policy using a smooth transition regression model.
<b>Project Summary Accomplishments</b>	This study examines the nonlinear behavior of the CBJ's monetary policy using a STR model. The STR model provides smooth endogenous regime switches between two distinct regimes rather than sudden jump from one regime to other, as in the process that is characterizing the threshold regression models. The paper examines three types of STR models; the Logistic STR (LSTR), Quadratic STR (LSTR2), and the Exponential STR (ESTR) regression model. The empirical findings of this paper select the ESTR model to be the best fitting specification for the Jordan's case, with the output gap ( $y_t$ ) to be the best transition variable that capturing the CBJ behavior with the least value of SSE. The estimation results of the ESTR model reveal that the rate of change in the output from its potential level in Jordan relative to the estimated threshold value of 1.127% in either direction are seen as equally bad, with the CBJ assumes to adjust asymmetrically to small and large absolute values of output gap relative to the threshold value.
<b>Keywords</b>	Smooth transition, monetary policy asymmetry, logistic regression, exponential regression Central Bank of Jordan,
<b>Publication</b>	Paper in the submission phase

<b>Project Title</b>	Sources of Monetary Policy Asymmetry in Jordan: A Structural Modeling Approach
<b>Principal Investigators</b>	Nedal Azzam and Benaissa Chidmi
<b>Departmental Involvement</b>	Economics; Agricultural and Applied Economics
<b>Funding Type</b>	N/A
<b>Funding Amount</b>	N/A
<b>Beginning Date</b>	September 2013
<b>Ending Date</b>	August 2014
<b>Project Objective</b>	To explore both sources of policy asymmetry in the case of Jordan, i.e., asymmetric CBJ preferences and/or nonlinear structure of the economy
<b>Project Summary Accomplishments</b>	This study applies the structural modeling approach, which allows discrimination between the two sources of policy asymmetry in the case of Jordan, i.e., asymmetric CBJ preferences or nonlinear structure of the economy. It assumes that nonlinear framework of monetary policy would better describe short term interest rate setting than standard linear framework during the sample period (1998:3-2013:10). The results provide evidence for a nonlinear and convex AS in Jordan. A convex AS implies that the CBJ is more responsive to the changes in the inflation rate that is associated with positive output gaps, since positive output gaps place stronger and more persistent pressures on the inflation rate than in the linear AS. Therefore, the proved nonlinearity in the aggregate supply (AS), suggests the existence of monetary policy asymmetry in Jordan. The inflation/output gap interaction term, which has been added to the baseline CBJ's reaction function to capture such source of policy asymmetry, proves to be positive and statistically significant. This finding suggests the evidence of a nonlinear CBJ reaction function driven by a nonlinear AS. On the other hand, the estimation results of the paper find no evidence for nonlinear monetary policy rule due to asymmetric CBJ's preferences, though the conditional variance of inflation proved to be volatile.
<b>Keywords</b>	Monetary policy asymmetry, structural model, Central Bank of Jordan,
<b>Publication</b>	Paper in the submission phase

<b>Project Title:</b>	Adaptable Multiproduct Biorefinery from Cotton Gin Waste
<b>Principal Investigators</b>	Michael C. Farmer and Aaron Benson
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	\$63,000 USDA (Rural Development)
<b>Funding Agency</b>	\$30,000 USDA (ARS)
<b>Beginning Date</b>	September 2010
<b>Ending Date</b>	May 2015
<b>Project Objective</b>	Assess Use of Cotton Gin Waste at Gins in West Texas (with possible supplemental biowaste) to produce electricity, ammonia, bio-oil based fertilizer and biodiesel all at the same facility
<b>Project Summary and Accomplishments</b>	<p>Generating electricity from waste by gasification and generator sets can continuously realize the highest peak electric prices by Making the Biorefinery small. During a drought, a small on site power plant convert the modest biomass available without idle capacity of a larger plant would have.</p> <p>The downside is that during years of larger biomass waste (high cotton yields), electricity from the added biomass would sell at a much lower price.</p> <p>This study examined modular systems that produce additional products during productive years that leave high levels of biomass. Already available modular ammonia and bio-oil systems can absorb the surplus biomass and convert that biomass into high priced products in addition to high priced electric power. So the multiproduct biorefinery adapts to locate a high valued niche market across the shifting weather patterns in the region.</p> <p>The products then sold at a gin with a small multiproduct biorefinery would be lint, cotton seed (or oil), electricity, ammonia and biodiesel. Econometric analyses showed that over time, these products are not cointegrated. That loosely means that the product markets for these goods will not all be low or all be high at the same time. Overall analyses show the system is profitable for a 1 to 3 MWe plant at an IRR of 25-40% while reducing variability in net income of the gins.</p>
<b>Keywords</b>	Biorefinery, gasification, biowaste, bioenergy, market cointegration analysis

**Important  
Publications and  
Presentations**

Tangaoui, A and Farmer, MC. 2014. “The Relationship between Gasoline, Agricultural Feedstocks and Exchange Rate: A Cointegration Analysis” **American Journal of Economics and Finance**. v4: 87-92.

Farmer, MC and Tangaoui, A. 2014 “Benefits of a Multiproduct biorefinery: A cointegration analysis” American Association of Economics And Finance. February 18. Chattanooga, TN.

<b>Project Title</b>	Optimal Crop Shifts for Ogallala Aquifer on South High Plains
<b>Principal Investigators</b>	Michael C. Farmer and Veronica Acosta-Martinez
<b>Departmental Involvement</b>	Agricultural and Applied Economics USDA - ARS
<b>Funding Amount</b>	\$11,000
<b>Funding Agency</b>	USDA - ARS
<b>Beginning Date</b>	September 2011
<b>Ending Date</b>	August 2015
<b>Project Objective</b>	Model Adaptation to Aquifer Decline on the Southern High Plains to: a. endogenize the terminal period (when irrigation transitions to dryland); b. predict average irrigation levels year by year until dryland transition; and, c. predict the transition year from one crop to another (e.g. corn to cotton to grain sorghum to dryland).
<b>Project Summary and Accomplishments</b>	<p>The first finding was that by solving for the terminal period rather than imposing it (e.g. end at 50 years or 80 years), it was easy to show that forced irrigation restrictions would lead producers to abandon irrigated agriculture earlier, not later as the policy intends. In addition, not only are farmers today worse off, but farmers tomorrow are too (50 years from now). Policy intends to sustain future profits by enduring some pain today rather than the continuous decline in profits through time.</p> <p>Early results suggest that the most profitable timing of crop transitions leads to a longer period of irrigated agriculture and higher profits over time. A cotton only model, for example, shows a shorter duration of irrigation and lower profits.</p> <p>Finally, aggressive R&amp;D on dryland alternatives is needed immediately. Producers time crop transitions and irrigation investments better the earlier they can predict what dryland system will be. The more productive the system and the earlier it is available increases producer profits in every period.</p>
<b>Keywords</b>	Groundwater management; Irrigation policy; Confined Aquifer
<b>Important Publications and Presentations</b>	Farmer, MC, Benson, A., McMahon, G., Principe, J., Middleton, M. Forthcoming 2015. "Unintended Consequences of Involving Stakeholders too Late: A Case Study in Multi-Objective Management" <b>Water Resources Policy &amp; Management - American Society of Civil Engineers Journal.</b>

<b>Project Title</b>	Urban Ecology and Home Prices
<b>Principal Investigators</b>	Michael C. Farmer, Samantha Kahl, Mark Wallace
<b>Departmental Involvement</b>	Agricultural and Applied Economics, Natural Resource Management
<b>Funding Amount</b>	Natural Resource Management
<b>Funding Agency</b>	
<b>Beginning Date</b>	September 2013
<b>Ending Date</b>	May 2016
<b>Project Objective</b>	<p>Prior research identified a robust positive relationship between avian species diversity and home prices in Lubbock. We suspect the home value responds to progressed landscape diversity, of vegetation at different densities and different heights.</p> <p>This work tries to map directly the ‘street scape’ plant composition to avian species and to examine which of these more direct components of ecological richness enhance home prices.</p>
<b>Project Summary and Accomplishments</b>	<p>Results show in West Lubbock, two types of households exist that value these amenities positively; one shows a quite high price premium for improvements and the other shows a smaller but still high premium. Current ecological work in spring 2014 and ongoing is returning to sites of previous study and mapping landscape composition as the density of tree cover and the amount of vegetation at different levels (e.g. knee high, shoulder high, below the roof line, above the roof line). That work is also updating bird diversity observed (by bird calls) as vegetation may have shifted some.</p> <p>There is an overall positive correlation that links progressed landscapes to avian diversity and some evidence that this affects home values. Additional mixing by finite mixture is intended to provide us with a more precise picture of the types of vegetation on a street that enhance home values best and those that best enhance urban ecology outcomes.</p>
<b>Keywords</b>	Urban ecology; Hedonic Price analysis; Avian habitat selection; Submarket identification in Real Estate
<b>Important Publications and Presentations</b>	Leuenberger, K., Kahl, S., and Farmer, M.C., and Cox, R. 2014. “Bird diversity, vegetation coverage, and house prices in Lubbock, TX.” Texas Ecological Society Meetings. April 17, 2014. Austin, TX.

<b>Project Title</b>	Structural Models of the U.S. and World Fiber Markets (Cotton FAPRI)
<b>Principal Investigators</b>	Darren Hudson
<b>Departmental Involvement</b>	Agricultural & Applied Economics
<b>Funding Amount</b>	\$270,000
<b>Funding Agency</b>	USDA – Office of the Chief Economist
<b>Beginning Date</b>	March 2014
<b>Ending Date</b>	August 2015
<b>Project Objective</b>	To estimate and maintain a structural econometric model of U.S. and global fiber markets to be used in policy and market analysis.
<b>Project Summary and Accomplishments</b>	<p>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, <i>Southwest Farm Press</i>, and other regional and local media.</p> <p>Several critical research projects were completed or are underway related to this project:</p> <ol style="list-style-type: none"> <li>1. Impacts of carbon offsets on U.S. cotton production</li> <li>2. Global baseline projections</li> <li>3. Impacts of Brazilian currency appreciation</li> <li>4. Impacts of Chinese market power on the effects of U.S. cotton subsidies</li> </ol>
<b>Keywords</b>	Cotton, structural models, forecasting, international markets, policy analysis



<b>Project Title</b>	The Impacts of Biofuels on the Infrastructure of the U.S. Cotton Industry
<b>Principal Investigators</b>	Darren Hudson
<b>Departmental Involvement</b>	Agricultural & Applied Economics
<b>Funding Amount</b>	\$8,000 (\$7,138 Spent through 9/1)
<b>Funding Agency</b>	Cotton, Inc.
<b>Beginning Date</b>	January 2014
<b>Ending Date</b>	December 2014
<b>Project Objective</b>	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.
<b>Project Summary and Accomplishments</b>	Dramatic shifts of cotton acreage that has occurred especially in the mid-South 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.
<b>Keywords</b>	Cotton, cotton gins, policy analysis

<b>Project Title</b>	Emerging Cotton Issues in World Policy
<b>Principal Investigators</b>	Darren Hudson
<b>Departmental Involvement</b>	Agricultural & Applied Economics
<b>Funding Amount</b>	\$3,000 (\$0 Spent through 9/1)
<b>Funding Agency</b>	Cotton, Inc.
<b>Beginning Date</b>	January 2014
<b>Ending Date</b>	December 2014
<b>Project Objective</b>	To examine and document the role of internal subsidization of cotton production in global cotton markets.
<b>Project Summary and Accomplishments</b>	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.
<b>Keywords</b>	Cotton, subsidies, policy analysis

<b>Project Title</b>	A Comparative Analysis of the Economics of Cotton Farming: Subsidies and Production Costs of the World's Leading Producers
<b>Principal Investigators</b>	Darren Hudson
<b>Departmental Involvement</b>	Agricultural & Applied Economics
<b>Funding Amount</b>	\$7,500 (\$6,692 Spent through 9/1)
<b>Funding Agency</b>	Cotton, Inc.
<b>Beginning Date</b>	January 2014
<b>Ending Date</b>	December 2014
<b>Project Objective</b>	To examine and document differing production costs, subsidies, and market outcomes in the world's leading cotton producing countries.
<b>Project Summary and Accomplishments</b>	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.
<b>Keywords</b>	Subsidies, agriculture, costs of production, marketing systems, policy analysis

<b>Project Title</b>	Larry Combest Endowed Chair Research
<b>Principal Investigators</b>	Darren Hudson
<b>Departmental Involvement</b>	Agricultural & Applied Economics
<b>Funding Amount</b>	\$19,233
<b>Funding Agency</b>	Combest Endowment
<b>Beginning Date</b>	September 2013
<b>Ending Date</b>	August 2014
<b>Project Objective</b>	To conduct research relevant to the long-term competitiveness of Texas and U.S. agriculture.
<b>Project Summary and Accomplishments</b>	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.
<b>Keywords</b>	Agricultural competitiveness

<b>Project Title</b>	Creating a Searchable Database of Foreign Subsidies
<b>Principal Investigators</b>	Darren Hudson
<b>Departmental Involvement</b>	Agricultural & Applied Economics
<b>Funding Amount</b>	\$10,000 (\$8,900 spent by 9/1)
<b>Funding Agency</b>	Cotton, Inc.
<b>Beginning Date</b>	January 2014
<b>Ending Date</b>	December 2014
<b>Project Objective</b>	To develop a searchable database of foreign agricultural subsidies.
<b>Project Summary and Accomplishments</b>	The data base is now online and regular modifications are being made. It is publicly available on the Cotton Economics Research Institute website.
<b>Keywords</b>	Foreign agricultural subsidies, database

<b>Project Title</b>	Texas High Plains Initiative for Strategic and Innovative Management and Conservation
<b>Principal Investigators</b>	Phillip Johnson, David Doerfert, Steve, Maas, and Rick Kellison – TTU Steve Walthour – NPGD
<b>Departmental Involvement</b>	Agricultural and Applied Economics, Agricultural Education and Communication, Plant and Soil Science
<b>Funding Amount</b>	Expenditures 9/13 – 8/14                      \$211,584 (AAEC \$52,896) Total Expenditures 9/11 – 8/14            \$350,793 (AAEC \$87,698)
<b>Funding Agency</b>	USDA_NRCS - \$257,000; HPUWCD - \$125,000; and Netafim - \$17,000 (AAEC part 25% - \$100,000)
<b>Beginning Date</b>	September 2011
<b>Ending Date</b>	September 2014
<b>Project Objective</b>	The <i>purpose</i> of the Conservation Innovation Grant (CIG) is to demonstrate strategic irrigation and crop system management technologies and practices which will result not only in water savings and best practices that are applicable nationwide to regions facing similar resource concerns. The <i>primary objective</i> is to quantify water savings that can be realized from strategic irrigation management.
<b>Project Summary and Accomplishments</b>	This project is a joint effort with the North Plains Groundwater Conservation District. The 2014 crop year represents the 3 <sup>rd</sup> year of the project. Eight producers with a total of 1,000 acres in 12 sites (8 pivot and 4 SDI) have been included in the project. Irrigation monitoring equipment from NetIrrigate® has been installed on the sites. This equipment allows for real time monitoring and data collection of water flow meters on the systems, pivot system location in the field, sub-surface drip zone monitoring, and rainfall amounts. Soil moisture probes have been installed AquaSpy®, John Deere Field Connect® and Aqua Check® to collect data and allow for monitoring of soil moisture on a daily basis by remote access communication. The project co-sponsored a series of five Cotton Irrigation Short Course Meetings, a “field walk”, and August Field Day.
<b>Keywords</b>	Irrigation, water policy, resource allocation

<b>Project Title</b>	An Integrated Approach to Water Conservation for Agriculture in the Texas Southern High Plains
<b>Principal Investigators</b>	Chuck West, Rick Kellison, Phillip Johnson, Eduardo Segarra, Steve Frazee, Rudy Ritz, Courtney Meyers, Steve Maas, Jeff Pate, and Steven Klose
<b>Departmental Involvement</b>	Agricultural and Applied Economics, Agricultural Education and Communication, Plant and Soil Science
<b>Funding Amount</b>	Expenditures 9/13 – 1/14                      \$29,439 Total Expenditures 9/04 – 4/14            \$615,760
<b>Funding Agency</b>	Texas Water Development Board - \$610,565 (AAEC part of \$6.8 million)
<b>Beginning Date</b>	September 2004
<b>Ending Date</b>	April 2014
<b>Project Objective</b>	<p>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.</p> <p>Specific research projects have been identified. These include: (1) the analysis and evaluation of the farm level response and financial impacts of water conservation policies on a representative farm located in Floyd and Hale Counties; (2) the development of a resource based decision tool to assist producers in enterprise selection under specific water allocation and/or resource limitations; and (3) evaluate energy and carbon relationships within commercial agricultural production systems.</p>
<b>Project Summary and Accomplishments</b>	<p>The 2013 crop year represented the 9<sup>th</sup> 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. These cost and return analyses have aided in the understanding of how irrigation interacts in the profitability of the systems and the management and agronomic options that are available for producers to manage their water resources while producing sustainable profits. In addition to the annual cost and return budgets for each site, several other analyses have been conducted within the Economic Task. These analyses relate to 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>

Farm Level Financial Impacts of Water Policy

Water conservation/management policies are being implemented on the Texas High Plains through the state water planning process. This study evaluated the response of a representative farm located in Floyd County to the implementation of a water policy which restricts the amount of irrigation water availability such that 50% of the current saturated thickness must remain in 50 years, commonly known as the 50/50 water policy. The study used an integrated two step approach of a non-linear dynamic optimization model to determine farm level response decisions and crop selection, and a stochastic financial simulation model to understand the changes in financial variables of the farm resulting from the policy implementation over a ten year time horizon. Primary findings were the LEPA irrigated cotton and dryland sorghum are the optimal crops which maximize net returns per acre; dryland acres increased as a result of the 50/50 implementation; the probability of negative net cash income and ending cash reserves increased for all scenarios under the 50/50 policy; and significant water savings occurred only on moderate to high levels of initial saturated thickness. Accomplishments include the completion of a Ph.D. dissertation titled “Farm Level Financial Impacts of Water Policy on the Southern Ogallala Aquifer” by Dr. Justin Weinheimer. Presentations have also been made at the annual meeting of the WAEA, University Council on Water Resources and industry forums.

#### Field-to-Market

Field to Market is an alliance of agribusinesses, conservation organizations, commodity groups, agricultural producers, and food companies to promote sustainable agricultural production. The FieldPrint calculator is a tool to analyze agricultural production sustainability related to energy, carbon, soil, and water use. The TAWC is working with the National Cotton Council to test the use of the FieldPrint calculator on cotton production. Eight years of production and input data from the TAWC sites has been entered into the calculator to estimate the level of each sustainability measurement.

Accomplishments include a presentation titled “FieldPrint Calculator: A Measurement of Agricultural Sustainability in the Texas High Plains: by Kelsey Stokes, Phillip Johnson, Bill Robertson and Brent Underwood. This presentation was given at the 2014 Beltwide Cotton Conference in New Orleans, LA.

#### Energy & Carbon Audits

Energy use and carbon emissions have become important issues for agricultural producers. In most commercial agricultural operations, energy consumption per acre can be calculated by utilizing the process method that associates energy or carbon coefficients with each input utilized within a given operation. The process analysis method was



chosen to help understand energy and carbon relationships for traditional and integrated farming practices over several crops and/or agronomic systems. Energy and carbon coefficients were established for all production inputs, such as fertilizer, chemicals, and fuel. Energy budgets have been developed such that the amount of energy required by each system and/or crop can be compared with profitability, production practice, and cropping system. Energy and carbon audits have been completed for all the sites and fields in the demonstration project for the crop years 2005-2011. The energy and carbon audits represent the direct and indirect energy consumed in the production process and the carbon emitted. In the future we plan on including the carbon sequestered as plant material and soil organic carbon to calculate the net carbon footprint for each crop/system. Accomplishments include presentations at the Beltwide Cotton Conference, University Council on Water Resources, and other industry forums.

#### Resource Based Decision Tool

A web based decision tool was 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 an integral part of the implementation of the TAWC project.

#### **Keywords**

irrigation, energy, carbon, water policy, resource allocation

**Project Title** Economic Considerations for Sorghum Management in the Southern High Plains

**Principal Investigators** Phillip Johnson, Justin Weinheimer, and R. Louis Baumhardt

**Project Participants** Ryan Williams, Jeff Johnson and Eduardo Segarra

**Departmental Involvement** Agricultural and Applied Economics – Texas Tech University and USDA-ARS, Bushland, TX

**Funding Amount** Expenditures 9/13 – 8/14 \$5,757  
Total Expenditures 9/09 – 8/14 \$14,900

**Funding Agency** USDA-ARS; \$15,000

**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 and Accomplishments** 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

<b>Project Title</b>	An Integrated Approach to Water Conservation for Agriculture in the Texas Southern High Plains (Phase II)
<b>Principal Investigators</b>	Chuck West, Rick Kellison, Phillip Johnson, Eduardo Segarra, Steve Frazee, Rudy Ritz, Courtney Meyers, Steve Maas, Jeff Pate and Steven Klose
<b>Departmental Involvement</b>	Agricultural and Applied Economics, Agricultural Education and Communication, Plant and Soil Science
<b>Funding Amount</b>	Expenditures 1/14 – 8/14                      \$18,342 Total Expenditures 1/14 – 8-14              \$198,160
<b>Funding Agency</b>	Texas Water Development Board - \$198,160 (AAEC part of \$3.6 million)
<b>Beginning Date</b>	January 2014
<b>Ending Date</b>	August 2020
<b>Project Objective</b>	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.
<b>Project Summary and Accomplishments</b>	This represents Phase II of the TAWC project. The primary responsibility of the Economic Task is to develop and maintain profitability records along with various agronomic and economic components for each demonstration site and system within the project. These cost and return analyses aid in the understanding of how irrigation interacts in the profitability of the systems and the management of agronomic options that are available for producers to manage water resources while producing sustainable profits. In addition to the annual cost and return budgets for each site, additional analyses will be conducted within the Economic Task. These analyses relate to the financial viability of producers with declining water availability and/or water restrictions imposed by regional water policies.
<b>Keywords</b>	Irrigation, water policy, resource allocation

<b>Project Title</b>	Evaluating Cotton Crop Insurance Options Under the 2014 Farm Bill
<b>Principal Investigators</b>	Thomas O. Knight
<b>Departmental Involvement</b>	Agricultural & Applied Economics
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2014
<b>Ending Date</b>	July 2015
<b>Project Objective</b>	The 2014 Farm Bill placed greater policy emphasis on crop insurance programs. For cotton, traditional price support programs were essentially ended and replaced with shallow-loss crop insurance under the Stacked Income Protection Plan (STAX) and the Supplemental Coverage Option (SCO). With some limitations, both of these alternative shallow-loss protection options are offered in conjunction with traditional crop insurance programs. The objective of this study is to develop at least two representative farms for the Texas Southern High Plains and to conduct simulation analyses evaluating the risk reducing benefits of the wide range of insurance coverage options available to cotton producers under the 2014 law.
<b>Project Summary and Accomplishments</b>	Results of this study are expected to provide an assessment of the risk reducing benefits of the alternative insurance programs offered to cotton producers. Producers, lenders, and the agribusiness sector should find the study results useful in developing an understanding of how the new insurance options should be expected to affect the business environment of cotton production in the Texas Southern High Plains.
<b>Keywords</b>	Supplemental coverage option, stacked income protection plan, crop insurance, farm bill

<b>Project Title</b>	Evaluating the Benefits of Rainfall Index Insurance for Stocker Cattle Producers in Texas and Oklahoma
<b>Principal Investigators</b>	Thomas O. Knight
<b>Departmental Involvement</b>	Agricultural & Applied Economics
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2013
<b>Ending Date</b>	July 2015
<b>Project Objective</b>	Weather index insurance products have been available for at least 20 years. Initially these products were used by power companies, whose product demand is highly sensitive to weather events. In recent years, the Risk Management Agency of the USDA has offered a rainfall index product for producers of perennial forages for pasture or hay. In 2015, the Agency will introduce a new Annual Forage Rainfall Index product, designed to assist livestock producers who grow annual forage for use as fodder or feed by livestock. This product is potentially beneficial to stocker cattle producers who graze cattle on wheat pasture in Southwest Kansas, Oklahoma, and Texas. The objective of this project is to evaluate the risk reducing benefits of this insurance for stocker cattle producers in two study areas in Southern Oklahoma and North Texas.
<b>Project Summary and Accomplishments</b>	Results of this study are expected to provide an assessment of the risk reducing benefits of the Annual Forage insurance product for stocker cattle producers in Southern Oklahoma and North Texas. This will be the first study to evaluate the benefits of this new insurance product and thus should be of interest to a broad academic and industry audience.
<b>Keywords</b>	Rainfall index, annual forage insurance, crop insurance

<b>Project Title</b>	Fun in the Lunch-Room: A Nudge to Develop Healthy Taste Buds
<b>Principal Investigators</b>	Conrad Lyford and Janani Thapa
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	\$30,000 (9/13 - 6/14, \$25,000)
<b>Funding Agency</b>	The Cornell Center for Behavioral Economics in Child Nutrition Programs – Small Grants Program
<b>Beginning Date</b>	July 2013
<b>Ending Date</b>	June 2014
<b>Project Objective</b>	<p>Despite efforts at the federal level to improve the nutritional status of lunch served in school lunch room, childhood obesity is pervasive in the United States. A key problem is that healthy foods, such as fruits and vegetables (F&amp;V), are not chosen by children and it is frequently not eaten even when served. This research modifies the elementary school lunch room choice architecture to change the focus of the decision maker (lunch room participants) from food alone to food “with fun”. The research project will encourage the selection of healthy F&amp;V while an associated intervention of a reward-based game in the lunch room will nudge students to finish their serving. The hypothesized outputs are increased elementary school children’s consumption of F&amp;V during the four weeks of intervention and after. The fun based choice and reward-based consumption of F&amp;V by elementary school children is hypothesized to increase their post project F&amp;V consumption compared to pre-project consumption. Making students familiar with the taste of fruits and vegetables will help them develop healthy taste buds.</p>
<b>Project Summary and Accomplishments</b>	<p>At this point, all the data for the project have been collected and the final report was sent to the sponsor. A key finding is that providing a small toy provided over a short period is a cost effective method to encourage children to both try and consume F&amp;V. It is expected that the results of this research will be published in a peer reviewed journal outlet.</p>
<b>Keywords</b>	Prevention, obesity, schools, rural health

<b>Project Title</b>	Do SNAP Recipients Get the Best Prices?
<b>Principal Investigators</b>	Conrad Lyford, Carlos Carpio and Tullaya Boonsaeng
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	\$39,776 (9/13 - 8/14, \$4,420)
<b>Funding Agency</b>	USDA – Economic Research Service, Food APS Research Initiative
<b>Beginning Date</b>	July 2014
<b>Ending Date</b>	December 2015
<b>Project Objective</b>	The main objective of this project is to analyze and quantify the factors that affect food prices paid by households participating in the Supplemental Nutrition Assistance Program (SNAP) program (formerly known as the Food Stamps Program).
<b>Project Summary and Accomplishments</b>	<p>This project will use the recently collected USDA's National Household Food Acquisition and Purchase Survey, the first nationally representative survey of American households gathering comprehensive data about household food purchases and acquisitions.</p> <p>The first step of the analysis will involve the calculation of a price index—also called an expensiveness index. This index compares the cost of a household's food basket at average prices to the cost actually paid by the household. The second step of the analysis will involve regressing the expensiveness index on a set of explanatory variables including income, demographic characteristics (including SNAP participation), and factors characterizing the competitiveness and structure of the retail market. Specialized econometric methods will be used to address the endogeneity of SNAP participation.</p> <p>Key policy implications from the project will be:</p> <ol style="list-style-type: none"> <li>(1) Facilitate the development and targeting of SNAP-Ed efforts.</li> <li>(2) Provide information for the assessment of SNAP allotments.</li> <li>(3) Develop information regarding the relative importance of demographic factors and the food environment on the prices paid by low income households.</li> </ol> <p>At this point, required forms have been completed and approved to use the data, and the proprietary hardware to access has been received. It is expected that we will begin to work on the data in the near future when it becomes available.</p>
<b>Keywords</b>	SNAP, prices, health education

<b>Project Title</b>	U.S. - Australia Competition for the Japanese Sorghum Market
<b>Principal Investigator</b>	Jaime E. Malaga
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2013
<b>Ending Date</b>	December 2014
<b>Project Objective</b>	To assess the factors behind recent declining of U.S. market share of the Japanese sorghum market in favor of Australia.
<b>Project Summary and Accomplishments</b>	The US held the largest share in the Japanese sorghum market for 20 years. However, in recent years Australia's share of the same market has been constantly growing to claim the top position despite the fact that the US sorghum price is cheaper in that country. The ratio of US vs Australian sorghum prices in Japan during the last 20 years does not show too much variability, which seems to imply that the US sorghum has not lost price competitiveness in the Japanese market. Factors other than the price may be affecting the market share of the US sorghum in Japan. Therefore, our research objective is to confirm, using historical data (from US and Japanese sources) and sound methodology, that grain quality differential might be the variable explaining the loss of US market share that country. This analysis will be helpful in terms of allowing the US sorghum producers to regain market share on the important Japanese market. Preliminary results have been presented at the 2004 Meetings of the Agricultural and Applied Economics Association (AAEA) in Minneapolis.
<b>Keywords</b>	Grain sorghum, international trade



<b>Project Title</b>	Effects of the U.S.- Central America Free Trade on Agricultural Exports
<b>Principal Investigator</b>	Jaime E. Malaga
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount Funding Agency</b>	None. Collaboration with Zamorano Pan-American School
<b>Beginning Date</b>	January 2014
<b>Ending Date</b>	May 2014
<b>Project Objective</b>	To assess the relative impact of the CAFTA Agreement on the agricultural trade of five Central American countries
<b>Project Summary and Accomplishments</b>	<p>The Central American Free Trade Agreement (CAFTA) was signed on August 5, 2004 after nine rounds of negotiations that were initiated in 2003. Seven countries are members of the treaty, including Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, The United States and The Dominican Republic, who subsequently joined the treaty, leading to CAFTA-DR as it is known today. Around 90% of agricultural products received preferential access to the US leading to the expectation of positive changes in regional agricultural exports to the US, particularly in non-traditional products which were granted a substantial reduction in their applied tariffs.</p> <p>To measure the effect of CAFTA in Central American agricultural exports three indicators were used: the first one is the growth of non-traditional exports, calculated using an ex-post forecasting model of export growth. The second one is a macro indicator of structural performance through assessment of market shares in the top 10 non-traditional agricultural products exported to the US. The third one is a sectorial statistical indicator, the Herfindahl-Hirschmann Index (HHI), which measures the degree of portfolio diversification of exports. Results were presented at the 2014 TTU- URC conference where the student Dany Rivas received the 2004 Outstanding Undergraduate Research award..</p>
<b>Keywords</b>	CAFTA, international trade

<b>Project Title</b>	Assessing Potential Chinese Demand for Grain Sorghum
<b>Principal Investigator</b>	Jaime E. Malaga
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2014
<b>Ending Date</b>	December 2016
<b>Project Objective</b>	To estimate the parameters of the Chinese derived demand for grain sorghum and use them to forecast potential sorghum imports.
<b>Project Summary and Accomplishments</b>	China has been showing an impressive growth on consumption of animal protein which has resulted on a rapidly increasing derived demand for feed grains. Corn is the key feed crop for China; however, government policies have boosted domestic corn prices above international levels. This is not the case of grain sorghum which is a close corn substitute. USDA estimates that in recent years consumption of sorghum in China expanded almost ten times and in August 2013 China, for the first time, imported sorghum from the United States for feed use. These facts indicate that China is becoming a large market of feed grain where sorghum is a close and cheaper substitute for corn. The objective of this research is to estimate the parameters of China's sorghum derived demand and use them to forecast the Chinese potential demand of grain sorghum in the near future. A derived demand model will be used to determine the effect of the changes in livestock production, feed ratios, corn prices and government policies on sorghum demand and own-and cross-price elasticities will be estimated. Official U.S. and Chinese data sources are being used. Results of this study will be eventually incorporated into the TTU Sorghum Supply, Demand and Trade Model in order to provide improved baseline forecasts of the world sorghum market variables.
<b>Keywords</b>	Sorghum, China, international trade

<b>Project Title</b>	DEA Analysis of the U.S. Public Government Expenditures
<b>Principal Investigators</b>	Olga Murova and Aman Khan
<b>Departmental Involvement</b>	Agricultural & Applied Economics Department and Department of Political Science at TTU
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2014
<b>Ending Date</b>	Ongoing
<b>Project Objective</b>	The objective of this project is to conduct an analysis of states' efficiency in using monetary resources invested in public sectors with an aim of recognizing the most and the least efficient states.
<b>Project Summary and Accomplishments</b>	<p>This project determines efficiency of government expenditures in public sector for each state of the United States over the period of 1982-2012. The economic analysis is applied to the 50 states using expenditures data in five public sectors: education, transportation, health, police and fire, and welfare. On average these five sectors represent 70-80 percent of the state's total expenditures. Two other variables that are used in this analysis – state's population and employment.</p> <p>Results of DEA analysis show operational scale efficiency of each state and allow to determine technical efficiency scores for each state across 20 year period. Results demonstrate how public sector with some lag follows a trend set by situation in general economy. DEA analysis identifies slacks for each state by sector, so that expenditures in that sector can be reduced without reducing output, so that state can operate more efficiently.</p>
<b>Keywords</b>	DEA analysis, public government expenditures, technical efficiency

<b>Project Title</b>	Effects of Education, Occupation and Time Preference on Late-life Physical and Mental Health: Empirical Assessments Based on Wisconsin Longitudinal Study (WLS) and Health and Retirement Study (HRS) Survey Data
<b>Principal Investigators</b>	Olga Murova, Shaikh M. Rahman and Eduardo Segarra
<b>Departmental Involvement</b>	Agricultural & Applied Economics Department
<b>Funding Amount</b>	\$126,643 (awaiting decision)
<b>Funding Agency</b>	National Institute of Health
<b>Beginning Date</b>	December 2013
<b>Ending Date</b>	August 2016
<b>Project Objective</b>	In addition to given genetic attributes and social or environmental circumstances, various choices made in different stages of life such as the level of education, occupation, and health behaviors are likely to affect adult or late life health of individuals. The main purpose of this research is to identify such factors, evaluate their effects on adult or late life health, and provide public health policy relevant perspectives. The specific objectives of this research are: 1) evaluate the impact of education and other early life adversities on adult or late life health, measured by mortality, morbidity, and risks for adverse physical and psychological health outcomes; 2) examine the relationship between occupation and health of older adults; and 3) examine how time-use among different activities during retirement translate into physical and mental health of older adults.
<b>Project Summary and Accomplishments</b>	The research will be carried out in the following way. First, empirical models for examining relationships between genetic attributes, social and environmental circumstances, and education, occupation, and health behaviors will be derived using the appropriate theoretical models. Data on the variables required will be compiled from the WLS or HRS surveys. Then, empirical models will be estimated and results will be analyzed and compared to other studies of physical and mental functioning as it relates to economic status and social structural conditions. Findings of this research will be shared with stakeholders.
<b>Keywords</b>	Public health, Wisconsin Longitudinal Study, health and retirement study, late-life physical and mental health

<b>Project Title</b>	Design and Implementation of an Effective Agricultural Marketing Information System for Bangladesh
<b>Principal Investigators</b>	Surya Yadav, Shaikh M. Rahman, and Terri Giddens
<b>Departmental Involvement</b>	Agricultural & Applied Economics, Information Systems & Quantitative Sciences
<b>Funding Amount</b>	\$223,454
<b>Funding Agency</b>	USDA - FAS
<b>Beginning Date</b>	July 2014
<b>Ending Date</b>	September 2014
<b>Project Objective</b>	The objective of this project is to design, develop, and implement An agricultural marketing information system for Department of Agricultural Marketing, Bangladesh, that captures daily prices of agricultural commodities from different markets and makes the data available for various users.
<b>Project Summary and Accomplishments</b>	A new database infrastructure for agricultural marketing in Bangladesh has been developed at Texas Tech University. The system is capable of taking daily prices of agricultural commodities traded in different markets in Bangladesh as inputs. Upon verification of the entered prices, the system makes the data available for various users such as general public, policy makers, and researchers. The system is also capable of generating market price reports and graphs demonstrating price trends. Required hardware are also provided for proper functioning of the software. Both hardware and software are delivered to Department of Agricultural Marketing, Bangladesh. The system will be launched in December, 2014.
<b>Keywords</b>	Agricultural Marketing Information System; Department of Agricultural Marketing; Bangladesh

<b>Project Title</b>	Cotton Inventory Policy of China, Cotton Price Volatility, and Risk Minimizing Hedging Strategies
<b>Principal Investigators</b>	Shaikh M. Rahman and M. Darren Hudson
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	\$50,257 (requested)
<b>Funding Agency</b>	Cotton Incorporated
<b>Beginning Date</b>	January 2015 (if accepted)
<b>Ending Date</b>	December 2016 (if accepted)
<b>Project Objective</b>	The objective of this project is to empirically examine whether and in what extent cotton inventory policy of China influences cotton futures price volatility, and identify optimal hedging strategies for cotton price risk management.
<b>Project Summary and Accomplishments</b>	A preliminary research empirically examines the determinants of cotton futures prices variability, with a special focus on the cotton inventory policy of China. Maximum likelihood techniques are used to estimate the ARCH and GARCH models for price variability. Estimation results show that variability of cotton futures prices significantly increases with the ratio of world stocks to use. In recent years, the world stocks to use ratio of cotton has increased substantially mainly due to China's cotton stockpiling policy. Thus, China's cotton inventory policy adds to cotton futures price risks. The ratio of trading volume to open interests and speculative activity in the cotton futures market are not found to be significant in determining futures price variability. These findings are presented in 2014 Beltwide Cotton Conferences. The paper is published in the proceedings of the conference.
<b>Keywords</b>	Cotton Inventory Policy of China; Cotton Price Volatility; Hedging
<b>Important Publications and Presentations</b>	Rahman, S. M., and B. F. Khan. "Cotton Futures Price Variability: The Role of China's Cotton Inventory Policy." Proceedings, 2014 Beltwide Cotton Conferences, <a href="http://www.cotton.org/beltwide/proceedings/2005-2014/index.htm">http://www.cotton.org/beltwide/proceedings/2005-2014/index.htm</a>

<b>Project Title</b>	Costs of Generating Electricity by Power Projects under the Clean Development Mechanism
<b>Principal Investigators</b>	Shaikh M. Rahman, Erik Haites, Randall-Spalding Fetcher, and Grant Kirkman
<b>Departmental Involvement</b>	Agricultural and Applied Economics, Texas Tech University United Nations Framework Convention on Climate Change
<b>Funding Amount</b>	\$7,350 (consultancy)
<b>Funding Agency</b>	United Nations Framework Convention on Climate Change
<b>Beginning Date</b>	July 2013
<b>Ending Date</b>	June 2014
<b>Project Objective</b>	The objective of this research is to estimate costs of electricity generation by various types of CDM power projects located in different developing countries to assess their relative cost effectiveness, and whether the distribution of CDM power projects across technologies and locations is consistent with relative cost effectiveness.
<b>Project Summary and Accomplishments</b>	Using CDM project data, the levelized cost of electricity ( <i>LCOE</i> ) and its variation across technology and space estimated for various generation technologies. Results show that <i>LCOE</i> decreases with project scale and duration and CDM enables alternative power sources to be more competitive. The distribution of power projects in the CDM energy portfolio or a given location does not quite follow the relative cost structure for different technologies. When renewable resource based projects are considered separately, the distribution of hydro power, wind power, solar power, and biomass energy projects does correspond to the relative cost structure. Similarly, the distribution of energy efficiency, fossil fuel switch, and landfill gas projects corresponds to the relative cost structure when considered as an independent group. Despite having a higher cost of generating electricity than other renewable energy alternatives, wind power is the most adopted CDM energy technology in India and hydro power is the most adopted CDM energy technology in Brazil. Based on these findings a journal article is written and submitted to Energy Economics.
<b>Keywords</b>	Clean Development Mechanism; Kyoto Protocol; Levelized Cost of Electricity; Cost Effectiveness
<b>Important Publications and Presentations</b>	Rahman, S. M., R-S. Fetcher, E. Haites, and G. A. Kirkman. 2014. "Costs of Generating Electricity by Power Projects under the Clean Development Mechanism," <i>Energy Economics</i> , submitted in August 2014.

<b>Project Title</b>	Adoption of the Clean Development Mechanism
<b>Principal Investigators</b>	Shaikh M. Rahman, Ariel Dinar, and Don Larson
<b>Departmental Involvement</b>	Agricultural & Applied Economics, Texas Tech University; University of California-Riverside, and World Bank
<b>Funding Amount</b>	None
<b>Funding Agency</b>	None
<b>Beginning Date</b>	Not specified
<b>Ending Date</b>	Not specified
<b>Project Objective</b>	The objective of this research is to examine the factors that influence developing and developed countries' decision to engage in Clean Development Mechanism (CDM) activities as well as the extent and rate of CDM adoption over time.
<b>Project Summary and Accomplishments</b>	Using CDM project and country level data, incidence and extent of CDM adoption across developing and developed countries are analyzed. The main findings are that the incidence and extent of CDM adoption are significantly higher for the developing countries with higher levels of sequestration potential, human capital, emissions, and excess demand for electricity, but lower for the countries with higher levels of transaction costs, vulnerability to climate change impacts, and per capita income. The levels of CDM activities in the Middle Eastern and African countries are substantially lower than those in other regions. The incidence and extent of CDM adoption are higher for the industrialized countries with higher levels of Kyoto inflicted emissions reduction target, domestic mitigation costs, total emissions, and per capita income. For both the developing and industrialized countries, CDM adoption increases over time, initially at an increasing rate but eventually at a decreasing rate as the first commitment period nears the completion, thus demonstrating a logistic pattern. Developing economies that are lagged behind in CDM adoption need to design and implement policies to reduce both direct and indirect costs of initiating and implementing projects. Based on these findings, a journal article is prepared and submitted to <i>Environmental and Development Economics</i> .
<b>Keywords</b>	Clean Development Mechanism; Kyoto Protocol; Adoption
<b>Important Publications and Presentations</b>	Rahman, S. M., Ariel Dinar, and Donald F. Larson. 2014. "Adoption of the Clean Development Mechanism," <i>Environmental and Development Economics</i> , revised and resubmitted in July 2014.



<b>Project Title</b>	Effects of Education, Occupation, and Time Preference on Late-life Health
<b>Principal Investigators</b>	Olga Murova, Shaikh M. Rahman, and Eduardo Segarra
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	\$126,643 (requested)
<b>Funding Agency</b>	National Institute of Aging
<b>Beginning Date</b>	January 2015 (if accepted)
<b>Ending Date</b>	December 2016 (if accepted)
<b>Project Objective</b>	The objective of this project is to empirically evaluate the impacts of education, occupation, and time preference on late-life health of individuals, and provide public health policy relevant perspectives. The specific objectives of this research are: 1) evaluate the impact of education and other early life adversities on adult or late life health, measured by mortality, morbidity, and risks for adverse physical and psychological health outcomes; 2) examine the relationship between occupation and health of older adults; and 3) examine how time-use among different activities during retirement translate into physical and mental health of older adults
<b>Project Summary and Accomplishments</b>	This project will conduct empirical research on the above mentioned issues using the Wisconsin Longitudinal Study (WLS) survey and the Health and Retirement Study (HRS) survey data. The longitudinal aspect of the WLS data allows us to adopt “difference-in-differences” and “propensity score matching” (PSM) methods to provide unbiased estimates of the impacts of education and other factors on health. As education is a causal determinant of occupation and income, the “instrumental variable method” will be used to measure the net effect of occupation on health. A team consisting of three applied economists will conduct this research. This team will hire a graduate student, who will be trained in research data analyses and research methodology. The student will complete her/his Master’s thesis on these topics during this time. Upon completion of this research, the research findings will be produced and published in professional as well as popular scientific journals.
<b>Keywords</b>	Late-life health, education, occupation, time preference

<b>Project Title</b>	Conference for Developing a Regional Agricultural Undergraduate Research Consortium
<b>Principal Investigators</b>	Shaikh M. Rahman, Jonathan Ulmer, Samantha Kahl, Jyotsna Sharma, Louis Mills, and Sara Trojan
<b>Departmental Involvement</b>	Agricultural & Applied Economics, Agriculture Education & Communications, Natural Resource Management, Plant & Soil Science, Landscape Architecture, Animal & Food Sciences
<b>Funding Amount</b>	\$29,716 (requested)
<b>Funding Agency</b>	USDA
<b>Beginning Date</b>	March 2015 (if accepted)
<b>Ending Date</b>	August 2015 (if accepted)
<b>Project Objective</b>	<p>The objectives of this program are:</p> <ol style="list-style-type: none"> <li>1. Organize a regional conference to open the dialog about undergraduate research in agriculture.</li> <li>2. Develop a working consortium between two and four year institutions around undergraduate research in agriculture.</li> <li>3. Design a research focus to determine the impact of undergraduate research on the graduates of colleges and departments of agriculture and natural resources.</li> </ol>
<b>Project Summary and Accomplishments</b>	<p>The program introduced in this proposal will create a successful model of faculty training for undergraduate research specifically in agriculture, natural resources, and climate change. As stated above, our educational need area is: Increasing Faculty Teaching Competencies: <i>Creating a model to train faculty and design course content within the College of Agricultural Sciences and Natural Resources to integrate scientific climate change research experiences in undergraduate students' postsecondary experiences.</i> Beyond TTU, the creation of online resources and the dissemination through our professional organizations will improve the mentoring of undergraduate research by agriculture and natural resources faculty throughout the United States.</p>
<b>Keywords</b>	Undergraduate research, faculty training, agriculture, natural resources, climate change

<b>Project Title</b>	Economic Freedom and Agricultural Productivity – Discovering the Linkages
<b>Principal Investigators</b>	Eduardo Segarra
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2013
<b>Ending Date</b>	August 2015
<b>Project Objective</b>	To evaluate the impacts of economic freedom on agricultural productivity. Specifically, to find out if government intervention in agriculture negatively affects agricultural productivity and the “speed” of technological progress in agriculture.
<b>Project Summary and Accomplishments</b>	Initial work regarding the collection of basic data regarding agricultural production, regional economic freedom estimates, government subsidies, and other variables has been completed. Econometric estimation of various regression models are being conducted.
<b>Keywords</b>	Economic freedom, government intervention, agricultural productivity

<b>Project Title</b>	Is Technological Progress/Development in Agriculture Endogenous?
<b>Principal Investigators</b>	Eduardo Segarra
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2013
<b>Ending Date</b>	August 2015
<b>Project Objective</b>	To find out what the core factors influencing technological innovation(s) (technological progress) in agriculture are, and what the impacts such as planning horizon, discount rates and stochasticity of biotic/abiotic factors are on the dynamics associated with the evolution, development and adoption of advanced production practices/systems in agriculture.
<b>Project Summary and Accomplishments</b>	Work regarding the collection of basic data and the formulation of the simulation and optimization models to be used is in progress.
<b>Keywords</b>	Technological progress, advance production systems in agriculture

<b>Project Title</b>	Groundwater Use in the Texas High Plains
<b>Principal Investigators</b>	Chenggang Wang
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	\$13,000 (\$4,500 from September 2013 to August 2014)
<b>Funding Agency</b>	Texas A&M University/Texas AgriLife Research – Lubbock
<b>Beginning Date</b>	January 2013
<b>Ending Date</b>	January 2017
<b>Project Objective</b>	The objective of this project is to study the optimal allocation of irrigation water resources in Texas High Plains. The analysis involves spatial and temporal allocation of water. The spatial allocation of water is concerned with partitioning the field into an irrigated part and a non-irrigated part. The temporal allocation of water is concerned with scheduling the irrigation water over various crop growth stages from planting to harvest. The project will also examine the efficiency of water use at the regional level with an integrated hydro-economic modelling approach.
<b>Project Summary and Accomplishments</b>	Conservation of ground water resources is vital to the agricultural economy of the Texas High Plains (THP), whose 6.9 million acres of irrigated cropland account for almost 15 percent of the total irrigated acreage in the U.S. (Segarra et al. 1999). The southernmost portion of the Ogallala Aquifer underlies this region and constitutes the only reliable water source for irrigated agriculture. Negligible natural recharge relative to rapid withdrawal makes the ground water resource virtually nonrenewable. Accounting for approximately 95% of the withdrawal, irrigated agriculture has resulted in continuous decline of ground water levels, with an over 150 feet drawdown observed in the northern part of the THP (Blandford et al. 2003). Falling water tables, along with rising fuel prices, have significantly boosted pumping costs and eroded producer profits. The purpose of this project is to study the optimal use of this groundwater resource at the farm and regional level. The farm level analysis examines the optimal way of allocating irrigation water within a field and over the crop growth season. The regional level analysis combines econometric tools with hydrologic models to examine future conditions of the groundwater resource.
<b>Keywords</b>	Groundwater, optimization, deficit irrigation

<b>Project Title</b>	Determine the Status of Precision Farming Technology Adoption by Cotton Farmers in 12 States – Texas
<b>Principal Investigators</b>	Chenggang Wang and Eduardo Segarra
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	\$42,000 (\$7,000 from January 2014 – December 2014)
<b>Funding Agency</b>	Cotton Incorporated
<b>Beginning Date</b>	January 2009
<b>Ending Date</b>	December 2014
<b>Project Objective</b>	Determine the status of precision farming technology adoption by cotton farmers in 12 states (Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, Texas, and Virginia).
<b>Project Summary and Accomplishments</b>	In Texas, water is the primary limiting factor for cotton production. We hypothesize that the adoption of precision farming practices is affected by the intrinsic value of water for an irrigator, which depends on the well yield, soil characteristics, and the type of irrigation technology installed. Our econometric testing draws data from a new survey of cotton farmers in Texas. Findings from this analysis will help extension agents and technology developers identify the targeted areas of technology promotion.
<b>Keywords</b>	Precision farming, technology adoption

<b>Project Title</b>	The Energy-Water Nexus: Evaluating the Interstate Trade of Water Resources Through Electricity
<b>Principal Investigators</b>	Ryan Williams, Aaron Benson
<b>Departmental Involvement</b>	Agricultural and Applied Economics; Economics
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2012
<b>Ending Date</b>	ongoing
<b>Project Objective</b>	Investigate the flow of fresh water resources within the continental United States from resource extraction, through the generation of electricity, to the consumption of electricity. Identify potential inefficiencies resulting from state and federal energy policy initiatives as well as incomplete grid connectivity.
<b>Project Summary and Accomplishments</b>	Preliminary work has been to obtain the necessary data to quantify water consumption by resource extraction technology and electricity generation technology. We estimate that over 2 trillion gallons of fresh water resources are consumed in the generation of electricity each year in the United States. States that have historically produced electricity by hydroelectric generation have experienced increases in the average water usage for electricity production in recent years. States that have invested in wind and solar electricity generation have experienced a decline in the average water usage per megawatt hour.
<b>Keywords</b>	Energy-water nexus, virtual water, water footprint

<b>Project Title</b>	A Look at the Variations in Consumer Preferences for Farmers' Markets Attributes
<b>Principal Investigators</b>	Ryan Williams, Clinton Neill
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2012
<b>Ending Date</b>	ongoing
<b>Project Objective</b>	Determine the relative role that varying physical attributes of farmers' markets play in attracting return visitors. We conducted a choice-based experiment through a customer-intercept survey at the Lubbock Downtown Farmers Market.
<b>Project Summary and Accomplishments</b>	Presented the preliminary research at the SAEA Annual Meetings in Dallas, TX in February 2014. Restrooms and an ease of movement between vendors were found to be the most important attributes for customers. The homogeneity of the sample resulted in limited additional knowledge gained.
<b>Keywords</b>	Farmers' markets, conjoint analysis, choice-based experiment



<b>Project Title</b>	The External Costs of Wind Farm Development on the Great Plains: Are Developers Making an Effort to Minimize These Costs?
<b>Principal Investigators</b>	Ryan Williams
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2011
<b>Ending Date</b>	ongoing
<b>Project Objective</b>	Determine the extent to which wind farm developers have selected development sites which minimize the impact on avian species and human populations. Given that society is not being compensated for these external costs of wind farm development it
<b>Project Summary and Accomplishments</b>	The presence of human populations on the great plains neither increases nor decreases the likelihood of wind farm development. Additionally, the presence of human populations is not correlated with the size of wind farm development. The same results hold for sage grouse and prairie chicken habitat. As development relates to habitat for migratory waterfowl, there is an increased likelihood of development in good waterfowl habitat. However, the size of development is decreasing with the presence of such habitat.
<b>Keywords</b>	Wind energy, externalities, land use, avian habitats

<b>Project Title</b>	Regional Water Savings and Increased Profitability on the Texas High Plains: A Case for Water Efficient Alternative Crop
<b>Principal Investigators</b>	Ryan Williams, Kelby Imel
<b>Departmental Involvement</b>	Agricultural and Applied Economics; Plant and Soil Sciences
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2013
<b>Ending Date</b>	ongoing
<b>Project Objective</b>	Evaluate the profitability and water savings associated with alternative cropping systems that utilize desert crops. A linear programming approach was employed.
<b>Project Summary and Accomplishments</b>	Presented the preliminary research at the SAEA Annual Meetings in Dallas, TX in February 2014. The model is being updated to include quadratic production functions for the desert crops as field data is collected.
<b>Keywords</b>	Desert crops, water conservation

<b>Project Title</b>	Virtual Water and Limitedly Renewable Water Resources
<b>Principal Investigators</b>	Ryan Williams, Rashid Al-Hamoud
<b>Departmental Involvement</b>	Agricultural and Applied Economics; Economics
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2008
<b>Ending Date</b>	ongoing
<b>Project Objective</b>	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.
<b>Project Summary and Accomplishments</b>	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.
<b>Keywords</b>	Virtual water, Ogallala aquifer, water footprint

<b>Project Title</b>	Suicide Risk in Older Adults: Evaluating Models of Risk and Predicting Excess Zeros in a Primary Care Sample
<b>Principal Investigators</b>	Ryan Williams, Kelly Cukrowicz
<b>Departmental Involvement</b>	Agricultural and Applied Economics; Psychology
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2012
<b>Ending Date</b>	November 2013
<b>Project Objective</b>	Evaluate suicide risk in older adults utilizing a sophisticated modeling approach. Inform a more streamlined screening procedure for identifying suicide ideation amongst older adults in primary care setting.
<b>Project Summary and Accomplishments</b>	We employ a zero-inflated negative binomial regression to account for excessive zeros in the data. This statistical method is novel in the suicide literature and will potentially change the way in which researchers in this field analyze their data and interpret their results. The results, published in a top-tier journal of the American Psychological Association (APA), stemming from the novel statistical approach assist primary care physicians in identifying individuals at risk for suicide.
<b>Keywords</b>	Zero –inflated negative binomial, excess zeros, psychology, suicide

<b>Project Title</b>	Per Capita Income and Farmers' Markets: Searching for an Environmental Kuznets Curve for Environmental Attributes
<b>Principal Investigators</b>	Ryan Williams, Aaron Benson, Maria Mutuc
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2013
<b>Ending Date</b>	ongoing
<b>Project Objective</b>	Investigate the relationship between per capita income and the prevalence of farmers' markets as a possible example of the environmental Kuznets curve.
<b>Project Summary and Accomplishments</b>	Presented the preliminary research at the WAEA Annual Meetings in Monterey, CA in June 2013. We learned that the farmers' market data that we acquired was flawed for this type of analysis. We will be looking to adjust the data to account for the flaws.
<b>Keywords</b>	Environmental Kuznets curve, farmers' markets

<b>Project Title</b>	An Economic Valuation on the External Cost of Milk Packaging and Delivery Options
<b>Principal Investigators</b>	Ryan Williams, Clinton Neill (student), Aaron Benson
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2013
<b>Ending Date</b>	ongoing
<b>Project Objective</b>	Quantify the private and social costs of alternative milk packaging to establish total social costs for comparison.
<b>Project Summary and Accomplishments</b>	Presented the preliminary research at the WAEA Annual Meetings in Monterey, CA in June 2013.
<b>Keywords</b>	External costs, milk packaging

<b>Project Title</b>	Estimating the Use and the Option Value of Water Resources in the Ogallala Aquifer
<b>Principal Investigators</b>	Ryan Williams
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	\$50,000
<b>Funding Agency</b>	USDA – ARS, Ogallala Aquifer Project
<b>Beginning Date</b>	January 2011
<b>Ending Date</b>	ongoing
<b>Project Objective</b>	Obtain estimates of the use value for water in agricultural, municipal, and industrial uses from the Ogallala aquifer. Additionally, the option value, or “potential use value,” is obtained for comparison.
<b>Project Summary and Accomplishments</b>	Data has been collected and preliminary estimates have been obtained. A survey was conducted to estimate option value and the data is being used by a graduate student in AAEC for her dissertation research.
<b>Keywords</b>	Groundwater, use value, option value, contingent valuation, willingness-to-pay

<b>Project Title</b>	Estimating the Existence Value of Water Resources in the Ogallala Aquifer
<b>Principal Investigators</b>	Ryan Williams
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	\$50,000
<b>Funding Agency</b>	USDA – ARS, Ogallala Aquifer Project
<b>Beginning Date</b>	January 2012
<b>Ending Date</b>	ongoing
<b>Project Objective</b>	Obtain estimates of the existence, or non-use, value of the water resources in the Ogallala aquifer.
<b>Project Summary and Accomplishments</b>	Data has been collected and preliminary estimates have been obtained. A survey was developed and administered to a random sample in west Texas.
<b>Keywords</b>	Groundwater, existence value, contingent valuation, willingness-to-pay



<b>Project Title</b>	Willingness-to-Pay for Playa Restoration
<b>Principal Investigators</b>	Ryan Williams, Aaron Benson
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	\$50,000
<b>Funding Agency</b>	USDA – ARS, Ogallala Aquifer Project
<b>Beginning Date</b>	March 2014
<b>Ending Date</b>	ongoing
<b>Project Objective</b>	Obtain estimates of household willingness-to-pay to undertake restoration of existing playas across the High Plains. Very few playas currently function properly, and their restoration requires physical alteration and removal of crops from their perimeter. The estimate of WTP helps to determine whether producers would be willing to accept compensation to make these changes.
<b>Project Summary and Accomplishments</b>	Data has been collected. A contingent valuation survey was developed and administered to a random sample in west Texas.
<b>Keywords</b>	Playas, ecosystem services, contingent valuation, willingness-to-pay

<b>Project Title</b>	An Economic Valuation on the External Cost of Alternative Milk Packaging and Delivery Options
<b>Principal Investigators</b>	Ryan Williams, Clinton Neill (student)
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	April 2013
<b>Ending Date</b>	ongoing
<b>Project Objective</b>	Evaluate the environmental impacts, quantified in economic terms, of the existing alternatives for milk packaging. Life cycle analyses were utilized along with current economic estimates of various environmental impacts.
<b>Project Summary and Accomplishments</b>	The results suggest that with current use and reuse rates for glass bottles, that this packaging represents the lowest environmental cost. However, when the private costs of production are also included, it is found that plastic milk packaging represents the lowest cost to society.
<b>Keywords</b>	Milk packaging, externalities, life cycle analysis

<b>Project Title</b>	Consumer Preference for Alternative Milk Packaging
<b>Principal Investigators</b>	Ryan Williams, Clinton Neill (student)
<b>Departmental Involvement</b>	Agricultural and Applied Economics
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	April 2013
<b>Ending Date</b>	ongoing
<b>Project Objective</b>	Evaluate the consumer willingness-to-pay for glass bottled milk packaging.
<b>Project Summary and Accomplishments</b>	Literature exists which evaluates consumer preferences for eco-labeled products. This study investigates consumer response to a “perceived” environmental good embodied in the glass bottle. A customer intercept contingent valuation survey was conducted. The results of the study constituted the MS thesis for Mr. Neill.
<b>Keywords</b>	Milk packaging, contingent valuation, willingness-to-pay



**Appendix B**  
RESEARCH FUNDING  
2013/14



**Research Expenditures (\$), Department of Agricultural and Applied Economics, Texas Tech University**  
September 1, 2013 through August 31, 2014

	Internal				External									
	Applied Economics	Endwmts	Other	TOTAL INTERNAL	State			Federal			Private		GRAND TOTAL	
					Outside TTU	CASNR	Other	TOTAL STATE	USDA	Other	TOTAL FEDERAL	PRVATE		TOTAL PRIVATE
Benson			798	798				-			-		-	798
Carpio			37,680	37,680				-	65,938		65,938		-	103,618
Chidmi	30,123			30,123				-			-		-	30,123
Elam				-				-			-		-	-
Farmer	10,002		1,193	11,195				-	2,637		2,637		-	13,832
Hudson	3,160	59,983	4,615	67,758				-	169,880		169,880	56,366	56,366	294,004
Johnson	885	7,585	21,742	30,212	47,781		27,426	75,207	150,457		150,457	66,763	66,763	322,639
Knight		27,580	14,000	41,580			3,468	3,468			-		-	45,048
Lyford	13,982		6,347	20,329				-	35,601		35,601		-	55,930
Malaga	8,025		14,788	22,813				-			-	14,293	14,293	37,106
Murova			1,213	1,213				-			-		-	1,213
Rahman			16,000	16,000				-			-		-	16,000
Segarra			1,590	1,590				-			-		-	1,590
Wang	13,600			13,600	1,068			1,068			-	10,346	10,346	25,014
Williams			16,000	16,000				-	22,344		22,344		-	38,344
Gen. Ops.	38,084		4,286	42,370				-			-		-	42,370
<b>TOTAL</b>	<b>117,861</b>	<b>95,148</b>	<b>140,252</b>	<b>353,261</b>	<b>48,849</b>	<b>-</b>	<b>30,894</b>	<b>79,743</b>	<b>446,857</b>	<b>-</b>	<b>446,857</b>	<b>147,768</b>	<b>147,768</b>	<b>1,027,629</b>

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





**Appendix C**  
**PUBLICATIONS**  
2013/14



## **JOURNAL ARTICLES**

Allen, V.G., C.P. Brown, R. Kellison, P. Green, C.J. Zilverberg, P. Johnson, J. Weinheimer, T. Wheeler, E. Segarra, V. Acosta-Martinez, T. Zoebeck, and J.C. Conkwright. 2013. Integrating Cotton and Beef Production to Reduce Water Withdrawal from the Ogallala Aquifer in the Southern High Plains: I. Ten-year Effect on Water Used and Productivity. *Agronomy Journal*. 104:1625-1642.

Boys, K., D.B. Willis and C.E. Carpio. "Consumer Willingness to Pay for Organic and Locally Grown Produce in Dominica: Insights into the Potential for an "Organic Island." *Environment, Development and Sustainability* 16(3) (June 2014): 595-617.

Carpio, C.E., O. Isengildina-Massa, and R.D. Lamie and S.D. Zapata. "Does E-Commerce Help Agricultural Markets? The Case of MarketMaster." *Choices*. 28(4) (4<sup>th</sup> Quarter).

Cukrowicz, K.C., D.R. Jahn, R.D. Graham, E.K. Poindexter, and R.B. Williams. (2013). "Suicide risk in older adults: Evaluating models of risk and predicting excess zeros in a primary care sample." *Journal of Abnormal Psychology* 122(4): 1021.1030.  
<http://dx.doi.org/10.1037/a0034953>

De Silva, N., B. Chidmi, and J. Johnson. "Trade Liberalization, Openness, and Economic Growth in Sri Lanka: A Co-Integration Analysis" *International Journal of Engineering Technology*, Vol. 2. No. 2 (2013), 58-64.

Farmer, M.C. 2013. "Setting up an Ethics of Ecosystem Research Structure from the Precautionary Principle." *ILAR Journal*. 54.1: 58-62.

Farmer, M., A. Benson, X. Liu, S. Capareda and M. Middleton. "Feasibility of an Adaptable Biorefinery Platform: Addressing the Delivery Scale Dilemma under Drought Risk." *Journal of Agricultural and Applied Economics* 46(2014):57-71.

Farmer, M.C., A. Benson, G. McMahon, J. Principe, M. Middleton. Forthcoming. "Unintended Consequences of Involving Stakeholders too Late: A Case Study in Multi-Objective Management" *Water Resource Policy & Management – American Society of Civil Engineers Journal*.

Johnson, P., J. Zilverberg, V.G. Allen, J. Weinheimer, C.P. Brown, R. Kellison, and E. Segarra. 2013. Integrating Cotton and Beef Production in the Texas Southern High Plains: III. An Economic Evaluation. *Agronomy Journal*, 105:929-937.

Li, L., C. Wang, E. Segarra, and Z. Nan. 2013. Migration, Remittances and Agricultural Productivity in Small Farming Systems of Northwest China. *China Agricultural Economic Review*, 5(1): 5-23.

McCool, B., C. Lyford, B. Pence, A. McCool, E. Belasco, T. Carter, N. Hensarling, J. Thapa. Developing a Model for Reducing Cancer Risk in Rural Communities through Community-Based Education. *Journal of Cancer Education* (2013, 3: 597-600).

- Rahman, S.M. 2014. "Optimal Contracting for Cattle Feeding: An Assessment of Climatic Conditions." For *Applied Economics Perspectives Policy*.
- Rahman, S.M., A. Dinar, and D.F. Larson. 2014. "Adoption of the Clean Development Mechanism," *Environmental and Resource Economics*, revised and submitted on July, 2014.
- Rahman, S.M. and G.A. Kirkman. 2014. "Costs of Certified Emission Reduction under the Clean Development Mechanism of the Kyoto Protocol," *Energy Economics*, Forthcoming.
- Rahman, S.M., G.A. Kirkman, and R.S. Fletcher. 2014. "Costs of Generating Electricity by Power Projects under the Clean Development Mechanism of the Kyoto Protocol," *Energy Economics*, submitted in August 2014.
- Rahman, S.M., D.F. Larson, and A. Dinar. 2014. "Costs of Greenhouse Gas Emissions Abatement under the Clean Development Mechanism of the Kyoto Protocol," *Climate Change Economics*, Forthcoming.
- Rahman, S.M., Donald F. Larson, and Ariel Dinar. 2013. "What Drives Investment under the Clean Development Mechanism?" *World Bank Research Digest*, 7(2):7.
- Tangaoui, A. and M.C. Farmer. 2013. "The Relationship between Gasoline, Agricultural Feedstocks and Exchange Rate: A Cointegration Analysis." *American Journal of Economics and Finance*. V4: 87-92.
- Tewari, R., J. Johnson, D. Hudson, C. Wang, and D. Patterson. "Does Climatic Variability Influence Agricultural Land Prices Under Differing Uses? The Texas High Plains Case." *Natural Resources*, 4, 2013, 506-513.
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- Thapa, J. and C. Lyford. "Behavioral Economics in the Lunchroom: Can It Affect Food Supplier Decisions? A Systematic Review." *International Food and Agribusiness Management Review*, (2014, 17: 187-208).
- Velikova, N. O. Murova, T. Dodd, (December 2013). Emerging wine market in the Dominican Republic: Consumer Market analysis. *Wine Economics and Policy*. 2/2, 76-84.
- Wang, C., N. Rada, L. Qin, and S. Pan. "Impacts of Migration on Household Production Choices: Evidence from China." *Journal of Development Studies*. 2014, Vol. 50 (3), pp 413-425.
- Wang, Y., C. Wang, S. Nair, and S. Pan. "Industrial and Agricultural Development in Rural China." *Journal of Agribusiness*. 2013. Vol. 31 No. 1, pp 181-195.

Watcharaanantapong, P., R.K. Roberts, D.M. Lambert, K.A. Larson, M. Velandia, B.C. English, R.M. Rejesus, and C. Wang. "Timing of precision agriculture technology adoption in US cotton production." *Precision Agriculture*. Published online November 2013. 10.1007/s11119-013-9338-1.

Wright, A. and D. Hudson. "An Analysis of the Feasibility of Carbon Management Policies as a Mechanism to Influence Water Conservation Using Optimization Methods." *Journal of Environmental Management*, 143(2014): 88-98.

Xie, R., O. Isengildina-Massa and C.E. Carpio. "The Biggest Bang for the Buck: Valuation of Various Components of a Regional Campaign by Participating Restaurants." *Journal of Agricultural and Applied Economics* 46(2) (May 2014): 193-208.

Zapata, S.D., C.E. Carpio, O. Isengildina-Massa, and R.D. Lamie. "Producers' Willingness to Pay for the Services Provided by an Electronic Trade Platform: The Case of MarketMaker." *Journal of Agricultural and Resource Economics*: 38(3) (December 2013): 359-378.

Zivkovic, S. and D. Hudson. "Carbon Sequestration and Carbon Management Policy Effects on Production Agriculture in the Texas High Plains." *Environmental Management and Sustainable Development*, 3, 2014, 44-60.

### **BOOK CHAPTERS**

None.

### **TECHNICAL REPORTS**

Kellison, R. *et al.* 2013. An Integrated Approach to Water Conservation for Agriculture in the Texas Southern High Plains. Texas Alliance for Water Conservation 8<sup>th</sup> Annual Report submitted to the Texas Water Development Board, under project number 141G-44-B819, 237 pg., College of Agricultural Sciences and Natural Resources, Texas Tech University. July 2014.

Liu, B., D. Hudson, and D. Ethridge. "Global Cotton Baseline: 2014-2022." ICAC Baseline Reports, March 2014.

Xia Z., B.C. English, C.N. Boyer, R.K. Roberts, J.A Larson, D.M. Lambert, M. Velandia, L. L. Falconer, S.W. Martin, S.L. Larkin, K.P. Paudel, A.K.Mishra, R.M. Rejesus, M. Marra, C. Wang, E.J. Johnson, and J.M. Reeves. 2014. Precision Farming by Cotton Producers in Fourteen Southern States: Results from the 2013 Southern Cotton Precision Farming Survey. Department of Agricultural and Resources Economics, the University of Tennessee, Knoxville, Tennessee.

### **PROCEEDING PAPERS**

Boyer, C.N., B. English, R. Roberts, J. Larson, D. Lambert, M. Velandia, V. Zhou, S. Larkin, M. Marra, R. Rejesus, L. Falconer, S. Martin, A. Mishra, K. Paudel, C. Wang, J. Johnson, E. Segarra, and J. Reeves. 2014. Results from a Cotton Precision Farming Survey Across Fourteen Southern States. Proceedings of the 2014 Beltwide Cotton Conferences, Cotton Economics and Marketing Conference Section, CD-ROM. Selected for presentation, 2014 Beltwide Cotton

Conferences. Co-sponsored by the National Cotton Council and the Cotton Foundation, January 6-8, New Orleans, Louisiana.

Ishida, K. and J. Malaga. "US-Australia Competition for the Japanese Sorghum Market" 2014 Meetings Agricultural and Applied Economics Association. Minneapolis, Minnesota, July 2014. <http://purl.umn.edu/169802>

Nair, S., C. Wang, E. Segarra, J. Johnson, and Y. Wang. 2014. Precision Agriculture Adoption by Texas Cotton Producers: Trends and Drivers. Proceeding of the 2014 Beltwide Cotton Conferences, Cotton Economics and Marketing Conference Section, CD-ROM. Selected for presentation, 2014 Beltwide Cotton Conferences. Co-sponsored by the National Cotton Council and the Cotton Foundation, January 6-8, New Orleans, Louisiana.

Rivas, D. and J. Malaga. "Effectiveness of Central American Free Trade Agreement in the Agricultural Sector." Texas Tech University 2014 URC Conference, April 2014. <http://www.depts.ttu.edu/calue/urc/URC.php>

Stokes, K., P. Johnson, B. Robertson, and B. Underwood. 2014. FieldPrint Calculator: A Measurement of Agricultural Sustainability in the Texas High Plains. *2014 Beltwide Cotton Conferences Proceedings*, pg. 406-412. Selected for presentation at the 2014 Beltwide Cotton Conference. Co-Sponsored the National Cotton Council and the Cotton Foundation, January 4-7, 2014, New Orleans, LA.

### **ABSTRACTS**

Rahman, S.M. and B.F. Khan. "Cotton Futures Price Variability: The Role of China's Cotton Inventory Policy." Selected Paper, 2014 Beltwide Cotton Conferences, <http://www.cotton.org/beltwide/proceedings/2005-2014/index.htm>

### **THESES AND DISSERTATIONS**

Azzam, N. "Essays on Monetary Policy Asymmetry: An Application on the Central Bank of Jordan's Reaction Function" Texas Tech University Dissertation, August 2014.

Neill, Clinton L. "Consumer Preference for Alternative Milk Packaging". M.S. Thesis. Texas Tech University, Department of Agricultural and Applied Economics. Graduation: August 2014.

Thapa, Janani R. Department of Agricultural and Applied Economics, Ph.D., Texas Tech University, Dissertation Title: "Essays on Community-Based Interventions for Obesity Prevention." Graduation: August 2014.

**Appendix D**

PRESENTATIONS THAT WERE NOT  
PUBLISHED IN ANY OUTLET

2013/14





Aboohamidi, A. and B. Chidmi. "Financial Advisors and Their Impact on Individual Farm Household Portfolios in the United States." Selected paper prepared for presentation at the Agricultural and Applied Economics Association Annual Meeting, July 27-28, 2014, in Minneapolis, Minnesota.

Boonsaeng, T., and C.E. Carpio. "A Comparison of Food Demand Estimation from Homescan and Consumer Expenditure Survey Data" *Annual Meetings of the American Agricultural and Applied Economics Association*, Minneapolis, MN July 2014.

Carpio, C.E., T. Boonsaeng, C. Zhen, and A. Okrent. "The Effect of Supplemental Nutrition Assistance Program on Food and Nonfood Spending among Low-Income Households." *Annual Meetings of the American Agricultural and Applied Economics Association*, Minneapolis, MN July 2014.

Hudson, D. "Agricultural Policy and Economic Development." Guest Lecture Presentations, United States Military Academy, West Point, NY, March 2014.

Hudson, D. "Cotton Market Outlook." Presentation to the Bankers Agricultural Credit Conference, Lubbock, TX, November 2014.

Hudson, D. "The 2014 Crop Market Outlook." Presentation to the 2014 Texas Alliance for Water Conservation Annual Field Day, Muncy, TX, August 2014.

Hudson, D. "The 2014 Farm Bill: A New Paradigm or More of the Same?" Presentation to the Brock Report Annual Commodity Conference, New Orleans, LA, February 2014.

Hudson, D. "The 2014 Farm Bill: A New Paradigm or More of the Same?" Presentation to the Carson County Farm Bill Forum, White Deer, TX, August 2014.

Hudson, D. "The 2014 Farm Bill: A New Paradigm or More of the Same?" Presentation to the Jackson County Farm Bill Forum, Altus, OK, July 2014.

Hudson, D. "The 2014 Farm Bill: A New Paradigm or More of the Same?" Presentation to the Lubbock County Farm Bill Forum, Lubbock, TX, March 2014.

Hudson, D. "The 2014 Farm Bill: A New Paradigm or More of the Same?" Presentation to the Lynn County Farm Bill Forum, Lamesa, TX, March 2014.

Hudson, D. "The 2014 Farm Bill: A New Paradigm or More of the Same?" Presentation to the Texas Tech/Texas AgriLife Farm Bill Forum, Lubbock, TX, March 2014.

Hudson, D. "The Farm Bill Impacts on the Ginning Industry." Presentation to the 2014 Plains Cotton Ginners Association Annual Meeting, Lubbock, TX, August 2014.

Hudson, D. "The Farm Bill Overview." Presentation to the 2014 CityBank Wealth of Knowledge Forum, March 2014.

Hudson, D. "The Long-Term Outlook for Cotton." PYCO Industries Board of Directors Annual Meeting, Charleston, SC, April 2014.

Hudson, D. and K. Coble. "Expert Elicitation of Low Probability Events: The Role of Personality and Feedback." Presentation to the Social Sciences Department, United States Military Academy, West Point, NY, March 2014.

Johnson, P. and K. Stokes. FieldPrint Calculator: A Measurement of Agricultural Sustainability in the Texas High Plains. Presented at the Texas Agricultural Cooperative Council Managers Conference. July 9-11, 2014. Ruidoso, NM.

Lyford, C., J.R. Thapa, E. Belasco, B. Pence, A. McCool, B. McCool, and T. Carter. The Effect on Supermarket Food Purchases from Point of Scale Nudges with Community Reinforcement. ASHEcon Fifth Biennial Conference, 2014, Health and Healthcare in America: From Economics to Policy. Oral Presentation, June 22-25, 2014. Los Angeles, CA.

Malaga, J. "The Increasing Food Demand of India and China: Forecasting Its Potential Impact on World Food Markets." Presented at the Global Studies Conference. International centre, New Delhi, India. September 2013.

Mathews, L.G., C.E. Carpio, T. Boonsaeng, C. Jackson, A. Perrett, and K. Descieux. Do Consumer Know What Their Local Logo Means? *2014 Annual Meetings & Conference of the Agriculture, Food, and Human Values Society*, Burlington, VT, June 19, 2014.

Murova, O. Presentation presented at the TTU Climate Science Center seminar entitled "Climate Modeling in Agriculture," March 4, 2014.

Murova, O. Presentation at the Southern Agricultural Economics Association Annual Meeting, February 2014, Dallas, Texas, "The future of Ukraine in Global Agricultural Markets," February 3, 2014.

Rada, N., C. Wang, and L. Qin. "Are Large Farms More Productive than Small Farms in China?" The CES 2014 Annual Conference, Guangzhou, China, June 14-15, 2014.

Rada, N., C. Wang, and L. Qin. "Assessing China's Call to Increase the Size of its Grain Farms." Center for Chinese Agricultural Policy, Chinese Academy of Sciences. June 19, 2014.

Rahman, S.M. 2014. December 26, 2013. "Energy Cost Structure of the Clean Development Mechanism." 2013 Bangladesh Conference of the Association for Economic and Development Studies on Bangladesh (AEDBSB), Dhaka, Bangladesh.

Ramirez, O., C.E. Carpio, and A.J. Collart. "Producer Welfare Implications of the RMA's "Shrinkage" Crop Insurance Premium Estimator." *Annual Meetings of the American Agricultural and Applied Economics Association*, Minneapolis, MN July 2014.

Sapkota, P., T.A. Wheeler, J.P. Bordovsky, J. Johnson, and C. Carpio. Cost and Benefit Analysis of Verticillium Wilt of Cotton in the Southern High Plains of Texas. *Proceedings of the 2014 Beltwide Cotton Conferences*, New Orleans, Louisiana, January 6-8, 2014.

Segarra, E. 2014. Busqueda de Practicas Agropecuarias Economicamente Factibles y Sostenibles en las Planicies Altas de Texas. Presented at the Primer Congreso Internacional de las Praderas. Universidad Autonoma de Chihuahua. Chihuahua, Chihuahua, Mexico, April 10-12.

Segarra, E. 2014. Comparacion de la Produccion Primaria y el Valor Agregado en las Cadenas Productivas. Presented at the Primer Congreso Internacional de las Praderas. Universidad Autonoma de Chihuahua. Chihuahua, Chihuahua, Mexico, April 10-12.

Segarra, E. 2014. Contribuciones del Sector Agropecuario al Bienestar Social y a la Creacion de Oportunidades Economicas en los Sectores Urbanos y Rurales. Presented at the Primer Congreso Internacional de las Praderas. Universidad Autonoma de Chihuahua. Chihuahua, Chihuahua, Mexico. April 10-12.

Selected Presentation. (Presented by Neill, C.) "A look at the variations in consumer preferences for farmers' markets attributes." Southern Agricultural Economics Association Annual Meeting, Dallas, TX, February 2014.

Selected Presentation. (Presented by Imel, R.K.) "Regional water savings and increased profitability on the Texas High Plains: A case for water efficient alternative crops." Southern Agricultural Economics Association, Dallas, TX, February 2014.

Thapa, J.R. and C. Lyford. Can Lunchroom Nudges Develop Healthy Taste Buds in Elementary School Children. Track Session Paper. 2014 Agricultural and Applied Economics Meeting, July 27-29, Minneapolis, MN.

Thapa, J.R. and C. Lyford. Fun in the Lunch-Room: A Nudge to Develop Healthy Taste Buds. Selected paper at ASHEcon Fifth Biennial Conference, 2014, Health and Healthcare in America: From Economics to Policy. June 22-25, 2014. Los Angeles, CA.

Thapa, J.R. and C. Lyford. Visual Nudges Can Change Children's Food Choice Decision: What Next? A Systematic Review. ASHEcon Fifth Biennial Conference, 2014, Health and Healthcare in America: From Economics to Policy Poster Presentation, June 22-25, 2014. Los Angeles, CA.

Thapa, J.R., C. Lyford, B. McCool, E. Belasco, B. Pence, A. McCool, and T. Carter. "Nudges in the Supermarket: Experience with Point-of-Sale Signs." Selected paper. 2014 Agricultural and Applied Economics Meeting, July 27-29, Minneapolis, MN.

Wang, C., N. Rada, and L. Qin. "Assessing China's Call to Increase the Size of its Grain Farms." College of Economics and Management, Huazhong Agriculture University, Wuhan, China, June 16, 2014.

Zapata, S.D. and C.E. Carpio. "Distribution-free Methods for Estimation of Willingness to Pay Models Using Discrete Response Valuation Data." *Annual Meetings of the American Agricultural and Applied Economics Association*, Minneapolis, MN July 2014.

Zivkovic, S. and D. Hudson. "The Impact of the Relationship between the Managers and the Board of Directors on Economic Performance of Agricultural Cooperatives." Presentation to the TACC Annual Board Chairmans Conference, Ruidoso, NM, July 2014.

**Appendix E**

AAEC RESEARCH ADVISORY COMMITTEE

2013/2014



## **Agenda for AAEC Research Advisory Committee Meeting November 21, 2013**

- 7:00 a.m. Breakfast, Student Union, Mesa Room  
Welcome and Remarks by Dean Michael Galyean  
Advisory Committee Members and Deans Office
- 8:00 a.m. Convene in AAEC Conference Room (Ag. Sci. 302)
- 8:15-8:45 Non-Traditional Departmental Research Areas: Alternative Feasible  
Sources of Energy  
Dr. Aaron Benson and Dr. Ryan Williams
- 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 Non-Traditional Departmental Research Areas: New Horizons for Human  
Health Related Research  
Dr. Conrad Lyford
- 10:00-10:30 Water Economics Research Update & TAWC activities  
Dr. Ryan Williams
- 10:30- 10:45 Brief Review of Past Year's Activities  
Dr. Phillip Johnson
- 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, Mark Wallace  
– NRM (invited), Charles Klein – LA (invited), Michael Orth – AFS (invited), Steve Frazee –  
AEC (invited), and Rick Zartman – 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





**Appendix F**

ADVISORY COMMITTEE MEMBERS

2013/14



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**Appendix G**

THORNTON INSTITUTE ACTIVITIES

2013/14



FORTY-FIRST ANNUAL  
BANKERS AGRICULTURAL CREDIT CONFERENCE  
INTERNATIONAL CULTURAL CENTER  
TEXAS TECH UNIVERSITY  
LUBBOCK, TEXAS  
NOVEMBER 8, 2013

- 7:30 – 8:30 a.m.      Registration
- 8:00 – 8:05 a.m.      General Session  
Presiding: Mr. Kent Jackson, President  
Bankers Agricultural Credit Conference
- 8:05 – 9:05 a.m.      Legal and Regulatory Update  
Ms. Karen Neeley, General Counsel  
Independent Bankers Association of Texas  
Austin
- 9:05 – 10:05 a.m.      How the Choices in the Farm Bill Will Affect Texas Producers?  
Dr. Joe Outlaw, Professor and Extension Economist  
Co-Director of the Agricultural and Food Policy Center  
Department of Agricultural Economics  
Texas A&M University  
College Station
- 10:05 – 10:30 a.m.      Break
- 10:30 – 11:00 a.m.      Agricultural Outlook for Cattle 2014  
Mr. Ross Wilson, President and CEO  
Texas Cattle Feeders Association  
Amarillo
- 11:00 – 11:30          Agricultural Outlook for Cotton 2014  
Dr. Darren Hudson, Combest Chair of Agricultural Competitiveness  
Director of the Cotton Economics Research Institute  
Department of Agricultural and Applied Economics  
Texas Tech University  
Lubbock
- 11:30                      Lunch  
Hall of Nations  
Presentation of the 2013 Distinguished Banking Service Award
- 1:00 – 2:00 p.m.      Economic Outlook

Dr. Steven Kiser, Regional Economist  
Federal Deposit Insurance Corporation  
Dallas

2:00 – 2:30 p.m.      Agricultural Outlook for Grains 2014  
Dr. Mark Welch, Assistant Professor and Extension Economist  
Texas A&M AgriLife Extension  
College Station

2:30 – 3:30 p.m.      Current and Future Direction of the Regional Agricultural Economy  
Dr. Darren Hudson, Combest Chair of Agricultural Competitiveness  
Director of the Cotton Economics Research Institute  
Department of Agricultural and Applied Economics  
Texas Tech University  
Lubbock

3:30 p.m.              Adjourn



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