Selected Papers

Chair: Kenneth W. Stokes, Texas A&M University

TITLE: Willingness-to-Pay (Moderator: Terry Hanson, Mississippi State University).

Use of Chamberlain Fixed Effects Approach to Estimate Willingness-to-Pay for Little Tennessee River Basin Management Alternatives. *John C. Bergstrom, University of Georgia; Thomas Holmes, Forest Service, USDA; Eric Huszar, APHIS, USDA; Susan Kask, Warren Wilson College; and Dmitriy Volinskiy, University of Georgia.*

The paper discusses an application of Chamberlain's fixed effects model to survey data on management alternatives for the river basin. The advantages of the approach are discussed, and a technique to obtain willingness-to-pay estimates is offered. Drawbacks of using Chamberlain's fixed effects model and directions for further research are presented.

The Effects of Irrational Responses in Contingent Valuation Survey and the Appropriate Treatment. *Senhui He and Stanley Fletcher, University of Georgia, and Arbindra Rimal, Southwest Missouri State University.*

Excluding irrational responses in a contingent valuation survey from estimation may result in sample selection bias, whereas setting the bid values presented to these responses close to zero both helped to improve the estimation model and to reduce the potential bias in willingness-to-pay estimate.

Income Reminder and the Divergence between Willingness-to-Pay Estimates Associated with Dichotomous Choice and Open-Ended Elicitation Formats. *Senhui He,* Jeffrey L. Jordan, and Wojciech Florkowski, University of Georgia.

This study demonstrates that an income reminder can effectively reduce the downward bias in willingness-to-pay estimate associated with the open-ended elicitation format and the upward bias in willingness-to-pay estimate related to the dichotomous-choice format. The income reminder almost eliminated the divergence between the willingness-to-pay estimates associated with these two elicitation forms.

Acceptability of Irradiation Technology to Food Service Providers. *Kranti Mulik, John A. Fox, and Michael A. Boland, Kansas State University.*

Restaurant managers in Kansas were surveyed to investigate attitudes toward food irradiation and willingness to buy and serve irradiated hamburger patties. Results indicate that 54% of restaurants are willing to purchase irradiated ground beef. Median willingness-to-pay for irradiation for females was estimated at 6.25¢/lb. and for males at 3.94¢/lb.

TITLE: Recreation Demand (Moderator: Mike Thomas, Florida A&M).

Application of Hurdle Negative Binomial Count Data Model to Demand for Black Bass Fishing in the Southeastern United States. *Abdulbaki Bilgic and Wojciech Florkowski, University of Georgia.*

This paper identifies factors influencing the demand for a black bass fishing trip taken in the Southeastern United States using a double-

hurdle negative binomial count data model. This approach allows the decomposition of the effects of factors responsible for the decision of taking a fishing trip and the number of trips.

Truncated-at-Zero Count Data Models with Partial Observability: An Application to the Freshwater Fishing Demand in the Southeastern United States. *Abdulbaki Bilgic and Wojciech Florkowski, University of Georgia.*

We extend the double-hurdle count data model to account for a joint decision in the first stage in which the individual jointly makes decisions about participation in fishing and site selection. Our model discriminates between the effects of nonparticipants and potential participants on the probability of taking a fishing trip.

An Analysis of Willingness to Participate in Wilderness or Primitive Areas Visit. *Murali Adhikari, John C. Bergstrom, and Jack E. Houston, University of Georgia; Mike Bowker, Forest Service, USDA; and Laxmi Paudel, University of Georgia.*

A logit model was used to evaluate the major factors explaining willingness of an individual to participate in a wilderness or primitive areas visit. Results showed that education and environmental awareness were significant in the wilderness participation decision. Demographic variables, such as age, race, and sex, also were statistically significant and emerged as important policy variables in defining wilderness participation behavior. Characteristics of wilderness areas like crowdedness, pollution, and poor management failed to produce any significant impacts on the decision process to visit a wilderness area.

Estimating the Demand for State Park Visits Using a Panel Data Analysis Technique in a Travel Cost Method Framework. *Krishna P. Paudel and Larry M. Hall, Louisiana State University.*

We estimated models using a set of panel data to find the effect of environmental variables on visitation patterns in 17 state parks in Louisiana. The results indicated that environmental variables play a positive role in visitation patterns. Consumer surplus can be increased by increasing environmental qualities of the sites.

TITLE: Evaluation of Production Alternatives (Moderator: Nathan Smith, University of Georgia).

FAIR, PostFAIR, and NoFAIR: A Comparison of Cropping Alternatives for the Southern Great Plains. *Jon Biermacher, Francis M. Epplin, and Kent R. Keim, Oklahoma State University.*

The Federal Agriculture Improvement and Reform Act of 1996 was promoted as legislation that would enable and encourage farmers to base planting decisions on market incentives rather than commodity programs. Data from a designed experiment are used to compare the economics of three cropping systems for alternative commodity programs.

Economic Analysis of Replacing Wild-Type Endophyte-Infected Tall Fescue with Novel Endophyte-Infected Fescue. *Curt Lacy, The University of Georgia; John D. Anderson, Mississippi State University; and John Andrae, The University of Georgia.*

Empirical animal performance data are used in evaluating the decision to convert toxic endophyte fescue to novel endophyte fescue. Results indicate that producers at three risk aversion levels prefer replacing their existing toxic fescue stands when the expected stand life for novel endophyte fescue is more than 5 years.

Goals of Beef Cattle and Dairy Producers: A Comparison of the Fuzzy Pair-Wise Method and Simple Ranking Procedure. *Aydin Basarir, Gaziosmanpasa University, and Jeffrey M. Gillespie, Louisiana State University.*

Beef and dairy producers' goal hierarchies over seven goals are compared using fuzzy pairwise comparison and simple ranking methods. Results show the two methods do not provide similar goal rankings. Producers place greater importance on some goals than on others but are not in agreement as to the relative importance of goals.

Effects of Risk on Optimal Nitrogen Fertilization Dates in Winter Wheat Production as Affected by Disease and Nitrogen Source. *Jeremy T. Walters, Roland K. Roberts, James A. Larson, Burton C. English, and Donald D. Howard, The University of Tennessee.*

Optimal fertilization dates were found for two nitrogen sources in the presence of two diseases for wheat farmers with different risk preferences. Risk was independent of fertilization date. Ammonium nitrate and urea-ammonium nitrate did not affect risk differently. Ammonium nitrate applied on March 8 was optimal regardless of risk preferences.

Effects of High and Low Management Intensity on Profitability for Three Watermelon Genotypes. *Merritt J. Taylor, Wenhua Lu, James A. Duthie, B. Warren Roberts, and Jonathan V. Edelson, Oklahoma State University.*

Seedless triploid watermelon consistently provided greater net revenue under high-intensity management than diploid open pollinated or hybrid diploid genotypes during a 3-year study in Oklahoma. Under low-intensity management, triploid revenues were greater in favorable yield and price conditions and lost less money than the other two genotypes under unfavorable conditions.

TITLE: Best Management Practices (Moderator: Ronald Fleming, University of Kentucky).

Watershed-Level Policies to Implement Best Management Practices under Environmental Risk. *Walaiporn Intarapapong, Mississippi State University, and Diane Hite, Auburn University.*

The uncertainty of weather conditions could pose some challenges in achieving environmental targets. In this study, we use a bioeconomic model APEX to simulate the environmental impacts of alternative cropping systems. Under safety-first constraints, the levels of environmental runoff and optimal net returns of alternative cropping practices are estimated, using GAMS.

Effects on Farm Income and the Environment from Targeting Agricultural Best Management Practices (BMPs). *John V. Westra, Louisiana State University.*

To evaluate effects on farm income and water quality from targeting BMPs, estimates of phosphorus loading and net returns for farming systems were combined to create an enviroeconomic model of a major watershed. Targeting specific BMPs to susceptible regions was more effective than not targeting BMPs to improve water quality.

Least-Cost Watershed Management Solutions: Using GIS Data in Economic Modeling of a Watershed. *Tihomir Ancev, Arthur L. Stoecker, and Daniel E. Storm, Oklahoma State University.*

Phosphorus pollution from excessive poultry litter application causes eutrophication and algal blooms in the Eucha-Spavinaw watershed in eastern Oklahoma. The paper shows how GIS data-based biophysical and economic modeling can be used to derive spatially optimal, least-cost allocation of management practices to reduce pollution in the watershed.

Economic Impacts of EPA's Manure Application Regulations on Dairy Farms in the Southwest Region. *Wen-yuan Huang and Lee Christensen, Economic Research Service, USDA.*

We estimate that EPA's CAFO final rule on manure application would have different im-

pacts on dairy farms in the region, assuming that the farms would maintain the same herd size and same crop production practices. Some farms in the region would be able to comply to it on their current land base, but others would need to lease additional land for land application of manure. Less than 30% of those affected farms would have a lower farm income. Most of these affected farms could have no income reduction or a higher income as a result of reduced feed cost from expanding homegrown feed production.

TITLE: Beef and International Markets (Moderator: Albert Allen, Mississippi State University).

Implications of Mexican Beef Demand Change on Cattle and Beef Production in Mexico and U.S.-Mexican Cattle and Beef Trade. *Derrell S. Peel, Oklahoma State University.*

Scenarios of changes in Mexican beef demand are evaluated with a regional linear programming model of the Mexican cattle and beef sector. Results indicate that Mexican cattle and beef production and cattle and beef trade flows change qualitatively and quantitatively according to the precise nature of beef quantity and quality preferences in Mexico. The cattle and beef industries in both the United States and Mexico will benefit from an enhanced understanding of the nature of Mexican beef demand and the implications of demand changes on the evolving economic forces affecting Mexican production and cattle and beef trade flows between the two countries.

Testing Separability in a Generalized Ordinary Differential Demand System: The Case of Nigerian Demand for Meat. *Ebenezer O. Ogunyinka and Thomas L. Marsh, Kansas State University.*

This study investigates consumer demand for meat products in Nigeria and tests if any of the meat products are separable from one another. Estimating a generalized nested demand system, the Rotterdam model was selected using an adjusted likelihood ratio test. Results indicate that mutton and pork are more elastic than beef and poultry. Only pork was found to be separable from other meat types.

Spatial Price Linkages between Chinese Regional Beef Markets. *Xuehua Peng and Mary A. Marchant, University of Kentucky.*

This paper investigates the spatial price linkages between Chinese regional beef markets using cointegration methods. Cointegration tests indicate that long-run cointegration relationships exist for many Chinese regional beef markets. However, short-run cointegration relationships are not observed for most regional markets.

The Impact of BSE on Japanese Retail Beef Market. *Hikaru Hanawa Peterson and Yun-Ju (Kelly) Chen, Kansas State University.*

To assess the impact of BSE in Japan, a Japanese meat demand system is estimated as a gradual switching Rotterdam model. The results, based on data from April 1994 to May 2002, suggest the structural transition took 5 months from its discovery. The scare affected both domestic and imported beef.

TITLE: Weather, Crop Insurance, and CRP (Moderator: Charlotte Ham, Tuskegee University).

Opportunity Costs, Share Leasing, and Prevented Planting Claims in Crop Insurance. *Roderick M. Rejesus, Texas Tech University; Cesar Escalante, University of Georgia; and Mike Cross, Planning Systems, Inc.*

This paper determines whether the opportunity costs of share leasing and the share amounts of farmers/tenants affect the likelihood of submitting a prevented planting claim. Results from our probit analysis show that lower opportunity costs of share leasing and higher farmer/tenant share amount can increase the probability of submitting a prevented planting. These results have potential

implications for setting prevented planting buy-up rates and crop insurance compliance procedures.

Determinants of Participation Behavior of Limited Resource Farmers in Conservation Reserve Program in Alabama. *Buddhi R. Gyawali, Okwudili O. Onianwa, Gerald Wheelock, and Rory Fraser, Alabama A&M University.*

This study investigated factors that affect participation behavior of limited resource farmers (LRF) in the Conservation Reserve Program (CRP) in Alabama. A binary logit model was employed to analyze data obtained from 611 respondents. Results indicated that gender, part-time occupation, total acres, participation in nonconservation-related programs, direct method of receiving cost-share program information, and respondents' interest in receiving cost-share program information were strong predictors of participation in CRP.

Beef Producer Preferences and Purchase Decisions for Livestock Revenue Insurance Products. *Deacue Fields, Auburn University, and Jeffrey Gillespie, Louisiana State University.*

Personal interviews were conducted with 52 Louisiana beef producers to determine preferences and purchase decisions for livestock revenue insurance. A two-limit tobit model was used to estimate the part worth utility values for LRI attributes. Univariate probit models were estimated to evaluate the impact of producer characteristics on purchase decisions.

TITLE: Farm Level Decision Model 1 (Moderator: Tom Anton, University of Florida).

Precision Farming in Irrigated Corn Production: An Economic Perspective. *Susan E. Watson, The University of Louisiana-Monroe; Eduardo Segarra, Texas Tech University; and Stephen Machado, Edsel Bynum, Thomas Ar-* *cher, and Kevin Bronson, Texas A&M University.*

A dynamic optimization model is used to assess the profitability of precision and whole-field farming in corn production. Yield, on the average, was higher under whole-field farming practices, while net present value of returns was higher under precision farming, on the average, by 7.41% and 8.15%, respectively.

Incentives for Switching Agricultural Land to Carbon Sequestering No-Tillage: What Duration Are Incentives Necessary? *Chad Hellwinckel, James Larson, and Daniel De La Torre Ugarte, The University of Tennessee.*

Fourteen long-term side-by-side tillage practice experiments were studied to analyze if no-tillage yields improved through time, allowing incentives to decline. In the majority of cases, no significant increase in no-till yield was evident. Incentives may need to be permanent if switched acres are to remain using no-tillage practices.

Risk Management Tools for Precision Agriculture. *Laura A. Powers, Carl R. Dillon, Steven G. Isaacs, and Scott A. Shearer, University of Kentucky.*

The objective of this project is to develop economic, risk management decision aids for precision agriculture practitioners to identify temporal risk spatially from production. A break-even analysis, a coefficient of variation, and a mean variance framework are used to identify risk. An interpretation of the resulting risk maps will also be presented.

Using Experiment Station Data to Pick Optimal Wheat Varieties and Corn Hybrids. *Jayme Rousseau, Kevin Dhuyvetter, and Terry Kastens, Kansas State University.*

Producers use university test plot data when making planting decisions. This study examines the effectiveness of using historical test plot yield data at the location, region, and state level to select varieties and hybrids in a

real-time setting. Results indicate data from multilocations are superior to those from multiyears for a given location in forecast accuracy.

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TITLE: Environmental and Natural Resource Issues (Moderator: Scott Templeton, Clemson University).

Can Eco-Labeling Do More Harm Than Good? A Comparative Statics Analysis. *Kevin R. Athearn, University of Florida.*

This paper uses a two-product partial equilibrium model with demand- and supply-side substitution effects to identify supply and demand conditions under which ecolabeling would be most and least effective. The results suggest that ecolabeling is most effective at reducing environmentally harmful production when it leads to a decrease in demand for unlabeled products and when producers respond to nonprice incentives in adopting the certified methods.

An Energy Strategy Based on Energy Dedicated Crops or Corn: Differential Economic and Regional Impacts. *Daniel G. De La Torre Ugarte, The University of Tennessee.*

The growth of the role of agriculture as a source of energy feedstock has been primarily concentrated on increasing corn use for ethanol. Alternatively, refocusing this growth in the utilization of dedicated energy crops could prove more advantageous, as producers of more crops in a wider geographic area could benefit.

A Case for Subvention of Private Landowners in the Louisiana Coastal Zone. *Rex H. Caffey, Louisiana State University.*

The Louisiana Coastal Zone (LCZ) is experiencing an unparalleled crisis of wetland loss, most of which (75%) is occurring on private lands. This paper develops a comparative commentary using agricultural conservation policy as the construct for examining economic incentive mechanisms to subsidize wetland restoration on private lands in the LCZ.

TITLE: Evaluating Risky Production Alternatives (Moderator: James Sterns, University of Florida).

Stocker Cattle Ownership versus Contract Grazing: A Comparison of Risk-Adjusted Returns. *John D. Anderson, Mississippi State University; Curt Lacy, University of Georgia; and Charlie Forrest and Randy Little, Mississippi State University.*

Stocker cattle ownership is compared to contract grazing using stochastic simulation. Returns are evaluated for both cattle owners and caretakers in contract grazing agreements. For caretakers, contract grazing is significantly less risky than cattle ownership. For cattle owners, contracting reduces risk only slightly while significantly reducing expected returns.

Optimal Pest Control in Floriculture Production of Ornamental Crops. *Sara K. Schumacher, Thomas L. Marsh, and Kimberly A. Williams, Kansas State University.*

We develop a conceptual bioeconomic model of floriculture production, wherein optimal decision rules depend on an intertemporal economic objective to maximize profits subject to economic and biological processes. The necessary conditions highlight intertemporal trade-offs between aesthetic benefits and expected future net benefits of insect stocks, which have important policy implications.

Precision Agriculture, Whole Field Farming, and Irrigation Practices: A Production Risk Analysis. *Jean-Marc Gandonou, Carl R. Dillon, Murali Kanakasabai, and Scott Shearer, University of Kentucky.*

A potential benefit of precision agriculture is to spatially reduce yield variability. Temporal reduction in yield variability can also be achieved through irrigation practices. In this study, a mathematical programming technique is used in a standard E-V framework to ana-

lyze the ability of precision agriculture and/or irrigation to manage production risk.

Impacts of Clearfield Rice Technology on Rice-Soybeans Rotation: A Model of Technology Adoption with Uncertainty. *Eric Wailes and Mamane Annou, University of Arkansas.*

Rice farmers have expanded yields by adopting new varieties as they become available. The lack of a variety that tolerates selective herbicides to manage red rice has constrained farmers to crop rotations with rice and another break crop. Development of Clearfield technology can potentially alter the rice-crop rotation practice. The technology, if profitable, may result in more intensive rice production, especially where red rice is a problem. Mathematical programming is used to analyze the effects of Clearfield adoption in the current rotation system.

TITLE: Impact of Farm Bill 1 (Moderator: Stanley Bevers, Texas A&M University).

Farm-Level Impacts of the 2002 Farm Bill on a Georgia and North Carolina Farm. *Nathan Smith, University of Georgia, and Gary Bullen, North Carolina State University.*

The 2002 Farm Bill eliminates the peanut quota program and establishes a marketing loan program for peanuts. A Georgia and North Carolina peanut model farm are developed to examine farm-level impacts of program changes. Results indicate more revenue derived from the government and an increase in net farm income.

Farm Commodity Payment Limits: What Impact Will They Have on the Economic Viability of Southeastern Agriculture? *Stanley M. Fletcher, Audrey S. Luke-Morgan, and Allen E. McCorvey, University of Georgia, and James W. Richardson, Texas A&M University.*

Southeastern agriculture is unique and diversified when compared to agriculture in other areas of the United States. The impact of commodity payment limits on Southeastern agriculture is of great concern. Analysis, based on 10 Southeastern representative peanut farms, evaluates the potential impact of payment limits on the economic viability of Southeastern agriculture.

Effects of Emphasizing Decoupled versus Coupled Policy Tools in the 2002 Farm Bill. *George M. Knapek, J.L. Outlaw, David P. Anderson, J.D. Sartwelle, Dean A. McCorkle, and J. Marc Raulston, Texas A&M University.*

The 1996 and 2002 Farm Bills moved government support toward decoupled tools rather than support coupled to production and/or prices. This paper analyzes whether areas with more production risk would prefer decoupled or coupled support. The results indicate that areas with more yield risk would prefer decoupled payments and vice versa.

Southern Agriculture under the 2002 Farm Bill: A Representative Farms Approach. *J.D. Sartwelle, III, K. Tiller, J.W. Richardson, J.L. Outlaw, and D.P. Anderson, Texas A&M University.*

The 2002 Farm Bill affects economic activity of farms and ranches in the southern United States. Using stochastic simulation techniques, key financial variables were projected for 39 representative farms and ranches in 10 southern states. Results indicate 24 of 39 farms studied have more than a 40% likelihood of having annual cash flow deficits during the period 2002 through 2007. Results are largely consistent across commodities and between moderate- and large-sized farms in the same geographic area.

TITLE: Measuring Success (Moderator: Phil Kenkel, Oklahoma State University).

Factors Affecting Earnings of Southern Illinois University Agribusiness Economics Graduates: The Non-Land-Grant Experience. *Kim Harris and Nick Kuhns, Southern Illinois University.*

Survey data were used to identify determinants of starting and current salaries of agribusiness economics graduates from Southern Illinois University in Carbondale from 1977 to 2001. Labor markets appear to be similar for graduates from land-grant and nonland-grant universities. Factors such as advanced degree(s) earned, job location, GPA, job mobility, gender, and whether a student was a native (i.e., 4-year student) or transferred from a community college were found to significantly influence earnings. Those with the highest earnings were "native" men with advanced degrees who moved away from the southern Illinois region and were working in the private sector.

Success Factors for Value-Added New Generation Cooperatives. *Jared G. Carlberg, University of Manitoba, and Rodney B. Holcom and Clement E. Ward, Oklahoma State University.*

Two surveys of New Generation Cooperative (NGC) managers were carried out to ascertain the factors most important to their success. Factors in the Planning and Development as well as the Financing and Cost categories were most important, and NGCs with more employees and more members' equity are most successful.

Internet Adoption and Use of E-commerce Strategies by Agribusiness Firms in Alabama. *Dionne McFarlane, Duncan M. Chembezi, and Joseph Befecadu, Alabama A&M University.*

Electronic commerce (e-commerce) is relatively new to the agricultural industry. This paper investigates the factors influencing Internet adoption and use of e-commerce strategies by agribusiness firms in Alabama. A probit model is employed to determine the level of Internet usage, while a logistic regression model is used to assess the rate of e-commerce adoption as a business strategy. The study concludes that Internet adoption and use of e-commerce strategies are both influenced by supply-chain functions and also by the characteristics of the agribusiness firms.

Post Merger Financial Performance of Oklahoma Cooperatives. *Phil Kenkel, Becky Fox, and Amy Gilbert, Oklahoma State University.*

Audited financial statements of 22 Oklahoma cooperatives were used to investigate the success of mergers in improving financial performance. Five categories of annual financial ratios were calculated for each firm. Paired difference tests were used to analyze the success of the merger in improving financial performance.

TITLE: Measuring Productivity and Growth 1 (Moderator: John Westra, Louisiana State University).

Scope and Scale Efficiency Gains due to Vertical Integration in the U.S. Hog Sector. *Glenn A. Helmers, University of Nebraska; Saleem Shaik, Mississippi State University; and Joseph Atwood, Montana State University.*

Using a programming approach, we examine if there are efficiency gains in the hog sector due to vertical integration and if these gains can be identified with economies of scope and scale. Results indicate that the efficiency gains are due to scope and scale and, at 5% significance, are significantly different from 1.

A Joint Livestock-Crop Multifactor Relative Productivity Approach. *Keithly Jones and Carlos Arnade, Economic Research Service, USDA.*

An output distance function conditional on the expansion of a second output is presented. These distance functions are used to calculate distinct relative total factor productivity (TFP) scores for two jointly produced products— livestock and crops for 27 countries. From these, TFP growth and direction of growth are calculated.

Patterns of Post-War Agricultural Productivity in the Southeast and Delta Regions. *Albert K.A. Acquaye and Kenrett Y. Jefferson, Auburn University.*

The structure of agriculture in the southern states has changed since 1949, and marked differences exist from the national average. State-specific data are used to measure changes in the composition of inputs over space and time, which led to high productivity and output growth rates in southeast and delta states.

Determinants of Economic Growth. *Daniel V. Rainey and Bertrand J. Morris, University of Arkansas.*

This study examines the relationship between economic activity and local community factors. This information will enable local public officials to make more informed decisions concerning the net benefit of employment and population growth. The results will also benefit researchers conducting benefit-cost analysis of industrial incentive programs.

TITLE: Estimating Impact of Changes
(Moderator: Aditi Angirasa, Southwest Texas State University).

Impact of NAFTA on U.S. Corn Trade. *A.A. Farhad Chowdhury, Mississippi Valley State University, and Albert J. Allen, Mississippi State University.*

The objective of this paper was to assess the impact of NAFTA in corn trading between the United States and Mexico and between the United States and Canada. Pre- and post-NAFTA comparisons indicate that there has been a significant increase in corn trade in the post-NAFTA era. Regressive analysis could not provide conclusive evidence that such increases were solely due to NAFTA.

Price Dynamics in the U.S. Fiber Markets: Its Implications for Cotton Industry. *Mohamadou Fadiga, Samarendu Mohanty, and Jagada Chaudhary, Texas Tech University.*

The paper examines the price dynamics in the U.S. fiber market using an error correction version of the Granger causality test. The causality results suggest a weak lead-lag relationship between cotton and polyester prices in either direction. However, strongest relation is instantaneous feedback (within a month) between cotton and polyester prices. It may be interpreted from these results that any shock to the equilibrium relationships is mostly restored within a month. In addition, highly significant error correction terms in cotton and polyester equations suggest the absence of distinct price leaders, which means both prices respond to restore equilibrium relationships.

Measuring the Impacts of U.S. Export Promotion Program for Wheat in Selected Importing Regions. *Murali Adhikari, Laxmi Paudel, and Jack E. Houston, University of Georgia, and Biswo N. Paudel, Rice University.*

We examine the impacts of major factors affecting the export demand of wheat with a special focus on the impacts of export promotion programs on U.S. wheat. Study results show negative impacts of own-price and real exchange rate on export demand of wheat, while the real GDP, price of corn, and export promotion expenditure had positive and significant impacts. The per dollar returns to wheat export promotion expenditures were $1.49, $0.42, and $2.01 for the Middle East, the Pacific Rim, and Mexico, respectively.

Natural Resource Supply Constraints and Regional Economic Analysis: A Computable General Equilibrium Approach. *David B. Willis, Texas Tech University, and David W. Holland, Washington State University.*

A computable general equilibrium model is used to estimate the impact that a resource supply constraint, which restricts federal timber harvest, has on a timber-dependent region. Impacts are compared to impacts generated from an input-output model and indicate an upward bias in estimated income and employment losses using input-output methods.

TITLE: Farm Level Decision Model 2
(Moderator: Todd Davis, Clemson University).

Policy Implications on the Reduction of N Fertilizer Use on Nonirrigated Corn-Winter Wheat Production in North Alabama. *Barbara A. Joseph, Hezekiah Jones, and Joseph Befecadu, Alabama A&M University.*

Environmental and economic effects of nitrogen fertilizer reduction on North Alabama small farms are evaluated using GPFARM. GPFARM incorporates climate, soil data, and management practices to simulate science and economic analysis for a farm/ranch management unit. Nitrate leaching, crop yield, and profitability are evaluated and presented under different policy scenarios.

Utilizing Expected Revenue in Selecting Optimal Marketing Alternatives for Fixed Resource Cow/Calf Operators in the Texas Panhandle. *W. Arden Colette, Lal K. Almas, and Chad A. Hittle, West Texas A&M University.*

The 78% of Texas's cowherds with 50 head or less operate with fixed productive resources. Therefore, they maximize profits by maximizing revenue. Although the price per hundredweight for stocker steers decreases as weight increases, revenue per animal increases. The optimal marketing alternative maximizes the revenue for the fixed set of resources.

Impact of New Farm Bill Provisions on Optimal Resource Allocation on Highly Erodible Soils. *John R.C. Robinson, Texas A&M University; Glover B. Triplett, Mississippi State University; and Seth M. Dabney, Agricultural Research Service, USDA.*

The study focuses on incentives to produce crops under reduced-tillage systems on highly erodible soils. A mixed integer, mathematical programming model was developed to identify optimal resource use under alternative farm program provisions. A positive countercyclical payment only reinforces the incentive to comply with NRCS soil erosion constraints.

TITLE: Econometric Methods and Applications (Moderator: Ashley Renck, Texas A&M University-Commerce).

Do Economic Restrictions Improve Forecasts? *Beth Murphy, North Carolina State University; Bailey Norwood, Oklahoma State University; and Michael Wohlgenant, North Carolina State University.*

A previous study showed that imposing economic restrictions improves the forecasting ability of food demand systems, thus warranting their use even when rejected in-sample. This study attempts to determine whether this is due solely to the fact that restrictions improve degrees of freedom. Results indicate that restrictions improve forecasting ability even when not derived from economic theory, but theoretical restrictions forecast best.

Threshold Models in Theory and Practice. *Hector O. Zapata and Wayne M. Gauthier, Louisiana State University.*

Threshold models have gained much recent attention in applied economics for modeling nonlinear behavior. The appeal for these models is due in part to the observable pattern that many economic variables follow, such as asymmetric adjustment toward equilibrium. This paper reviews the literature and provides links to software programs.

Impact of the Asia-Pacific Economic Cooperation Agreement and the Free Trade Area of the Americas Agreement on International Rice Trade. *Alvaro Durand and Eric Wailes, University of Arkansas.*

The performance of the U.S. rice industry is dependent on the behavior of international markets. U.S. competitiveness is being eroded with the emergence of low-cost rice exporters from Asia. Potential multilateral economic integrations such as APEC and FTAA are likely to have an impact on this industry. This study

analyzes the effects those agreements may have on the total international rice trade. Results suggest that FTAA will increase trade minimally but that an APEC agreement would increase trade by nearly 6%.

The Impacts of Market Power and Exchange Rates on Prices of European Union Soybean Imports. *Oluwarotimi Odeh and Hikaru Hanawa Peterson, Kansas State University.*

This study examines whether the EU, the world's largest importer, exercises market power over soybean imports. Results, based on 1975–2000 data, suggest that the EU has practiced price discrimination against imports from Argentina and Brazil. The evidence for the practice of pricing-to-market based on exchange rate changes is mixed.

TITLE: Price Analysis (Moderator: Charles Adams, University of Florida).

Mandatory versus Voluntary Price Reporting: An Empirical Investigation of the Market Transparency Controversy. *S.W. Fausti, R. Keimig, M. Diersen, H. Kim, and J. Santos, South Dakota State University.*

Market transparency under the voluntary public price-reporting system is investigated by comparing slaughter cattle price data reported by the AMS to mandatory price-reporting data collected by the State of South Dakota. The empirical findings indicate a strong long-run and short-run integrated relationship between mandatory and voluntary price reports.

The Smithfield/Packerland Merger and the Holstein Feeder Steer Price Differential. *Kenneth H. Burdine, Leigh J. Maynard, and A. Lee Meyer, University of Kentucky.*

An econometric model was used to evaluate the impact that the Smithfield/Packerland merger had on the price differential between Holstein feeder steers and nondairy feeder steers in Kentucky. An increase in the differ-

ential of more than $3.00 per hundredweight was associated with the time period following the merger.

Long-Run Trend Analysis of Countercycle Program Commodity Prices in the Farm Security Act of 2001. *Sung C. No, Southern University and A&M College, and Michael E. Salassi and Hector O. Zapata, Louisiana State University.*

This study provides empirical evidence on whether corn, sorghum, oat, barley, wheat, rice, soybeans, cotton, and peanuts exhibit cyclical patterns in their historical prices. The results of time-series analysis support a newly added countercyclical payment in the Farm Security and Rural Investment Act of 2002 for all crops except corn.

Price Discovery in the Futures and Cash Market for Sugar. *Delroy A. Armstrong and Hector O. Zapata, Louisiana State University, and T. Randall Fortenbery, University of Wisconsin-Madison.*

Pricing function using world sugar futures (WSF) has received limited research interest. Findings indicate that WSF and cash prices for the Dominican Republic appear cointegrated with changing relationships. Previous work suggests that futures markets price the cheapest quality of commodities deliverable on contracts. Cointegration results are consistent with this argument.

TITLE: Measuring Productivity and Growth 2 (Moderator: Cesar Escalante, University of Georgia).

Scale Economies and Efficiencies for Chinese Rural Credit Cooperatives. *Fengxia Dong and Allen Featherstone, Kansas State University.*

This paper evaluates scale economies and efficiencies for Rural Credit Cooperatives (RCCs) in China using both parametric and nonparametric techniques. Diseconomies of scale and allocative inefficiency are found.

The results show the need for RCCs to decrease their size and the need for government to liberalize the financial market.

On the Choice of Functional Forms in the Measurement of Scale and Scope Economies: Generalized Box-Cox and Composite Cost Functions. *Ebenezer O. Ogunyinka and Allen M. Featherstone, Kansas State University.*

This paper estimates and compares generalized Box-Cox and composite cost functions to identify scale and scope economies. The robustness of the outcomes to different functional specifications was examined. Increasing returns to scale was common for product-specific and the overall measures. Generalized Leontief and composite forms yielded more robust elasticity, scale, and scope measures. The generalized Box-Cox model was selected as the appropriate functional form as all the special cases were rejected.

The Effects of Research on Wheat Yields and Yield Variances. *Senhui He, Fred C. White, and Stanley Fletcher, University of Georgia.*

This study investigates the impacts of research investment on wheat production. A two-way random effect model was estimated using panel data to examine the effects of research investment on mean yield and yield variance. Results show that research investment improved yield stability but had no significant effect on mean yield.

Research Spillovers and Returns to Wheat Research Investment. *Fred C. White, Senhui He, and Stanley Fletcher, University of Georgia.*

This study evaluates the rates of return to U.S. wheat research investment, focusing on research spillovers. Results show that research spillovers exist among various classes of wheat. Because of the spillover effects, social rates of return to research investment are sub-

stantially higher than the corresponding private rates of return.

TITLE: Labeling (Moderator: Alvin Schupp, Louisiana State University).

Analysis of Food Labels for Agricultural Biotechnology. *Everald Mclennon and R. Wes Harrison, Louisiana State University.*

Conjoint analysis is used to measure consumer preferences for alternative biotech labeling formats. The study found that consumers overwhelmingly support mandatory labeling of biotech foods. Results also showed that the preferred labeling format is a text disclosure that describes the benefits of biotechnology in combination with a biotech logo.

TITLE: Impact of Farm Bill 2 (Moderator: Joe Outlaw, Texas A&M University).

The Effect of the 2002 Farm Bill on Crop Enterprise Selection in the Southeast Region. *Todd D. Davis and Charles E. Curtis, Jr., Clemson University, and George A. Shumaker and Nathan B. Smith, University of Georgia.*

A stochastic simulation model was used to generate 1,000 cash market prices and yields for corn, soybeans, wheat, cotton, and peanuts. A Target MOTAD model using the stochastic data determined the risk-efficient crop mix for alternative price and yield expectations. Results suggest increased peanut production in the Southeast region.

The End of Supply Controls: The Economic Effects of Recent Change in Federal Peanut Policy. *Jan Chvosta, Walter N. Thurman, and Blake A. Brown, North Carolina State University, and Randal R. Rucker, Montana State University.*

The paper analyzes recent changes in U.S. peanut policy as enacted in the 2002 Farm Security Act. A model representing the impact of the 2002 Farm Bill on the domestic and foreign prices of edible peanuts is constructed,

and the gains and losses to peanut-producing states are measured.

Proposed Tobacco Quota Buyout Legislation: Effects on Tennessee Tobacco Farms. *Kelly H. Tiller and Jennifer G. Brown, The University of Tennessee.*

Interest in a tobacco quota buyout is at an all-time high, with several tobacco quota buyout and transition bills before Congress. This paper reviews major elements of buyout proposals and estimates the economic impacts of proposed buyout legislation on four representative Tennessee tobacco farms.

The Economics of the Base and Yield Update Decision. *Dean A. McCorkle, Joe L. Outlaw, George M. Knapek, Steven L. Klose, and James D. Sartwelle, Texas A&M University.*

The 2002 Farm Bill provided the one-time opportunity to update base acres and counter-cyclical payment yields to more closely reflect their current crops, rotations, and yield levels. This paper discusses the available options and provides case study examples to illustrate the complexity of this decision.

TITLE: Evaluation of Production Alternatives 2 (Moderator: Roderick Rejesus, Texas Tech University).

Off-Farm Labor and the Adoption of Herbicide-Tolerant Soybeans. *Jorge Fernandez-Cornejo and Chad Hendricks, Economic Research Service, USDA.*

Adoption of herbicide-tolerant (HT) soybeans is proceeding rapidly, despite little difference between the net returns to HT versus conventional soybeans. Using a multivariate probit model, we analyze the interaction of off-farm work and adoption and test if farmers adopt HT soybeans because its simplicity and flexibility frees management time.

Factors Influencing the Implementation of Best Management Practices in the Dairy Industry. *Noro C. Rahelizatovo and Jeffrey M. Gillespie, Louisiana State University.*

Best management practices (BMPs) consist of conservation methods promoted to reduce water pollution from agricultural activities. This study investigates the likely determinants of Louisiana dairy producers' decisions to voluntarily implement BMPs. Farm size, milk productivity, frequency of meetings with LCES, and risk aversion significantly influenced the increased adoption of BMPs.

Effects of Low Milk Prices on U.S. Dairy Farms in 2000. *Sara D. Short, Economic Research Service, USDA.*

Effects of low milk prices on U.S. dairy farms are assessed using a survey of U.S. dairy operations. Although small dairy operations were particularly vulnerable to the decline in milk prices in 2000, 41% of these operations were able to produce milk at a cost that was competitive with larger operations. This suggests that the managerial ability of individual dairy producers is likely to be as important as size economies in lowering the costs of milk production.

Factors Affecting Productivity of Citrus Harvesters. *Hector D. Dorbecker, Fritz M. Roka, and Robert D. Emerson, University of Florida.*

A sample of 199 citrus workers was analyzed to determine the factors that affect harvesting productivity. Yield had a significant and positive impact on worker productivity. Piece rates had a significant and negative impact on worker productivity, suggesting that piece rates are adjusted to compensate for lower yielding trees.

TITLE: Using GIS (Moderator: John V. Westra, Louisiana State University).

An Investigation of the Socioeconomic Impacts of Tri-State Bypass, 1970–2000. *Osei-Agyeman Yeboah and Upton Hatch, Auburn University.*

Geographical information systems and econometric tools were used to determine the socioeconomic impacts of bypasses in the Atlanta-Birmingham metropolitan area using panel data from 1970 to 2000. Preliminary results based on maps and econometric estimation indicate that most counties in the study area have achieved positive economic growth since the bypasses were constructed.

Community Choices and Housing Decisions: A Spatial Analysis of the Southern Appalachian Highlands. *Seong-Hoon Cho and David H. Newman, University of Georgia, and David N. Wear, Forest Service, USDA.*

This paper examines land development using an integrated approach that combines residential decisions about choices of community in the Southern Appalachian region with the application of the GIS (Geographical Information System). The empirical model infers a distinctive heterogeneity in the characteristics of community choices.

Estimated Impact on Farm Income and Greenhouse Gas Levels from Changing Agricultural Practices. *John V. Westra, Louisiana State University.*

To evaluate the potential impact on agriculture from global warming policies, estimates of greenhouse gas emissions (methane and nitrous oxide) and net returns for cropping and livestock systems were combined. In two geophysically and agriculturally distinct major watersheds, greenhouse gases were reduced significantly by changing farming systems, while farm income increased.

TITLE: Teaching (Moderator: Kenneth Stokes, Texas A&M University).

Using Both Sociological and Economic Incentives to Reduce Moral Hazard. *Francisca G-C. Richter, Oklahoma State University; Edgar F. Pebe Diaz, Ministry of Economy and Finance in Peru; and B. Wade Brorsen and Kevin Currier, Oklahoma State University.*

Economists tend to focus on monetary incentives. In the model developed here, both sociological and economic incentives are used to diminish the apparent moral hazard problem existing in commodity grading. Training that promotes graders' responses to sociological incentives is shown to increase expected benefits. The model suggests that this training be increased up to the point at which the marginal benefit due to training equals its marginal cost. It may be more economical to influence the grader's behavior by creating cognitive dissonance through training and rules rather than by using economic incentives alone.

Undergraduate Curricula in Agribusiness and Agricultural Economics: What's the Difference? *Harold M. Harris, Jr., Stephen E. Miller, and Gary J. Wells, Clemson University.*

We summarize undergraduate agribusiness and agricultural economics curricula for 112 U.S. institutions. Relative to agricultural economics majors, agribusiness majors on average take fewer courses in math, economics, and general agricultural economics and more courses in agribusiness, general business, and general agriculture.

Factors Influencing Information Technology Adoption: A Cross-Sectional Analysis. *Jeri L. Stroade and Bryan Schurle, Kansas State University.*

This project will explore information technology adoption issues. The unique characteristics of information technology will be discussed. Advantages and disadvantages to adoption will also be identified. Finally, a statistical model of Internet adoption will be developed to estimate the impacts of certain variables on the underlying process of information technology adoption.

Exploring Supply Dynamics in Competitive Markets. *Bill Golden, Freda Golden, and Leah Tsoodle, Kansas State University.*

Understanding the ebb and flow of com-

petitive markets is essential for students pursuing a variety of undergraduate degrees. The objective of this study is to introduce users to interactions that occur in the supply side of competitive markets using a dynamic simulation model with curriculum materials.

The Free Trade Debate: One More Round.
Aditi K. Angirasa and Claudia Ocana, Southwest Texas State University.

This paper looks at some of the reasons why free trade has failed to improve the allocation of resources in developing countries and considers the impact of trade liberalization on the Latin American region during the 1990–2000 period. Under liberalized trade, economic crises have grown in numbers and intensity.

TITLE: Land Rent & Successful Firms
(Moderator: James Larson, The University of Tennessee).

Risks and Returns to Landlords and Tenants from Alternative Leasing Arrangements. *Robert O. Burton, Jr., Kevin C. Dhuyvetter, Terry L. Kastens, and Jenna R. Tajchman, Kansas State University.*

On the basis of 20 years of yields and prices, expected annual net returns and variability of returns are measured for landlords and tenants under provisions of the 2002 Farm Bill for a representative crop rotation in North Central Kansas under alternative leasing arrangements and with conventional and no-tillage.

What Should Farmers Pay for Cash Rents?
Gregory Ibendahl and Ronald Fleming, University of Kentucky.

Determining what cash rent to pay for additional farmland is a big problem for most farmers. Crop budgets can be a guide, but they provide only average revenue. This paper calculates the true marginal revenue per acre so that a better estimate can be made of the cash rental rate. The first derivative then gives the marginal revenue.

Factors Contributing to Financially Successful Southern Rice Farms. *Linda F. Foreman and Janet S. Livezey, Economic Research Service, USDA.*

The purpose of this study was to determine factors contributing to the likelihood of financial success among rice farms. The results showed that the ratio of government payments to total production value, tenure, crop diversification, cost control, education, yield, and debt-to-asset ratio were significant factors influencing at least one financial success measure.

Business Success: What Factors Really Matter? *Greg H. Kaase, Dean A. McCorkle, Steven. L. Klose, Joe L. Outlaw, David P. Anderson, and George M. Knapek, Texas A&M University.*

This paper provides a comparison of successful and financially distressed producers on the basis of data from more than 400 individualized financial analyses. These objective variables are combined with subjective observations of management styles and attitudes to provide a unique identification of the factors most influential in the success of Texas producers.

TITLE: Input-Output Studies Using IM-PLAN (Moderator: David Anderson, Texas A&M University).

Establishing the Economic Impact of the Green Industry on Louisiana's Economy.
Raul A. Pinel and Roger A. Hinson, Louisiana State University; David W. Hughes, West Virginia University; and Roberto Navajas, Louisiana State University.

Ornamental and horticultural products and services represent one of the fast-growing sectors in agriculture. This study discusses data collection and an input-output IMPLAN model used to estimate the total economic impact

of the green industry on Louisiana's economy. Results are provided in terms of total impact on personal income, gross state product, employment, expenditures in selected sectors, and multiplier tables.

Economic Impacts on the Illinois Economy of Alternative Dairy Production Systems. *Phillip R. Eberle, Kenneth E. Griswold, William C. Peterson, C. Matthew Rendleman, and Manish Ruwali, Southern Illinois University.*

Dairy in Illinois has declined in farm numbers, cows, and value of dairy product. Alternative dairy systems (intensive grazing, traditional, and a concentrated feeding system) were evaluated for their potential to sustain dairy in Illinois. The economic impact of each system on the Illinois economy was evaluated using IMPLAN.

Economic Impact of the Firms Assisted by the Oklahoma Food and Agricultural Products Research and Technology Center. *Ann Zimmerschied, Mike Woods, Charles Willoughby, Rodney Holcomb, and Daniel Tilley, Oklahoma State University.*

An economic impact study of the Oklahoma Food and Agricultural Products Research and Technology Center was conducted to analyze the impact of the firms the Center has assisted and the impact of services provided by the Center. The economic impact of the firms assisted was calculated using an IMPLAN model.

Illinois' Grape and Wine Industry as a Contributor to Rural Economic Growth. *C. Matthew Rendleman, William Peterson, and Roger J. Beck, Southern Illinois University.*

In 2000, wine and winegrape production in Illinois was up several-fold from just two decades earlier. State government has established a Grape and Wine Resources Council in part to boost the state's economy. This paper attempts to quantify the effect of the growing industry through input-output impact analysis.

TITLE: Feasibility and Economies of Size Studies (Moderator: Allen Wysocki, University of Florida).

Turfgrass Production: Economies of Size, Optimal Product Mix, and Price Sensitivity. *Jennifer J. Cain, NatureScape, and John L. Adrian, Patricia A. Duffy, and Elizabeth Guertal, Auburn University.*

Notable economies of size were found both in establishment and continued operation of a turfgrass-sod facility in Alabama. Over a 7-year time horizon, bermudagrass was the most profitable grass to produce on every farm size. Both zoysia and centipede also had positive economic returns over the time horizon.

An Analysis of Ethanol Production in Texas Using Three Ethanol Facility Sizes and Their Relative Optimal Subsidy Levels. *R. Chope Gill, II, James W. Richardson, Joe L. Outlaw, and David P. Anderson, Texas A&M University.*

Ethanol production in 15-, 30-, and 80-million gal./yr. production plants is analyzed at various subsidy levels. The results indicate that removing per plant subsidy limits allows reduced total state subsidy expenditures. This action takes advantage of the economies of scale inherent in larger ethanol plants.

An Economic Analysis of Landfill Costs to Demonstrate the Economies of Size and Determine the Feasibility of a Community Owned Landfill in Rural Oklahoma. *Fred C. Eilrich and Gerald A. Doeksen, Oklahoma State University, and Herb Van Fleet, H.E. Van Fleet and Associates.*

New regulations have affected landfill costs and changed solid waste management solutions. Communities must now decide between continued landfill operations and long-term uncertainties associated with contracted services. Preliminary cost analysis addresses these changes and demonstrates economies of size that make regional facilities more feasible than the once-popular city-owned landfills.

The Feasibility of Ethanol Production in Texas. *B.K. Herbst, J.L. Outlaw, D.P. Anderson, S.L. Klose, and J.W. Richardson, Texas A&M University.*

The resurgence of interest in ethanol production has also prompted interest in Texas. Projected net present values for ethanol plant investment are well below zero for corn-based ethanol plants but are positive for sorghum. Sensitivity analysis indicates that relatively small increases in ethanol price are needed to make production viable.

TITLE: Water and Measuring Demand (Moderator: Krishna Paudel, Louisiana State University).

The U.S./Mexico Water Dispute: Impacts of Increased Irrigation in Chihuahua, Mexico. *C. Parr Rosson, III, Aaron Hobbs, and Flynn Adcock, Texas A&M University.*

Mexico accumulated a water debt of 1.5 million acre ft. to the United States while increasing its use of irrigation water by 14% in Chihuahua. This paper documents recent trends in irrigated production of major crops grown in Chihuahua, estimates irrigation water use in Chihuahua, and offers policy alternatives.

Irrigation Efficiency, Water Storage, and Long-Run Water Conservation. *Joel R. Hamilton, University of Idaho, and David B. Willis, Texas Tech University.*

A spreadsheet-based simulation model is used to illustrate the complex relationships between irrigation efficiency, water banking, and water conservation under the prior appropriation doctrine. Increases in irrigation efficiency and/or establishments of water banks do not guarantee water conservation. Conservation requires a reduction in the quantity of water consumptively used by agriculture.

TITLE: Modeling the Supply Function (Moderator: Marion Simon, Kentucky State University).

"Irrational" Planting Behavior as Rational Expectations of Government Support. *Dmitry V. Vedenov, University of Georgia.*

The paper outlines an approach to the estimation of the rational expectations acreage response model for U.S. soybeans that explicitly takes into account government payments. Numerical methods are used to recompute the model equilibrium at each iteration of the log-likelihood optimization routine. Estimation results allow one to measure market distortion introduced by the government support programs.

Endogenizing Government Behavior: Empirical Study of the U.S. Dairy Price Support Program. *Mary A. Marchant and Baohui Song, University of Kentucky.*

U.S. policymakers' choice of the support price for manufactured dairy products is a political decision and affects the economics of the U.S. dairy industry. In this research, economic, political, domestic, and international variables influencing U.S. policymakers' decisions were identified through the empirical estimation of a behavioral and a criterion function model.

Farm Mechanization and the Farm Labor Market: A Socioeconomic Model of Induced Innovation. *Orachos Napasintuwong and Robert D. Emerson, University of Florida.*

A cost function approach of induced innovation is used to measure the biases in U.S. agricultural technology between 1969 and 1999. The rate of technological change is explained by socioeconomic variables. The post-IRCA results show that an increasingly illegal workforce significantly induces contract labor using technology but significantly induces capital-saving technology.

TITLE: Land Value (Moderator: Kevin Dhuyvetter, Kansas State University).

Alternative Measures of Location for Rural Land Market Analysis. *Patricia Soto, Lonnie*

Vandeveer, Steven Henning, and Huizhen Niu, Louisiana State University.

Empirical research has used various distance variables to measure the effect of location on land values. This study tests alternative models using different distance measures such as travel time, straight line, and road distance that affect land values. The model that best fits the data is the travel time model.

Estimating the Economic Value Associated with Citrus Trees Lost to Citrus Canker. *Thomas H. Spreen, Ronald P. Muraro, and Marisa L. Zansler, University of Florida.*

The economic loss to citrus growers in Florida associated with tree eradication due to citrus canker, a bacterial disease that harms citrus trees, is estimated, accounting for replacement costs and income loss until the revenue generated from the replaced trees reaches the value of the destroyed grove.

Determinants of Kansas Agricultural Land Values. *Leah Tsoodle, Bill Golden, and Allen Featherstone, Kansas State University.*

The objective of this analysis is to examine the role of factors in determining the sale price of agricultural land in Kansas using hedonic modeling. This study uses multiple estimates to test the robustness of larger regional models. Preliminary results indicate that county models vary significantly from state models.

Determinants of Statewide Land Development in the United States. *Scott R. Templeton and Ritu Sharma, Clemson University.*

A reduced-form model of developed land area was estimated with data from 49 states for 1982–1997. Increases in a state's population and inflation rate induce land development. The area of developed land is also higher in states with larger areas of water and in regions with higher educational performance. Growth in real per capita income does not necessarily affect land development.

TITLE: Extension and Producer Training (Moderator: James Bukenya, Alabama A&M University).

The Provision of Risk Management Educational Training by Extension Educators. *Oscar Vergara, Steve Martin, and Keith H. Coble, Mississippi State University; George F. Patrick, Purdue University; Thomas O. Knight, Texas Tech University; and Alan E. Baquet, University of Nebraska.*

Results from a tobit model showed a complementary relationship between extension educators' time devoted to agricultural responsibilities and the provision of risk management training courses. Extension educators who perceive farmers to be knowledgeable of risk management decrease their educational supply. But supply increases when extension educators perceive themselves as knowledgeable of risk management tools.

Effective Extension Programming for Rural Development. *Mike D. Woods and Gerald Doeksen, Oklahoma State University.*

This paper addresses the possible components of a rural/community development extension program. Issues such as subject matter selection, research base, and linkages with outside organizations are discussed. The role of rural/community development in an agricultural economics academic setting is analyzed. Recommendations for successful efforts are presented.

Small Livestock Farmer Participation in the Making of Agricultural Policy Decisions in Trinidad and Tobago. *Patricia La Borde Grant and David P. Anderson, Texas A&M University.*

A survey of small livestock farmers was used in a two-stage process to measure factors that affected their attitude toward participation in agricultural policy decision making. Women and members of farmer organizations were most likely to participate. Public consultations

and cooperative and association contacts were the preferred form of communication.

An Interactive Illustration of Farm Program Provisions. *Steven L. Klose, Keith Schumann, George M. Knapek, James W. Richardson, Joe L. Outlaw, and David P. Anderson, Texas A&M University.*

Explaining the details and the impacts of government program provisions to agricultural producers can be a challenge for extension educators. This paper introduces a visual interactive tool that demonstrates the calculations of government payments established in the 2002 Farm Bill. Additionally, the paper explains how the tool is created in Microsoft Excel and may be used in other areas.

TITLE: Behavior of Ag Business Firms (Moderator: Forrest Stegelin, University of Georgia).

Analyzing Linkages between Nursery Farm Growth Rates, Structural Variables, and Firm Characteristics. *Roberto Navajas, Roger A. Hinson, and Raul A. Pinel, Louisiana State University.*

Production of ornamental plants is one of agriculture's successes. However, concentration of production and retailing is occurring, bringing additional competitive pressure. An econometric model is used to explain growth rate using a cross-sectional data set from 2001, self-reported growth rates for nursery firms, and firm and operator characteristics.

An Analysis of the Relationship between Supply-Chain Management Practices and New Product Development Time: A Case of the North American Confectionery Manufacturers. *Aslihan D. Spaulding and Timothy A. Woods, University of Kentucky.*

This study reports findings of a survey of the North American Confectionery Manufacturers. Analysis focuses on the impact of buyer-supplier involvement on new product development time, the frequency of and trends

in buyer and supplier involvement, and the type of development activities in which buyers and suppliers are involved.

Investment Decisions in New Generation Cooperatives: A Case Study of Value-Added Products (VAP) Cooperative in Alva, Oklahoma. *Hubertus Puaha and Daniel S. Tilley, Oklahoma State University.*

Explaining the phenomena of new generation cooperatives development is important to understand why some producers invest in new generation cooperative investment and some do not. Results from tobit analysis suggest that nonmonetary benefits from investment are significant factors that influence producer investment decisions in new generation cooperatives.

Shrimp Purchasing Behavior and Preferences of Seafood Dealers. *Ferdinand F. Wirth and Kathy J. Davis, University of Florida.*

The U.S. shrimp farming industry has been expanding in the southern United States in response to strong market demand for shrimp. U.S. farmers have difficulty competing with imports in frozen shrimp commodity markets. This study identified the shrimp purchasing behavior and preferences of seafood wholesalers and retailers in nine southeastern U.S. states to provide shrimp farmers the market information needed to develop successful marketing strategies. The results of a mail survey, including a conjoint analysis experiment, of the seafood dealers are presented and discussed. There appears to be strong market potential for fresh, farm-raised shrimp in a variety of sizes, but there is considerable dealer resistance to the whole or live, head-on shrimp form. Shrimp farmers interested in successfully marketing to seafood dealers may be required to process their product in order to offer shrimp tails rather than whole shrimp.

TITLE: Manure Handling and Utilization (Moderator: Duncan Chembezi, Alabama A&M University).

Manure Handling Costs and the Competitiveness of Pork Production. *Dale Leuck, Economic Research Service, USDA, and Kelly Zering, North Carolina State University.*

In general, restrictions on manure handling appear likely to shift competitive advantage in integrated hog production toward Utah, especially at large-scale levels. Requiring manure storage to be lined and covered may increase already high costs of manure handling in North Carolina at all scale levels. Requiring manure be land applied on a phosphorus basis could raise handling costs in Iowa above those in North Carolina at scales of 26,000 marketed hogs but have no effect at the smallest scale.

Economic and Environmental Evaluation of Dairy Manure Utilization for Year Round Crop Production. *Zana C. Somda, J.R. Allison, L.O. Ely, G.L. Newton, and M.E. Wetzstein, The University of Georgia.*

A linear programming model was developed to evaluate the economic performance of a dairy operation considering ration requirements, manure and crop nutrients balance, crop and milk production costs, and crop values. Results show the effects on cow carrying capacity and on farm profits of P-based and N-based manure application rates.

TITLE: Financial Analysis and Performance (Moderator: Greg Ibendahl, University of Kentucky).

Risk Evaluation Periods and Strategic Farm Capital Adjustment Decisions. *Cesar L. Escalante, University of Georgia, and Peter J. Barry, University of Illinois.*

This study evaluated the significance of different lengths of the evaluation period in forming business risk expectations. Results suggest that farmers adopt a myopic perspective in making risk-balancing decisions. Farmers also tended to combine risk-balancing plans, specialization, and market revenue–enhancing strategies during the financially stressed conditions of the 1980s, while compatibility between risk-balancing, crop diversification, and insurance protection plans effectively reduced risk in the 1990s.

The Usefulness of Managerial Information in a Financial Ratio-Based Forecast of Farm Financial Success. *Erik G. Dean, Kevin C. Dhuyvetter, and Terry L. Kastens, Kansas State University.*

Kansas Management, Analysis, and Research (KMAR) data from 1973 to 2000 were used to estimate a traditional model with financial and risk measures versus an expanded model with added managerial variables (yields, prices, costs, farm size, and percentage of acres rented). Comparisons show that managerial information is useful in predicting farm financial success.

Using Economic Value Added (EVA) to Examine Farm Businesses. *Gregory Ibendahl and Ronald Fleming, University of Kentucky.*

The four profitability measures recommended by the Farm Financial Standards Task Force have limitations for examining wealth creation. Economic Value Added (EVA) has some advantages over other financial ratios because it fully accounts for all resources. This article examines the EVA metric to determine if it provides better information for farmers. Factors that help predict EVA are also examined.

Impact of Farm Size and Type on Competitive Advantage. *Jeffery D. Morgan and Michael R. Langemeier, Kansas State University.*

This study examined sustained competitive advantage for a sample of Kansas farms. Whole-farm data for 224 farms with continuous data from 1982 to 2001 were used. Overall efficiency was computed for each farm and year. Sixty farms exhibited significantly above-average overall efficiency levels (top category) or had a competitive advantage. Seventy-six farms exhibited significantly below-average overall efficiency levels (bottom category) or had a competitive disadvantage.

Farms in the top category were significantly larger, received relatively more of their gross farm income from dairy and swine production, had significantly lower expense ratios, and had significantly higher profit margins.

TITLE: Consumer Behavior (Moderator: Steve Klose, Texas A&M University).

Public and Private Food Assistance Choices of Food Needy Families. *Gandhi R. Bhattarai and Patricia A. Duffy, Auburn University.*

A bivariate probit model was used to determine public and private food assistance participation among the population below the 125% poverty level using the Current Population Survey data. Food stamp use and food pantry use were complements. Household income, food insecurity status, household structure, and rural residence affected participation decisions.

Food Security and Its Effect on Consumers' Food Bill. *Forrest Stegelin, University of Georgia.*

Food security focuses on quality, safety, and availability. How concerned are the consumers? Only 9% of consumers expressed concern. Retailers were most accountable for food safety; producers and food processors were most responsible for food quality. Identifying and monitoring points of vulnerability would add $225 to the consumer's food bill.

Taste Panel Evaluations of the Acceptability and Willingness to Pay for Alternative Blends of Ground Meats. *Alvin Schupp, Igor Makienko, Jeffrey Gillespie, Witoon Prinyawiwatkul, Carol O'Neil, and Noemi Pavon, Louisiana State University.*

An untrained consumer panel evaluated the acceptability, willingness to purchase, and pricing of several different combinations of fresh ground beef and ground turkey. Important product attributes were flavor and texture, along with previous at-home experience with the combined product. Thirty percent turkey appears to be the maximum for acceptability.

TITLE: Community and Business Development (Moderator: Chris Clark, The University of Tennessee).

The Linkage between Quality of Life and Rural Development in West Virginia: A Cross-County Empirical Analysis. *James O. Bukenya, Alabama A&M University, and Tesfa G. Gebremedhin and Peter V. Schaeffer, West Virginia University.*

This paper examines the relationship between quality of life, economic development, and several socioeconomic variables. The analysis utilizes empirical data obtained from a survey of a random sample of more than 2,000 residents in 21 counties in West Virginia and spatial data generated by geocoding survey respondents' addresses and hospital locations. The findings are consistent with the theoretical predictions and indicate a simultaneous relationship between quality of life and rural development. Also, the results support the notion that influences drawn regarding substantive issues often change when spatial dependence is taken into account.

The Role of Technology Centers in Rural Development: A Case Study of the Wallace Community Technology Center. *Jaleel Kenyatta Nash, James Obadiah Bukenya, and Joseph Befecadu, Alabama A&M University.*

Community Technology Centers (CTCs) have been introduced in rural areas and disadvantaged communities by schools, government programs, and private businesses as a way to provide training and access to information technology to rural people that they have previously been denied. Recently, such CTCs have been introduced to the Wallace communities in rural Alabama. In retrospect, this paper presents a case study examining the role of CTCs in closing the information gap in rural Alabama. The findings show steady increases in participation and enrollment over time, but perhaps the most interesting obser-

vation is that 95% of the participants at the centers are African American, a segment of the population that has been lagging behind in terms of technological know-how in rural Alabama as well as in other rural parts of the nation.

Analysis of Site-Specific Determinants of Location Decisions for the U.S. Broiler Industry. *Pramod R. Sambidi and R. Wes Harrison, Louisiana State University.*

Conjoint analysis is applied to study the attributes affecting the location of a broiler complex. Distances between feed mills and growers, feed costs, and community attitudes toward the broiler industry are found to be the most important factors influencing the location decision of broiler growing, feed mills, and broiler processing, respectively.

Determinants of Household Participation in Rural Development Projects. *Daniel Ngugi, University of Georgia; Denford Mukundu, Africa University; James Epperson, University of Georgia; and Yvonne Acheampong, American Express.*

This paper provides evidence for determinants of household participation in rural development projects. Study findings are based on qualitative analysis and logistic estimation of a random utility model. Households with higher incomes appear less likely to participate; however, those with more labor are more likely to participate. Availability of activities of interest to community members could enhance participation.

TITLE: Machinery Economics (Moderator: Curtis Lacy, University of Georgia).

Per Unit Costs to Own and Operate Farm Machinery. *Aaron Beaton, Kevin Dhuyvetter, and Terry Kastens, Kansas State University.*

Entropy and jackknife estimation procedures were used to find that custom rates are 20.3% lower than the true cost to own and operate machinery for an average-sized Kan-

sas farm. A method was then developed to estimate a farm's total machinery costs with which to benchmark machinery costs.

Economies of Size of a Coordinated Biorefinery Feedstock Harvest System. *Sara Thorsell, Francis M. Epplin, and Raymond L. Huhnke, Oklahoma State University.*

The objective of this research is to determine the cost to harvest lignocellulosic biomass, such as crop residue and perennial grasses, for use as biorefinery feedstock and to determine the potential economies of size that might result from a coordinated structure. The estimates show that substantial size economies are possible.

Economic Feasibility of Precision Irrigation in the Northern Texas High Plains. *Lal K. Almas, West Texas A&M University; Stephen H. Amosson and Thomas Marek, Texas A&M University; and W. Arden Colette, West Texas A&M University.*

The benefit of changing to variable rate irrigation (VRI) from uniform application methods needs to be assessed for technology adoption. Precision irrigation involves water application in optimum amounts. Results indicate that the feasibility of precision irrigation depends on field variability, crop value, economies of scale, and useful life of the equipment.

Analysis of Breakeven Yield Gains and Input Cost Savings for a Cotton Yield Monitoring Information System. *James A. Larson, Burton C. English, Roland K. Roberts, and Rebecca L. Cochran, The University of Tennessee.*

Cotton yield monitors are a new technology, and their costs have not been thoroughly evaluated. This research evaluated the yield gains and input savings required to cover the cost of a monitor. Spreading monitor costs over multiple VRT decisions reduces the required yield gain or cost savings for any one decision.

TITLE: Estimating Production Functions (Moderator: Kenneth Stokes, Texas A&M University).

Incorporating Risk in Efficiency Analysis. *Saleem Shaik, Mississippi State University, and Glenn A. Helmers, University of Nebraska.*

Using a nonparametric programming approach, our contribution is to examine the impact of incorporating risk in efficiency analysis of continuous and rotation cropping systems using Nebraska cropping system data, 1986–2000. Results indicate that continuous systems are the most efficient and that the inclusion of risk reduces efficiency.

Landlord Net Income Estimation under Limited Irrigation. *Bill Golden, Leah Tsoodle, and Terry Kastens, Kansas State University.*

Available irrigation water and rental arrangement can dramatically affect landlord net income. This model links nonlinear least-squares yield estimation to a spreadsheet application. The objective is to develop a flexible system to evaluate the impact of yield response and rental arrangement on landlord net income with limited irrigation.

Assessing the Louisiana Shrimp Fishing Fleet Technical Efficiency Using a Bayesian Stochastic Cost Frontier Model. *Jorge L. Icabalceta and David R. Lavergne, Louisiana Department of Wildlife and Fisheries.*

A Bayesian stochastic cost frontier analyzed the shrimp fleet of Louisiana. A translog cost function was estimated. Two hundred sixty-nine vessels were included and subgrouped by length (≤20 ft., 21–40 ft., 41–60 ft., and >60 ft.) and net type (trawl, skimmer, and butterfly). Results indicated no influence of these factors on cost efficiency.

Linear Response Stochastic Plateau Functions. *Gelson Tembo, Michigan State University, and B. Wade Brorsen and Francis M. Epplin, Oklahoma State University.*

A method of estimating a linear response stochastic plateau function is developed and used to determine optimal levels of nitrogen fertilization for wheat. Under the stochastic plateau model, optimizing behavior implies nitrogen levels that are different from those under the linear plateau model, depending on the output-input price ratio relative to a threshold level.

TITLE: Demand for Services and Factors Impacting Survival (Moderator: Ernest Bazen, The University of Tennessee).

Identifying an Efficient Feed Distribution System. *Marty J. McVey, AGRI Industries, and Phillip Baumel, Iowa State University.*

To produce livestock efficiently, integrators have constructed high-volume megamills to feed their confinement feedlots. This paper demonstrates that local feed mills will be forced to decide whether feed will be a profit or cost center in their future operations, depending on how they choose to compete with the megamills.

Refrigerated Trucking in the Information Age. *Richard Beilock, University of Florida, and James DelCiello, Agricultural Marketing Service, USDA.*

Trends in refrigerated trucking since the 1980s were examined. Owner-operators have maintained their importance, but they are more likely to operate under leases. Equipment replacement and utilization rates are good. Finally, drivers express high levels of satisfaction with driving and compensation, and the large majority intend to remain in the profession.

The Provision of Risk Management Educational Training by Extension Educators. *Oscar Vergara, Steve Martin, and Keith H. Coble, Mississippi State University; George F. Patrick, Purdue University; Thomas O.*

Knight, Texas Tech University; and Alan E. Baquet, University of Nebraska.

Results from a tobit model showed a complementary relationship between extension educators' time devoted to agricultural responsibilities and the provision of risk management training courses. Extension educators who perceive farmers to be knowledgeable of risk management decrease their educational supply. But supply increases when extension educators perceive themselves as knowledgeable of risk management tools.

Impact of Strategic Changes on the Performance of Trucking Firms in the Agricultural Commodity Transportation Market. *Albert J. Allen and Haiyuan Wang, Mississippi State University; Safdar Muhammad, Tennessee State University; Gerald Mumma, Center for Disease Control and Prevention; and A.A. Farhad Chowdhury, Mississippi Valley State University.*

Econometric models were developed to estimate factors that influence strategic changes and evaluate the impacts that strategic changes will have on the subsequent performance of agricultural commodity trucking firms. Results show that GDP and change in firm size will have positive impacts on strategic changes made by firms.