

# Selected Papers

*Chairs: Roderick M. Rejesus and Jaime Malaga, Texas Tech University*

**TITLE: Financial, Marketing, and Pricing Issues in the Beef-Cattle Industry** (Moderator: Gregg Ibendahl, Mississippi State University).

**Is the Thinly-Traded Butter Futures Contract Priced Efficiently?** *Fabian Tondel and Leigh J. Maynard, University of Kentucky.*

After over 7 years of trading, the Chicago Mercantile Exchange butter futures contract remains thinly traded, possibly impeding price discovery. Pricing efficiency was assessed with cointegration techniques. Market efficiency could not be rejected up to 2 months prior to expiration. Illiquid markets reduce hedging performance, which in turn discourages liquidity growth.

**Management of the Cow-Calf Enterprise and the Price Grid: Impact on Financial Risk.** *Tom Anton, University of Florida, and Peter Barry, University of Illinois at Urbana-Champaign.*

An examination of three alliance-based pricing grids showed an increase in the expected return and relative variability over traditional strategies. Controlling for improved management techniques resulted in a reduction in variability accompanied by increased expected returns when cattle herd characteristics were carefully matched to the pricing grids.

**TITLE: Pricing, Capitalization, and Income Risk Reduction Among Alternative Farmland Control Arrangements** (Moderator: Archie Flanders, University of Georgia).

**Comparing Land Values and Capitalization of Cash Rents for Cropland and Pasture in Georgia.** *Archie Flanders, Fred White, and Cesar Escalante, University of Georgia.*

Nonagricultural factors affect land values to cause a divergence of discounted cash rents for agricultural land and land values. Focus was given to the portion of land values attributable to discounted cash rents. Unique characteristics for cropland and pasture led to differences in capitalization rates. Nonagricultural factors were greatest for pasture.

**Marginal Effects of Land Characteristics and Purchase Factors on Rural Land Value.** *Rebecca S. McLaren, Steven A. Henning, and Lonnie R. Vandever, Louisiana State University.*

Hedonic models estimate the marginal effect of land characteristics and factors that contribute to a purchase decision on rural land values in submarkets of north Louisiana. Although size of tract and mix of land use have expected effects on rural land values, forces that motivate the buyer also affect price.

**An Evaluation of Alternative Cash, Share, and Flexible Leasing Arrangements for South Carolina Grain Farms.** *Todd Davis, Clemson University.*

A simulation model incorporating stochastic yields, prices, and government payments generated returns for landowners and tenants under cash, share, and flexible leases. Corn, soybean, wheat, cotton, peanut, and wheat/double-cropped soybean enterprises were

studied. Alternatives were evaluated by mean return, coefficient of variation, and certainty equivalent analysis.

**TITLE: Impact of Business/Ownership Structure and Farm Policy Changes on the Feasibility and Viability of Farm and Farm-Related Enterprises** (Moderator: Forrest Stegelin, University of Georgia).

**Feasibility of an Oklahoma Fresh Greens and Cowpeas Packing Cooperative.** *Germain N. Pichop, Rodney Holcomb, Brian A. Kahn, and Daniel S. Tilley, Oklahoma State University.*

Producers in eastern Oklahoma are considering a cooperative to further process fresh greens and cowpeas. A business plan for a new-generation cooperative to package greens and shell cowpeas was estimated by an updated version of PACKSIM. The updated model also incorporates @RISK®, to assess risks in the financial analysis.

**Factors Affecting the Profitability of Golf Courses in Georgia.** *Pierre Boumtje, Southern Arkansas University; and Wojciech Florowski, Gil Landry, and Cesar Escalante, University of Georgia.*

We employed ordinary least squares and survey data to quantify the influence of golf course features on profitability. Results showed that the age of the facility; its location, size, and ownership type; and the number of rounds played influenced the gross margin as a result of additional spending on maintaining the playing surface.

**TITLE: Farm Financial Structure Decisions and the Delivery of Farm/Rural Credit Services** (Moderator: Cesar Escalante, University of Georgia).

**Governance and Performance of Microfinance Organizations: Evidence from Central and Eastern Europe and the Newly Independent States.** *Valentina Hartarska, Auburn University.*

This paper studied how various governance mechanisms affected the performance of microfinance institutions in Central and Eastern Europe and the Newly Independent States. Results showed that managerial compensation matters; that market forces are becoming an important disciplining device; and that board size, diversification, and independence affect both outreach and sustainability.

**Explanation of Regional Variations in Demand for Farm Credit in Missouri.** *Tara Ashlock and Arbindra Rimal, Southwest Missouri State University.*

This study analyzed the demand for farm credit in Missouri. Results suggested that financial leverage, government payments, occupation of farm operators, average farm acreages, value of land and buildings, and type of farm operation had a significant influence on farm credit usage. The study highlighted the potential for credit rationing.

**Farm Financial Structure Decisions Under Different Intertemporal Risk Behavioral Constructs.** *Cesar Escalante, University of Georgia, and Carl Nelson, University of Illinois at Urbana-Champaign.*

An alternative unconstrained expected-utility maximization model of farm debt was developed with the use of the location-scale parameter condition that incorporates the empirically validated hypotheses of decreasing absolute and constant relative risk aversion. Simulation optimization results based on the old and new model versions provided interesting implications for various levels of risk aversion and initial equity investments.

**TITLE: Economic Analysis of Precision Farming Services/Practices, Food Labeling Requirements, and Asset Investment Decisions Among Grain Farms** (Moderator: John Westra, Louisiana State University).

**The Coase Theorem or the Coasian Lens?** *James Barnes, Oklahoma State University,*

and Harvey S. James and Nicholas G. Kalaitzandonakes, *University of Missouri-Columbia*.

We develop a property rights–transaction costs framework called the Coasian Lens (CL). We argue that the CL captures Coase's seminal ideas more closely than the Coase Theorem. We use the CL to examine how regulation of genetically modified organisms might affect contract structures in the global agri–food chain.

**An Economic Analysis of Unit-Train Facility Investment.** *Philip Kenkel, Shida Hennebery, and Haernani Agustini, Oklahoma State University.*

Rail rate advantages for multicar shipments (unit-train) have led grain cooperatives and other agribusinesses to invest in high-speed rail load-out facilities. This study analyzed the feasibility of a 100-car unit-train loading facility. The effect of grain volume, unit rate savings, discount rates, and grain-cleaning costs were also examined.

**Is it Feasible to Develop an Agribusiness Selling Precision Farming Service to Farmers?** *David Debertin and Thomas Logsdon, University of Kentucky.*

With the introduction of variable-rate technology, farmers have the capability to decrease input costs, increase output, or both. Not all farmers can justify purchasing the equipment, therefore relying on agribusiness firms to provide precision farming services. This study was conducted to determine the feasibility of operating such an agribusiness.

**Will Variable-Rate Application Technology Pay in Tennessee?** *Rebecca Cochran, James Larson, Roland Roberts, and Burton English, University of Tennessee.*

Costs differ among variable-rate application systems. Most feasible in Tennessee are the one- and two-bin spreader beds mounted to existing chassis with an owner-added variable-rate controller and global positioning sys-

tem. Truck spreader systems required more acreage or larger custom charges, making it difficult to break even and earn a profit.

**TITLE: Environmental and Economic Implications of Management Practice Alternatives** (Moderator: Jeff Johnson, Texas Tech University).

**Dynamic Comparison of Systems for Irrigation and Effluent Application.** *Rita Carreira, A.L. Stoecker, J.A. Hattey, and M. Kizer, Oklahoma State University.*

The Dynamic Programming model results indicated SDI outperformed sprinkler irrigation in terms of net present value of net returns and reduced phosphorus accumulation in soil. Soil nitrogen accumulation in soil was greater with SDI. Groundwater depletion was projected to occur at the end of year 36 with center pivot irrigation.

**An Analysis of Cost Effective Management Practices to Manage Water Pollution Problem: A Case of Tobesofkee Creek, Georgia.** *Nirmala Devkota, Jeff Mullen, Jimmy Bramblett, Murali Adhikari, and Laxmi Paudel, University of Georgia.*

A cost minimization model was used to find the minimum cost and environmental friendly management practices (MCEFMP). Use of MCEFMP in cattle production seems to be the most cost effective means of reducing water pollution, with a marginal cost of \$1,200 compared with the use of MCEFMP on other agricultural operations.

**Farming Systems Used in U.S. Cotton Production, 1997 and 2000: Implications for Resource Use and the Environment.** *Lee Christensen, USDA-ERS.*

Nutrient management and pest management practices employed by upland cotton producers are presented and related to their socio-economic characteristics, farm financial characteristics and regional differences. A preliminary analysis of data from the 1997, 1999

and 2000 cotton Agricultural Resources Management Surveys (ARMS) shows significant increases in the use of genetically modified seed varieties such as Ht, Bt, and stacked. Use of fertilizer and pesticides declined on a per acre basis over the same period although this does not occur uniformly across all forms of operation.

**TITLE: Risk and Damage Issues in Environmental Management** (Moderator: Martin Redfern, University of Arkansas).

**Evaluating the Economic Costs of a Potential Zebra Mussel Infestation: A Survey of Consumptive Surface Water Users in Florida.** *Frederick Rossi, Damian Adams, and Donna Lee, University of Florida.*

Zebra mussel (*Dreissena polymorpha*) colonization of the eastern United States has resulted in large mitigation expenditures spent by surface water users to combat infrastructure impairment caused by this invasive species. A "cost transfer" approach was used to generate estimates of potential mitigation costs of zebra mussels in an area of Florida.

**TITLE: Evaluation of Policy Effectiveness** (Moderator: David Willis, Texas Tech University).

**Evaluation of Water Conservation Policy Alternatives for the Southern High Plains of Texas.** *Jeffrey W. Johnson, Phillip N. Johnson, David B. Willis, and Eduardo Segarra, Texas Tech University.*

Three alternative groundwater conservation policies were examined for their effect on the regional economy of the southern High Plains of Texas with the use of nonlinear optimization models and an input-output model. Restriction of drawdown of the aquifer was found to be more effective than proposed water use fees.

**Towards a Comprehensive Regional Water Policy Model for the Texas High Plains.** *Bis-*

*waranjan Das, David B. Willis, and Jeffrey W. Johnson, Texas Tech University.*

A 19-county, 50-year dynamic farm-level model of irrigated crop production was linked to a detailed hydrology model for purposes of improving policy estimates of economic cost and associated water savings of groundwater conservation management policies. Spatial and temporal desegregation improved the accuracy of benefit-cost policy estimates and allowed planners to target cost-effective regions.

**TITLE: Estimation and Measurement Issues** (Moderator: Gandhi Bhattarai, Auburn University).

**Willingness to Pay for Public Goods: A Two-Stage Hedonic Housing Model of Demand for Neighborhood Safety, School and Environmental Quality.** *Gandhi Bhattarai, Ram Pandit, and Diane Hite, Auburn University.*

A two-stage hedonic price and demand model was developed to estimate the willingness to pay for school quality, neighborhood safety, and environmental quality in six Ohio metropolitan areas. Environmental quality and public safety were complements, whereas school quality and house size were substitutes for them.

**Hedonic Estimation of Southeastern Oklahoma Forestland Prices.** *Stephen A. King, San Diego State University, and Dean F. Schreiner, Oklahoma State University.*

Forestland is a composite good, the price of which varies with its characteristics, such as its ability to produce timber and its proximity to markets. Sales of predominately forested land in southeastern Oklahoma were examined to better understand and quantify the influences of physical and spatial characteristics on sales prices.

**Alternative Methods of Forecasting Agricultural Water Demand: A Case Study on the Flint River Basin in Georgia.** *Swagata*

*Banerjee, Lewell Gunter, Jimmy Bramblett, and Michael E. Wetzstein, University of Georgia.*

Future agricultural water demands were determined by employing forecasts from irrigated crop acreage models. Forecasts of prices and yields and variances and covariances of crop returns were employed for forecasting crop acreage. Results provided insights into the value of rational expectations in forecasting agricultural water demand.

**TITLE: Local Economic Development** (Moderator: James Bukenya, Alabama A&M University).

**Economic Impact Evaluation of Global Marketing Support Services—An Exports Assistance Program on the Economy of Arkansas.** *Sreedhar Upendram, Kansas State University; and Preston La Ferney, Wayne Miller, Jennie Popp, and Daniel Rainey, University of Arkansas.*

This study determined the effect of Global Marketing Support Services—an exports assistance program—in assisting 13 small and medium-sized businesses to export. The total effect of exports (direct, indirect, and induced) on added value, employment, labor income, and taxes in Arkansas were estimated with the use of Impact Analysis for Planning (IMPLAN).

**The Influence of Quality of Life Amenities on Rural Development in Alabama.** *Nzaku Kilungu and James Bukenya, Alabama A&M University.*

A structural model of regional economic growth was estimated by a two-staged least squares method to determine the role of quality of life attributes on rural economic growth. Selected socioeconomic indicators were constructed mainly from U.S. Census Bureau data and regressed on three simultaneous equations explaining the major proxy indicators of growth in Alabama: population, employment, and per capita income growth rates. Results

showed strong relationship between initial conditions, quality of life measures, and rural growth.

**Public Perceptions Regarding Growth of the Dairy Industry in Illinois.** *C. Matthew Rendleman, William C. Peterson, Livy M. Coe, Phil Eberle, and Kenneth G. Griswold, Southern Illinois University.*

Community opposition to dairies has altered location decisions by milk producers. Our objective was to identify residents' perceptions toward dairy by individual and community characteristics. A mail survey of residents of dairy counties and nondairy counties was conducted. Dairy county residents were more willing to live close to a dairy.

**The Impact of the Ogallala Aquifer on the Development of the Texas Panhandle and the Evaluation of Strategies for Addressing the Effect of Aquifer Decline on the Agricultural Production and the Rural Community.** *Lal K. Almas, W. Arden Colette, and Zhen Wu, West Texas A&M University.*

The Ogallala aquifer depletion is threatening the future development of agriculture and economy of the area. Water management policy, development of value added industries and transportation and distribution centers, and expansion of medical and retirement facilities could significantly reduce migration from rural communities and add economic stability to the region.

**TITLE: Community and Rural Development** (Moderator: Duncan Chembezi, Alabama A&M University).

**An Assessment of the Impact of the Rural Empowerment Zone and Enterprise Community Program on Texas' Rio Grande Valley.** *Joselito K. Estrada, University of Texas at Brownsville, and Albert J. Allen, Mississippi State University.*

A Human Development Index (HDI) was developed to analyze the effect of the Rural

Empowerment Zone program on counties in the Texas Rio Grande Valley. Results of the analysis indicated that minimal development has taken place in these counties. This outcome is attributable to several institutional factors.

**Implications of Capital-Intensive Development Interventions for Communal Resource Owners: The Case of Communal Farmers in Ecuador.** *Maria Jose Castillo and Richard Beilock, University of Florida.*

The introduction in Ecuador of a primary irrigation infrastructure into a communal setting, in which land users did not fully control the land and had effectively no access to credit, produced a sell-off of nearly all irrigable lands. The change in land reservation prices between buyers and sellers was analyzed.

**Motivations for Social Capital.** *Jeffrey L. Jordan, University of Georgia.*

This paper investigates the motives and outputs of social capital with the use of a random survey instrument conducted in Georgia to distinguish self, sympathy, and norms as motivating behavior and to correlate that behavior with the consequences of social capital in terms of community and associational activity.

**TITLE: Model and Functional Form Specification** (Moderator: Octavio Ramirez, New Mexico State University).

**Two Methods of Estimating Semiparametric Component in the Environmental Kuznet's Curve (EKC).** *Krishna Paudel and Hector Zapata, Louisiana State University.*

This study compared parametric and semiparametric smoothing techniques to estimate the environmental Kuznet curve. The ad hoc functional form, in which income is related either as a square or a cubic function to environmental quality, was relaxed in search of a better nonlinear fit to the pollution-income relationship for panel data.

**Examining Efficiency of Government Grading in a Hedonic Price Model for Louisiana Rough Rice.** *Sung No, Southern University and A&M College, and Michael E. Salassi and Wayne Gauthier, Louisiana State University.*

This study estimated a hedonic price model for Louisiana rough rice prices. GLS estimates of the model suggested that the efficiency of current government grading would be improved if additional quality characteristics, such as PECK, are factored into the grading and if more diverse grading levels are assigned to rice.

**Analysis of Selected Vegetables and Fruits in U.S. Market: An Application of Demand Systems.** *Sikavas NiLampang, John J. Van Sickle, and Edward A. Evans, University of Florida.*

Researchers have been preoccupied with finding ways to select among various functional forms of demand systems. This study addressed this concern by proposing a formulation that obviates the need to choose among various functional forms. The approach was tested with four functional forms of the direct and inverse demand systems.

**TITLE: Forecasting and Risk Measurement Techniques** (Moderator: Bailey Norwood, Oklahoma State University).

**Using the Random Parameters Logit Model to Combine Revealed and Stated Preference Data.** *Brett Gelso, U.S. Environmental Protection Agency, and Jeffrey M. Peterson, Kansas State University.*

Recent literature has combined revealed preference (RP) and stated preference (SP) data in the multinomial logit model to estimate the value of environmental goods. Our analysis applies an alternative method to combine RP and SP data that takes into account the heterogeneity in both the observable and unobservable components of utility.

**Forecasting Limited Dependent Variables: Better Statistics for Better Steaks.** *Bailey Norwood, Oklahoma State University; Jason Lusk, Purdue University; and Wade Brorsen, Oklahoma State University.*

This study described the large and small sample properties of two forecast evaluation techniques for limited dependent variables: receiver-operator curves and out-of-sample log likelihood functions. The methods were shown to provide identical model rankings in large samples and similar rankings in small samples. Both methods improved profits from cattle marketing.

**Comparing Revenue Risk Reduction of a Rainfall Index Insurance Contract Using Quantile-VaR and Dispersion Risk Measure.** *Ibrahima Bamba, University of Kentucky.*

Tail risk measures, such as value at risk (VaR), are being advocated as conceptually appropriate statistical and economical alternatives to dispersion measures of risk. VaR and dispersion risk measures were applied to assess the revenue risk reduction potential of an index rainfall insurance. VaR and dispersion measures indicated that a rainfall index insurance contract reduces revenue risk.

**TITLE: Teaching and Extension** (Moderator: John Robinson, Texas A&M University).

**Human Resources and Undergraduate Agricultural Economics Curricula.** *Michael Oldfather and Bryan Schurle, Kansas State University.*

This paper focuses on determining the core of undergraduate human resource economics and evaluating the coverage of these topics in undergraduate agricultural economics texts and curricula. We include survey results that provide information on undergraduate students' exposure to and their preparation regarding human resource issues in their chosen careers.

**How Extension Programming Can Provide Useful Input for Land Tenure and Production Decisions: Projected Cost Structures and Decision Support Aids for Texas Coastal Bend Rice Landlords and Producers.** *Lawrence Falconer, Richard Jahn, and David Anderson, Texas Cooperative Extension, Texas A&M University.*

The increased contribution of decoupled government payments on rice base acreage has led to a major change in land tenure agreements for rice-producing tenants and landlords in the Texas Coastal Bend. This paper reviews how Extension programming provides information and decision support aids to help both landlords and tenants make sound land tenure arrangements.

**TITLE: Analysis on Livestock Trade** (Moderator: Dragan Miljkovic, Southwest Missouri State University).

**Trade Liberalization and Changing Composition and Quality of Imports in Japanese Beef Import Markets.** *Dragan Miljkovic, Southwest Missouri State University.*

We showed that the reduction of an ad valorem tariff led to an increase in Japanese imports of higher quality U.S. beef relative to the lower quality Australian beef. Increasingly more efficient U.S. beef production and strong income effect further explained the recent domination of U.S. beef in Japanese markets.

**Measuring the Degree of Market Power Among Beef Exporters to Japan.** *Sayed Saghalian, University of Sydney, and Michael Reed, University of Kentucky.*

A residual demand model for beef exporters to Japan was specified to estimate market power. The analysis was disaggregated by beef cut and form. The results indicated that the U.S. frozen ribs category enjoys the highest markup of price over marginal cost, whereas Australia and New Zealand have some market power, which includes five chilled-beef categories.

**U.S. Demand for Imported Lamb by Country: A Two-Stage Differential Production Approach.** *Andrew Muhammad, Southern University, and Keithly G. Jones and William F. Hahn, USDA-ERS.*

Because of a depressed wool industry, sheep inventories have been declining, resulting in significant increases in lamb and mutton imports. Goals of this paper were to estimate the derived demand and output supply for U.S. lamb imports, to estimate demand elasticities, and to determine the effect of tariff-rate quota reductions on imports.

**Derived Feed Demand for Egypt's Poultry and Egg Sector to 2010—Policies and Implications.** *Fawzi Taha, USDA-ERS.*

Egypt's derived feed demand for poultry and eggs and its dependency on world feed markets was econometrically projected to 2010. Results reveal a poultry industry highly dependent on imports, in which dependency rate will approach 100% for soybeans and 48% for yellow corn in 2010.

**TITLE: Future Trends in Cotton and Textile Trade** (Moderator: Patrick Westhoff, University of Missouri-Columbia).

**Cost Competition for U.S. Textiles: Will Yarn Follow the Needle?** *Conrad Lyford and Mark Welsch, Texas Tech University.*

U.S. textile manufacturing is coming under increasing pressure from foreign competition. This paper evaluated the U.S. competitive position in the yarn segment with the use of established quantifiable measures and provided an overall competitive assessment. The study found that the industry is in a relatively weak competitive position but that the U.S. competitive position is improving.

**An Analysis of Export Demand Elasticity: The Case of U.S. Cotton.** *Laxmi Paudel, Jack E. Houston, Murali Adhikari, and Nirmala Devkota, University of Georgia.*

There exist conflicting views among researchers about the magnitude of U.S. cotton export demand elasticity, ranging from highly inelastic to highly elastic. An Armington model was used to analyze the export demand elasticity of U.S. cotton. Our analysis confirmed the elastic nature of U.S. cotton export demand.

**Cotton Supply Response in Brazil: Traditional vs Expansion Region.** *Ligia Vado, David Willis, and Samarendu Mohanty, Texas Tech University.*

A regional linear supply system acreage allocation model was estimated for Brazil's four dominant field crops (cotton, soybean, corn, and rice) for the emerging cotton production region of the central-west Cerrado Savannah and the traditional southeast and northeast cotton production regions. Scale and cross-price elasticities were estimated for all regions.

**The MFA Quota Elimination and the Mexican Cotton Industry: Measuring Potential Impacts on U.S. Cotton Exports.** *Enrique Lopez and Jaime Malaga, Texas Tech University.*

Mexico is the largest importer of U.S. cotton, whereas the U.S. market is critical for the Mexican textile and clothing sector. This paper presented the results of a comprehensive econometric and simulation model attempting to assess potential implications of the ATC quota elimination on Mexico's cotton consumption and imports from the United States.

**TITLE: Export Demand Analysis of U.S. Agricultural Products** (Moderator: Lynn Kennedy, Louisiana State University).

**The Analysis of International Price and Exchange Rate Elasticity for U.S. Soybean: The Case of Japan.** *Laxmi Paudel, University of Georgia; Henry W. Kinnucan, Auburn University; and Murali Adhikari, University of Georgia.*

Stepwise model selection criteria were test-

ed against the restrictive forms to determine the appropriate model and to confirm the law of one price for U.S. soybeans. Analysis showed less than one international price transmission and exchange rate elasticities in the long run, showing an incomplete exchange rate pass-through.

**An Analysis of Latin American Peanut Industry: Potential Impact on U.S. Peanut Industry.** *Dae-Seob Lee and Lynn Kennedy, Louisiana State University, and Stanley Fletcher, University of Georgia.*

The Latin American peanut industry was estimated with the use of SUR. In scenarios, their demand was not affected dramatically by price changes. The price changes affected the Latin American supply by roughly 15% and net trade by approximately 50%, compared with less than 10% in world price shock.

**A Marketing Analysis of U.S. Chicken Exports to China.** *Lewell Gunter and Li Zhang, University of Georgia.*

China is the second largest market for U.S. poultry exports. The growth potential for chicken exports to China is great, given their large population, low per capita consumption, rising incomes, and recent inclusion in the World Trade Organization. In this study, we estimated excess supply and demand equations for U.S. exports of frozen chicken parts to China.

**TITLE: International Agricultural Productivity Analysis** (Moderator: Samarendu Mohanty, Texas Tech University).

**Examining Cross-Country Agricultural Productivity Differences.** *Ebenezer Ogunyinka and Michael R. Langemeier, Kansas State University.*

This paper computed Malmquist agricultural productivity indexes for 125 countries over the period 1961–2001. These were decomposed into efficiency change (i.e., pure technical efficiency and scale efficiency

changes) and technical change (i.e., input bias and magnitude components). Results showed that developing and developed countries derive their growth from efficiency change and technical change, respectively. Input bias technical change was evident for both developing and developed countries.

**Technical Efficiency under Multi-Cropping Systems: Evidence from ECOWAS.** *Ebenezer Ogunyinka and Oluwarotimi O. Odeh, Kansas State University.*

This paper computed overall efficiency for 64 farmers practicing multicropping system in the Ekiti State of Nigeria. These were decomposed into pure technical efficiency and scale efficiency. Results showed that 34 and 40 farmers were technically and scale inefficient, respectively. Overall, 40 farmers were found to be inefficient.

**Potential of China's Agricultural FDI Inflows: A Gravity Model Approach.** *Mary Marchant and Xuehua Peng, University of Kentucky.*

This paper provided insights into the prospects for China's agricultural FDI inflows through a gravity model approach. Panel data over 1994–2001 were used. Determinants of China's agricultural FDI inflows were identified and future levels of China's agricultural FDI inflows from major source countries were evaluated.

**COOL, Eco-labels, and Consumers' Willingness to Pay in the Fresh Producer Industry—Some Initial Impressions from the Field.** *James A. Stems, John J. Van Sickle, and Lisa House, University of Florida.*

The debate about country of origin labeling (COOL) has centered on the projected benefits and costs of its implementation. This study used data from a Vickery auction ( $n = 200$ ) to estimate willingness to pay for COOL. Preliminary findings suggested, on average, that consumers value COOL, are not homoge-

neous, and prefer fresh produce grown in the United States.

**TITLE: Impacts of Regional and Multilateral Trade Agreements** (Moderator: Jaime Malaga, Texas Tech University).

**Economic Effects of CAFTA on Agricultural Trade between Central America, Southern U.S. Region and Its Potential Implications of Rural Development.** *Porfirio Fuentes, Albert Allen, and Walter Couvillion, Mississippi State University.*

A standard error of means (SEM) model was presented to simulate the effects of a free trade agreement (FTA). As expected, results showed an increase in social welfare in the trading regions involved, resulting from the FTA implementation. An analysis of the potential effects on rural poor and policy implications for rural development was also presented.

**Evaluating Trade Developments in Dairy Products.** *Keithly Jones and Donald Blayney, USDA-ERS.*

Nonparametric measures of pre- and post-Uruguay Round Agreement on Agriculture-period trade openness for dairy products in key dairy product-trading countries were calculated. Import penetration and export performance were regressed on economic variables to gauge their influences on the two measures. Modest changes in trade openness were suggested, but identifying influences was difficult.

**Dynamic Export Demand Analysis for Honduran Coffee Exports.** *Jose Andino and Lynn Kennedy, Louisiana State University.*

The responsiveness of import demand for Honduran coffee to changing economic environments in its main trading partners was studied. Estimation included Johansen cointegration analysis and VAR models with Monte Carlo-simulated error bands. Results indicate a significant response of Honduran coffee

sales to changes in importers' incomes and import prices.

**TITLE: Food Demand** (Moderator: Sen Hui, University of Georgia).

**Consumption of Reduced-Fat Peanut Butter in Addition to the Consumption of Regular Peanut Butter.** *Senhui He and Stanley Fletcher, University of Georgia, and Arbindra Rimal, Southwest Missouri State University.*

Consumption of reduced-fat peanut butter, which is an imperfect substitute for regular peanut butter, might substantially expand total demand for peanut butter. For those who usually buy the same brand of peanut butter, their consumption of reduced-fat peanut butter is more likely in addition to consumption of regular peanut butter. This implies promotion of a specific brand of reduced-fat peanut butter tends to increase total demand for the same brand of peanut butter.

**Price Formation and Food Safety Concerns in the U.S. Meat Industry: A Semi-Flexible Normalized Quadratic Inverse Demand System Approach.** *Oluwarotimi O. Odeh and Thomas L. Marsh, Kansas State University.*

This paper examined the effect of publicized food safety information on consumer price formation of meat (beef, pork, and poultry) and price flexibilities of the meat types. Preliminary analysis indicated that seasonal effect on meat price and some lagged food safety concerns were significant, whereas contemporaneous food safety concerns were not.

**At-Home and Away-from-Home Consumption of Seafood in the United States.** *Xumin Zhang and Lisa House, University of Florida; S. Sureshwaran, USDA/CSREES; and Terry Hanson, Mississippi State University.*

At-home consumption of shrimp, oysters, and catfish was investigated with the use of data from a mail survey conducted in 2000–2001. Results indicated consumers' probability and frequency of consumption decreased if

consumers felt they lacked preparation knowledge, product preparation was too time consuming, or the smell was unattractive. Demographics were also significant.

**TITLE: Food Safety Session 1** (Moderator: Wes Harrison, Louisiana State University).

**U.S. Consumer Attitudes toward Food Biotechnology.** *Carolina Medina and Lisa House, University of Florida; David Schmidt, International Food Information Council; Jayson Lusk, Purdue University; and Cheryl Toner, International Food Information Council.*

This study examined consumer attitudes in the United States toward genetically modified food over time. Five surveys conducted by the International Food Information Council (1999–2001) were used to determine what factors significantly influenced consumers' willingness to try food products genetically modified to reduce pesticide usage or improve taste.

**Determinants of Consumer Attitudes and Purchase Intentions With Regard to GM Foods.** *James O. Bukenya and Natasha R. Wright, Alabama A&M University.*

Consumer acceptance of genetically modified (GM) products has become a vital factor in determining how prosperous the markets for GM products will be in the future. This phenomenon creates increased interest in understanding consumer attitudes and purchase intentions with regard to GM foods. Thus, this paper presented results based on a contingent valuation questionnaire designed to assess consumer knowledge, awareness, and willingness to purchase GM tomatoes in the Huntsville, AL, metropolitan area. The results suggested that attitudes and purchase decisions concerning GM foods are generally negative, highly complex, and based on several factors.

**An Evaluation of Consumer Acceptance of Genetically Modified Food: Willingness-to-Pay (WTP) vs. Willingness-to-Accept (WTA).** *Arbindra Rimal, Southwest Missouri*

*State University, and Wanki Moon and Siva Balasubramanian, Southern Illinois University.*

Using Heckman's sample selection model, consumer willingness to pay (accept) a premium (discount) for non-GM (GM) cereals was analyzed. Results showed that consumers who were indifferent to the risk of consuming GM foods behaved differently compared with those who were willing to pay (accept) a premium (discount) for non-GM (GM) cereals.

**TITLE: Food Safety Session 2** (Moderator: Conrad Lyford, Texas Tech University).

**An Analysis of Producers' Opinions on Mandatory Labeling of GM Products.** *E'licia Chaverest, Gerald Wheelock, and Duncan M. Chembezi, Alabama A&M University.*

This study evaluated producers' perceptions on mandatory labeling of GM food products. The analysis was based on a sample of 1,887 farmers in 10 southern states who claimed to be "somewhat knowledgeable" about biotechnology. A logistic regression model was employed to isolate characteristics of farmers assumed to influence their opinions on mandatory labeling.

**The Effects of Risk Perceptions on Consumer Preferences for Biotech Labeling.** *Jae Hwa Han and R. Wes Harrison, Louisiana State University.*

A binary probit analysis was employed to examine the effects of risk perceptions of biotech foods on consumer preferences for mandatory and voluntary labeling. Results showed that consumers who were sensitive to the possible side effects of biotech crops on wildlife and the environment were more likely to support a mandatory labeling policy. Results also indicated that respondents who believed biotech foods might have unforeseen health risks were more likely to favor mandatory labeling. Furthermore, the study found that respondents who were willing to buy a meat product pro-

duced using biotechnology were more likely to favor a voluntary labeling policy.

**Factors Affecting Consumer Negative Perceptions about Beef Irradiation.** *Senhui He and Stanley Fletcher, University of Georgia, and Arbindra Rimal, Southwest Missouri State University.*

Lack of trust in the adequacy and enforcement effectiveness of food safety regulations and consumer ignorance about food irradiation were found to be important factors affecting consumer negative perceptions about beef irradiation. This implies that dissemination of information about food irradiation and enhancement of consumer trust in the mechanism of food safety regulation can be effective instruments toward increasing consumer acceptance of beef irradiation.

**Consumer Willingness to Pay for Irradiated Poultry Products.** *Kent Wolfe, Chung L. Huang, and John McKissick, University of Georgia.*

A probit model for whether consumers would buy irradiated poultry products was estimated jointly with an ordinary least squares equation for the price premiums that consumers are willing to pay for irradiated chicken breast meat. The results suggested that educating consumers about irradiation would be beneficial to the food industry.

**TITLE: Food Safety Session 3** (Moderator: Stanley Fletcher, University of Georgia).

**A Valuation of Public Demand for the Participation of Non-Government Agencies in Monitoring and Enforcing Food Safety Regulations.** *Senhui He and Stanley Fletcher, University of Georgia, and Arbindra Rimal, Southwest Missouri State University.*

Lack of consumer trust in governmental food safety regulators hinders the promotion of consumer confidence in the safety of their food supply. Allowing nongovernmental agencies to participate in monitoring and enforcing

food safety regulations might boost consumer trust. This study, exploring factors affecting consumer desire for the participation of non-governmental agencies, obtained useful information for further feasibility valuation on this issue.

**Agricultural Terrorism: Potential Economic Effects on the Poultry Industry in Mississippi.** *Albert J. Allen, Albert E. Myles, and Porfirio Fuentes, Mississippi State University; and Safdar Muhammad, Tennessee State University.*

An input/output model was developed to estimate the potential economic impact of intentional attacks by agricultural terrorists with the use of Exotic Newcastle Disease (END) on the poultry industry in Mississippi. The model measured effects in terms of income, employment, output, and tax changes in the poultry industry.

**Sales Responses to Recalls for *Listeria monocytogenes*: Evidence from Branded, Ready-to-Eat Meats.** *Michael Thomsen, University of Arkansas, and Rimma Shiptsova, Utah State University.*

Empirical models were used to measure sales losses experienced by frankfurter brands following a recall for a foodborne pathogen. Recalled brands experienced a 22% to 27% sales decline after a recall. Brand recovery occurred within 4–5 months after a recall. Non-recalled brands did not experience sales losses.

**TITLE: The Application of a Diverse Set of Economic Tools to Policy Analysis** (Moderator: Daniel De La Torre Ugarte, University of Tennessee).

**Tobacco Quota Buyout Legislation: Economic Impacts on the Southeast.** *Kelley J. Tiller, Burton C. English, and R. Jamey Menard, University of Tennessee.*

Expectations abound that a tobacco quota buyout will soon materialize. This paper provides a description of major elements of pro-

posed tobacco quota buyout legislation. An input-output model was used to estimate the economic impacts—total output, value added, and employment—of a quota buyout on major tobacco states.

**The WTO DOHA Development Round and OECD Agricultural Policy.** *Roman Keeney and Thomas W. Hertel, Purdue University.*

A global CGE model featuring agricultural sector detail was used to assess World Trade Organization agricultural reform. Parametric uncertainty was considered, with model results evaluated on the basis of confidence intervals. We found that continued shift in domestic support to green box payments maintains farmer welfare while providing significant welfare gains to developing regions.

**TITLE: Price, Forecasting, and Location Analyses** (Moderator: Eric J. Wailes, University of Arkansas).

**Does the Reduction in Peanut Prices Benefit Peanut Butter Consumers?** *Cesar L. Revoredo, Denis Nadolnyak, and Stanley M. Fletcher, University of Georgia.*

Using monthly data, we found evidence of both short- and long-run asymmetry of price transmission from peanut to peanut butter prices. This suggests that the asymmetry is more likely a result of imperfect competition than of competitive profit-maximizing inventory management. Effects of producer support policy changes were discussed.

**Price-Inventory Relationship in the Pecan Industry: A Study of Long- and Short-Run Effects with Seasonal Consideration.** *Mohammed Ibrahim and Wojciech Florkowski, University of Georgia.*

Seasonal cointegration was considered in the shelled pecan price and inventory (in-shell, shelled, and total) series. Following seasonal unit root tests with the use of the HEGY test procedure, cointegration was estimated at non-seasonal and seasonal frequencies. Next, the

seasonal ECM model was established. Results showed shellers could store in-shell and shelled pecans.

**Forecasting Market Share Using A Flexible Logistic Model.** *Kwamena Quagranie, University of Arkansas at Pine Bluff.*

Increased competition from imported catfish is resulting in declining share for domestic catfish fillets. Pricing measures that are volume oriented have been suggested as short-run measures for optimal long-run sustainability and profitability of the industry. This paper compared the forecasting performance of three logit models for market share of U.S. catfish.

**A Location Analysis of Landscape Plant Retail Outlet Markets in Georgia.** *Chandler M. McClellan, University of Georgia; Steve Turner, Mississippi State University; and Lowell Gunter and Forrest Stegelin, University of Georgia.*

Geographic Information Systems (GIS) are an emerging marketing tool. This study examined the Georgian landscape plant retail market with the use of GIS in conjunction with other traditional market research tools. Spending and logistic regression propensity scores were analyzed for prevailing geographic patterns. This allows retailers to make store location decisions by identifying underserved markets.

**TITLE: Modeling Consumer and Producer Behavior** (Moderator: Albert J. Allen, Mississippi State University).

**A Probit Model Analysis of Factors Affecting Consumption of Fresh Sweet Corn in Major U.S. Markets.** *Kimberly L. Morgan, Robert L. Degner, and Thomas J. Stevens, III, University of Florida.*

The Fresh Supersweet Corn Council contracted with the Florida Agricultural Market Research Center to conduct a consumer survey designed to investigate consumer preferences, attitudes, and behaviors toward fresh

sweet corn. Probit models were estimated to determine effects of seasonality, demographics, and promotional materials on consumption of fresh sweet corn.

**An Analysis of Farm-Retail Spread for Jamaican Fresh Fruits.** *Abdullahi Abdulkadri and Igbekele Ajibefun, Federal University of Technology.*

This paper used the relative price spread model to analyze the farm-retail spread for pineapple, pawpaw, and watermelon in Jamaica. Our findings suggested that price increase in the retail market was not being passed down to pineapple and pawpaw farmers and only marginally to watermelon farmers.

**Direct Market Consumer Characteristics: A Case Study of Oklahoma Farmers' Markets.** *Shida R. Henneberry and Haernani N. Agustini, Oklahoma State University.*

The objective of this study was to examine consumer preferences among various marketing channels, including direct marketing in Oklahoma. Specifically, this research focused on the links between demographic factors and shopping preferences. Data from a consumer survey in 21 farmers' markets in Oklahoma were used to analyze consumer preferences by an ordered logistic regression analysis method. The results of this study also identified consumer characteristics that influenced produce demand and consequently growers' return at Oklahoma farmers' markets.

**A Transaction Cost Economics View of Agriculture Product Exchanges for Biopower: Theoretical and Methodological Concerns.** *Ira Altman and Tom Johnson, University of Missouri-Columbia.*

This paper reviewed theoretical and empirical advances in transaction cost economics with the intention of applying the theory to biopower fuel organization from agricultural sources in future research. This literature provides a useful framework that can inform organizational arrangements of emerging indus-

tries such as biomass exchanges for the power industry.

**TITLE: Estimating Price, Demand, and Identity Preservation Impacts** (Moderator: Safdar Muhammad, Tennessee State University).

**On Predicting the Price of Corn.** *Harwood D. Shaffer, University of Tennessee.*

A rectilinear regression model with the use of year-ending commercial corn stocks-to-use ratio and a set of dummy variables representing policy changes and weather-related production shocks explained more than 98% of the variation in the season average corn price paid to farmers in the 1963–2002 period, excluding 1985 and 1986.

**The Price of Quality Cotton in the U.S.** *Conrad Lyford, Sangnyeol Jung, and Don Ethridge, Texas Tech University.*

The mill-level prices for cotton quality were examined to develop information about price-quality relationships of U.S. cotton. By using data from daily cotton contracts, along with spot market price information, the premiums and discounts attributed to heterogeneous quality characteristics were estimated for several marketing years by major production regions.

**European Union Cotton Demand: An Application of Demand Systems and Panel Data.** *José Antonio Lopez and Jaime Malaga, Texas Tech University.*

A demand system approach incorporating demographic variables was used to estimate the European Union cotton demand parameters. The European Union is the largest cotton importer of the world. Accurate estimation of European demand parameters is critical to evaluate world cotton trends and to realistically simulate future market scenarios. Unlike previous studies, this paper reported on research in which demands of the 15 European Union members were not aggregated. More-

over, unlike available estimations, the study did not use mill consumption data, but cotton equivalent consumption at home.

**Identity Preservation for Genetic Modification Characteristics in Wheat Marketing.**

*Marcia Tilley and Yancey E. Wright, Oklahoma State University.*

Budgets were used to estimate additional identity-preserved wheat production costs that ranged from \$0.81 to \$5.35 per bushel. A survey was developed to estimate the feasibility for country elevators to market identity-preserved wheat and the premiums required to do so; estimated premiums reported ranged from \$0.05 to \$1.45 per bushel.

**TITLE: Check-off Programs, Strategic Alliances, and Specialization** (Moderator: Shida Henneberry, Oklahoma State University).

**Will the Voluntary Checkoff Program be the Answer? An Analysis of Optimal Advertising and Free-Rider Problem in the U.S. Beef Industry.** *Chanjin Chung and Shida R. Henneberry, Oklahoma State University.*

This study developed a framework for analysis of optimal advertising and the free-rider problem. Previous studies in the literature were extended in two ways. First, the new framework allowed retailer's oligopsony power separately from processor's market power. Second, to examine the free-rider problem, we introduced the trade component to the model and divide domestic producers into two groups—participating producers and nonparticipating producers—in the possible voluntary program. The free-rider problem was measured as the amount of domestic price decrease due to the increased production from importers and nonparticipating producers.

**Beef Producer Choice in Cattle Marketing.**

*Jeffrey M. Gillespie, Louisiana State University; Aydin Basarir, Gaziosmampana University; and Alvin Schupp, Louisiana State University.*

In addition to the conventional auction method of cattle marketing, alternative marketing arrangements include sale by private treaty, video auction, retained ownership, and use of strategic alliances. This study examined use of alternative marketing arrangements and types of producers using each. Thirty-nine percent of producers used alternative arrangements.

**What Role Does Specialization Play in Farm Size in the U.S. Hog Industry?**

*Christopher Davis, USDA-ERS, and Jeffrey M. Gillespie, Louisiana State University.*

An ordered probit analysis was used to determine the influence that specialized phases, other farm enterprises, production contracts, locations, management practices, risk preference, and producer's age have on the size of U.S. hog operations. Results reveal that specialized phases, along with other factors mentioned, affect the size of hog operations.

**TITLE: Carbon Sequestration and Energy Crop Production** (Moderator: T.E. Anton, University of Florida).

**An Economic and Risk Analysis of the Effects of No Tillage and Manure Applications on Soil Carbon Sequestration in Corn Production.** *Dustin Pendell, Scott B. Boyles, Jeffrey R. Williams, Charles W. Rice, and Richard G. Nelson, Kansas State University.*

The economic potential of no-tillage versus conventional tillage to sequester soil carbon with either commercial nitrogen or manure for continuous corn production was evaluated. Results indicated which system provided the highest net returns, which system was preferred by risk-averse decision makers, and the price of carbon credits under alternative risk-aversion preferences.

**Economic Feasibility of an Energy Crop on a South Alabama Cotton-Peanut Farm.**

*E. Todd Frank, Patricia Duffy, C. Robert Taylor, David Bransby, Max Runge, and Rodrigo Rodriguez-Kabana, Auburn University.*

Linear programming and enterprise budgeting were used to analyze rotation options, including an energy crop (intercropped grain sorghum and velvet bean), for a representative south Alabama farm. The energy crop was priced beginning at \$30.00 per ton, at which price it did not enter the solution. At prices of \$41 per ton or higher, the energy crop was produced.

**Lignocellulosic Biomass Harvest and Delivery Cost.** *Lawrence Mapemba and Francis Epplin, Oklahoma State University.*

The logistics of providing an orderly flow of lignocellulosic feedstock to a biorefinery have not been addressed by most biorefinery feasibility studies. A mixed integer mathematical programming model was developed that included integer decision variables enabling investment in harvest machines that provide monthly harvest capacity on the basis of expected harvest days.

**TITLE: Alternative and Optimal Agricultural Insurance** (Moderator: Roderick M. Rejesus, Texas Tech University).

**Testing the Viability of Area Yield Insurance for Cotton and Soybeans in the Southeast.** *Xiaohui Deng, Barry Barnett, and Dmitry Vedenov, University of Georgia.*

GRP is essentially a put option on the NASS estimate of the county average yield. Purchasers of GRP are exposed to geographic basis risk. This study used farm- and county-level yield data to examine the viability of area yield insurance for cotton and soybean farms in the southeastern United States.

**THI Application to Insuring Against Heat Stress in Dairy Cows.** *Xiaohui Deng, Barry Barnett, Dmitry Vedenov, and Joe West, University of Georgia.*

Heat stress is associated with reduced milk production in dairy cows. Insurance instruments based on an index of ambient temperature and relative humidity measured at Ma-

con, GA, and Tallahassee, FL, were shown to reduce net revenue risk for a representative farm in south-central Georgia.

**Optimal Crop Insurance Options for Alabama Cotton-Peanut Producers: A Target-MOTAD Analysis.** *Marina Irimia-Vladu, James L. Novak, and Patricia Duffy, Auburn University.*

Target-MOTAD was used to determine the optimal crop insurance options for two representative cotton and peanut farms in southern Alabama. Results showed that, for one farm, no crop insurance option was risk reducing given the yield history. For the second farm, risk reduction involved shifting to higher levels of insurance coverage.

**An Optimal Portfolio of Insurance Products and Alternative Management Practices in Farm Level.** *Jianqiang Hao, Murali Kanakasabai, Carl R. Dillon, and Jerry R. Skees, University of Kentucky.*

This paper provided a theoretical analysis for the optimal portfolio of weather index and individual crop insurance at the farm level under a mean-variance framework and stressed the effects of risk aversion level, transaction cost, and basis risk. An empirical application of corn farms in Todd County, KY, was applied.

**TITLE: Cattle Economics** (Moderator: Lawrence Falconer, Texas A&M University).

**Key Factors Contributing to Cow/Calf Costs, Profits, and Production.** *Ruslyn Parker, Damona Doye, Clement E. Ward, and Derrell Peel, Oklahoma State University; James M. McGrann, Texas A&M University; and Larry Falconer, Texas A&M Cooperative Extension.*

Cow/calf standardized performance analysis data for Texas, Oklahoma, and New Mexico were used to analyze how total cost, production, and profitability were affected by management. Variables such as herd size,

pounds of feed fed, calving percentage, death loss, length of breeding season, and levels of investments were used in regressions.

**Impact of a Managed Herd Health Program on Cow-Calf Profit Risk.** *Tom Anton, University of Florida.*

Three herd health strategies were run in a Monte Carlo simulation in which the risk of infection was considered for each strategy. Accounting for risk allowed stochastic dominance to be established or refuted between strategies. The end result was a definitive financial relationship between managed herd health and profitability.

**The Effect of Economic Factors on the Adoption of Best Management Practices in Beef Cattle Production.** *Seon-Ae Kim, Jeffrey M. Gillespie, and Krishna P. Paudel, Louisiana State University.*

Probit analyses were conducted for adoption of Best Management Practices (BMPs) and rotational grazing. Results showed that more diversified farmers are more likely to adopt BMPs. Results for willingness to adopt rotational grazing showed that higher bid offers would lead farmers to be more willing to adopt the system.

**Management Practices and Lease Arrangements used by Oklahoma Wheat, Wheat Pasture, and Wheat Pasture Livestock Producers.** *Ishrat Hossain, Francis M. Epplin, Eugene G. Krenzer, and Gerald W. Horn, Oklahoma State University.*

Winter wheat is grown for three purposes in the Southern Plains: for grain only, for forage only, and as a dual-purpose forage plus grain crop. The USDA's wheat cropping practices survey does not differentiate among the three uses. Little information on actual production practices across use is available. Results of a survey were presented.

**TITLE: Productivity, Efficiency, and Econ-**

**omies of Scale** (Moderator: Jeffrey Gillespie, Louisiana State University).

**A Comparative Assessment of the Effect of Land Tenancy on Total Factor Productivity and Total Resource Productivity.** *Krishna Paudel, Anil Sulgam, Pramod Sambidi, and Yiqian Wang, Louisiana State University.*

The repercussion of lower input application by tenant farmers compared with full-time operators could be higher total resource productivity (lower total factor productivity) in the regions where tenant farmers dominate the land proprietorships. Three-census-year data from southeastern U.S. states were used to test this hypothesis.

**Tillage Systems, Cropping Practices, Farm Characteristics, and Efficiency.** *Sidhar Sankranti and Michael R. Langemeier, Kansas State University.*

This paper examined the technical efficiency (TE) of a sample of farms in north-central Kansas practicing conventional and no-till practices. A stochastic frontier production model with technical inefficiency effects was used to obtain individual farm TE values and to explain sources of technical inefficiency. The results indicated that TE was not affected by no-till practices.

**Cost Efficiency of Catfish Farms in Chicot County, Arkansas: The Impact of Extension Services.** *Aloyce Kaliba and Carole R. Engle, University of Arkansas at Pine Bluff.*

Cost efficiency of catfish farms in Chicot County, AR, were estimated by a nonparametric technique. Farms could reduce cost by about 69% by producing along the minimum cost curve. Higher feeding rate and availability of extension services were associated with higher cost efficiency.

**Nonparametric Estimation of Multiproduct and Product-Specific Economies of Scale.** *Brian K. Coffey and Allen Featherstone, Kansas State University.*

Numerous studies have used nonparametric estimation of production efficiency, but no such study has focused on multiproduct or product-specific economies of scale. A mathematical program was specified to nonparametrically estimate these measures for crops and livestock for Kansas farms. Results showed that many farms would realize benefits from expansion.

**TITLE: The Sweet and the Not-So-Sweet: Issues in Honey and Manure Economics** (Moderator: Lal Almas, West Texas A&M University).

**Blame It on the Weather: Cost and Design of Manure Management under Extreme Weather Conditions on North Carolina Swine Farms.** *Jan Chvosta and Kelly Zerring, North Carolina State University, and Bailey Norwood, Oklahoma State University.*

The majority of pig farms in North Carolina use a lagoon-sprayfield system to manage manure. Although economical, the lagoon-sprayfield system is sensitive to weather conditions. This study examined the cost of manure management under extreme weather and scrutinized National Resource Conservation Service (NRCS) design criteria and regulations.

**TITLE: Cotton and Peanut Precision Agriculture** (Moderator: Jeff Johnson, Texas Tech University).

**Adoption of Spatial Information Gathering Technologies and Variable Rate Input Application Technologies by Cotton Farmers in the Southeast.** *Roland Roberts, James A. Larson, Burton C. English, and Rebecca L. Cochran, University of Tennessee; W. Robert Goodman, Auburn University; Sherry L. Larkin, University of Florida; Michele C. Marra, North Carolina State University; Steven W. Martin, Mississippi State University; W. Donald Shurley, University of Georgia; and Jeanne Reeves, Cotton Inc.*

Probit analysis identified factors influenc-

ing adoption of precision farming technologies by southeastern cotton farmers. Age, education, farm size, land tenure, land quality, knowledge about costs and potential benefits of adoption, and optimism about the future of precision farming affected the probability that a cotton farmer would adopt these technologies.

**Farmers' Perceptions of Spatial Yield Variability as Influenced by Precision Farming Information Technologies.** *James A. Larson and Roland Roberts, University of Tennessee.*

This study evaluated how farmers' perceptions of spatial yield variability are influenced by precision technologies. Farmer estimates from a mail survey were regressed on use of alternative information technologies and personal characteristics. Results indicated that farmers who adopted yield monitors with GPS for cotton perceived significantly higher spatial yield variability.

**Quantifying the Differences in Management Goals and Technology Choice in Peanut Production.** *Susan Watson, Louisiana Tech University; Darren Hudson, Mississippi State University; and Eduardo Segarra, Texas Tech University.*

Precision farming and whole-field farming were compared with respect to yields, net present value of returns (NPVR) above nitrogen and water costs, and nitrogen application rates to determine the differences in management practices. Precision farming yields, NPVR, and nitrogen application levels were then compared under yield-maximizing versus profit-maximizing strategies. The results quantified the gains from technology and management goals of peanut producers and suggested that the technology effect was greater than the management effect.

**TITLE: Financial and Managerial Issues in Agriculture** (Moderator: Bruce Ahrendsen, University of Arkansas).

**Determinants of Farm Size in the South-**

**east: Does the Size Concept Matter?** *Mary Clare Ahearn and Jet Yee, USDA-ERS.*

We examined five different farm size measures with a panel data set of 48 states from 1960 to 1996. We graphically showed the difference in trends using the various measures and discussed how the results of an analysis of the determinants of farm size depend on the size measure employed.

**The Role of Women in Farm Management Decisions.** *Fisseha Tegegne, Safdar Muhammad, Enefiok Ekanem, and Surendra Singh, Tennessee State University.*

Two hundred randomly selected small farm operators in Tennessee were asked a series of questions on the role of their wives in farm management decisions. Seventy-four (37%) provided complete responses. Analysis showed women play an important role in farm management decisions in the areas of marketing, record keeping, and financial management.

**TITLE: Applied Production Analyses** (Moderator: Fritz Roka, University of Florida).

**Economics of Replacing Endophyte-Infected with Endophyte-Free Tall Fescue Pastures.** *Mary Marchant, Courtney Paige Murrell, and Jun Zhuang, University of Kentucky.*

Cattle consuming tall fescue infected with the endophyte *Neotyphodium coenophialum* often suffer from physiological disorders that

reduce animal performance. One main solution is to replace endophyte-infected tall fescue pastures with an endophyte-free mixture. A cost-benefit analysis and sensitivity analysis were conducted to determine the profitability of pasture restoration.

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

A Just-Pope model was used to evaluate the effects of nitrogen (N) rate, N source, disease, and risk on the spring N fertilization decision in winter wheat production. Ammonium nitrate (AN) was the utility-maximizing N source regardless of risk preferences. The net return-maximizing AN rate was 92 lbs. N/acre.

**Have the Agricultural Public Investment Improved Rice Productivity Through Land Usage Reallocation?: An Empirical Study on Japanese Paddy-Field Rental Transactions.** *Yoji Kunimitsu, National Institute for Rural Engineering—Japan.*

This paper analyzed the effects of paddy field consolidation projects with the use of the stochastic model. Empirical results showed that the degree of effects, realized as a rise in rental rate and rental area, varied in each region and that several factors influencing the project effects could be evaluated quantitatively.