Selected Papers

TITLE: Topics in Agricultural Finance. (Moderator: Steven C. Turner, University of Georgia).

Role of Cooperatives in the Success of Small Farms. *Ashok K. Mishra, USDA/Economic Research Service, Fisseha Tegegne, Cooperative Agricultural Research Program, Nashville.*

The objective of this study was to identify factors that contribute to the success of small farms. Particular attention is given to the effect of marketing and supply cooperatives in the success of small farms. Logit regression analysis on farm level data confirms the expected.

Factors Determining FSA Guaranteed Loan Loss Claim Rates in the U.S. for 1990–1997. *Latisha A. Settlage, Purdue University, Bruce L Dixon, University of Arkansas, Bruce L. Ahrendsen, University of Arkansas.*

The study identifies farm operator and economic characteristics explaining variation in FSA guaranteed loan loss claim rates. Regression models using state-level data are estimated. Debt-to-asset ratios, interest rates, off-farm income and bank loan-to-asset ratios explain FO loss rates. Farm size and bank loan-to-asset ratios are important to OL loss rates.

Factors Determining Initial Public Offering Readiness of Agribusiness Firms. *G. Barton Pennington, University of Georgia, Steven C. Turner, University of Georgia, James E. Epperson, University of Georgia, Forrest E. Stegelin, University of Georgia.*

Privately held agribusiness firms are compared to their publicly traded counterparts to determine the financial conditions necessary for a successful initial public offering on the Nasdaq exchange. Significant factors affecting the decision to go public include a company's industry composition, size, maturity, growth rate, profitability, and utilization of debt financing.

Comparative Analysis of Value-Added and Traditional Measures of Performance: An Efficiency Score Approach. *Yvonne Acheampong, University of Georgia, Michael Wetzstein, University of Georgia.*

A comparison was made between value-added and traditional measures of performance using stochastic frontier analysis. Value-added measures are not significantly different from traditional measures of performance and must not replace the latter. The are however useful to managers for value creation decisions resulting in excess profits.

TITLE: Public Provision of Rural Services: Benefits and Costs (Moderator: Daniel V. Rainey, Clemson University).

The Role of Vocational Education in the Economic Development of West Virginia. *Doolarie Singh, West Virginia University, Tesfa G. Gebremedhin, West Virginia University, Kerry S. Odell, West Virginia University.*

The main objective of the study is to analyze the effect of vocational training in the economic development of West Virginia. An empirical and graphical analysis was used to evaluate the relative importance and general trend of vocational/technical education in the state economic development. The empirical results are consistent with the theory of human

Many thanks for Debbie Sharp, Secretary, Department of Agricultural Economics and Rural Sociology for assistance in preparing this document for the SAEA.

capital formation, which states that investment in vocational/technical education increases the quality of human resources, and thereby influences economic development.

Does Sprawl Cost Us All?: Isolating the Effects of Residential Settlement Form on Public Service Costs. *Cameron Speir, Virginia Tech University; Kurt Stephenson, Virginia Tech University.*

The spatial arrangement of development is thought to be an important determinant of public service costs. An engineering cost model provides empirical evidence of how sensitive local government service costs are to the spatial form of single-family residential development.

Measurement of Production Efficiency in Not-For-Profit Organizations: The Case of Nebraska County Governments. *Ibrahim Abuwaked, University of Nebraska; Glenn A. Helmers, University of Nebraska; Roy Frederick, University of Nebraska.*

Data Envelopment Analysis is used in estimating the production and scale efficiency of county government units in Nebraska. The results indicate that county governments' cost structure is nonlinear and production technology exhibits variable returns to scale.

Estimating Willingness to Pay for Research and Extension Programs with the Contingent Valuation Method: Tests of Divergent Validity with Single and Multiple Bound Valuation Questions. *John C. Whitehead, East Carolina University; William B. Clifford, North Carolina State University; Thomas L. Hoban, North Carolina State University.*

In this paper we assess the divergent validity of contingent valuation by comparing willingness to pay for two research and extension programs. We also compare willingness to pay elicited using single and multiple bound valuation questions. The data is from the 1998 North Carolina Agriculture Survey.

TITLE: Non-Market Valuation of Environmental Amenities and Disamenities (Moderator: Paul M. Jakus, University of Tennessee).

Averting Cost Measures of the Benefits to South Carolina Households of Red Imported Fire Ant Control. *Stephen E. Miller, Clemson University; Mark S. Henry, Clemson University; Brenda J. Vander Mey, Clemson University; Paul M. Horton, Clemson University.*

Using data from a survey of SC households, expenditures for red imported fire ant (RIFA) control and remediation are used to place a lower bound on the households' willingness to pay for RIFA control. An econometric model of RIFA-related expenditures indicates those expenditures are perfectly inelastic with respect to income.

The Economic Impact of the Red Imported Fire Ant on the Metroplexes of Texas. *Victoria Salin, Texas A&M University; Curtis F. Lard, Texas A&M University; Charles R. Hall, Texas A&M University.*

Results from 1999 surveys in Texas indicate that the 1998 expenditures relating to fire ant damage and control in selected sectors exceed $581 million. Surveys were conducted of households, golf courses, schools, and cities in five Texas metroplexes, as part of the interdisciplinary Texas Imported Fire Ant Research and Management Project.

An Empirical Investigation of the Environmental Kuznets Curve for Deforestation in Latin America. *Madhusudan Bhattarai, Clemson University; Michael Hammig, Clemson University.*

The relationship between deforestation and income across 21 Latin American countries is examined. Institutional characteristics of each country are also hypothesized to impact deforestation. Results show strong evidence of an environmental Kuznets Curve (EKC) relationship between income and deforestation

trends in the Latin America region. Institutional factors are also important.

Welfare Tradeoffs for Competing Wildlife-Based Recreational Activities. *Ashley Renck, Mississippi State University; Diane Hite, Mississippi State University; Darren Hudson, Mississippi State University, Abdul Jaafa, Mississippi State University.*

This paper examines the changes in consumer surplus that result from altering access to alternative wildlife-based recreational activities. This is based on the concept of altering landscape characteristics that would vary accessibility to one recreation while providing access to another, such as flood control.

TITLE: Market Flows and Channel Structure (Moderator: Richard Kilmer, University of Florida)

An Economic Evaluation of Sugarcane Production and Processing in Southeast Texas. *David P. Anderson, Texas A&M University; M. Edward Rister, Texas A&M University; Victor M. Aguilar, Texas A&M University; Edward G. Smith, Texas A&M University; Ronald D. Lacewell, Texas A&M University; Lonnie Jones, Texas A&M University.*

Economic pressure on rice production and limited alternatives has led to producer interest in Southeast Texas sugarcane production. The analysis indicates that the feasibility of mill purchase is the limiting factor. While purchase, moving, and reconstruction of an existing mill does not appear economically attractive, new diffusion milling technology may be.

A Necessary Condition for Market Integration Tests: The Case of the U.S. Broiler Industry. *H. L. Goodwin, University of Arkansas; Harjanto Djunaidi, University of Arkansas.*

Tests for market integration in the broiler industry are conducted. Grower and transportation costs are considered for five Southern U.S. broiler-producing states in deriving necessary conditions. Results of parametric and non-parametric tests indicate that all price pairs between states have long-run price relationships and the markets are therefore integrated.

Marketing and Trade Flows of the Louisiana Nursery Industry. *Wade R. Hampton, Louisiana State University.*

This paper provides a description 1998 Louisiana wholesale nursery industry. The Louisiana nursery industry description is compared to the Texas nursery industry, a neighboring state with different production characteristics. A logit model is used to analyze key market-oriented variables affecting Louisiana nursery producers' choice of marketing channels.

Economic Linkages Between Production and Agribusiness Sectors of the Texas Cotton Industry. *Blake K. Bennett, Texas Agricultural Extension Service; Sukant K. Misra, Texas Tech University.*

A multi-sectoral econometric model was developed to analyze economic interrelationships among various sectors of the cotton industry. Results indicated that a one bale increase in production generated $673 in revenues for the industry. Further, textile mill level price variability affected the production and ginning sectors, but not the merchant/shipper sector.

TITLE: Management Issues for Precision Farming (Moderator: Burton English, University of Tennessee).

Site-Specific Fertilizer Application in Soybeans. *Amos Bechtel, Louisiana State University; Steven Moore, Louisiana State University.*

A two year study was conducted to compare the profitability of site-specific fertilizer application on soybeans. Less total fertilizer was applied for all three nutrients as the soil sampling grid density increased without reducing crop yields. Reduced fertilizer cost was

insufficient to compensate for increased soil sampling and application costs.

A Whole-Farm Analysis of Precision Agriculture. *Michael P. Popp, University of Arkansas; Caleb A. Oriade, University of Arkansas.*

Precision agriculture promises to deliver increased returns and more consistent yields for producers with significant variability in their production factors. However, optimal returns for utility-maximizing producers may entail the use of both conventional and precision farming practices when modeled within a whole-farm framework.

Using Satellite Images for Precision Farming Decisions in Wheat Farming. *Harry Mapp, Oklahoma State University; Mohammad Asim, Oklahoma State University; John Solie, Oklahoma State University.*

Satellite images of dryland wheat in north central Oklahoma are interpreted at the field level using sophisticated precision farming software. Calibrated NDVI indices and field-specific data are combined to identify the causes of wheat yield variability. Net returns are estimated for uniform input applications versus site-specific management practices to reduce yield variability.

Adoption, Profitability and Potential Trends of Precision Farming in Arkansas. *Jennie Popp, University of Arkansas; Terry Griffin, University of Arkansas.*

This study discusses the status and potential trends of precision farming in Arkansas. Using data from the first farmer-extension-industry precision farming survey in the state, profiles of adopters, potential profitability and factors influencing adoption are established. Also, using an interregional comparison approach, potential trends in future adoption are explored.

TITLE: Agribusiness: Industry Performance and Market Opportunities (Moderator: Allen F. Wysocki, University of Florida).

Consumers' Residential Landscape Preferences. *Angel Iturbide, Louisiana State University; Roger Hinson, Louisiana State University Agricultural Center.*

Valuation of CAD-developed photographs of residences with specified design characteristics (cost, plant size, and plant material) was done by consumers and realtors. Demographic characteristics and gardening behaviors also were collected. A Conjoint Analysis model was used to estimate importance of levels of the attributes, and demographics were used to segment preferences.

Marketing Assistance Needs of Value-Added Agribusiness. *Gregory K. Pompelli, University of Tennessee; Kimberly L. Jensen, University of Tennessee.*

This study reports responses of 215 Tennessee agribusinesses to a survey about domestic marketing assistance needs. Critical assistance needs identified by the respondents included finding potential buyers, product promotion, and market research. Logistic models showed that the level of assistance needs varied by sub-sector, firm size, and business experience.

Attitudes of Cooperative Managers and Board Members Toward Value-Added Enterprises and New Generation Cooperative Structures. *Phil Kenkel, University of Tennessee; Rodney B. Holcomb, Oklahoma State University; Edwin Acbol, Oklahoma State University.*

Cooperative managers and board members were surveyed on their interest in value-added enterprises, rationale for diversification, perceived riskiness, willingness to invest, impediments to diversification, and attitudes toward alternative cooperative structures. Results indicated strong interest in value-added activities and highlighted important differences in

managers' and board members' perceptions of value-added enterprises

An Analysis of the Performance of U. S. ISO 9000 Registered Agribusiness Sites Based on Selected Quality Assurance Indicators. *Gerald Mumma, Mississippi State University; Albert J. Allen, Mississippi State University; Warren Couvillion, Mississippi State University.*

Manager's perceptions of the impact of ISO 9000 standards on the marketability of registered U.S. agribusiness were analyzed. Customer satisfaction, access to international markets, customer audits, operational efficiency, domestic prices, and product rejection, were directly related to marketability. Customer audits, and registration to ISO 9002 was inversely related to marketability.

TITLE: Economics of Waste Management (Moderator: William Park, University of Tennessee).

Apparent Versus Potential Value of Broiler Litter. *Derrell S. Peel, Oklahoma State University; Tina M. Eaton, Oklahoma State University.*

Anecdotal evidence indicates that broiler litter in eastern Oklahoma is currently valued at $2-$10/ton at the source. Misallocation of litter is hypothesized to result from litter being used and valued primarily for its nitrogen fertilizer in the four Oklahoma counties where the majority of broiler production occurs. These results indicate that litter is currently valued primarily as a nitrogen source.

Economics of Poultry Litter Utilization and Optimal Environmental Policy for Phosphorus Disposal in Georgia. *Christopher S. McIntosh, University of Idaho; Krishna P. Paudel, Auburn University.*

Poultry litter can be used as plant nutrients or cattle feed. Both of these alternatives may increase phosphorus concentration in the nearby watershed. Use of phosphorus consistent litter application rule in nutrient management combined with permit system has potential to curtail the over production of litter and prevent the possible contamination of water.

Valuing Water Quality Improvements and Distributional Alternatives of Rural Septic Systems. *Angelos Pagoulatos, University of Kentucky; Ronald A. Fleming, University of Kentucky; Rebecca Smith-Allen, EPA.*

Zion Hill, Kentucky is a low income, largely minority community needing to repair failing septic systems. Following alternative moral philosophy theories, alternative distributions of costs and benefits are explored and implementation of alternative cost-sharing programs is suggested. Fully compensating the citizens of Zion Hill leads to a positive net welfare gain.

Evaluating the Efficiency of Kentucky's Swine Production Facilities Setback. *Ronald A. Fleming, University of Kentucky.*

This study assesses the economic impact of Kentucky's swine production facility setbacks. Economic impacts are assessed by comparing the cost of legislated setback lengths to the cost of setback lengths derived by an engineering model. Results indicate that the legislated setback lengths generate excessive environmental compliance costs.

TITLE: Agricultural Pricing Systems (Moderator: Michael Thomsen, University of Arkansas).

Analyzing the Limited Adoption of Grid Pricing: An Application of Expected Utility Theory. *Kimberly A. Zeuli, University of Kentucky; John D. Anderson, University of Kentucky.*

This study will provide some important insight into the question of why grid pricing has not been more widely adopted by fed cattle producers. It compares the risk-return tradeoff associated with grid pricing versus live pricing for fed cattle producers of varying risk aver-

sion levels within an expected utility framework.

Analysis of the Effect of Packing Capacity on Hog Prices. *Sarah E. Spivey, Texas A&M University; Victoria Salin, Texas A&M University; David P. Anderson, Texas A&M University.*

Effect of capacity constraints on pork prices were analyzed for live and cutout prices. Two continuous variables to measure capacity constraints were significant explanatory factors; the binary variable was not. Increasing capacity constraints is associated with a negative relationship to farm prices, and a positive relationship to cutout prices.

Analyzing Factors Affecting Grain Pricing Opportunities. *Roger Wilson, University of Nebraska, George Pfeiffer, University of Nebraska, James Kendrick, University of Nebraska.*

The study examined the returns soybean producers in Nebraska would have received had they determined the best time to market their crop by discounting the futures market for opportunity costs, handling costs, storage costs and the basis. Six different ways of predicting the basis were used.

Grid Pricing Versus Average Pricing for Fed Cattle: Where is the Incentive? *Scott W. Fausti, South Dakota State University; Bashir Qasmi, South Dakota State University; Dillon Feuz, South Dakota State University.*

Revenues derived from marketing above-average and below-average quality slaughter cattle at an average price versus selling them on a grid pricing system over a 30 month period is investigated. The empirical evidence indicates that discounts levied on below-average carcasses have increased over the 30 month period. However, premiums paid for above-average carcasses have remained constant.

TITLE: Extension Issues in Livestock Marketing and Production (Moderator: John Anderson, University of Kentucky).

Goat Producers Ratings of Markets and Production Problems. *Mack C. Nelson, Fort Valley State University; Nathaniel B. Brown Jr., Fort Valley State University; Steven C. Turner, University of Georgia; S. Mobini, Fort Valley State University; S. Gelaye, Fort Valley State University.*

Georgia's meat goat producers were surveyed to assess their importance ranking of production problems and marketing channels. Parasites were the most important production problem and goat auctions and direct consumer sales were the most important marketing channels. Breeding stock and direct consumer sales are rated most important in the future.

Beef Cow-Calf Production and Financial Performance Measurement: A Six Year Summary of the Southern Cow-Calf Industry and Use In Extension Programming. *Lawrence Falconer, Texas A&M Research and Extension Center; John Parker, Texas A&M Research and Extension Center; James McGrann, Texas A&M University.*

Selected summary production and financial performance data gathered using the NCBA-IRM-SPA guidelines are developed and reported for the Southern beef cow-calf industry. The use of this information in Extension programming is discussed. Stratification of the data by size of operation indicates possible economies of size in the South's cow-calf industry.

Optimizing Forage Programs for Oklahoma Beef Production. *Karen E. Smith, Oklahoma State University; Francis Epplin, Oklahoma State University; Darrel Klettke, Oklahoma State University; Damona Doye, Oklahoma State University; Dave Lalman, Oklahoma State University.*

Beef producers are seeking a means of reducing feed costs without degrading livestock quality. This program is a computerized de-

cision aid designed to help a beef producer plan a year round grazing system given a specified resource base.

Beef Cow-Calf Standardized Performance Analysis Software. *John Parker, Texas A&M Research and Extension Center; Lawrence Falconer, Texas Ag. Extension Service; James McGrann, Texas A&M University.*

This paper describes the development of a software package that utilizes the Standardized Performance Analysis guideline recommendations to generate reports for reproduction, production, grazing and feed use, marketing and financial efficiency to support the decision making processes employed by individual beef cattle producers. Moreover, this software also prepares summary reports and data for a regional comparative database.

TITLE: Innovations in Agricultural Economics Curriculum and Instruction (Moderator: Lisa House, Mississippi State University).

Incorporating Active Learning into the Daily Routine of Classroom Instruction. *Kim Harris, Southern Illinois University.*

Readers are introduced to specific, practical teaching strategies that model the use of active learning in the classroom. Particular emphasis is given to assessing various risks associated with using active learning strategies and aiding faculty in selecting only those active learning strategies that are at a personally comfortable risk level.

Economics in the Undergraduate Agricultural Economics Curriculum at the End of the Millennium. *Michael Oldfather, Kansas State University; Bryan Schurle, Kansas State University.*

This study reports results of a survey of 50 U.S. agricultural economics undergraduate programs. The paper focuses on the place of economics in undergraduate curricula and changes that have taken place in attempts to find ways to attract students and prepare them for careers in the 21st century.

Assessments of the Educational Value of Web-Based Instructional Tools. *Harold Deskins, Durham, North Carolina; Kurt Stephenson, Virginia Tech University; Dixie Watts Reaves, Virginia Tech University.*

This paper describes a comprehensive web-site designed for principles of microeconomics. Three sets of quantitative tests were conducted to assess whether student learning and motivation was improved by the web-site. These tests included comparisons of test scores across classes, course evaluation surveys across classes, and web-site use and assessment surveys.

Opportunities and Challenges in Satellite Campus Agribusiness Management Education. *Ferdinand F. Wirth, University of Florida; Suzanne D. Thornsbury, University of Florida.*

In 1998, University of Florida launched an agribusiness B.S. program at a research and education center 200 miles from the main campus. The atypical setting, student profile and class structure present some unique opportunities and challenges. A series of active and experiential teaching exercises are employed to maximize student learning.

TITLE: Dairy Industry Profitability, Pricing, and Technology Impacts (Moderator: Derrell Peel, Oklahoma State University).

Managing Risk and Profits on the Dairy Farm: A Marketing Risk Management and Analysis Program for the Dairy Producer. *Cameron S. Thraen, Ohio State University; Normand St-Pierre, Ohio State University; Wayne Knoblauch, Cornell University.*

MRP/Dairy curriculum and software is designed to provide the dairy farmer with tools that address economic risk associated with volatility in input feed prices, output milk and crop prices. They include all current crop in-

surance instruments, forward pricing contracts, futures and options contracts, and combinations of the risk mitigating products.

Florida Dairy Marketing Cooperatives' Transfer Cost Associated with Uneven Delivery Schedules. *Sophia J. Glen, University of Florida; Tom Stevens, University of Florida; Richard Kilmer, University of Florida.*

The five-day even delivery schedule showed that FDMC increased total transfer costs $0.1868 per hundredweight on variable volume. FDMC increased costs $0.1541 per hundredweight variable volume for a seven-day uneven schedule and an increase of $0.1881 for a seven-day even schedule with cancellations and over orders.

Impact of Retail Price Volatility on U.S. Fluid Milk Demand. *Leigh J. Maynard, University of Kentucky.*

Existing policy allows interstate dairy compacts, given a compelling public interest. Compact supporters argue consumers benefit from retail price stability, but no supporting evidence was found. Milk demand systems were estimated using four measures of price volatility. Volatility defined as forecast errors influenced, but did not systematically depress milk demand.

The Impact of Reverse Osmosis and Ultrafiltration Technologies on the Southern Dairy and Milk Industries. *Heng-chi Lee, Texas A&M University; David P. Anderson, Texas A&M University; Robert B. Schwart, Texas A&M University; Bruce A. McCarl, Texas A&M University.*

The dairy industry is undergoing a major structural change involving fewer, but larger farms. Technological and managerial changes have fostered much of this change. Two relatively old technologies, Reverse Osmosis (RO) and Ultrafiltration (UF) may now be feasible at the farm level. This paper examines their potential impact on the Southern industry.

TITLE: Industrial Development in Rural Areas (Moderator: Dave Freshwater, University of Kentucky).

Target Industry Analysis and Local Economic Development. *LaDee Homm, Oklahoma State University; Mike Woods, Oklahoma State University; Gerald Doeksen, Oklahoma State University.*

Target industry analysis is a powerful tool to aid in economic development. Communities can use the data to focus their economic development efforts and increase their chances of successful development. This study focuses on data analysis, interpretation of results and the broader context of community development.

Factors Affecting Agribusiness Firm Location Decisions in Oklahoma: A Site Selection Survey Approach. *Jeannine Flores-Bastidas, Oklahoma State University; Rodney B. Holcomb, Oklahoma State University; Mike Woods, Oklahoma State University; Conrad P. Lyford, Oklahoma State University.*

This study provides an overview of factors that influence industrial location decisions for value-added agricultural products (food and non-food) processors. Factor ratings for food and non-food manufacturers are also compared. The potential value of these findings to policy makers interested in stimulating regional value-added industry development is also discussed.

Exogenous Factors Affecting Pull Factors Values in Oklahoma Communities. *Kimberly McCroskey, Oklahoma State University; Mike D. Woods, Oklahoma State University, Dan S. Tilley, Oklahoma State University.*

A linear model is used to explore the determinants of retail trade. Equations for the eight retail sectors, as defined by the Standard Industrial Classification code, were estimated using Ordinary Least Squares. The results of the analysis showed each retail sector had a different set of significant variables. Only the

county seat dummy variable was found to be significant for every sector, indicating county seat towns emerge as local trade centers.

New Technologies, Agricultural Evangelism and the Evolving Structure of Rural Societies. *David L. Debertin, University of Kentucky.*

Productivity-enhancing research and education is grounded in the belief that such efforts will improve the lives of farmers and non-farm rural people. The objective of this paper is to quantify the extent to which these beliefs are held among those working in colleges of agriculture and to examine their implications.

TITLE: Miscellaneous Issues in Environmental Economics. (Moderator: Molly Espey, Clemson University).

Implications of Treating Environmental Pollution as Undesirable Output Versus Input on Shadow Prices. *Saleem Shaik, Montana State University; Glenn A. Helmers, University of Nebraska, Joseph Atwood, Montana State University.*

The potential implications of treating environmental pollution as both an undesirable output and input on two methods of estimating shadow price (direct and indirect) are addressed in this paper. Overall using Nebraska agriculture sector data from 1936–1994, the results of potential nitrate pollution demonstrate the difference is relatively less than hypothesized.

Supplemental Irrigation Water Management in the Southeast US. *Krishna P. Paudel, Auburn University; Upton Hatch, Auburn University.*

Variability of rainfall in the Southeast US has led to a substantial amount of supplemental irrigation in major crop growing areas. Growth in agricultural water use in conjunction with rapid urbanization has increased the need for improved water management. A dynamic programming model was developed to address this issue.

Microeconomic Impacts of Weather Variability on Risk Management. *Murali Kanakasabai, University of Kentucky; Carl R. Dillon, University of Kentucky; Ronald Fleming, University of Kentucky.*

The research utilizes biophysical simulation and mathematical programming techniques to model the effects of climate change on optimal production strategies of the Kentucky farmer under a risk framework. Results indicate weather variability significantly influences the production environment, reducing field day availability and consequently restricting risk management potential and farm profitability.

An Analysis of Environmental Implications of Agricultural Chemical Taxation. *Somporn Meerungruang, Mississippi State University; Walaiporn Intarapapong, Mississippi State University; Diane Hite, Mississippi State University; Darren Hudson, Mississippi State University.*

Recognition of the environmental impacts due to agricultural practices has become widespread. Cotton is one of the major crops which intensively uses agricultural chemicals which could cause nonpoint pollution. This study attempts to investigate the economic and environmental impacts associated with imposing taxes on chemical inputs.

TITLE: Beef Cattle Production and Management Strategies (Moderator: Amos Bechtel, Louisiana State University).

Impact of Carcass Merits and Choice/Select Spread on Producer Selection of a Fed Cattle Marketing Option. *John D. Anderson, University of Kentucky; Kimberly A. Zeuli, University of Kentucky; Daniel Green, University of Kentucky.*

Guidelines regarding selection of marketing method based on average cattle quality and

the prevailing Choice/Select spread are generated using stochastic simulations. To provide a revenue comparison, cattle are priced on a live basis and on grids varying by Choice/Select spread.

A Dynamic Programming Analysis of the Purchase vs Retain Replacement Heifers Decision in Commercial Cow-Calf Production. *James A. Larson, University of Tennessee; Dan L. McLemore, University of Tennessee; Jeffrey R. Stokes, Pennsylvania State University.*

Dynamic programming was used to analyze the purchase or raise replacement heifer decision for a cow-calf producer. Optimal switching increased net returns over retaining or purchasing based on the relationship between current and expected market prices for calves, replacement heifers, and culls. However, switching between systems considerably impacts herd dynamics.

Socioeconomic Profiles of Cow-Calf Ranches. *Sara D. Short, USDA.*

This paper will examine enterprise production cost differences, ranch business structural differences, and operator demographic differences between cow-calf operations by resource region and by farm typology.

Technical Efficiency of Cattle Production in Louisiana. *Anna Rakipova, Louisiana State University; Jeffrey Gillespie, Louisiana State University.*

Technical efficiency was measured for 56 Louisiana cattle producers using data envelopment analysis. Technical efficiency scores ranged from 0.36 to 1, with an average score of 0.92. Using tobit analysis, it was determined that breeding practices, demographic characteristics of producers, forage management, and farm characteristics were correlated with technical efficiency.

TITLE: Farm Enterprise Management and Profitability. (Moderator: Michael Popp, University of Arkansas).

Making Profitable Choices Using a Peanut Decision Support System. *J. Mark Leonard, Oklahoma State University; Harry Mapp, Oklahoma State University; Ron Sholar, Oklahoma State University; John Damicone, Oklahoma State University; Mike Kizer, Oklahoma State University.*

A new decision support system for peanut producers employs Microsoft Excell97 with Visual Basic for Applications. Producers select peanut varieties, disease and insect control strategies, machinery sets, and irrigation systems for each field. Net returns per acre are estimated for the alternative production systems being considered.

A Stochastic Dominance Analysis of Bt Corn Production in the Southeastern United States. *Aydin Basarir, Louisiana State University; Boris Castro, Louisiana State University; Richard F. Kazmierczak, Jr., Louisiana State University.*

Bt corn hybrids are expected to play an important role in future southern corn production. Cost and yield advantages are the potential incentives for producer adoption. Using stochastic dominance analysis, this study indicates that adaptation of this technology for southeastern production has not yet been successful from a risk-adjusted perspective.

Assessing Soil Loss Restrictions on Farm Enterprises in the Cache River Watershed of Southern Illinois: A Representative Farm Approach. *Jeff Beaulieu, Southern Illinois University; John E. Ferguson II, Southern Illinois University.*

Representative farm, linear programming is used to assess conservation policy in the Cache Watershed. Constraining soil loss to T results in changed tillage practices, enterprise combinations, and reduction in gross margins. Shadow prices reveal much of the income loss

is attributed to declines in values of particular soil types.

The Effect of Lease Type on Optimal Growing Season Futures Market Positions for Corn Producers. *Richard K. Rudel, University of Missouri; Francis McCamley, University of Missouri.*

Effects of lease type on optimal growing season corn futures market positions for tenants are examined by estimating positions for a fixed cash rent lease, seven flexible cash rent leases and seven crop share leases. The positions are estimated by applying three risk programming criteria to data from three locations.

TITLE: International Trade Policy. (Moderator: Gregory K. Pompelli, University of Tennessee).

The Impacts of Trade Liberalization in Trinidad and Tobago. *Naira Kazarian, University of Georgia; Glenn C.W. Ames, University of Georgia.*

A two-sector, three-good model, developed by S. Devarajan et al. At the World Bank was used to analyze trade liberalization in Trinidad and Tobago as an example of the country's new open economy policy. A 20% reduction in T&Ts import tariff rate resulted in increased import volume, overall decline in consumer prices, investment level, tax revenue and government savings, and a positive growth in overall consumption.

Tariff Rate Quotas and Their Impacts on U.S. Tobacco Markets. *William Amponsah, North Carolina A&T State University; Xiang-Dong Qin, North Carolina A&T State University.*

U.S. Tobacco TRQ was implemented in 1995 following termination of the Domestic Content Requirement. Only a few countries have even used up their quotas, and overall in-quota fill rates are low. The tobacco TRQ, which is administered on a first-come first-served basis, has provided little protection to U.S. tobacco markets.

Assessing Impacts of the North American Free Trade Agreement on Market Integration: Evidence From Rice Markets in the United States and Mexico. *Linwood Hoffman, USDA/Economic Research Service; Harjanto Djunaidi, University of Arkansas; Nathan Childs, USDA/Economic Research Service; Eric J. Wailes, University of Arkansas; Gail L. Cramer, University of Arkansas.*

Regional Trade Agreements (RTA's) are believed to increase price efficiency within two or more markets. Therefore, the law of one price (LOP) should hold in the participating country's rice markets after implementation of NAFTA.This hypothesis is tested using the vector error correction model (VECM). Statistical results do not support RTA claims.

Monetary Shocks, the Exchange Rate, and the Agricultural Trade Balance. *Sung-Chul No, Louisiana State University; Hector O. Zapata, Louisiana State University.*

This paper investigates the empirical issue of dynamic linkages among monetary policy, the exchange rate, and agricultural trade balance in accordance to the open economy macroeconomic models using monthly data. We found evidence supporting dynamic linkages among them, especially a significant exchange rate impact on agricultural trade balance.

TITLE: International Trade and Markets in Socialist and Formerly Socialist Countries. (Moderator: Albert J. Allen, Mississippi State University).

U.S. Processed Food Exports and Foreign Direct Investment into China: Substitutes or Complements? *Mary Marchant, University of Kentucky; Sayed Saghaian, University of Kentucky; Steven Vickner, University of Kentucky.*

This research examines the relationship between U.S. foreign direct investment (FDI)

and exports of processed foods to China, and identifies strategies that enhance competitiveness. Two stage least squares (2SLS) empirical econometrics results from a simultaneous equation system indicate that there exists a strong complementary relationship between exports and FDI.

Corruption, Inefficiency, and Negligence as Barriers to Trade With Formerly Socialist Countries. *Richard Beilock, University of Florida.*

Trade with formerly Socialist nations will continue to grow well into the next century. However, high transport and related costs are a significant barrier to this trade. Evidence is presented from the Balkans and the Caucasus that, despite severe problems with infrastructure, the primary impediments are institutional.

Household Expenditure Patterns for Carbohydrate Sources in Russia. *Rodney B. Holcomb, Oklahoma State University; H.L. Goodwin, Jr., University of Arkansas; Rimma Shiptsova, University of Arkansas.*

This study provides a unique view of the demand for carbohydrate sources in Russia at the household level. The data used in this analysis was obtained from a 1996 survey in eight Russian metropolitan areas. An AIDS model is used to examine the expenditures for potatoes, bread, flour, rice, and pasta. The impacts of household demographic factors on the consumption of carbohydrates are also discussed.

The Market for Chicken in Cuba. *Steve Murray, Mississippi State University; Carey W. Herndon, Mississippi State University; G. Wallace Morgan, Mississippi State University.*

The authors made an in-country evaluation of the market for chicken in Cuba in March 1999. Chicken is usually not available in the peso market. Adequate quantities of chicken are available in the "dollar" stores. There is opportunity for U.S. broiler producers to access this market.

TITLE: Export Modeling and International Issues. (Moderator: Chung L. Huang, University of Georgia).

A Comparison of Annual, Quarterly and Monthly Turkey Export Models. *Dale Colyer, West Virginia University.*

In models of turkey exports for monthly, quarterly and annual data are estimated trend is significant in all three models, seasonals in the quarterly and monthly models. Exchange rates, lagged prices, and lagged production were factors in the monthly model; exchange rates and prices in the quarterly model; but only the exchange rates in the annual model.

The Timing and Nature of Agribusiness Foreign Direct Investment in Sub-Saharan Africa: A Real Options Perspective. *Michael Sykuta, University of Missouri; Kurt Richter, University of Missouri.*

Using a real options framework, we examine the pattern, timing, and nature of foreign direct investment projects in Sub-Saharan Africa. Political, institutional, and economic uncertainty, as well as the reversibility and level of investment, affect the value of the option to delay FDI projects.

Determination of Preferences for U.S. Beef Exports to Japan. *Joe Parcell, University of Missouri; Mike Sykuta, University of Missouri.*

This analysis uses a market share demand analysis to determine Japanese import preferences for beef between competing exporting nations. Results indicated no preference for chilled or frozen beef between competing supplier nations. Import demand elasticities computed from estimation results were consistent with previous research where more complex modeling was employed.

An Analysis of World Food Situation. *Tesfa G. Gebremedhin, West Virginia University; Semoa De Sousa, West Virginia University.*

The main objective of this paper is to de-

termine the real causes of world food insecurity and to identify the misconceptions surrounding our understanding of hunger and poverty. The study confirms that the world will face serious food crises in the future, more dangerous and life threatening than the crisis of the present and past.

TITLE: Sustainable Production Systems and Precision Farming. (Moderator: Fritz Roka, University of Florida).

The Economic and Environmental Impacts of an Alternative Agricultural Conservation Practice: Case of Mississippi Soybean Rotations. *Walaiporn Intarapapong, Mississippi State University; Diane Hite, Mississippi State University; Lynn Reinschmiedt, Mississippi State University.*

One of the major problems with nitrogen fertilizer is inappropriate application. To comply with Total Daily Maximum Load Standard (TMDLs), soybean rotations may be a viable alternative. This study attempts to estimate economic and environmental benefits of soybean rotations in 6 regions in Mississippi, using the Erosion/Productivity Impact Calculator (EPIC) for model simulation.

Sequential Adoption of Precision-Farming Technologies Under Uncertainty. *Edward Jaenicke, University of Tennessee; Dan Cohen-Vogel, Vanderbilt Institute of Public Policy Studies.*

This paper demonstrates the importance of modeling precision-farming adoption as a sequential, multi-stage investment when land variability and investment costs are uncertain. When investment is sequential, as is the case for precision technologies, information gained from initial investments is valuable even if the overall project appears prohibitively costly.

Willingness to Pay for Precision Application Technology to Reduce Agricultural Nonpoint Pollution. *Diane Hite, Mississippi State University; Darren Hudson, Mississippi State University; Domenico Parisi, Mississippi State University, Somporn Meerangruang, Mississippi State University.*

This paper presents preliminary results of a pilot contingent valuation survey from Mississippi that is used to assess willingness to pay for reduction in agricultural related nonpoint pollution. We focus on implementation of a policy to provide farmers precision application equipment. Findings suggest that public support for such policies exist.

Using GPS Data to Optimally Allocate Land in Production to CRP Buffer Strips. *Jeremy Stull, University of Kentucky; Carl Dillon, University of Kentucky; Steve Isaacs, University of Kentucky; Scott Shearer, University of Kentucky.*

This research evaluates the economic benefit of buffer strips on a diversified crop farm. Analysis includes breakeven computations permitting development of a decision-making criteria for the selection of these strips using historical yield monitor data. Results suggest that there is potential for this process to increase overall net returns.

TITLE: Agricultural Policy Analysis. (Moderator: James Novak, Auburn University).

Measurement of Adverse Selection in Crop Insurance Using Expected Indemnity Approach. *Joseph Atwood, Montana State University; Saleem Shaik, Montana State University.*

The paper examines if the producers reveal their risk (identify the extent of adverse selection) by their decisions with respect to the crop insurance coverage policy, percent election and optional units. Both the Tobit and OLS results support the hypothesis of adverse selection within the poll of insured cotton producers.

Limiting Systemic Risk and Uncertainty in Agricultural Cooperatives. *Samuel J. Hancock, University of Kentucky; Jerry R. Skees,*

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University of Kentucky; Kimberly A. Zeuli, University of Kentucky.

This paper analyzes different institutional structures for sharing systemic risk for crop yields. Specifically, it illustrates how new generation cooperatives could deliver farm level crop insurance while hedging against catastrophic losses. The simulation presented will serve as a guide to co-op managers explaining how alternative structures can be instituted.

A General Equilibrium Analysis of U.S. Ethanol Production Using Dilute Acid Hydrolysis. *Youn-Sang Choi, Korea Rural Economic Institute; Michael S. Kaylen, University of Missouri.*

A general equilibrium model is developed to analyze the effects of a recent technological breakthrough in ethanol production, using lignocellulosic feedstocks (crop residues and woody biomass) instead of corn. The analysis shows the grain crop sector would be negatively affected by adoption of the new technology while GNP would increase.

Federal Milk Marketing Order Reform: Effects on Tennessee Dairy Farms. *Stephen P. Slinsky, University of Tennessee, James A. Whaley, University of Tennessee.*

Financial position improves on two representative Tennessee dairy farms under the revised Federal Order Consolidation and Reform Final Rule compared to current and Final Rule provisions. However, the Final Rule definition of Class I price differentials did not prove to be detrimental to the survival of the representative farms.

TITLE: Supply, Demand, and Pricing for Agricultural Products. (Moderator: John Allison, University of Georgia).

Impacts of Captive Supply on the Open-Market Price for Fed Cattle. *Rita Aragão, Auburn University; Robert G. Nelson, Auburn University; J. Walter Prevatt, Auburn University.*

The putative impact of captive supplies on cash receipts is re-evaluated. Two recent studies showed a negative relationship between captive supplies and cash prices, but neither controlled for increase in total supply. Correcting for this provides a more accurate picture of the role of captive supplies in cattle markets.

A Price Analysis of Selected Ornamental Plant Products in Georgia. *Steven C. Turner, University of Georgia; Forrest E. Stegelin, University of Georgia.*

Grower receipts from the sale of environmental horticulture have risen 9% during the past three decades. Was the increase a function of increased quantities sold or of rising prices? Results support the assertion that increased quantity has fueled much of the increase in grower receipts.

Food Expenditure Patterns of the Hispanic Population in the U.S. *Bruno A. Lanfranco, University of Georgia; Glenn C.W. Ames, University of Georgia; Chung L. Huang, University of Georgia.*

Food expenditure patterns were examined for Hispanic households in the U.S. Engel curves for three categories: food eaten at-home (FAH), food eaten away-from-home (FAFH), and for total food (TF), are estimated using four different functional forms. Confidence intervals for income and household elasticities are computed and results compared with previous research.

Factors Affecting the Consumption of Rice in the United States. *Minsup Shim, Clemson University; Michael D. Hammig, Clemson University.*

A limited dependent variable model, using BLS data from the 1996 consumer survey, determines socioeconomic factors affecting purchases of rice products by U.S. households. Results indicate that gender, household size, expenditures on food away from home, education, region, urbanization, marital status, and

ethnicity significantly affect the purchase of rice products.

TITLE: Uncertainty and Assessment of Risk Management Tools. (Moderator: Harry Mapp, Oklahoma State University).

Developing and Pricing a Rainfall Contingent Claims Contract. *Steven W. Martin, Mississippi State University; Barry J. Barnett, Mississippi State University; Keith Coble, Mississippi State University.*

A unique, flexible-form rainfall contingent claims contract is proposed as an agricultural application of the new and growing area of weather derivatives. The proposed rainfall contingent claims contract allows the purchaser to specify the parameters of the indemnity function. Parametric and non-parametric pricing methods are compared.

Investigating the Implications of Multi-crop Revenue Insurance for Producer Risk Management. *Corey Miller, Mississippi State University; Keith Coble, Mississippi State University; Barry Barnett, Mississippi State University.*

This study investigates the potential for alternative multi-crop revenue insurance designs in comparison to single crop yield and revenue insurance designs. A non-parametric multi-crop insurance model is developed which subsumes the single crop designs. The results compare the alternative designs in terms of the rate levels and risk reduction gains for representative Mississippi producers.

Evaluation of New Risk Management Tools for Southern U.S. Crops. *Manuel Zuniga, Mississippi State University; Keith Coble, Mississippi State University; Richard Heifner, USDA.*

This research evaluates the interaction of new alternative insurance designs with futures hedging and the purchase of options. A numerical analysis is conducted using a revenue simulation model that incorporates futures prices, basis, and yields variability. Four crop insurance designs at 75 percent of coverage protection are evaluated. Optimal hedge and at-the-money put options ratios are derived for expected utility maximizing cotton and soybean producers.

The Effect of Yield Uncertainty on Planting Decisions. *George Ebai, University of Missouri; Joe Parcell, University of Missouri.*

Empirical methods have usually modeled acreage response ignoring yield uncertainty. Such an approach fails to recognize the potential effect of yield uncertainty on producers' profit expectations. We propose modeling acreage response with yield and yield uncertainty. The statistical results indicate that price and yield uncertainty have a negative effect on wheat acreage.

TITLE: Cost Strategies and Input Decisions. (Moderator: Damona Doye, Oklahoma State University).

An Evaluation of Seedbed Preparation Strategies on Arkansas Dryland Soybean. *Alan D. Pearce, University of Arkansas; Michael P. Popp, University of Arkansas; Carl R. Dillon, University of Kentucky.*

An analysis of planting strategies resulted in seed variety being more important for managing production risk than seedbed preparation when evaluated using yield, net return, and breakeven price. Once the impact of weather on timely planting and therefore potential scale of operation was included, seedbed preparation was more influential.

An Analysis of Selection of Roundup Ready Soybean Varieties in North Missouri. *Je-Kook Chung, University of Missouri; Raymond E. Massey, University of Missouri; Harry Minor, University of Missouri.*

This study uses 15 Roundup Ready® soybean varieties to seek a method of presenting variety test information for farmer use. Five alternatives were in the efficient set using Second Degree Stochastic Dominance; 1, using

Generalized Stochastic Dominance. Mean-variance (EV) analyses have presented findings using an EV frontier. A whisker graph may be easier than a frontier for farmers to understand.

Production and Profitability Responses to Alternative Protein Sources in Broiler Rations. *Ecio de Farias Costa, University of Georgia; Bill R. Miller, University of Georgia; Jack E. Houston, University of Georgia; Gene M. Pesti, University of Georgia.*

Profitability of using peanut meal as an alternative protein source in broiler production was investigated through the development of a two-stage mathematical program that optimizes broiler production. The concept of value of marginal product incorporated in this model allows demand adjustments before decisions on the production and processing take place.

Winter Wheat Grain Yield Response to Lime. *Vladimir V. Lukin, Oklahoma State University; Francis M. Epplin, Oklahoma State University; Gordon V. Johnson, Oklahoma State University.*

This study was conducted to determine the economics of lime application to acid cropland soils. Data were obtained from field trials conducted over a long time horizon. Response functions were estimated to determine yield response to pH. The lime rate that maximizes net present value was determined.

TITLE: Consumer Health, Food Safety, and Labeling Issues. (Moderator: Loys Mather, University of Kentucky).

Welfare Losses From Food Safety Regulation in the Poultry Industry. *H.L. Goodwin, University of Arkansas; Rimma Shiptsova, University of Arkansas.*

Results of surveys sent to plant managers of eleven firms representing 25 percent of the U.S. broiler volume were used to estimate HACCP implementation costs for poultry kill plants and to perform welfare analysis. First-year welfare losses were $70 million for the broiler industry. There were also substantial consumer losses.

Differences in Contingent Valuation Estimates from Referendum and Checklist Questions: A Case Study of Beef Irradiation. *Arbindra P. Rimal, University of Georgia; Stanley M. Fletcher, University of Georgia, Kay H. McWatters, University of Georgia.*

This study compares willingness-to-pay (WTP) estimates from a survey of 143 households using double-bounded referendum (DBR) questions to WTP estimates from a supermarket survey of 173 shoppers using checklist questions regarding reduced food-safety risk through irradiation. Mean WTP using DBR is higher than that using checklist questions across demographic groups.

The Impacts of Demographics and Health Information on Meat Demand. *Christine A. Cole, Kansas State University; Thomas L. Marsh, Kansas State University.*

The American population and its diet have changed considerably over the past few decades. With this, so has the demand for meat. Results of this study suggest that changes in demographic characteristics and increasing health awareness have influenced the changes in meat demand in addition to relative prices and income.

Consumer Reaction to Compulsory Country-of-Origin Labeling of fresh and Frozen Beef in Food Stores and Restaurants. *Alvin Schupp, Louisiana State University; Jeffrey Gillespie, Louisiana State University.*

A sample of Louisiana households was surveyed to estimate their support for compulsory country-of-origin labeling of fresh or frozen beef in grocery stores and restaurants. This requirement was supported by 93 and 88 percent of respondents for grocery stores and restaurants, respectively. Probit analysis identified the socioeconomic characteristics of consum-

ers who preferred labeling of beef in grocery stores and restaurants.

TITLE: International Market and Country Studies. (Moderator: Glenn C.W. Ames, University of Georgia).

Efficiency and Productivity Analyses of Ukraine, 1991–1996. *Olga I. Murova, Mississippi State University; Keith H. Coble, Mississippi State University; Michael Trueblood, USDA/ Economic Research Service.*

Ukraine is on the path of changing its planed economy to a market-economy. This paper analyzes efficiency of all crops in Ukraine by calculating inefficiencies in production and explaining some causes of these inefficiencies using two methods: stochastic frontier analysis and data envelopment analysis. These analyses also focus on productivity growth over time.

Supply Response and Price Determination of Cereals in Argentina. *Boubaker Ben-Belhassen, University of Missouri; Abner W. Womack, University of Missouri; Patrick W. Weshoff, University of Missouri.*

This paper models supply response and prices of Argentine cereals using an econometric framework based on Nerlovian dynamic model specification the theory of price transmission. Short-run and long-run elasticities are computed. The results indicate that the Argentine cereal sector is dynamic and that domestic markets are integrated to world markets.

Estimated Impacts of Improved Management Technology on Mexican Cattle and Beef Production. *Lisa Hayes, Oklahoma State University; Derrell Peel, Oklahoma State University.*

The implementation of NAFTA may cause changes in Mexico's cattle industry that are of particular interest to U.S. cattle producers. This research reports on a model of Mexican Cattle and beef production and the estimated impact of improved technology on the quantity and quality of cattle and beef production in Mexico.

TITLE: Economics of Aquaculture (Moderator: Richard F. Kazmierczak, Jr., Louisiana State University).

Market Integration in the Presence of Vibrio Vulnificus: Gulf of Mexico Versus Chesapeake Bay Production of Oysters. *Walter R. Keithly, Jr., Louisiana State University; Hamady Diop, Louisiana State University.*

This paper examined the extent to which the Gulf of Mexico and the Chesapeake oyster markets are integrated and whether market integration has changed as a result of warning labels and associated publicity. Results supported the hypothesis that warning labels led to a differentiation and a separation of the respective markets.

Analysis of Value-Added Seafood Products Derived from Southern Crawfish. *R. Wes Harrison, University of Tennessee; Timothy Stringer, Louisiana State University; Witon Prinyawiwatkul, Louisiana State University.*

Conjoint data and a two-censored Tobit model are used to analyze consumer preferences for three consumer-ready products derived from southern crawfish. The results show that women prefer a baked nugget or popper type product, whereas, 35 to 44-year-old men prefer a microwavable nugget or patty type product.

Assessing the Impact of Price and Yield Risk in the Southern United States Catfish Industry. *Patricia Soto, Louisiana State University; Richard F. Kazmierczak, Louisiana State University.*

The study characterizes catfish price and yield risk by empirically determining the probability distribution of stochastic price and yield variables. The impact of the stochastic variables is then evaluated int eh context of a catfish enterprise budget. Probability distribu-

tions of net returns are evaluated using stochastic dominance criteria.

Assessing Production Options for the Commercial Culture of Kentucky Paddlefish (*Polyodon spathula*). *A. Jacqualine Perkins, University of Kentucky; Ronald A. Fleming, University of Kentucky.*

Potential changes in the tobacco program have prompted research of aquaculture crops in Kentucky. Using a dynamic, programming model, this paper evaluates two methods for producing pond-raised paddlefish to assess if either method is economically viable in Kentucky. Results indicate that a polyculture system with catfish is profitable.

TITLE: Quantitative Methods and Modeling Issues. (Moderator: Krishna P Paudel, Auburn University).

A Comparison of Various Frontier Estimation Approaches Under Differing Data Generating Processes. *Daniel M. Settlage, Purdue University; Bruce Dixon, University of Arkansas; Michael Thomsen, University of Arkansas.*

Monte Carlo methods examine the accuracy of several production frontier approximating forms, estimators and methods to rank firms by level of predicted technical efficiency. Results show stochastic frontier methods superior to data envelopment analysis. The Cobb-Douglas approximating form is superior to the translog or generalized Leontief.

Comparing Three Alternative Hurdle Count Data Models: The Case of Meat Consumption in a Transition Economy. *Wanki Moon, University of Georgia; Wojciech J. Florkowski, University of Georgia; Larry R. Beuchat, University of Georgia; Anna V. Resurreccion, University of Georgia; Manjeet S. Chinnan, Canning Research Institute; Pavlina Paraskova, Canning Research Institute; Jordan Jordanov, Canning Research Institute.*

This proposal evaluates the applicability of hurdle count models to food consumption using meat consumption frequency data collected in a transition economy in 1997. We estimate Poisson, geometric, and Negin II models with and without hurdle structure imposed and conduct statistical tests to choose a model that best fits the data.

Optimal Advertising and Trade Status: Theory with Application to Cotton. *Yuliang Miao, Auburn University; Henry Kinnucan, Auburn University.*

This paper discusses whether trade status matters to the incentive to promote. After developing the comparative-static results, the model is applied to the cotton situation where trade status differs between finished good level (net importer) and raw-good level (net exporter) to demonstrate its empirical utility and to highlight principles.

Asymmetry in Price Transmission Models: New Simulation and Empirical Evidence. *Wayne M. Gauthier, Louisiana State University; Hector O. Zapata, Louisiana State University.*

Analyses of asymmetric price responses in price transmission models based on the seminal Wolffram-Houck segmentation technique are studied using Monte Carlo simulation. Empirical study of various marketing margin models support the simulation findings that the approach may not be as reliable as initially thought in studying price asymmetries.

TITLE: Rate of Returns, Willingness to Pay, and Perceptions of Public Programs. (Moderator: Daryll E. Ray, University of Tennessee).

Returns to Generic Advertising in a More Open Economy: A Model with Application to Avocados. *Henry W. Kinnucan, Auburn University; Shixue Yu, Auburn University.*

A Muth-type model is developed to determine the rents to domestic producers from advertising a finished good when trade is per-

mitted in the agricultural input. Results indicate that trade erodes advertising rents, but the erosion can be stemmed by differentiating products. The avocado industry can significantly enhance returns by timing advertising when imports are disallowed.

Rate of Return from Southern Rice Public Research Investments. *James Hansen, University of Arkansas; Gail Cramer, University of Arkansas; Eric J. Wailes, University of Arkansas.*

The rate of return to public rice research investments in four southern states is derived from an economic-surplus commodity model. Accurate assessment of rates of return from public rice research investment is essential for allocation of research funding at the federal and state level and increasingly important to administrators.

Food Banking in East Alabama: Client and Non-client Perspectives. *Ginger Grayson, Auburn University; LaToya Claxton, Auburn University; Joseph J. Molnar, Auburn University; L. Conner Bailey, Auburn University; Patricia A. Duffy, Auburn University.*

Food Banks are a relatively recent private, non-profit response to poverty. We examine differences between rural and urban users and eligible nonusers of food bank services in terms of demographic characteristics and experiences with food providers. In addition, we examine possible barriers to use among those not using food pantries.

Population Density and the Publicness of Local Services: Implications for Economic Growth. *Kwame Owusu-Edusei, Clemson University; Daniel V. Rainey, Clemson University.*

Using data from the 1980s and 1990s, this study finds that beyond population densities of 4,000 per square mile the cost of providing public services begins to increase. Thus, recent tax code changes in many communities intended to stimulate economic growth may become a bane to growth in the long run. This is due to the fact that as these economies continue to grow there may be insufficient revenues to meet the growing demand for local public services.

TITLE: Analysis of Futures Markets Efficiency and Hedging Effectiveness. (Moderator: Kimberly A. Zeuli, University of Kentucky).

Arbitrage Opportunities in a Thin Futures Market. *Heath Hoagland, University of Kentucky; Sam Hancock, University of Kentucky; Leigh Maynard, University of Kentucky.*

The price discovery role of a futures market and arbitrage incentives imply that it should be difficult to identify leading indicators of futures prices. Granger causality tests, however, indicate price series that lead shrimp futures prices. Trading simulations confirm that arbitrage would have been profitable during the sample period.

Nonparametric Tests of Commodity Futures Market Efficiency. *Andrew McKenzie, University of Arkansas; Harjanto Djunaidi, University of Arkansas; Eric J. Wailes, University of Arkansas; Gail L. Cramer, University of Arkansas.*

Market efficiency in rice, corn, live cattle, live hogs and soybean meal futures markets is tested for using standard parametric OLS procedures, GARCH models and nonparametric statistical procedures. The unconditional men of futures price returns held until contract maturity, are tested to determine if they are significantly different from zero.

Basis Predictability Using the New CME Stocker Cattle Futures Contract. *Wendy J. Umberger, University of Nebraska; Dillon M. Feuz, University of Nebraska.*

The ability to forecast basis using the new CME Stocker Cattle futures contract is examined for five regional feeder cattle markets. Two forecasting methods are tested to see

which one provides the best forecast of stocker basis. The results varied depending on the spot market and stocker contract month examined.

Hedging Effectiveness and Basis Variability for Different Weight Feeder Steers Using the CME Stocker and Feeder Futures. *Dillon M. Feuz, University of Nebraska; Wendy J. Umberger, University of Nebraska.*

Hedging effectiveness is examined and basis variability is determined for feeder steers using the CME stocker and feeder futures. Optimal hedge ratios are calculated and regional market differences are found to exist. The effectiveness of cross hedging 600–700 pound steers on the stocker versus the feeder futures is investigated.

TITLE: Cotton: Productivity and Financial Performance. (Moderator: Charles Curtis, Jr., Clemson University).

Cotton Acreage Response to Market Prices. *Nathanael Hishamunda, Food and Agriculture Organization of the United Nations; Jennie Raymond, Auburn University; Patricia A. Duffy, Auburn University; Curtis M. Jolly, Auburn University.*

We examine the effects of market price and government program variables on Southeastern cotton acreage, using both traditional and "regime-switching" models. Traditional models didn't fit well. Further, the regimes selected by the estimation procedure didn't correspond, as expected, with periods of greater or lower government involvement in the market.

Impact of Climate Change on Efficiency and Productivity in Wheat and Cotton Production Regions. *Glenn A. Helmers, University of Nebraska; Saleem Shaik, Montana State University; Bozeman, Albert Weiss, University of Nebraska.*

The potential impacts of changes in temperature and precipitation on regional cotton and wheat efficiency and productivity are addressed in this paper. Overall using data from 1975–1994, the results indicate increased productivity measures due to changes in the temperature and precipitation. Changing climate variables seem to increase rather than decrease due to positive influence.

Evaluating Minimum Tillage and Round-Up Ready Cotton Production Programs Across Texas. *Joe L. Outlaw, Texas A&M University; David P. Anderson, Texas A&M University.*

Since the introduction of GMO crops, like Round-Up Ready cotton, a debate has ensued concerning their profitability. Speculation has been that these crops are most profitable when used in conjunction with reduced tillage programs. This paper addresses the profitability of reduced tillage and Round-Up Ready programs in three areas of Texas.

Determinants of Financial Performance Based on Size of Operation: The Case of Cotton. *Mir Ali, USDA; Nora Brooks, USDA; Hisham El-Osta, USDA.*

1997 ARMS data were used with weighted least squares to determine factors associated with financial performance of cotton farms. While improving labor efficiency could improve operators' management income per dollar of output regardless of size, farm expansion was important to small farms, lowering economic costs was important to large farms.

TITLE: Economic Impact, Income Distribution, and Expenditure Studies. (Moderator: Forrest E. Stegelin, University of Georgia).

The Economic Impact of the 1999 Tornado on the Economy of Stroud and Lincoln County, Oklahoma. *Fred Eilrich, Oklahoma State University; Chuck Willoughby, Oklahoma State University; Gerald Doeksen, Oklahoma State University; Mike Woods, Oklahoma State University, Jack Frye, Oklahoma Cooperative Extension.*

Loss of industry has tremendous impact on

a community, but when a disaster destroys the three largest employers, the result can be devastating to a rural economy. An Oklahoma State University (OSU) team participated in an unprecedented multi-agency team approach to estimating the economic impact of the May tornado.

Per-Capita Income Convergence in Virginia and the Implications for Agriculture. *Mark Landry, Virginia Tech University; Sara Nienow, Virginia Tech University; Bradford Mills, Virginia Tech University; Ronbing Huang, Virginia Tech University; Ioannis Kaltsas, Virginia Tech University; Erika McEntarfer, Virginia Tech University; Elizabeth Perry, Virginia Tech University.*

Per-capita income convergence is empirically tested across counties in Virginia for the period 1969 to 1994. The influence of metropolitan and non-metropolitan county status and the share of agriculture in the county economy are examined and discussed. The data provides no evidence of overall per capita income convergence, however, a period of convergence did occur during the 1970s.

Effects of Race on Household Consumption Expenditures. *Sam Berhanu, West Virginia University; Dale Colyer, West Virginia University; Laura Blanciforti, National Institute for Occupational Safety and Health.*

Quarterly BLS household interview results for 1980–94 are used to examine effects of race on household consumption expenditures with an econometric model and to examine economic equality issues with Gini ratios and other measures. Results indicate that race is significant in expenditure patterns and that expenditures are less unequal than incomes.

An Empirical Analysis of Family Income Distribution. *James O. Bukenya, West Virginia University; Tesfa G. Gebremedhin, West Virginia University.*

The study examined the short-term and longer-term cyclical influence of family income inequality in the United States. The results indicated that the deterioration of labor market conditions for males versus females; lower wages for rural versus urban jobs; and industrial versus non-industrial jobs accounted for an increase in income disparities between families in the United States.