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Selected Papers

TITLE: Extension Resources and New Decision Tools (Moderator: Jim Pease, Virginia Tech University).

Decision Aid to Evaluate Livestock Species, Stocking Rates, and Economic Returns. *Jason L. Johnson and Wade Polk, Texas A&M University.*

A decision aid to evaluate livestock species selection, stocking rate, and economic returns was developed to enable rangeland managers to evaluate economic performance from specified grazing intensities. Estimates of returns from historical prices indicated that no single livestock enterprise always produced the highest economic returns to management, capital, and labor.

USDA's Option Pilot Program (DOPP): Training, Evaluation and Commentary. *Leigh J. Maynard, Gregory Ibendahl, and Andrea Branstetter, University of Kentucky.*

Pre- and post-training surveys were used to evaluate the effectiveness of USDA's Dairy Option Pilot Program (DOPP) risk management training. The training significantly increased producers' comfort level and understanding of put options, and many producers expressed willingness to buy options. Additional factors may explain trainees' low program participation rates.

An Interactive Spreadsheet Tool for Use in Crop Planting Decisions. *Daniel C. Green and Gregg Ibendahl, University of Kentucky; and Kimberly A. Zeuli, University of Wisconsin.*

The Interactive Specialty Corn Analysis Tool (ISCAT) is a spreadsheet designed as a decision aid for grain producers considering

the addition of specialty corn into their crop mix. Survey data is used to determine if this tool is an effective means for making cropping decisions about high-oil corn.

Regional Trends in Extension Resources. *Mary Ahearn and Jet Yee, Economic Research Service, USDA; and John Bottum, Cooperative State Research, Education, and Extension Service, USDA.*

Extension personnel (FTE) declined over 1977–1997, though the declines varied by region and 17 states even experienced increases. Nearly half of Extension FTE are allocated to agriculture and natural resources program areas and that remained fairly constant over the period. Community development and 4-H experienced declines in all regions from 1977–1992.

TITLE: Food Demand (Moderator: Lisa House, University of Florida).

Substantive Insights on Consumer Behavior: An Application of the Almost Ideal Demand System. *Eugene Jones, The Ohio State University; Cuma Akbay, Sutcu Iman University; and Brian Roe, The Ohio State University.*

Understanding consumers' purchase and consumption behavior is an intriguing area of research for economists. Many studies have concluded that higher-income consumers eat healthier diets than lower-income consumers; other studies have found similarity in diets for both groups. This study offers new insights into the consumption patterns for both groups.

Imports versus Domestic Production: A Demand System Analysis of the U.S. Red Wine Market. *James L. Seale, University of*

Florida; Mary A. Marchant, Alberto Basso, and Tigran A. Manukyan, University of Kentucky.

This research estimates price and expenditure elasticities of U.S. red wine imports from five countries compared to domestically produced red wine using the first-difference AIDS. Results suggest that U.S. red wine producers could increase their total revenue by decreasing prices, while Italian and French producers can increase total revenues by increasing prices.

Changes in Meat Demand Elasticities, Retail Meat Prices, and Promotional Purchases by Consumers. Annette L. Clauson and Steve W. Martinez, Economic Research Service, USDA.

Retail demand elasticities were estimated using monthly ACNielsen data from January 1998 through December 1999. Results suggest that meat consumption is much more responsive to prices than suggested previously. Conversely, a change in quantities purchased may be associated with smaller price changes than suggested in previous studies.

Demand for Meats: A Comparison of U.S. Households by Ethnic Groups. Bruno A. Lanfranco, Glenn C. W. Ames, and Chung L. Huang, University of Georgia.

A system of demand equations for 10 disaggregated meat products was estimated for Hispanics, African Americans, non-Hispanic whites, and a composite group. Price, income, and household size elasticities for meats were estimated. Hispanic households demonstrated a clear preference for beef, while African Americans preferred comparatively more pork and poultry.

TITLE: Land Price Analysis I (Moderator: Molly Espey, Clemson University).

Factors Affecting Spatial Variations in Farmland Values in Alabama Counties.

Gandhi Raj Bhattarai and Upton Hatch, Auburn University.

A spatial weight matrix was used to estimate single equation econometric models. Net farm income, farm investment, population density, and land use change positively affected farmland values. The metropolitan area category had significantly higher value than nonmetropolitan areas. Farm size (negative) and market influence index (positive) had statistically nonsignificant effects.

Urban/Rural Fringe, Lakes, and Residential Property Values in Upstate South Carolina. Fahmida Fakhruddin and Molly Espey, Clemson University.

Using hedonic analysis of residential properties in upstate South Carolina, location in the urban/rural fringe is estimated to have a significant positive value relative to either rural or urban locations. Lake frontage, lake access, and lake view are also found to have significant positive values.

How Urban Pressure Affected Sales of Agricultural Products in Fast Growth Counties: 1950–1997. Kenneth S. Krupa and Marlow Vesterby, Economic Research Service, USDA.

Changes in sales in 17 U.S. fast growth counties, subject to 5 continuous decades of intense population growth, were examined. Agricultural sales, adjusted for inflation, rose in all 17 counties. Nursery and greenhouse sales increased by two-and-a-half times the national average between 1950 and 1997.

TITLE: Hedging and Investigating the Basis (Moderator: Allen Wysocki, University of Florida).

Explaining Feeder Cattle Basis for Varying Feeder Cattle Weights and Sex. Hub Baggett and Clement Ward, Oklahoma State University.

This research identifies key variables that

explain changes in OKC feeder cattle basis for cattle differing in weight and sex. Results indicate that feeder cattle basis is affected by seasonality as well as demand and supply variables. Also, the effect of these variables changes with cattle of varying weight and sex.

An Empirical Investigation of the West Texas Cotton Basis. *Jeannie Nelson, Sukant Misra, and Octavio Ramirez, Texas Tech University.*

This study investigated factors affecting the cotton basis for the West Texas region. Results indicated that stocks, production, storage cost, price of rayon, seasonality, and the 1985 farm program have significantly affected the level of the cotton basis, and the 1996 farm program has decreased basis volatility in West Texas.

Analyzing the Success of Strategic Rollover Hedging for Cocoa. *Tamika N. Tolbert and Steven C. Turner, University of Georgia; and Nathaniel Brown, Fort Valley State University.*

This paper demonstrates that strategic rollover hedging allows cocoa producers to lock in higher average prices for multiple years. The estimated results reported a \$10,364 increase in net revenues without including margin calls and other fees that may apply. Thus, it appears that cocoa is a candidate for strategic rollover hedging.

Cross-Hedging Ethanol in Gasoline Futures Markets. *Jason Franken and Joe L. Parcell, University of Missouri.*

The lack of an actively traded ethanol futures market limits the ethanol industry's options to mitigate price risk. This study estimated cross-hedge ratios and examined hedging effectiveness between cash ethanol and the NYMEX unleaded gasoline futures. Best out-of-sample forecasting results were generally achieved with a naive forecast.

TITLE: Economic Analysis of Production

Practices (Moderator: Michael Langemeier, Kansas State University).

Variations in the Adoption of Conservation Tillage Among Corn, Soybeans, and Wheat Producers in the United States. *Anne Goes, University of Kentucky; and Meredith Soule, Economic Research Service, USDA.*

Binary logit analyses were used to identify factors influencing the adoption of conservation tillage for three major U.S. crops. Only farm size demonstrated a positive impact on the adoption of conservation tillage for all three crops. Crop type and region were important factors in the adoption of conservation tillage.

Effect of Market Conditions on the Value of Live Animal Ultrasound Data. *John D. Anderson, Mississippi State University.*

Weekly pricing data is used to determine influence of market conditions on value of ultrasound-based fed cattle carcass quality predictions. Average value of predictions is below \$3 per head; however, this value can exceed \$20 per head depending on degree of uncertainty regarding quality, as well as cattle price and select discount levels.

Planting Date Influence on Dual-Purpose Winter Wheat Forage Yield, Grain Yield, and Test Weight. *Ishrat Hossain, Francis M. Epplin, and Eugene G. Krener, Jr., Oklahoma State University.*

The research objectives were to determine the planting date effect on wheat forage yield, wheat grain yield, and wheat test weight, and to determine the economically optimal planting dates for dual-purpose winter wheat. Forage yield and grain yield is strongly influenced by planting date, whereas test weight is not.

Economic Analysis of Cotton Defoliation and Harvest Timing Strategies. *James A. Larson, Owen Gwathmey, and Robert M. Hayes, The University of Tennessee.*

This study evaluated the effects of cotton defoliation timing on net revenues. Results showed the harmful effects of premature crop termination, and the beneficial effects of delaying termination beyond the recommended threshold of 472 degree-days. Improved fiber quality and yields from cotton defoliated at 528 degree-days maximized profitability.

TITLE: Contemporary Issues in Food Demand (Moderator: Mack Nelson, Fort Valley State University).

Food Consumption, Demographics, and Weight Problems among Children in the US. *Pierre I. Boumje and Chung L. Huang, University of Georgia; Jong-Ying Lee, Florida Department of Citrus; and Bing-Hwan Lin, Economic Research Service, USDA.*

Multinomial logistic regression and data from the USDA Continuing Survey of Food Intakes by Individuals are used to predict overweight and obesity among school children in the United States. Results suggest food consumption patterns, demographics, and socioeconomic factors significantly impact the weight status of children.

Consumer Attitudes and Preferences for Oysters. *Lisa House, University of Florida; Terrill R. Hanson and S. Sureshwaran, Mississippi State University.*

Oyster consumption has been decreasing in the United States. Investigating consumer attitudes and preferences can help identify factors involved in this decrease. This study utilizes data obtained through a nationwide survey in a double-hurdle model to determine factors that influence both the decision to consume oysters and frequency of consumption.

Consumer Reactions to Potential Illnesses Related to Consuming Ground Beef from Grocery Stores and Restaurants: Impact of Household Location and Time. *Alvin Schupp, Jeffrey Gillespie, Carol O'Neil, and Witoon Primyawiwatkul, Louisiana State University.*

Consumer awareness of beef origin in local restaurants and grocery stores is analyzed using a mail survey of 2,500 households in five major U.S. cities. The impacts of location and household characteristics on consumer perceptions of the applicability of nationally reported health scares in one area to the consumers' local market are discussed.

Market Potential for Locally Produced Meat Products. *Kenneth H. Burdine, A. Lee Meyer, and Leigh Maynard, University of Kentucky.*

Taste panels, a consumer willingness-to-pay survey, and a restaurant survey were used to assess commercial potential for locally produced meats. Panelists preferred local ground beef and fish to their undifferentiated counterparts, and willingness-to-pay results suggested that verification programs could catalyze a viable niche market. Restaurants may represent a particularly receptive outlet.

Does Age, Gender, or Having an Agricultural Background Affect Student Attitudes about GMOs? *Deborah E. Bridges, University of Nebraska; and Kenneth L. Casavant, Washington State University.*

The continued use and success of genetically modified organisms (GMOs) in agriculture will ultimately depend on consumer acceptance of this technology. Survey responses were used to evaluate college student attitudes toward GMOs in agriculture. The results suggest that both gender and agricultural background influence students' attitudes, but age does not.

TITLE: Land Price Analysis II (Moderator: John Halstead, University of New Hampshire).

Direct Government Payments and Land Values in the South. *James T. Ryan, Economic Research Service, USDA.*

Government payments contribute to farm income and, since agricultural land values depend largely on expected future earnings from

farming, indirectly support farmland values. An income capitalization model is used to estimate the contribution of direct government payments to land values in the South.

The Effects of Sugarbeet Production on Montana Land Prices. *Mykel R. Taylor, Kansas State University; and Gary W. Brester, Montana State University.*

This study quantifies the effects of sugarbeet production on irrigated land prices in Montana. A hedonic regression model is estimated to determine impacts of sugarbeet price and other land characteristics on land prices. The results indicate that sugarbeet price, when adjusted for crop quality, positively impacts land price.

The Influence of Physical and Environmental Characteristics on Sugarcane Land Values in Louisiana. *Steven A. Henning, Janis Bruner Breaux, and Lonnie R. Vandever, Louisiana State University; Gary A. Kennedy, Louisiana Tech University; and Huizhen Niu, Louisiana State University.*

A hedonic model is used to estimate the effect of physical and environmental characteristics of rural land in determining land value in the sugarcane submarket area of Louisiana. Variables measuring distance to sugar mills and distance from hazardous waste sites are included in the model.

Hedonic Analysis of Preservation of Lands in Florida. *Sherry L. Larkin, Janaki Alavalapati, and Ram Shrestha, University of Florida.*

Florida's land acquisition program is one of the largest and most aggressive in the country. Using data from the Conservation and Recreation Lands (CARL) program, we estimate the implicit market value associated with documented land characteristics and characteristics of the transaction. The results can aid all parties in future negotiations.

TITLE: Classroom Instruction: Delivery,

Content and Relevance (Moderator: Richard Weldon, University of Florida).

Comparisons of the Educational Value of Distance Delivered versus Traditional Classroom Instruction in Principles of Microeconomics. *Tricia Crouse, Kurt Stephenson, and Dixie Watts Reaves, Virginia Tech.*

This paper compares measures of student learning, motivation, and perception between an online and conventional principles of microeconomics course. Three sets of quantitative tests were conducted to assess whether student learning and motivation differed between course types. These tests included comparisons of test scores, course evaluation surveys, and attitudinal surveys.

Introducing the Case Method to the Classroom: A Pedagogical Perspective. *Conrad P. Lyford, Texas Tech University; and Richard L. Gallagher, Texas A&M University.*

The case method has generated considerable interest among agricultural economics faculty because of its effectiveness in several areas including developing critical thinking skills and improving knowledge retention. However, many faculty are unsure about how to use this approach. This paper develops a pedagogy to use in incorporating teaching case studies.

The SS-AAEA Quizbowl: Success In and Out of the Classroom. *Jennie Popp, University of Arkansas.*

A 2001 survey of the competition participants reveals students' perceptions on how beneficial preparation for and participation in the SS-AAEA Quizbowl is in successfully completing related course work in eight areas of economics at their universities. Additionally, survey responses indicate factors that enhance chances of success in the competition.

Possible Contributions of a Course in Commodity Exchanges and Futures Trading Commission (CEFTC) to a Student's Gen-

eral Education. *Wayne M. Gauthier, Louisiana State University.*

A general education promotes the creation of meaning while the market influences quality of life. Both can be enhanced through use of the concept map, the "paper trading" experience, and alternative philosophies in the study of commodity exchanges and futures trading.

A Profile of Food and Agricultural Firms in Tennessee: An Industry Perspective on Attributes and Skills Needed by College Graduates in Agribusiness/Agricultural Economics. *Surendra P. Singh, Enefiok Ekanem, Fisseha Tegegne, Safdar Muhammad, and Anonya Akuley-Amenyenu, Tennessee State University.*

This study developed a profile of agribusiness firms in Tennessee to determine the educational background preferred by managers for entry-level college graduates. Skills, characteristics, attitudes, knowledge, and experience were evaluated. Firms in the survey rated interpersonal and communication skills higher than business and technical skills.

TITLE: Policy Potpourri (Moderator: Les Myers, Virginia Tech University).

Price Setting Under the Federal Recreation Fee Demonstration Program: 1996–2001. *Molly Espey, Clemson University.*

This study analyzes the behavior of federal land managers under the Recreation Fee Demonstration Program (RFDP) authorized in 1996. Specifically, the extent to which federal land managers utilize differential pricing to increase efficiency and the extent to which political and social welfare considerations influence fee setting behavior is examined.

The Motivations for Corporate Environmental Management. *Madhu Khanna, University of Illinois at Urbana-Champaign; and Wilma Rose Q. Anton, University of Central Florida.*

A model of firm decision making is developed to obtain econometrically testable hypotheses about factors influencing voluntary adoption of environmental management practices. Count data analysis reveals that existing and anticipated regulatory pressures, potential market pressures, high toxic emissions intensity, and high off-site transfer costs induce a higher quality of environmental management.

Impacts of Farm Policy Alternatives on Two Representative Tennessee Cotton Farms. *Jennifer G. Brown and Kelly H. Tiller, University of Tennessee.*

This research estimates the farm-level impacts of alternative farm bill provisions (H.R. 2646 and S.1731) on the financial performance and strength of two representative Tennessee cotton farms: 1,900-acre and 4,050-acre cotton farms in Southwest Tennessee. Both farms improve their cash position and reduce their risk considerably under both proposals.

Foreign Workers in Southern Agriculture. *Robert D. Emerson and Orachos Napasintuwong, University of Florida.*

Maximum likelihood estimates of a duration model imply that the expected years of farm work by unauthorized foreign workers are significantly less than for authorized workers. A statistically significant, but modestly shorter expected duration is found for farm workers in the southeast relative to the remaining regions of the United States.

TITLE: Issues in Supply Chain Management (Moderator: Mary Ahearn, Economic Research Service, USDA).

The Impact of Downstream Firm Exit on the Texas Rice Market. *Billy B. Golden, Kansas State University; and Kyle W. Stiegert, University of Wisconsin.*

The loss of Uncle Ben's as a 'first handler' in the Texas rice market, during the 1999 marketing season, effectively consolidated the lo-

cal milling industry, and allowed the exertion of market power by the remaining firms. The short-run welfare loss for Texas producers is estimated at \$22.8 million.

The Economics of Value-Enhanced Crops: Status, Institutional Arrangements, and Benefit Sharing. *Kenrett Y. Jefferson and Greg Traxler, Auburn University.*

The introduction of a second wave of product quality GMOs has the potential to provide new momentum to the agricultural biotechnology industry. The challenge facing the industry is to generate innovations that will allow them to offer a large adoption incentive while capturing sufficient revenues to support R&D investment.

Concentration, Market Power, and Cost Efficiency in the Cotton Seed Industry. *Jorge Fernandez-Cornejo, David Spielman, and Jonathan W. Keller, Economic Research Service, USDA.*

The paper presents a model developed to examine the effects of concentration on market power and cost efficiencies in the corn seed industry over the past 30 years and presents preliminary measures of the relative strengths of these effects. The model uses conjectural elasticities and is estimated using data collected from USDA sources.

Analyzing the Marketing of Specialty Grain with a Dynamic Game of Complete, But Imperfect Information. *Gregory Iwendahl, University of Kentucky; and Kimberly A. Zeuli, University of Wisconsin.*

Specialty grains offer farmers opportunities to earn premiums above conventional grains. Farmers, however, may be uncertain about the best way to capture these additional premiums. This paper examines the production of specialty grains from a dynamic game of imperfect information to determine if farmers should organize as a cooperative.

TITLE: Financial Performance of the Farm

Sector (Moderator: Fisseha Tegegne, Tennessee State University).

The Distribution of Net Farm Income: An Aggregate and Farm-Level Analysis. *Robert W. Dubman, Ashok K. Mishra, and Kenneth Erickson, Economic Research Service, USDA.*

Gini coefficients of U.S. net farm income and its components are estimated using annual national farm-level survey data for 1991–2000. Results show concentration in the sources of income with less concentration in expenses. Farm-level Gini coefficients show a mild increase in concentration since the 1996 FAIR Act.

Financial Growth Strategies of Small and Large Grain Farms. *Cesar L. Escalante, University of Georgia; and Peter J. Barry, University of Illinois.*

Structural differences among small and large farms determine growth strategy preferences. Off-farm incomes enhance small farms' revenues, while larger farms are more compelled to regulate debt. Different asset structures require excess capacity reduction for smaller farms and greater farmland leasing for larger farms. For both groups, growth requires farm revenue enhancement and family withdrawal control.

Why Has U.S. Agriculture Not Fully Shared in U.S. Economic Prosperity? *David L. Debertin, University of Kentucky.*

This paper offers explanations why farmers often fare poorly when the rest of the U.S. economy is booming and vice versa. Macroeconomic events and conditions that serve the farm economy well often do not promote a strong overall economy, while events detrimental to a strong economy frequently work to the advantage of farmers. URL: <http://www.uky.edu/~deberti/debagpros.pdf>

Developing a Sources-and-Uses of Funds Account for the U.S. Farm Sector. *Kenneth*

Erickson and James Ryan, Economic Research Service, USDA.

This paper provides the framework for and estimates a sources-and-uses of funds (SAUF) account for the U.S. farm production sector. By relating changes in balance sheet accounts to income statements, the SAUF helps to monitor changes in income flows and farm sector wealth, and to forecast capital investments in the farm sector.

TITLE: Impacts of Government Programs on Communities (Moderator: Tesfa Gebremedhin, West Virginia University).

Environmental Justice: A Spatial Analysis of Hazardous Waste Sites in Alabama. *Osei-Agyeman Yeboah and Upton Hatch, Auburn University.*

Limited dependent variable regression and geographic information system techniques were used to determine whether the location of hazardous waste sites was related to socio-demographic variables associated with disadvantaged populations. The results indicate that rather it is poverty, unemployment, and high population density, which are associated with minorities, that explain the location of hazardous waste sites.

Impacts of Tobacco Production and Program Changes on Tennessee's Economy. *R. Jamey Menard, Kelly H. Tiller, and Burton C. English, University of Tennessee.*

Recent quota cuts have reduced tobacco production dramatically. Direct payments (Phase II and TLAP) have been made to reduce the negative impacts of the tobacco settlement and market conditions on the industry. This paper estimates the regional economic impacts in Tennessee of declining tobacco production and direct payments.

Expectations vs. Experience: Use of Tobacco Settlement Payments in Major Tobacco Growing States. *Kelly H. Tiller, University of Tennessee.*

This paper reviews primary uses of tobacco settlement (Phase I and II) payments after three years, emphasizing major tobacco states and the economic impacts of these payments on tobacco growers, quota owners, and communities. The six major tobacco states have allocated \$1.4 billion to tobacco producers and communities since 1999.

An Analysis of Food Security Status of Users of Nonprofit Food Assistance Programs in Alabama. *Gerald Wheelock, Okwudili Onianwa, Joseph Befecadu, and Buddhi Gyawali, Alabama A&M University.*

Demand for food from nonprofit food assistance agencies has increased. Food security status of users of nonprofit food assistance agencies in Alabama was examined using the household scale scores. Results indicate a significant difference in the level of food insecurity between households with children and households without children.

TITLE: Decision Support for Spatial and Risk Analysis (Moderator: Michele Marra, North Carolina State University).

Data Mining U.S. Corn Fields: The Application of a Tool to Detect Anomalous Farmer Behavior in the U.S. Crop Insurance Program. *Roderick M. Rejesus, Bertis B. Little, Walter L. Johnston, Ashley C. Lovell, and Steve A. Steed, Tarleton State University.*

To improve the federal crop insurance program, this study illustrates the utility of data mining to identify anomalous farmer behavior. A data mining technique is applied to a large agricultural database to detect anomalous farmer behavior for improving the prioritization of resources for the detection of fraud, waste, and abuse.

Incorporating Spatial Correlation in Farm-Level Risk Analysis. *Steven L. Klose, Joe L. Outlaw, and James W. Richardson, Texas A&M University.*

Simulation-based risk analyses often re-

quire a very large system of correlated yields. This paper offers a methodology that overcomes the dimensionality problems of large systems and allows for correlation of a virtually unlimited number of stochastic yields. The method can be used to increase the size, scale, and adaptability of general farm simulation models.

Simulating Crop Revenue Using Forward Pricing Alternatives. *Delton C. Gerloff, University of Tennessee.*

Corn and soybean returns were simulated over an 11-year period using 10 marketing alternatives. Hedging and forward contracting 100% of expected production performed well, evaluated using both revenue and risk measures. Under yield reductions, combinations of hedging, forward contracting, and selling at harvest performed well.

An Economic Evaluation of Fast Displacement Vessels for Ocean Transportation of Perishables and High Value Commodities: A Spatial Equilibrium Approach. *Profirio A. Fuentes, Cary W. Herndon, Albert J. Allen, and Darren Hudson, Mississippi State University.*

Results of this paper indicate that it is possible and feasible to increase trade between the regions involved in the analysis if a fast vessel service is introduced; and for some regions to take advantage of the transport cost reduction, it will be necessary for them to reduce import tariff rates.

TITLE: Environmental Issues in Production Agriculture (Moderator: Wilma Rose Q. Anton, University of Central Florida).

A Microeconomic Study of Risk Management Decisions under Global Climate Change. *Murali Kanakasabai, Carl Dillon, Jerry Skees, and Ronald Fleming, University of Kentucky.*

Biophysical simulation and mathematical programming are used to generate optimal

production practices under future climatic change while considering production risk. Further, risk of days suitable for fieldwork is examined using Charnes Cooper techniques. Results indicate that risk-averse producers are able to effectively manage risks posed by future climatic change.

From the Perspective of Global Warming: Alternative Farming Systems and Sustainability. *Luanne Lohr, University of Georgia, and Krishna P. Paudel, Louisiana State University.*

We compared the net benefit of four alternative management systems in cotton using discount rates based on the sliding gamma distribution, market rate of investment, and the social rate of time preference. The result indicated that a management system that combines no-till and an organic source of nutrients is favorable.

Multidimensional Goals of Beef Cattle and Dairy Producers. *Aydin Basarir and Jeffrey M. Gillespie, Louisiana State University.*

The importance of seven goals were elicited for Louisiana beef and dairy producers using the fuzzy pairwise comparison method. Beef producers were more concerned with maintaining and conserving land, while dairy producers were more concerned with financial goals such as maximizing profit and avoiding years of loss or low profit.

TITLE: Impact of Regional Trade Agreements (Moderator: Carlos Arnade, Economic Research Service, USDA).

Regional Trade Agreements in the Americas: Impact on Rice Trade. *Eric J. Wailes, Alvaro Durand, and Harjanto Djumaidi, University of Arkansas.*

U.S. rice is losing competitiveness in foreign markets. The Free Trade of the Americas Agreement (FTAA) proposal would subject the U.S. to growing competition from MERCOSUR nations for rice trade in the Western

Hemisphere. This study evaluates the effect of regional trade agreements, particularly the FTAA, on rice trade in the U.S. and the world.

Produce and the Giant Sucking Sound.

Richard Beilock, Ramon Espinel, and Sikavas NaLampang, University of Florida.

Many felt NAFTA would facilitate greatly increased Mexican produce imports to the detriment of production from southern-tier U.S. states. To shed light on these questions, the volumes and distributions of produce shipments are examined from 1985 through 1998 for southern-tier states, Mexico, Canada, and Chile.

Environmental Impacts of Agricultural Trade Under NAFTA. *Dale Colyer, West Virginia University.*

Both agricultural trade and FDI in Mexican food and agriculture have increased since NAFTA. Environmental implications include a greater emphasis on the environment in Mexico as well as positive and negative impacts due to changes in scale, structure, and technology. Increased use of chemicals and production imply negative environmental effects.

Implications of NAFTA on U.S.–Mexico Orange Juice Trade. *Arturo Bocardo, Thomas H. Spreen, and Mark G. Brown, University of Florida.*

The processed orange industries of Mexico and Florida are discussed with reference to NAFTA. A scenario is analyzed via a spatial equilibrium model on the impact of increased Mexican imports to the United States as orange juice tariffs are phased out.

TITLE: Econometric Methods and Comparative Approaches (Moderator: Joe Outlaw, Texas A&M University).

Combining Annual Econometric Forecasts with Monthly ARIMA Forecasts for Louisiana Rough Rice Prices. *Sung Chul No,*

Hector O. Zapata, and Michael E. Salassi, Louisiana State University.

This study utilizes a structural dynamic econometric model for the U.S. rough rice market and an ARIMA model to forecast monthly LA rough rice prices. An MSE decomposition favors combining forecasts.

Rates of Return on U.S. Farm Investments, 1940–1999: A Comparison of Imputed Returns Versus Residual Income Approaches.

Charles B. Moss, University of Florida; Kenneth W. Erickson and Ashok K. Mishra, Economic Research Service, USDA.

Agriculture in the United States has persistently low returns on resources, the impacts of which are magnified for land because its return is typically imputed as a residual return after paying all other factors. This study examines implications of the residual return assumption by using alternative formulations for computing the rate of return to farmland.

Comparing Alternative Forecasting Procedures: An Application to the Field Crop Price Data from the Southeast U.S. *Krishna P. Paudel, Louisiana State University.*

We compared four different forecasting models to find the model that provides minimum mean square error in forecasting. Both in-sample and out-of-sample forecasting accuracies were measured. The results indicated that for price series considered in this study, a memory-shortening transformation gave the minimum mean squared error.

A Comparison of Crop Yield Distribution Selection Criteria. *Bailey Norwood, North Carolina State University; Jayson Lusk, Mississippi State University; and Matthew Roberts, The Ohio State University.*

This paper compares nine criteria for selecting yield distributions, eight of which are common. A new criterion is proposed that ranks models by the value of their log-likelihood functions at out-of-sample observations.

Simulations show that this new criterion picks the true model with a significantly higher frequency than the other eight.

TITLE: International Commodity Analysis (Moderator: Darren Hudson, Mississippi State University).

Empirical Analysis of Price Dynamics in the World Wheat Market According to End Use of Wheat. *Atanu Ghoshray, University of Bath; Tim A. Lloyd and Tony Rayner, University of Nottingham.*

This paper examines price relationships in the world wheat market using time series econometrics. The results show that first, there is empirical evidence to back the argument that the different types of wheat traded on the world wheat market should be differentiated according to end use.

Supply Response of Cotton in India, Pakistan, and Australia. *Carlos E. Carpio and Octavio A. Ramirez, Texas Tech University.*

This study estimates cotton yield and acreage models for India, Pakistan, and Australia. Updated estimates of the degree of responsiveness of cotton yield and planted areas to changes in economic and climatic factors and of the current yield and acreage trends in these three countries are provided.

Spatial Maize Arbitrage in Mozambique. *Emilio Tostao and Wade Brorsen, Oklahoma State University.*

Switching regressions and Granger causality tests on maize monthly and weekly retail prices indicate that 10 years after maize market liberalization, spatial arbitrage is still inefficient and maize markets are not yet fully integrated in Mozambique. The puzzle of maize shortages and maize price instabilities is likely to continue.

Analysis of the Sweetener Market in Mexico. *Thomas H. Spreen, University of Florida; Luis R. Garcia, Universidad Autonoma Chap-*

ingo; and Daisuke Sano, University of Florida.

Mexico has been granted increased access to the U.S. market as long as it remains a net exporter of sweeteners through 2007 under the provisions of NAFTA. Domestic consumption of high fructose corn syrup will be a crucial factor in the determination of its net exporter status.

TITLE: Nonmarket Valuation (Moderator: Murat Isik, Mississippi State University).

The Effects of Uncertainty on Stated Willingness to Pay Estimates. *John M. Halstead, University of New Hampshire; Thomas H. Stevens, University of Massachusetts; Wendy Harper, Wellesley College; and L. Bruce Hill, Clean Air Task Force.*

Hypothetical bias in valuation of nonmarket goods has long concerned academics and policy makers. This paper examines how additional information may be incorporated into valuation estimates to obtain values likely to be closer to "actual" values, using a case study of visibility valuation in New Hampshire's White Mountain National Forest.

Incorporating Pricing Experience and Lexicographic Preferences in the Contingent Valuation Method: What Do Survey Responses Really Mean? *Brett Gelso and Jeff Peterson, Kansas State University.*

Our paper discusses the implications for nonmarket valuation when economic agents have preferences that are not strictly within the neoclassical (benefits versus costs) decision-making framework. We quantify how ethical foundations influence a respondent's valuation of environmental attributes in a stated choice survey. The model also combines traditional travel cost and contingent valuation methods.

Economic Valuation of Water Quality Characteristics on Water-Based Recreation at Lake Kemp, Texas. *Christopher J. Chizin-*

ski, David B. Willis, Kevin L. Pope, and Gene Wilde, Texas Tech University.

A count travel cost model and a dichotomous double-bounded contingent valuation model are used to estimate the value of water-based recreation at a small multipurpose reservoir in North-Central Texas. Contingent valuation is also used to estimate the change in consumer surplus if fishermen catch rates or water turbidity levels change.

Welfare Impacts of an Environmental Disamenity: A Survival Model Approach. Diane Hite, Mississippi State University; Alan Randall and Brent Sohngen, Ohio State University.

A survival model of days until house sale is used to measure the effect of landfills on nearby transactions. In a property level comparison, we find that the same house 5 miles from a landfill, as compared to 1 mile, is on the market an extra 24.7 days, incurring an average welfare loss of \$473.44.

TITLE: Limited Resource, Small, and Minority Farms (Moderator: James Ryan, Economic Research Service, USDA).

The Economic Factors Influencing Limited Resource Farmers' Supply of Off-Farm Labor. Oscar Vergara and Keith H. Coble, Mississippi State University; Thomas O. Knight, Texas A&M University; George F. Patrick, Purdue University; and Alan E. Baquet, University of Nebraska.

A bivariate Tobit model of farmers' and spouses' off-farm labor in Mississippi indicates that off-farm labor is negatively correlated with income transfers from the government. Increasing the human capital of the spouse would increase the expectation of better off-farm wages and reduce the likelihood of the farmer seeking off-farm work.

An Evaluation of Participation Behavior of Limited Resource Farmers in Cost-Share Programs in Alabama. Okwudili Onianwa,

Gerald Wheelock, and Buddhi Gyawali, Alabama A&M University.

This study examined factors that affect participation behavior of limited resource farmers in cost-share programs in Alabama. The logit model was used to analyze the survey data of 723 farmers. Results indicate that age, income, and education were strong indicators of participation in cost-share programs.

Factors Affecting Marketing Channels Used By Small Farm Operators in Tennessee. Fisseha Tegegne, Safdar Muhammad, Enefiok Ekanem, and Surendra P. Singh, Tennessee State University.

A survey of small farm operators in selected Middle and West Tennessee counties showed that direct marketing was the primary channel used, followed by cooperatives. Contract and futures markets lagged far behind. Economic and demographic factors were found to affect use of two types of direct marketing considered in this study.

TITLE: Input Management Issues in Diverse Enterprises (Moderator: Ashok Mishra, Economic Research Service, USDA).

Managing Input Price Risk in Agricultural Production: The Case of Rollover Hedging of Diesel Fuel. Mawar A. Tresna and Steven C. Turner, University of Georgia.

We examined the diesel fuel market and the potential for long-term hedging, which is commonly called rollover hedging. Since there is no direct futures market for diesel fuel, producers can cross-hedge with heating oil, which already has an established futures market. Results show strategic rollover hedge can manage input price risk for agricultural production.

Factors Affecting Marketing Channels for Crop Production Inputs. Timothy J. Stevenson, Jayme M. Rousseau, and Arlo W. Biere, Kansas State University.

This paper examines farmer procurement

of crop inputs and the marketing channel supplying these inputs. The range of channels and the changes in those channels by input type are identified. Factors influencing farmer choices for procurement are examined. Of major concern are channel features that bring value to the farmer.

Economic Analysis of Using an Alternative Fuel in Agricultural Machinery: The Case of E-Diesel Adoption in Illinois. *Roderick Rejesus, Tarleton State University; Robert Hornbaker and Alan Hansen, University of Illinois.*

E-Diesel is an alternative fuel developed to lower emissions and meet more stringent environmental standards. Using an on-farm demonstration program and an applied input-output model, this paper shows that E-Diesel use in agricultural machinery may increase an individual farm's cost of production, but adoption may provide modest benefits to the state agricultural economy.

TITLE: Price Discovery (Moderator: Brent Hueth, Iowa State University).

Alternative Approaches to Price Discovery: Theory and Empirical Estimates. *Jared Carlberg and Clement E. Ward, Oklahoma State University.*

Derived demand and partial-adjustment/market efficiency models are derived and applied to data from an experimental fed cattle market. Results from mixed-model estimation with fixed and random effects indicate that estimates from the two models differ in magnitudes, but not signs or significance levels. Either can be used for empirical application.

Impulse-Response and Variance-Decomposition Analysis Based on Directed Graphs: The Case for Overshooting of U.S. Livestock Prices. *Sayed Saghayan, Michael Reed, and Mohamad Hasan, University of Kentucky.*

The results show that monetary shocks have larger impacts on livestock prices than

manufacturing prices, performance of agricultural prices is largely determined by internal dynamics within the sector, and a shock in exchange rate and manufacturing prices based on causal structures have larger impacts on agricultural prices than money supply.

Replacement Heifer Price Differentials: Contributing Factors and New Insights. *James D. Sartwelle, III, George M. Knapek, and Luis Ribera, Texas A&M University.*

Analysis of 15 years of price/characteristics data collected on replacement female sales reveals significant price premiums and discounts associated with breed, pregnancy status, number of calves per lot, and external market forces. Additionally, tenure served as a proxy for seller reputation and was a statistically significant price determinant.

Transmission of Price Volatility in the U.S. Catfish Industry. *Cumhur Buguk, Terry Hanson, and Darren Hudson, Mississippi State University.*

The exponential generalized autoregressive conditional heteroscedasticity (EGARCH) model was used to analyze price volatility spillovers in the US catfish supply chain based on price data for catfish feed, its ingredients, farm and wholesale-level catfish. There exists unidirectional strong price spillover from feeding material (corn, soybean, menhaden) to catfish feed and farm and wholesale prices.

TITLE: Variable Rate Technology and Precision Farming (Moderator: Krishna Paudel, Louisiana State University).

Economic Impacts of Precision Farming in Corn Production. *Susan E. Watson and Eduardo Segarra, Texas Tech University; Stephen Machado, Edsel Bynum, Thomas Archer, and Kevin Bronson, Texas A&M University Agricultural Research and Extension Center.*

This study evaluates the profitability of whole-field and precision farming in corn production. Optimal levels of nitrogen fertilizer

for a 10-year planning horizon are derived. The results indicate that precision farming would be more profitable than whole-field farming in all scenarios analyzed.

Development of a Decision-Making Advisory Framework for Users of Precision Agriculture: A Production/Nonproduction Decision Example. *Laura A. Powers, Steve Isaacs, Carl Dillon, and Scott Shearer, University of Kentucky.*

The primary objective of this project is to develop an economic decision aid for users of precision agriculture for production/nonproduction decisions, based on spatially dependent yield, land tenure arrangements, input levels, and risk attitudes. A means of providing this service to producers beyond the case study is also discussed.

TITLE: Regional Analysis (Moderator: David Mulkey, University of Florida).

An Empirical Analysis of Income Distribution in West Virginia. *Jamus O. Bukonya, Tesfa Gebremedhin, and Peter V. Schaeffer, West Virginia University.*

Comparable county per-capita income data are obtained for two dissimilar West Virginia regions: Southern and Eastern Panhandle. The empirical results differ across the different measurement techniques used, but in general, the findings concur with previous study conclusions that the convergence in per-capita incomes observed in earlier decades was replaced by divergence in the 1980s.

The Role of Disaggregate Multipliers in the Theory of Export Base. *Swagata Banerjee, University of Georgia; and Thomas R. Harris, University of Nevada.*

An important issue of debate in regional economics is whether the export-base theory applies best to the short run, the long run, or both. Using disaggregate multipliers, we have attempted to answer this crucial question by applying a two-step cointegration procedure

on quarterly employment data for Elko County of Nevada.

A Regional Study of Factors Influencing the Demand of Locally Grown Food. *Cheryl Brown, Southeast Missouri State University.*

Using data from a regional mail survey of random households, a probit model was estimated. Results indicate that females, higher-income households, and consumers who were raised on a farm or who had parents raised on a farm would be more likely to pay a higher price for local food.

The Economic and Social Outcomes of Investment in Education in the Dominican Republic. *Elizabeth N. Appiah and Joyce E. Allen-Smith, University of Illinois.*

A two-percentage-point increase in the proportion of gross national product (GNP) spent on education in the Dominican Republic raises GNP per capita and GNP growth rate, reduces rural poverty and income inequality, and has positive health impacts. The indirect feedback effects are projected to be larger than direct effects for most variables.

TITLE: Production and Efficiency (Moderator: David Debertin, University of Kentucky).

Measuring the Persistence of Overall Efficiency Rankings for a Sample of Kansas Farms. *Michael R. Langemeier and Jeffery D. Morgan, Kansas State University.*

The persistence of overall efficiency rankings for a sample of Kansas cow-calf operations from 1991 to 2000 was examined. Approximately 14% of the farms had significantly higher overall efficiency rankings. The more efficient farms had lower per unit labor, feed, capital, energy, and miscellaneous costs, and were larger.

Measuring the Relative Importance of Economic, Scale, and Scope Efficiency. *Mark K. Cotton, Michael R. Langemeier, and Allen M. Featherstone, Kansas State University.*

The objective of this study was to examine the relative importance of economic, scale, and scope efficiency for a sample of Kansas farms. Efficiency measures were computed for farms with continuous data over a 10-year period. The relative importance of each efficiency measure was determined for eight farm types.

Efficiency of Broiler Farms in Saudi Arabia: A Data Envelopment Analysis Approach. *Khalid Al-Rwis and Francis M. Eplin, Oklahoma State University.*

The government of Saudi Arabia has made a substantial investment to develop broiler production. The objective of this research is to determine if broiler farms in the central region of Saudi Arabia are efficient. Technical, allocative, and economic efficiency estimates were determined for a sample of farms.

Efficiency Differences in Beef Cow-Calf Production: A Deeper Investigation. *Lisa L. Stryker, Michael Langemeier, and Rodney Jones, Kansas State University.*

We examine relationships between efficiency and farm characteristics of cow-calf operations. Our sample averaged 58% overall efficient. Efficient producers had higher production and lower per unit costs. Interestingly, cost-efficient producers did not strive for higher prices, as they received less revenue per pound than the less efficient operations.

TITLE: International Trade Analysis (Moderator: Parr Rosson, Texas A&M University).

Evaluating the Behavior of State Trading Enterprises in a Product-Differentiated Environment: The Case of Global Malting Barley Markets. *Fengxia Dong, Kansas State University; and Kyle W. Stiegert, University of Wisconsin.*

This paper constructs a theory-based empirical test of rent-shifting behavior that relies on observations of government precommit-

ment employed through State Trading Enterprises. The analysis is applied to the delayed producer payment of the Canadian Wheat Board and Australian Barley Board in an imperfect substitute market for international malting barley.

Measuring Comparative Advantage of Indian Food Grains: A Policy Analysis Matrix Approach. *Cheng Fang, Iowa State University; Jagadanand Chaudhary and Samarendu Mohanty, Texas Tech University.*

This paper uses a modified policy analysis matrix (PAM) to measure the comparative advantage of Indian food grains. The PAM indicators suggest that wheat and other cash crops such as sugarcane, groundnut, and rapeseed will expand under reduced government interventions at the expense of least efficiently produced rice.

Will India be Able to Feed Itself? *Samarendu Mohanty, Texas Tech University; and Wesley F. Peterson, University of Nebraska.*

A food security study reveals that India remains self-sufficient in cereals until 2010, but turns into a rising net importer thereafter. Rice exports more or less offset wheat and corn imports until 2010, but then wheat and corn imports are likely to exceed rice exports because of higher demand in the food and feed sectors.

TITLE: Farm Profitability (Moderator: Tom Anton, University of Florida).

Florida's Ornamental Plant Industry: A Cross-Section and Time-Series Estimation of Nursery Profitability. *Marisa L. Zansler, Suzanne D. Thornsbury, and Alan W. Hodges, University of Florida.*

Florida's ornamental plant industry in the 1990s paralleled trends in the national industry; increased nursery size, fewer nurseries, and greater value produced. Results of an empirical model of unbalanced panel data indicate that labor expenses and nursery size had

a significant effect on the profitability of nurseries during this decade.

Analysis of the Impact of FARRM Account Concept on Texas Farms and Ranches. *Brian Herbst, Joe Outlaw, and Steven Klose, Texas A&M University.*

Farm income fluctuation has caused Congress to look for ways that farmers can carry profits over to years where they face a deficit. The Farm and Ranch Risk Management (FARRM) Account is one of the tools that has been discussed. This paper looks at the impacts of FARRM Accounts on Texas farms and ranches.

Stochastic Dominance Analysis of Hedge-to-Arrive Hedging Strategies for Soybean Producers in the Southern United States. *R. Wes Harrison and Kurt M. Guidry, Louisiana State University.*

The paper examines risks/returns of hedge-to-arrive strategies for hedging soybeans in the Southern region of the United States. Second-degree stochastic dominance shows strategies involving initiation in the first week in March combined with setting the basis in the second, third, and fourth weeks of July were the dominate strategies.

TITLE: Marketing Decisions and Transportation (Moderator: Richard Kilmer, University of Florida).

The Economic Factors Influencing Cotton Farmers' Marketing Techniques. *Thomas O. Knight, Texas A&M University; Oscar Vergara and Keith H. Coble, Mississippi State University; George F. Patrick, Purdue University; and Alan E. Baquet, University of Nebraska.*

A multinomial Logit model of producers' marketing preferences on cotton in Mississippi and Texas indicates that producers who incur higher transaction costs in information and training show a preference for forward pricing. Risk-averse producers prefer forward

contracts, whereas producers who perceive market inefficiency prefer pooling contracts.

The Economic Factors Influencing Farmers' Demand for Market Advisory and Information Systems. *Keith H. Coble, Oscar Vergara, and Darren M. Hudson, Mississippi State University; Thomas O. Knight, Texas A&M University; George F. Patrick, Purdue University; and Alan E. Baquet, University of Nebraska.*

A bivariate Tobit model of marketing consultants and market information services demand in Mississippi, Texas, Indiana, and Nebraska indicates that there is a substitution effect between these two marketing inputs, implying that as farmers increase their expenditure in marketing consultants, their expenditure on market information systems decreases.

Cost and Dependability of Moving Grain to the Southeast. *Tammara Cole, Daniel de la Torre Ugarte, Burton C. English, and Jamey Menard, University of Tennessee.*

North Carolina's feed grain deficits are filled by midwestern corn via rail. The Port of Wilmington is constructing a grain-receiving facility for completion in 2002 that will be able to receive foreign or domestic grain. This study examines North Carolina's least-cost grain transportation alternatives and their seasonal changes.

Mean Reversion in Commodity Futures Prices: A Monte Carlo Approach. *Daniel Ngugi and Steve Turner, University of Georgia.*

This study investigates the presence of mean reversion in commodity futures. Monte Carlo simulation techniques are used to generate small sample distributions of parameters and test statistics. Inferences are made on the basis of these statistics. No evidence for mean reversion is found. Results are consistent with efficient market hypothesis.

TITLE: Economics of Water Management

and Irrigated Production (Moderator: Michael Popp, University of Arkansas).

Water Management Strategies for Reducing Irrigation Demands in the Texas Panhandle. *Lal K. Almas, West Texas A&M University; Stephen H. Amosson, Texas Cooperative Extension; W. Arden Colette and Bob A. Stewart, West Texas A&M University.*

Seven management strategies for reducing irrigation water demand are identified. Two different combinations of strategies are analyzed for aggregate demand reductions. The reductions over the 30-year planning period range from 14.50 million acre-feet to 17.40 million acre-feet. The estimated cost per acre-foot of water saved per irrigated acre varies from \$0.81 to \$296.40.

Minimizing Cost of Manure Application by Optimal Choice of Irrigation System Components and Their Operational Parameters. *Tihomir Ancey and Arthur L. Stoecker, Oklahoma State University.*

Procedure for obtaining least-cost system components and operation parameters for irrigation application of manure is developed. Propositions from hydraulics are used to derive statistically estimable relations between pressure, output, power, and impeller speed of an irrigation system. Coefficient estimates are used in a spreadsheet program to select optimal components.

The Economic and Environmental Benefits of Rice Production in the Mississippi Delta: The Case of Winter Flooding Practice. *Fatimah Kari, Walaiporn Intarapapong, and Diane Hite, Mississippi State University.*

Bioeconomic and random utility models are combined to assess market and nonmarket benefits of winter flooding (WF) practices in Mississippi rice production. A preliminary estimate indicates that farmers practicing WF saved about \$23.47 per acre in operating costs, while earning income by leasing land for rec-

reation. The distribution of farm costs and profits for WF are reported.

Evaluating the Impact of Electric Utility Deregulation on Irrigated Cotton Production in the Texas High Plains. *David B. Willis, Megan D. Britt, and Octavio A. Ramirez, Texas Tech University.*

The impact of expected higher energy costs on irrigated cotton profitability is examined for two production strategies. The first assumed producers maximize expected profits on the basis of an expected price, whereas the second assumed producers maximize a hedonic price function. Hedonic production was more profitable than nonhedonic and used fewer inputs.

TITLE: Green Perceptions (Moderator: Bailey Norwood, North Carolina State University).

Consumers' Perceptions of and Willingness to Pay for Environmentally Certified Hardwood Products. *Kim Jensen, University of Tennessee; Paul Jakus, Utah State University; Burton C. English and Jamey Menard, University of Tennessee.*

Forest products certification programs may include the goals of increasing consumer acceptance and differentiating products. This study examines consumers' market participation for environmentally certified hardwood products, potential premiums paid for selected hardwood products, and effects of scope of certification and demographics on market participation and premium amounts.

Results of a Green Marketing Survey. *Ashley Wood Renck and Diane Hite, Mississippi State University.*

Ecolabeling is used to determine consumers' WTP for the assurance of environmentally responsible poultry production. A contingent choice mail survey was used to determine the feasibility of a market-based solution to the poultry litter problem. This will enable policy

makers to assess how best to implement environmental regulation of poultry growers.

Information Acquisition Costs and Demand for Yard Care Information. *Senhui He, Wojciech J. Florkowski, and Jeffrey L. Jordan, The University of Georgia.*

Yard care information sources were grouped into three categories according to search extent and acquisition costs. Income and gender affected the use of sources of low-level search. Cognitive cost had a significant effect on the use of the cognitively demanding and the time-consuming sources of high-level search.

TITLE: Risk Management (Moderator: Cesar L. Escalante, University of Georgia).

A Portfolio Theory Approach to Explaining Fisherman Behavior in Multispecies Fisheries. *Larry Perruso, Richard N. Weldon, and Sherry L. Larkin, University of Florida.*

Recent studies have used duality or discrete choice models to explain production decisions under uncertainty in fisheries. We use portfolio theory to predict optimal outputs for the multispecies Atlantic longline fleet. These predictions reflect the vessel operator's species targeting strategy and are used as a precursor to spatial targeting decisions.

A Farmer's Optimal Insurance Portfolio of Rainfall Index Contracts and Production Practices: A Case Study of a Kentucky Crop Farm. *M'Kiara K. Miriti, Carl R. Dillon, and Jerry R. Skees, University of Kentucky.*

Mean variance analysis is applied in a mathematical programming framework to analyze the farm-level demand, and to investigate the impact of rainfall contracts on certain production practices. Rainfall contracts were found to increase factor employment and farm profitability by displacing costly risk management practices and encouraging high-return enterprises.

A Comparative Analysis of Profit Maximizing, Solvency Enhancement, and Risk Management Objectives. *Jean-Marc Gandonou and Carl R. Dillon, University of Kentucky.*

Profit maximization is not always a farmer's primary objective. This study uses a mathematical programming model to compare the farm's net return and production practices under profit maximizing, solvency improvement, and risk management objectives. Depending upon underlying conditions, there is no change in management practices for the first two objectives.

Revenue Insurance Decisions and Financial Characteristics of Farms. *Ashok K. Mishra, Economic Research Service, USDA; and Joe Dewbre, Organization for Economic Cooperation and Development.*

This study evaluates farm, household, and financial characteristics of farmers' decisions to purchase revenue insurance. Farm operators with the ability to self-insure through enterprise diversification, accumulation of wealth reserves, and participation in production and marketing contracts are more likely to pursue these strategies as a substitute for the federal revenue insurance programs.

TITLE: Nutrient Management Decisions in Production Agriculture (Moderator: Roderick Rejesus, Tarleton State University).

Economic Analysis of Dairy Manure Utilization for Year-Round Forage Production. *Zana C. Somada, John R. Allison, Lane O. Ely, G. Larry Newton, G. Vellidis, and Michael E. Wetzstein, The University of Georgia.*

The economic and environmental feasibility of triple-forage crop systems with nutrients applied from dairy manure and inorganic fertilizers were compared utilizing partial-enterprise budget analysis and stochastic dominance criteria. The results indicated higher net returns and higher nutrient runoff from the cropping systems with manure than with commercial fertilizer.

Optimal Frequency and Quantity of Agricultural Lime Applications to Low-pH Soils. *Vladimir Lukin, Krumm and Associates; and Francis M. Epplin, Oklahoma State University.*

This study was conducted to determine the optimal level and frequency of agricultural lime applications to low-pH soils. A model was developed to reflect the dynamics of pH change in response to lime application and continuous cropping. An evolutionary algorithm was used to solve the discontinuous nonlinear model.

Phosphorus Index Versus Soil Test Phosphorus as a Guide for Chicken Litter Land Application. *Jonathan K. Yoder and Keith Willett, Oklahoma State University.*

We estimate the relation between cropland chicken litter application and phosphorous runoff using experimental data from Arkansas and Oklahoma. We compare the costs of reaching an ambient phosphorous reduction goal on the basis of soil test phosphorus with the costs of reaching the same goal on the basis of an empirical phosphorous index.

Assessing the Environmental and Economic Benefits of Poultry Litter Application in Crop Production. *Ken Paxton, Krishna P. Paudel, Eddie P. Millhollon, and James L. Rabb, Louisiana State University.*

We analyzed five prospective management practices in cotton production in Louisiana in terms of net return and water quality benefits. Although nitrogen and phosphorus concentrations in water were not as low as the traditional system, the tradeoff model favored combining poultry litter with conservation tillage.

TITLE: Productivity and Research in Southern Agriculture (Moderator: Charles Moss, University of Florida).

Should Pesticide Marginal Products Be Positive? *Michele Marra and Bailey Norwood, North Carolina State University.*

This study presents data where the correlation between pesticide use and yield is negative and insignificant, which contradicts a priori beliefs that pesticides enhance yield. Theoretical modeling reveals that unobserved pests may be the cause, and that insignificant or negative marginal products are possible when pest population information is not available.

Research Transfer: Estimating Benefits of Multistate Field Trials. *Michael L. Popp, University of Arkansas; and Carl R. Dillon, University of Kentucky.*

Using a simulation model, the transfer of site-specific soybean research recommendations from experimental to farm conditions resulted in estimated operating losses up to \$5.51 and \$2.16 per acre across soil type and climatic region, respectively. This translated to annual losses ranging from \$0.183 to \$3.877 million for the study region.

Sources of Agricultural Productivity Growth for the Southern States—1960–1993. *Jet Yee, Economic Research Service, USDA; Wallace Huffman, Iowa State University; and Mary Ahearn, Economic Research Service, USDA.*

This paper utilizes data at the state level to provide new evidence on the contributions of public agricultural research, extension, and infrastructure (highways) to agricultural productivity growth for the Southern states over the period 1960–1993. We find public agricultural research, extension, and highways have positive impacts on agricultural productivity.

TITLE: Incorporating Differences in Quality (Moderator: Shida Henneberry, Oklahoma State University).

Pork Quality and the Role of Market Organization. *Steve W. Martinez, Economic Research Service, USDA; and Kelly Zering, North Carolina State University.*

This paper describes a theoretical frame-

work and explores pork quality as a motive for increased contracting and vertical coordination in the pork industry. Pork processor programs, contracts, and pork market characteristics are evaluated. The authors conclude that increased vertical coordination can provide efficient market organization to enhance pork quality.

Beef Quality Heterogeneity: Implications for Welfare Analysis. *Jayson L. Lusk, Mississippi State University.*

Previous studies have ignored the ability of firms and consumers to substitute between differing beef qualities. This study builds on previous literature by incorporating differences in quality and analyzes the impact of supply and demand shifts on changes in welfare of producers and consumers of high- and low-quality beef.

Alfalfa Quality and Alternative Pricing Systems. *Jared A. Hopper, Hikaru Hanawa Peterson, and Robert O. Burton Jr., Kansas State University.*

A price-quality relation for alfalfa was estimated using 1996/1997–2000/2001 Wisconsin data. Results suggest that pricing based on an aggregate quality index fails to account for quality differences in alfalfa, particularly in terms of crude protein percentages. Among nutritional factors considered, acid detergent fiber had the largest marginal impact on price.

The Impacts of Advertising and Promotion on Demand for Vidalia Onions. *Ecio F. Costa, James E. Epperson, Chung L. Huang, and John C. McKissick, The University of Georgia.*

This study evaluates the advertising and promotion impacts on scanned purchases of Vidalia onions and estimates returns to promotion expenditures for producers. An error components model determines promotion, own price, prices of substitutes and complements, demographics, and seasonality impacts on Vidalia onions' purchases for 10 markets from 1996 to 2001.

TITLE: Impact of Financial Markets on Agricultural Trade (Moderator: Michael Reed, University of Kentucky).

Exchange Rate and Trade Policy Effects on U.S. Poultry Export Prices. *Bella Ablaeva, Glenn C.W. Ames, Lowell F. Gunter, and Jack E. Houston, The University of Georgia.*

The impact of the ruble devaluation on U.S. poultry meat exports to the Russian market was simulated as the combined effects of an export subsidy and a tariff on imports using the Global Trade Analysis Project model and data. Russian imports fell while domestic prices rose. U.S. poultry exports and dark meat prices declined.

TITLE: Variation in Models of Supply and Demand (Moderator: Patricia Duffy, Auburn University).

Analysis of Catfish Demand: Application of Dynamic Flexible Models. *Kwamena Quagraine, University of Arkansas.*

The study applied a dynamic model of the almost ideal demand system to catfish demand. An estimated adjustment coefficient indicated consumers reallocate their disposable income slowly as real prices and income change. Elasticity estimates indicated that the dynamic model is well behaved, with negative own-price effects and positive expenditure effects.

The Determinants of U.S. Wheat Product Consumption. *Shauna Call, Thomas Marsh, Andrew Barkley, and Michael Boland, Kansas State University.*

This paper focuses on determining socio-demographic characteristics of individuals who consume wheat product. The data analyzed is the consumption of wheat flour represented as grams consumed per kilogram of body weight. Findings indicate that age, region, race, and origin are all important determinants in wheat product consumption.

Probability Distribution Function Models of Regional Cotton Supply Response in the United States. *Megan D. Britt and Octavio A. Ramirez, Texas Tech University.*

Likelihood-based modeling techniques are utilized to estimate regional cotton supply response in the United States using multivariate yield and acreage probability distribution function models. The regional cotton yield and acreage models are used to generate probabilistic predictions of regional cotton supply response for policy and industry decision-making purposes.

TITLE: Agriculture and Environmental Policy (Moderator: Joy Harwood, Economic Research Service, USDA).

Implications of Total Maximum Daily Load Standards on Agricultural Production and Resource Allocation. *Walaiporn Intarapong and Diane Hite, Mississippi State University; and Murat Isik, Iowa State University.*

To reduce environmental disamenities in terms of nutrient, chemical, and sediment runoff, total maximum daily load standards (TMDL) will soon be in effect. Best management practices may help to comply with

TMDL. In our study, nutrient and sediment runoff are simulated using EPIC. Then, we optimize environmentally constrained production using GAMS.

A Comparison of Agricultural Water Usage Policies in Georgia: A Flint River Example. *Brigid A. Doherty, University of Georgia.*

This paper examines the details of the Flint River Drought Protection Act in Georgia. An alternative method for reducing irrigation water usage is proposed. The two approaches are compared and a least-cost approach for decreasing agricultural irrigation is identified.

Synergism Between Agricultural and Energy Policy: The Case of Dedicated Bioenergy Crops. *Daniel de la Torre Ugarte, University of Tennessee; and Marie Walsh, Oak Ridge National Laboratory.*

A counterfactual scenario in which, during the period 1996–2000, incentives were in place for growing dedicated bioenergy crops, is analyzed. Results indicate that on an annual average basis, market returns to major crops would have increased up to \$3.6 billion with government savings of \$1.8 billion a year.