

Posters

Annual Meetings, SAEA, Greensboro, North Carolina, February 1996

Poster Awards

First Place: Influence of Breed Type on Cattle Feeding Production Profitability. *C. Cruse, W. J. Florkowski, J. McKissick, and R. Stewart, Univ. of Ga.*

Second Place: Multivariate Procedures for Estimating Rural Land Submarkets. *Gary A. Kennedy, Steven A. Henning, Lonnie R. Vandever, and Ming Dai, La. State Univ.*

Third Place: Public Attitude in Texas Toward Recombinant Porcine Somatotropin. *Sukant K. Misra, Donna N. Grotegut, and Kyle D. Clem, Texas Tech Univ.*

TITLE: Agriculture and Food Policy

The Political Economy of Farm Credit Policies: The Case of Greece. *Giannis Karagiannis, Univ. of Saskatchewan, Canada, and Stelios Katranidis, Univ. of Macedonia, Greece.*

This paper develops a framework for analyzing the implementation of farm credit policies in the presence of rent-seeking activities and the pre-existence of other agricultural policies. It is shown that in the presence of a deficiency payment, the level of credit support is inversely related to the difference between target and market price and to the elasticity of supply, while it is positively associated with revenue per acre. In the case of production quotas, the level of credit support is positively related to the elasticity of demand and inversely related to quota revenue.

Public Attitude in Texas Toward Recombinant Porcine Somatotropin. *Sukant K. Misra, Donna N. Grotegut, and Kyle D. Clem, Texas Tech Univ.*

The study analyzes consumer attitudes toward Porcine Somatotropin (pST) adoption in the Texas swine industry and the willingness to purchase pST-treated pork by using frequency analysis and chi-square contingency tests. Based on the data collected from a mail survey of Texas residents, the results indicate that demographic, attitudinal, and awareness characteristics are all significant determinants of consumers' concern and willingness to purchase.

TITLE: Farm Management and Production

Break-Even Cost Analysis of a Field Cleaner. *Blake K. Bennett, Sukant K. Misra, Texas Tech Univ., and Alan Brashears, USDA-ARS.*

The objective of this study was to assess the effect of field cleaners on trash and quality attributes of cotton and to evaluate their cost effectiveness. Analyses of field experiment and survey data indicated that cotton cleanliness is affected significantly by use of field cleaners. However, cotton quality attributes were not found to be influenced by the use of a field cleaner. Further, use of field cleaners was found to be cost effective for cotton producers for harvested fields ranging from 713 to 888 acres, depending on variety.

Modeling Producer Acceptance of the Louisiana Boll Weevil Eradication Program. *Bradley C. Smith, Richard F. Kazmierczak, Jr., E. Jane Luzar, and Kenneth W. Paxton, La. State Univ.*

This study examines the producer, landowner, and producer/landowner attitudes and characteristics associated with the proposed Louisiana Boll Weevil Eradication program. Data from a mail questionnaire were analyzed within a multinomial

logit framework. Results suggest that decision making concerning participation in communal pest management programs like the BWE is done without sufficient information, and that extension education efforts need to target the concerns of both producers and landowners.

Tillage Systems for Cotton Production and Environmental Quality: An Economic Analysis.

David W. Britt and Kenneth W. Paxton, La. State Univ., and Robert L. Hutchinson, Northeast Research Station, La.

Under provisions of the current farm bill, farmers are required to develop and implement a plan for highly erodible lands. This study examines alternative tillage systems for cotton in northeast Louisiana and evaluates them within a stochastic whole-farm context. Results suggest that a no-till, wheat cover crop is the most efficient tillage system.

An Analysis of the Labor/Capital Mix on Kentucky Grain Farms.

Jeanne M. Reeves and D. Bart Peters, Univ. of Ky.

The capital/labor ratio continues to be a significant concern for today's farmers because of changing agricultural structure. Farmers must combine a mixture of labor and capital that does not exceed their financial resources. The study group was a panel of Kentucky farms from 1974–92, separated by size and type. In order to ascertain if trends occur in the utilization of labor and capital, factor intensity analysis was employed. The results show that labor costs and capital costs are both increasing. However, labor productivity is not increasing.

TITLE: Marketing and Agricultural Prices

College Students' Perception of Food Safety, Quality, and Information Sources: Who Do They Trust?

Glenn C. W. Ames and N. G. Lordkipanidze, Univ. of Ga.

Responses from a subset of college students in a nationwide survey of food safety, biotechnology, and credibility of information sources are presented. Respondents registered the intensity of their perceptions on a four-category Likert scale. Fifty-

five percent of the students ranked food safety as important in their purchasing decisions. Sixty-four percent judged farmers primarily responsible for a safe food supply. Health counselors had the highest ranking as credible information sources, but family and friends were their primary information source. Students were indecisive about the role of biotechnology and the environmental impacts of food production on their purchasing decisions.

Survey of Organic Farming with an Innovative Marketing Approach for Organic Produce in Kentucky.

Mwana Nanga Mawampanga, Lionel Williamson, and David L. Debertin, Univ. of Ky.

A mail survey of consumers of organically grown produce organized in Kentucky First buying clubs was conducted throughout Kentucky at the end of the 1994 growing season. Results show, among other things, that the consumers of organically grown produce are very well educated, have above average incomes, and hold strong opinions regarding the effects of agri-chemicals on health and the environment.

Exclusive Marketing/Procurement Agreement Impacts on Transactions Prices in the Fed Cattle Market: An Experimental Economics Approach.

Tracy L. Dowty and Clement E. Ward, Okla. State Univ.

Exclusive marketing/procurement agreements between cattle feeding firms and meatpacking firms have increased in importance over the last decade. This study was designed to determine how these agreements affect transactions prices within the fed cattle market under an experimental economic setting. A pooled cross-section, time series transactions price model was developed based on previous research to estimate the impacts that numerous variables have on fed cattle transactions prices. Results indicate that exclusive marketing/procurement agreements had a positive impact on fed cattle transactions prices. Additionally, the results indicated that transactions prices are positively affected when the economic agents that operate firms within the Fed Cattle Market Simulator are provided with economic incentives.

Nutritional Attributes as Reasons for German Consumer Fruit Consumption.

W. J. Florkowski,

Univ. of Ga., B. Bruckner, and I. Schonhof, Institute for Vegetable Crop and Ornamental Plant Research, Grossbeeren, Germany.

To meet the German consumer expectations concerning fruit consumption, this study links consumer characteristics and reasons for fruit consumption focusing on fruit vitamin, minerals, and fiber content. The data were collected through a mail survey implemented in the Berlin metropolitan area in Germany in 1994. An order probit approach was used to estimate three equations representing the degree of agreement with a statement referring to the vitamin, fiber, or minerals content. In general, respondents indicated paying more attention to the vitamin content than to minerals or fiber. Variables influencing the selection of a category describing the amount of attention paid to nutritional attributes included gender, age, and employment status.

Factors Influencing Consumers' Use or Non-Use of the New Food Labels. *Zacch I. Olorunnipa, Florida A&M Univ.*

This study uses the binomial logit model to examine the influence of selected socioeconomic variables on consumers' use or nonuse of the new food labels in food item purchase decisions. The results indicate that educational level, household income, frequency of grocery shopping, awareness of the change in labeling pattern, and the desire to avoid obesity are significant determinants of consumers' use of the new food labels.

TITLE: Resource and Environmental Economics

Multivariate Procedures for Estimating Rural Land Submarkets. *Gary A. Kennedy, Steven A. Henning, Lonnie R. Vandever, and Ming Dai, La. State Univ.*

Principal component analysis and cluster analysis represent multivariate procedures that may be used to estimate relatively homogeneous rural land submarkets. These procedures, along with 13 physical and socioeconomic variables, were used to identify rural land submarkets in Louisiana. Principal component analysis was used to detect the presence of multiple rural land submarkets in the data. Cluster analysis was then used as a basis for identi-

fying eight contiguous rural land submarkets in Louisiana. These procedures provide an improved delineation of rural land submarkets over traditional methods, which were based largely on subjective judgment.

Economics of Intensifying Aquaculture Production: Water Circulation Versus Filtration. *Pierre-Justin Kouka, Carole R. Engle, Nathan Stone, and Martha Rowan, Univ. of Ark.*

A linear programming model was developed to evaluate the economics of intensifying aquaculture production through water circulation and filtration. Catfish and baitfish were the species studied to conduct the analysis. Results should help provide recommendations to fish farmers on cost-effective technologies to intensify production without adverse impact on water quality. At high catfish stocking densities, expected benefits outweighed increased costs, and water circulation was selected to reduce the burden of heavy environmental regulations. However, at low catfish stocking densities, farmers would choose not to adopt any of the technologies because of the minimal impact of fishpond water on environmental safety. Fish prices did not affect the outcomes, but an increase in yield of baitfish would lead to the adoption of new technologies at medium stocking densities.

TITLE: Quantitative and Research Methods

The Concepts, Design, and Analysis of Neural Networks: A New Analytical Tool for Agricultural Economists. *Muhammad Z. Ahmed and Glenn A. Helmers, Univ. of Nebr.*

Neural networks offer an approach to forecasting which is model free, nonparametric, and multivariate, in which the nature of the relationship is determined by the data rather than predetermined by the tool. Based on the learning and generalization properties of the human brain, NN builds up a knowledge base which can be used to predict future events or values. To increase understanding of this effective but less-familiar approach, the concepts, design, and analysis of back-propagation (BP), the most popular network, are demonstrated. A step-by-step procedure of BP is laid out. Issues in computation and implementation of BP are discussed. NN and regression methods are compared.

TITLE: Rural and Community Development

Consumer Survey for Downtown Revitalization. *David Zimet, NFREC, and Glenn Israel, Univ. of Fla.*

The Quincy, Florida, Downtown Merchants Association requested assistance in developing a marketing and recruitment plan. UF extension specialists designed a phone survey and trained 30 high school students to conduct phone interviews. The process was coordinated by the director of Main Street Quincy, Inc. As a result of the survey, merchants are planning joint advertising, coordinating extended hours one evening per week, and carrying some additional types of goods. They also have better information concerning spending to assist in business recruitment efforts. It was found that safety is of greater concern to shoppers than is parking.

TITLE: Teaching

Innovations in Distance Learning Education: Applications for Teaching and Extension. *C. Parr Rosson, III, and Christina Rountree, Texas A&M Univ.*

Fiber-optic technology has revolutionized educational opportunities through compressed video applications. Few teachers and extension educators are effectively utilizing these recent innovations to expand outreach capability and improve teaching. Tighter budgets, fewer faculty, and the need to share highly specialized expertise across states, regions, and even nations will require that educators become adept at using more cost-effective distance education systems. The purpose of this poster is to exhibit how compressed video has been used to improve classroom teaching techniques and enhance extension education programs. Lessons learned from teaching and extension experiences which integrate multi-media technology and software, along with the demonstration of an instructional video, will be highlighted.

TITLE: Extension

Geographic Analysis of Louisiana Cotton Producers and Their Attitudes Towards the Boll-

Weevil Eradication Program. *Richard F. Kazmierczak, Jr., Bradley C. Smith, Kenneth W. Paxton, and E. Jane Luzar, La. State Univ.*

Regional differences in Louisiana cotton production not only affect the economic organization of farms, but may also affect the attitudes and opinions of producers concerning pest management activities, the environment, and the proposed Louisiana Boll Weevil Eradication program. Using data collected from a mail survey, this study graphically examines how various cotton producer socioeconomic and attitudinal measures vary across the state. Results suggest that cotton producers are not as monolithic in their attitudes as previously assumed, thereby requiring that extension education programs be more carefully targeted.

Adapting Beef Production Practices to NAFTA-Induced Market Conditions. *Timothy D. Hewitt, David J. Zimet, North Florida Research and Education Center, and Sharon Fox Gamble, Volusia County Extension Office, Fla.*

Lower U.S. tariffs and a reduction in Mexican export restrictions that resulted from the North American Free Trade Agreement have increased imports of Mexican cattle into the United States. The increased imports have contributed to some changes in market conditions. Cattle prices have declined over the past two years. Premiums have been reduced for selected selling practices such as uniformity and preconditioning. The changing conditions have implications regarding production and management practices for small producers. A survey of small herd operations in three regions of Florida was conducted to identify production practices that pay under changing market conditions and to learn if producers are adapting to these changes.

TITLE: Agribusiness

Influence of Breed Type on Cattle Feeding Production Profitability. *C. Cruse, W. J. Florkowski, J. McKissick, and R. Stewart, Univ. of Ga.*

Cattle and carcass quality attributes are influenced by sire breed. Classifying all breeds into three types, i.e., American, British, and Continental, cattle and carcass quality were evaluated using

data from a cattle improvement program. Results identified differences between the breed type and the net profits received by farmers. Other specific live cattle and carcass quality attributes identified as important in affecting profits, yet genetically determined, included fat thickness, ribeye area, and quality grade. Cattle quality improvement programs emphasizing the proper selection of breeding stock seem to contribute to profits received by farmers.

TITLE: Professional Issues

Expanding Economic Emphases in Research by Utilizing Multidisciplinary Research Teams: A Case Study from Georgia. *C. Robert Stark, Jr., Univ. of Ga.*

Substantial opportunities for expanding economic emphases in agricultural research can exist when agricultural economists utilize multidisciplinary research teams. A survey is presented of physical scientists at a major agricultural experiment station with no research economists located on-site. The responses identify physical scientists' research experiences with economists and compare

the economic contributions expected versus delivered. Physical scientists' perceptions of major advantages and disadvantages from having an agricultural economist on the research team are presented with some projections as to whether the physical scientists will seek to include an agricultural economist on future research teams.

Award-Winning Graduate Paper

The Dynamics of Convenience and the Brazilian Soybean Boom. *Darren L. Frechette, N.C. State Univ.*

This paper investigates the slope of the soybeans futures price profile. U.S. and Brazilian soybeans are harvested on an alternating semiannual cycle that generates predictable dynamic behavior in the soybean futures market. Because corn and soybeans are storage substitutes, their physical storage costs move together and can be isolated separately from crop-specific marginal convenience yields along the futures price profile. The Kaldor-Working convenience yield hypothesis is tested for the international soybean market, and storage risk is measured.