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Posters

Annual Meetings, SAEA, Birmingham, Alabama, February 1997

Poster Award: Recombinant Bovine Somatotropin: Consumer Attitudes, Awareness, and Willingness to Purchase. *Kyle D. Clem, Sukant K. Misra, and Brent D. McPeck, Tex. Tech Univ.*

Comparative Analysis of External Optimization Heuristics in Bioeconomic Simulation. *Richard F. Kazmierczak, Jr., La. State Univ.*

Although agricultural economists have used simplification, partitioning, and aggregation as methods for addressing combinatorial complexity in bioeconomic simulation, other techniques exist for optimization of large-scale systems. Some of these solution methods, such as the Complex Method, iteratively refine a trial solution until the heuristic produces no further improvements. Others mimic biological (genetic algorithms) or thermodynamic (simulated annealing) optimization processes. This study examines the relative efficacy of these alternative optimizers and details their relative advantages and disadvantages when used in bioeconomic simulation studies of varying complexity.

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

This study uses the binomial logit model to examine the influence of selected socioeconomic variables on consumers' use or non-use of the new food labels in purchasing food items. 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 im-

portant variables influencing consumers' use of the new food labels.

The Economic Implications of Wheat Elevator Grading Practice. *Phil Kenkel, Roy Ataway, and Kim Anderson, Okla. State Univ.*

The privatization of world grain markets, food processors' quality standards, and the restructuring of grain transportation systems have concentrated attention on grain quality. Accurate grain grading is essential for the marketing system to function efficiently and to provide producers and grain elevator managers with correct incentives for production, grain cleaning, and grain blending decisions. A two-year study examined the variation in grain quality of wheat being delivered to country elevators and the accuracy of elevator grades. The results suggest that inaccurate grading has a significant impact on elevator profits. Some groups of producers may be disproportionately impacted by the current grading.

Recombinant Bovine Somatotropin: Consumer Attitudes, Awareness, and Willingness to Purchase. *Kyle D. Clem, Sukant K. Misra, and Brent D. McPeck, Tex. Tech Univ.*

Rapid advancements in recombinant DNA technology have made it possible to produce large quantities of bST for commercial application. However, the successful adoption will depend on providing information on consumer acceptability. The main objective of this study was to determine the potential commercial application of bST in the Texas dairy industry. A consumer survey was conducted to determine attitudes, perceptions, and behavioral in-

tentions toward the use of bST. A simultaneous qualitative choice model was developed with the aid of information processing theory to estimate consumer behavioral intention.

A Visual Perspective of Rural Land Markets Using GIS Procedures. *Lonnie R. Vandever, La. State Univ., Gary A. Kennedy, Northeast La. Univ., Steven A. Henning, and Ming Dai, La. State Univ.*

Empirical research suggests the existence of regional and localized rural land markets; however, few studies have outlined objective procedures for identifying such markets for analysis. This study uses geographical information systems (GIS) to provide a visual analysis of how land values vary in Louisiana. The triangulated irregular procedure within the ARC/INFO data model is used to estimate land value contours for Louisiana. Relatively steep land value contours suggest that locational and economic development factors have a strong and positive influence on rural land values in metropolitan statistical areas.

Quantitative Analysis of Farmer-Cooperatives Relationships. *Maria del Carmen Aguayo, Okla. State Univ., Ellene Kebede, Tuskegee Univ., Dean F. Schreiner, and Francis M. Epplin, Okla. State Univ.*

Quantitative analysis is conducted of farmer-cooperatives relationships, including coop-

erative marketing service cost and representative farm activity production and pricing decisions of cooperatives. Nonlinear programming methods are used. Results are displayed graphically showing interrelationships between representative farms and cooperatives for short-run and long-run analyses, and by pricing decisions of average and marginal cost pricing and various forms of monopoly pricing. The poster results are used for purposes of teaching methods of quantitative economic analysis.

Inter-County Transfer of Peanut Quota in Georgia Under the FAIR Act. *Bryan Hubbell and Stanley M. Fletcher, Univ. of Ga.*

In contrast to previous peanut programs, the FAIR Act allows U.S. peanut quota to move within the respective state. The relaxation of the production movement restriction along with other features of the FAIR Act could significantly alter producers' decisions. Producer decisions concerning quota allocation are modeled using a constrained profit-maximization function. Theoretical functions for demand and supply of quota are derived using inequality constrained optimization. Empirical forecasts of quota transfer are estimated using dynamic linear programming and pseudo-regression techniques. Results from these models are incorporated into GIS to map the movement of quota during the seven-year adjustment period.