

## SELECTED POSTERS

Annual Meeting, SAEA, Lexington, Kentucky, February 3-5, 1992

### INTERNATIONAL TRADE AND DEVELOPMENT

**"The Center for Agricultural Export Development."** *Mary A. Marchant and Deborah J. Thomas, University of Kentucky.*

The Center for Agricultural Export Development (CAED) at the University of Kentucky is one of 10 international trade developmental centers (ITDCs) created by Congress through the Food Security Act of 1985 for the purpose of enhancing agricultural exports. This poster presents the results of CAED's accomplishments since its creation in 1988. Accomplishments follow a three-pronged approach—research, education, and market development. Since the CAED is one of two ITDCs in the Southern region, poster results provide viewers with a better understanding of an operating ITDC and encourage use of CAED's services and materials.

**"Is There a Future for Southern Peanut Farmers in the International Market?"** *Stanley M. Fletcher and Dale H. Carley, University of Georgia.*

U.S. peanut exports to specific countries and regions show mixed trends. Shelled peanut import demand equations were estimated for the EC, Canada, and Japan by source of imports. Results indicate that shelled peanuts are viewed as a luxury good. However, own and cross-price effects were negligible. This latter result suggests that nonprice competition, such as the TEA program, is the basis for export expansion. Further examination of the results along with the data indicates that U.S. production shortfalls, especially during the 1980s, may have had a greater impact on U.S. peanut export shares than the price effects.

**"The Effect of U.S. Peanut Production Estimates on World Peanut Price."** *Stanley M. Fletcher and Dale H. Carley, University of Georgia.*

The peanut production estimates in the southern United States influence prices for U.S. peanuts exported to Rotterdam. These prices reflect on the level of prices that U.S. farmers may receive for additional peanuts. A linear spline function was used to estimate the threshold production levels in which prices changed structurally. Rotterdam prices remained within a range of \$700 to \$900/mt when the Southeast's production was more than 2.5 billion pounds; prices increased to the range of \$900 to \$1,400/mt when production ranged from 2.2 to 2.5 billion

pounds; and when production was less than 2.2 billion pounds, prices increased up to \$2,100/mt.

**"Evaluating Japanese Rice Trade Liberalization: Results from a Modeling Perspective."** *Stephen L. Haley, Louisiana State University.*

A dynamic world rice trade model emphasizing U.S. producing and milling sectors is used for analyzing the liberalization of Japanese rice trade. The liberalization would have significant effects for medium grain rice in the United States. The effects, however, may not be felt for a couple of years after the liberalization has begun. Rice millers will likely benefit more than producers. There seems to be little benefit for long grain producers, most of whom are located in the U.S. South.

### RESOURCE CONSERVATION AND DEVELOPMENT

**"Effects of Building Characteristics on Assessed Value of Buildings on Agricultural Land."** *Feng Xu, University of Missouri.*

This study examines the effects of building characteristics on assessed value of buildings on agricultural land. A nonlinear hedonic model is estimated in which total assessed value of buildings is the dependent variable and explanatory variables include characteristics of houses, barns and milking parlors. Methodological contributions include using a nonnested hypothesis test procedure to choose proper functional forms and directly incorporating a truncated logistic distribution in modelling assessed value of buildings. Results strongly support the hypothesis that building characteristics affect assessed value of buildings significantly. Results also indicated that interaction among size and age of buildings are significant and that value rank of building types is in correct order, for example, houses are more valuable than barns.

**"Managing Land Application of Broiler Litter to Optimize Economic Value and Water Quality."** *Tony Prato, Feng Xu, and Mark Jenner, University of Missouri.*

This study examines the economic effects of alternative broiler litter management practices. A geographic information system is used to classify land management units in a watershed with high litter

concentration based on physical characteristics, and to identify water quality sensitive areas. Litter application rates are estimated based on crop requirements for nutrients and on the litter nutrient content. A linear programming model is developed to maximize net returns from litter application to land in the watershed. The proper litter application rate, optimum allocation, maximum capacity, and economic value of litter are estimated.

**“Analysis of the Cost Effectiveness of a Drop-Off Recycling System in a Rural-Suburban County.”** *William M. Park and Kelly J. Hudson, University of Tennessee.*

Rural areas and suburban areas with low population densities face challenges in implementing cost-effective recycling systems. In small communities or areas not served by house-to-house garbage collection, drop-off systems appear to be the only logical type of recycling system. Yet, little is known about expected participation and generation rates or how the cost varies depending upon the volume of materials. Other determinants important in assessing cost effectiveness include what technologies are employed for collection and transportation, whether intermediate processing is included, and whether drop off of recyclables is tied in with sites already established for drop off of garbage. The two-year old drop-off system in Williamson County, Tennessee, provides an informative case study that sheds light on a number of these questions.

**“Agroforestry for Conservation Compliance and CRP Cover.”** *Mike J. Monson and William B. Kurtz, University of Missouri-Columbia.*

Agroforestry or alley cropping provisions in the 1990 Farm Bill provide an economic incentive for the production of trees in conjunction with crops on land enrolled in the Conservation Reserve Program (CRP). Income from alley cropping allows the producer to receive partial CRP payments plus the income from crops and trees. Alley cropping can also be used to satisfy conservation compliance provisions of the 1985 Farm Bill and may be more profitable than building terraces and waterways.

**“Preparing a Business Proposal for Aquaculture Loans: Guidelines and Computer Template.”** *Carole R. Engle, Nathan M. Stone and Gayle L. Pounds, University of Arkansas-Pine Bluff.*

Obtaining credit to construct ponds and facilities for an aquaculture business is one of the greatest problems in starting a fish farming business. How-

ever, a carefully prepared and well thought-out two-to four-year business plan may make the difference between approval and rejection of a loan.

There are 11 basic steps needed to prepare a business plan for an aquaculture loan: (1) description and characterization of proposed site, (2) description of production system, (3) description of marketing plan, (4) estimate of annual cost and returns, (5) estimate of required financing, (6) pro forma balance sheet, (7) pro forma income statement, (8) pro forma cash flow budget, (9) current appraisal of farm, (10) personal financial statement, and (11) brief resume of borrower listing aquaculture experience or training.

**“Cost and Economic Feasibility of Dairy Waste Management: Central Texas Representative Dairies.”** *Greg Allen and Ashley Lovell, Texas Agricultural Extension Service; Bud Schwart, Ron Lacewell, John Schmucker, David Leatham, and James Richardson, Texas A&M University.*

This poster analyzes the feasibility and financial impact of installing a two-stage lagoon waste management system under different milk production and price levels, and different investment requirements on two representative Central Texas dairy farms.

Due to the rapid expansion of the dairy industry in Central Texas in recent years, water quality problems related to dairies have received much publicity. Opposition from the public has forced state agencies to adopt regulations specifically for managing dairy waste. The cost to the dairyman to abide by these regulations could be substantial.

## PROFESSIONAL DEVELOPMENT AND TEACHING

**“What Do SJAE Reviewers Want in a Manuscript?”** *Dan L. McLemore, University of Tennessee; and Larry W. VanTassell, University of Wyoming.*

Understanding what agricultural economists look for when reviewing a manuscript and what they expect in a revision is critical in successfully playing the journal publishing game. Results are presented from a survey of reviewers of the *SJAE*. Reviewers see themselves as both gatekeepers for the *Journal* and as assistants to authors. Several criteria were ranked by reviewers as to their importance in the evaluation of manuscripts. Reviewers' feelings concerning results that are unconventional and the need to find something wrong in the manuscript are ex-

plored. How reviewers expect authors to respond to their comments is also indicated.

**"An Assessment Procedure for an Agricultural Economics Undergraduate Program."** *Jerry G. West and M. J. Monson, University of Missouri.*

A self-evaluation of proficiencies in selected areas is used as developed as an assessment procedure for agricultural economics undergraduates. Students evaluated their skills in business and economics, computer and quantitative methods, technical agriculture, communication abilities, and personal qualities. Results were compared with proficiency rankings from alumni and ranking of importance by agribusiness employers. Rankings for each category were consistent among groups. Scores from alumni were compared to each respondent's initial employment. It appears that self-evaluation of proficiencies may also be useful in predicting initial job employment.

**"An Animated Instructional Module for Teaching Production Economics with the Aid of 3-D Graphics."** *David L. Debertin, University of Kentucky.*

This presentation illustrates a computer-generated instructional module for use in upper division and graduate level classes in production economics. The module consists of a series of 2-D and 3-D animated graphics illustrating linkages between isoquant patterns and production surfaces, a series of constrained optimization problems, and several alternative approaches for locating expansion paths and global points of profit maximization. The instructional module links the contour mapping and 3-D surface drawing features in PC-SAS with the display and animation features of Harvard Graphics. It is suitable for use on any IBM-compatible computer with a high density 3 1/2" drive and VGA graphics.

## MARKETING AND AGRICULTURAL PRICES

**"Assessing Public Confidence in the Food Safety Regulatory Process."** *Sukant K. Misra and Chung L. Huang, Georgia Experiment Station.*

The study models consumer desire for testing and certification of fresh produce as free of pesticide residues and consumer preference for agencies or organization to be responsible for this service by using ordered logit and logit procedures. Based on the data collected from a mail survey of Georgia residents, the results indicate that both demographic

and attitudinal characteristics are significant determinants of consumers' choices of regulatory procedure in dealing with pesticide residues in fresh produce.

**"Changes in U.S. Cigarette Consumption/Production and the Impact on U.S. Burley Tobacco Demand."** *Orlando D. Chambers, University of Kentucky.*

This poster analyzed the impact that changes in U.S. cigarette consumption and production have had on the burley tobacco industry. Major areas included the economic importance of tobacco and cigarettes to the U.S. economy, the current market situation with respect to leaf and cigarettes, the factors which affect the demand for cigarettes, and projections for the major variables in the leaf and cigarette markets. Results indicated a positive outlook for the burley tobacco industry despite declining domestic cigarette consumption.

## ECONOMIC DEVELOPMENT

**"Kuznets' Inverse-U Revisited: Does the Relationship Vary Across Economic Sectors?"** *Stephan J. Goetz, University of Kentucky.*

The poster investigates Kuznets' hypothesized -shaped relationship between income growth and economic inequality at the level of rural Kentucky counties over the period 1969-1989. Theil inequality indices are calculated for different sectors of the economy, rather than only for individual regions or for the state as a whole. Kuznets' relationship is found to vary depending on the economic sector investigated. Granger-causality between income and inequality is also examined for selected economic sectors. Implications of the research findings for public policy and future analyses of inequality are presented.

**"Another Farm Financial Crisis: Boom and Bust in the Thoroughbred Industry."** *David Freshwater, Eric Jessup, and Mary Marchant, University of Kentucky.*

Kentucky is the only state in the nation where the production and sale of horses is one of the three largest components of farm income. The Lexington area of Kentucky is dominated by horse farms that produce yearlings that are sold all over the world. The vast majority of the premier thoroughbred stallions stand in Kentucky. Through the 1980s the breeding industry experienced boom times that ech-

oed the events in other farm sectors in the 1970s. In the 1990s, the thoroughbred industry is going through its bust period. Similar factors can be seen as driving the cycles in both general agriculture and thoroughbred breeding.

## SOFTWARE

**“Whole Farm Linear Programming on a Personal Computer: An Application for the Cooperative Extension Service.”** *Wes Harrison, Freddy Peralta, and Fred Benson, University of Kentucky.*

This poster reviewed the methods and progress of a Cooperative Extension Service project that utilizes whole farm linear programming and personal computer technologies as a managerial tool for farmers. The project uses a spreadsheet program (Quattro Pro) and a linear programming solver (LP88) to analyze the relationship between profitability and optimal timing of planting and harvesting activities as they compete for limited resources. Field testing in Kentucky indicated that farmers learned much about how various farm enterprises contribute to profitability while competing for the limited resources on their farms. Farmers also exhibited a desire for continued development of the program.