

# Selected Posters

## **Impact of the Level of Data Aggregation on Measurements of Rice Yield Variability for Arkansas.** *Matias Becerra and Lucas Parsch.*

Since the 1996 Farm Bill crop producers have become increasingly concerned with risk-management. Few data sources are available which let a producer quantify the yield risk associated with a crop. Although the appropriate data source for quantifying risk is farm-level data, yield risk often remains unquantified because farm level data are costly to obtain. This poster demonstrates how secondary data on state, district, and county level yield is used to quantify yield risk for rice in Arkansas. The objective is to quantify rice yield risk and to demonstrate how estimates of risk differ depending on the level of aggregation.

## **The Value of Segmenting the Texas Milk Market into rBST Produced and non-rBST Produced Milk.** *Blake K. Bennett and William Gustafson.*

This study analyzes the value of segmenting the Texas milk market into rBST-produced and non-rBST produced milk by developing the supply and demand relations of rBST milk, non-rBST milk, and all milk with and without market segmentation for Texas. Producer and consumer surpluses were calculated for the nonsegmented and segmented market and compared. Results indicate that there is potential to develop niche markets for both rBST-produced and conventionally produced milk and this market segmentation would benefit both types of producers.

## **Impact of Payment Decoupling in the U.S. Cotton Sector and Implications for Ala-**

**bama.** *Blondel A. Brinkman and Duncan M. Chembezi.*

As U.S. agriculture changes from a system with substantial government support to a market-oriented environment with significantly lower income protection, returns from cotton production are viewed by many producers in Alabama and other southern states to be insufficient to offset the high costs of producing cotton. This paper integrates econometric and input-output models to analyze the impacts of payment decoupling in the cotton sector on Alabama's agricultural and general economies. Specifically, this study assesses how decoupling, especially after 2002, would affect cotton net returns, cash receipts, personal incomes, employment, and overall cropping pattern in the state.

## **Global Environmental Policy and U.S. Agricultural Trade: Methyl Bromide and Southern Agriculture.** *C.M. Brewster and J.J. VanSickle.*

Methyl bromide is designated as a Class I ozone depleting substance and a critical element in the production of many vegetable crops in the U.S. Its scheduled phase-out by 2001 may have severe economic impacts on U.S. agriculture. A spatial equilibrium model was used to evaluate the likely impact of a methyl bromide ban on regional competitiveness for a number of vegetable crops grown in the U.S. The results of the study suggest a redistribution of production and marketing will occur. The study was also used to provide a framework within which methyl bromide alternatives could be evaluated.

## **Machinery Cost Calculator: A Tool to Es-**

**Estimate Farm Machinery and Equipment Costs.** *Tim Cross and Becky Bowling.*

Structural changes in agriculture have resulted in fewer, larger farms that continue to substitute capital for labor. Larger farms use larger and more costly farm machinery and equipment to enable field operations to be performed in a timely manner. This has caused farm managers to devote more attention to machinery management, especially estimating and monitoring machinery costs. The Machinery Cost Calculator (MCC) is a software program that uses farm-specific information and American Society of Agricultural Engineers Standards to estimate farm machinery costs on a per-hour and per-acre basis. The Windows-based program uses pick lists and drop-down menus to allow users to calculate variable, fixed, and total operations costs, and to project machinery market values for up to five years.

**The Potential of Sweet Potatoes for Reducing Farm Income Risk in North Carolina.** *Godfrey C. Ejimakor and Ewuuk Lomo-David.*

This poster explores the possibility of reducing farm income risk by including sweet potatoes in the crop portfolio. Time series data on prices and yields is used to estimate the risk associated with single enterprises. Correlation coefficients between enterprises are estimated and used to identify combinations of crops that could potentially reduce the risks associated with given levels of farm income.

**Internet Advertising and Marketing of Green Industry Products and Services: A Logistic Regression Approach.** *Enefiok Ekanem, Surendra Singh, Fisseha Tegegne, and Safdar Muhammad.*

In the last few years the Internet has offered opportunities for advertising and marketing of non-agricultural products and services. The Internet could also provide such opportunities to the green (greenhouse and nursery crops) industry. This poster reviews the existing literature on Internet advertising, identifies factors that can be used to predict

use of Internet to advertise, and presents the results of a recent survey on actual use of the Internet to advertise and market green industry products and services. Preliminary analyses conducted on data collected from a mail questionnaire survey of selected green industry businesses in Tennessee has yielded some interesting and useful results.

**Costs to Implement HACCP for Alabama Seafood Processors.** *Terrill R. Hanson, L. Upton Hatch, and Brian E. Perkins.*

Seafood processing in Alabama generates \$500 million annually from approximately 150 processors. Costs to implement, operate and attitudes toward HACCP were obtained through a mail survey. Ordered probit results indicated firm size, plan development and operating costs, increased control over operations, and better sanitation were key to understanding processor attitudes towards HACCP. Benefits from HACCP implementation increased with increasing firm size. Larger firms spent more to implement the Rule, but smaller firms had higher processing costs. Small and medium firms felt HACCP helped improve their control over operations and all firm sizes agreed sanitation improvements occurred.

**An Analysis of Methods Used by State Departments of Agriculture for Measuring Marketing/Promotion Program Effectiveness.** *Kimberly L. Jensen and Gregory K. Pompelli.*

This study examines methods used by state departments of agriculture to measure the effectiveness of their marketing/promotion programs. This study identifies users of program effectiveness measures, priorities for program beneficiaries, and the different measures used for evaluating specific program activities' effectiveness. Differences in effectiveness measures, recipients of the information, priorities for program beneficiaries are examined across characteristics of each state's agricultural sector, including share of overall U.S. cash farm receipts and diversification levels within each

state. Data are from a 1998 survey of state departments of agriculture.

**Asynchronous Learning with Audio Embedded in Presentations.** *Thomas Johnson.*

Distance learning is facilitated by multimedia presentations that do not require the simultaneous presence of presenter and audience. By embedding the spoken presentation in a PowerPoint slide presentation, you can achieve much of the effectiveness of more expensive and difficult multimedia presentations. With the RealAudio encoder you can get file sizes that will allow you to put a three-semester hour course on one 640 MB CD-ROM. This session demonstrates the results while giving instructions in the techniques to embed RealAudio files in PowerPoint presentations. A computer demonstration and the opportunity to practice the technique are included in the session.

**Economic and Geographic Impacts of Equine Infectious Anemia on the Louisiana Agricultural Industry.** *Gary A. Kennedy, William H. Green, and Mark W. Murphey.*

Equine Infectious Anemia (EIA) is a contagious viral disease of horses that has no effective treatment or vaccine. Prevention or control of the disease is by testing, quarantine, and destruction of infected animals. Louisiana has historically reported a high incidence of infected animals. This poster illustrates the geographic incidence and estimates the economic impact of EIA on the Louisiana agricultural industry. Results indicate a high incidence of the disease along the coastal regions of the state and an estimated economic loss of more than \$5.6 million in animal value and related value added between January 1995 and June 1998.

**An Economic Analysis of Deep Tillage Operations in Dryland Soybeans.** *Alan D. Pearce, Carl R. Dillon, Terry C. Keisling, and Charlotte G. Friddle.*

Research has shown that deep tillage re-

sults in significant yield improvements for dryland soybeans. However, deep tillage requires specialized equipment and additional field operations, thereby increasing production costs. Economic analysis is necessary to determine whether or not the value of the higher yield justifies the extra costs. Statistical, break-even, and sensitivity analyses will be performed using yield data from University of Arkansas agronomic experiments conducted from 1995 to 1997. It is hypothesized that the deep tillage treatments result in increased net returns.

**Southern Rural Development and CAFO Regulation: Does it Smell Like Money or Manure?** *John R.C. Robinson, Mellie Warner, and Hal M. Harris.*

Extensive survey data on confined animal feeding operations (CAFO) regulations are being used to develop an index to reflect the level of CAFO regulation by state. This index will be correlated with secondary socio-economic data to test the hypothesis that CAFO regulations are looser in poorer more rural states.

**Enhancing Student Motivation and Learning in Principles of Microeconomics: Can Web-Based Instructional Tools Make a Difference?** *Kurt Stephenson, Dixie Watts Reaves, and Harold Deskins.*

This poster will describe a web-site designed for principles of microeconomics. The web-site is structured into four major components: (1) review and overview of economic concepts, (2) practice exercises (with explanations of correct answers), (3) a role-playing game which incorporates supply, demand and market concepts, (4) student self-testing. The poster will describe the components of the web-site as well as report on a variety of quantitative methods to assess whether students use the web-site as a learning tool and whether student learning has been improved by the web-site.

**The Different Perceptions about On-Farm**

**Environmental Issues Between Urban Residents and Rural Residents (both Farm and Non-Farm).** *Glen Sutton, Martin Redfern, Drew D. Hardy, and Karen Strain.*

Increased attention is being paid to pollution problems that originate on the farm and policy makers need to understand to what extent differences in perception of these problems exist among farmers, rural non-farmers and urban residents. A survey was conducted including 19 counties in Southwest Arkansas to test the hypothesis that no statistical difference in perceptions exists among these three groups.

**Spatial Data Analysis Procedures for Exploring Rural Land Markets.** *Lonnie R. Vandever, Steven A. Henning, Gary A. Kennedy, and Huizhen Niu.*

Spatial data analysis, which includes Geographical Information System (GIS) and spatial econometric procedures, are used to develop improved rural land value model estimates. Visual representation of the data with GIS procedures, along with other spatial statistics, are used to detect spatial autocorre-

lation in rural land market data. A maximum likelihood spatial error model that adjusts for spatial autocorrelation is used to model the rural land value market in Southeast Louisiana. Results suggest that both location and economic development have a substantial effect on land values in this area.

**The Economics of Using On-Farm Reservoirs to Help Sustain Irrigated Crop Production in the Arkansas Delta Region.** *Eric Wailes, Kenneth Young, James Smartt, and Gail Cramer.*

A computer model has been developed that simulates the collection and use of surface water in on-farm reservoirs for rice and soybean irrigation in the Delta. Reservoir and available ground water use are evaluated conjunctively over a 30-year period with daily computation of reservoir and soil water balances, aquifer response to pumping and crop yield response to water use during the growing season. The model assesses the economics of reservoir use under different farm resource situations. Results are sensitive to surface water runoff supply ground water availability, weather, crop prices and scale of farm size.