Selected Posters

Economic Implications of Transforming Cotton Production Systems. *Steven W. Martin, Delta Research and Extension Center, David Parvin, Jr., Mississippi State University, and Fred Cooke, Jr., Delta Research and Extension Center.*

The authors have collected cost-of-production data from selected commercial cotton producers. These producers have used eight production systems. All of the systems offer reductions in direct costs per acre. Some of the greatest cost reductions are due to the efficiencies of larger (wider) machinery, implying the need for additional machinery purchases. Other systems show large cost savings through reduced fixed costs, implying less machinery. These implications suggest the possibility of reducing per-acre cost and increasing returns by reducing fixed cost per acre. These implications are in contrast with most short-run analyses.

Economic Advantage of Resistant Tomato Varieties Under Heavy Tomato Spotted Wilt Virus Pressure. *Robert Stark, Jr., University of Arkansas-Monticello and Paul E. Cooper, University of Arkansas Cooperative Extension Service.*

Tomato spotted wilt virus outbreaks have dramatically reduced marketable fresh market yields in Southeast Arkansas. A single year research study compared five resistant/tolerant tomato varieties to two industry standard varieties considered susceptible. All varieties were grown under heavy TSWV pressure. The resistant/tolerant varieties produced significantly higher marketable yields than the industry standards. Combined with five-year average market prices, the yield differentials resulted in significantly higher gross returns for the r/t varieties, even when adjustment is made for seed cost. The results suggest that adoption of resistant/tolerant varieties could significantly increase marketable yields and producer net returns.

Farmer Perceptions on Adopting Precision Farming Technologies in Tennessee. *Burton C. English and Roland K Roberts, University of Tennessee.*

Eighteen Tennessee farmers discussed adopting precision farming technologies in a focus group. They completed a written survey and participated in discussions about precision farming options. Another 67 non-adopting farmers completed a written survey identifying adoption impediments. Types of technologies adopted included yield monitoring and mapping, grid soil sampling, field boundary mapping, and variable rate input application. Major adoption impediments included lack of trained labor force, high investment cost for equipment, and lack of software compatibility. Producers want downloadable digitized soil maps, farmhands trained in precision farm technologies, skilled service providers, standardized equipment and software, and Extension programs in software training.

Dollarization: Issues and Implications for Southern Agriculture. *Parr Rosson and Flynn Adcock, Texas A&M University.*

The increased use of the U.S. dollar as the official currency of other countries has taken on added importance in recent months. The ongoing round of multilateral trade negotiations and increase preferential trading arrangements among regions has focused attention on globalization. International trade, trade finance, investment, exchange rate changes, and to some extent, even U.S. interest rates, are increasingly influenced by forces beyond U.S.

borders. The purpose of this poster is to describe the process of dollarization, examine the extent to which it exists, and identify critical issues and implications that dollarization may pose for agriculture in the South.

Potential Regional Economic Impacts of Converting Corn Stover to Ethanol. *Jamey Menard and Daniel de la Torre Urgarte, University of Tennessee, Robert Wooley, National Resource Energy Lab., Burton C. English, University of Tennessee, and Marie E. Walsh, Oak Ridge National Laboratory.*

As an existing and abundant feedstock with wide geographic distribution, corn stover has excellent prospects as a feedstock in a cellulose-to-ethanol industry. An analysis of its potential was conducted using GIS modeling techniques. Corn production and hence residue production was estimated using a simulation model POLYSYS. Quantities of residue produced and available for harvesting were combined with the costs of harvesting the residue and used in a transportation-based GIS model ORIBAS. The location and cost information developed by ORIBAS was then used in IMPLAN to project the economic impacts that might occur in each of the eleven states modeled.

Using A Soil Quality Index to Evaluate the Sustainability of Soil Management. *Jennie Popp, University of Arkansas.*

A soil quality index was placed into a dynamic production model to 1) ascertain how resource use adjusts to meet different sustainability requirements, and 2) how management decisions change with fluctuations in quality. Results showed that the decisions to use or conserve soil and the associated economic and environmental impacts are dependent upon soil characteristics and on how *sustainability* is defined. Sometimes soil can be managed the same under any definition. In many cases, different sustainability concepts were at odds with each other. Generally, the deeper and better the soil the more obvious and consistent was the solution for sustainability.

An Economic Simulation Game with Fast Feedback. *Michael P. Popp, Terry C. Keisling, and Patrick M. Manning, University of Arkansas.*

Several economic simulation games have been devised to supplement and/or replace conventional teaching techniques. However, these games usually require a significant time expenditure by both the sponsor and participants. This study examines the use of a marketing simulation game for use with a lay audience when time available for game implementation, generation of results, and discussion is limited and audience participation is voluntary. Specifically, a soybean marketing simulation game was developed for use at agricultural field days or similar one-day events. While many economic simulation games exist, not many of these can be implemented under these conditions.

A Comparison of State and Local Public Expenditures. *Judith I. Stallmann, Texas A&M University.*

Based on extension work, it is the observation of the author that citizens lack basic information about how public monies are used. Such information is necessary for an informed public debate about alternative uses of the public budget. This poster focuses on a comparison across states of state and local public expenditures. The comparison focuses on Texas, but using this readily available data other states could do a similar comparison. Analysis suggests that the expenditure structure of the state may handicap some business development. The expenditure structure also appears not to meet the needs of low-income citizens.

Threshold Yield as a Crop Insurance Decision Criteria: Implications for the 2000 Cotton and Peanut Crops in Georgia. *Nathan B. Smith and W. Don Shurley, University of Georgia.*

Severe drought conditions forced Georgia producers with crop insurance to decide wheth-

er or not to minimize losses by abandoning the crop and collecting an indemnity payment. A partial budgeting analysis for a typical south Georgia non-irrigated cotton and peanut enterprise was performed to illustrate the economic implications. The objective was to determine the highest net return to sunken cost at various levels of insurance, costs, appraised yield, and expected price. The concept of "Threshold Yield" is introduced as a decision variable. If the appraised yield is less than the Threshold Yield it would be more economical to abandon the crop.

Analysis of Profit-Maximizing Winter Cover Crop, Tillage, and Nitrogen Fertilization Systems for Cotton Production. *James A. Larson, Edward C. Jaenicke, and Roland K. Roberts, University of Tennessee, and Donald D. Tyler, West Tennessee Experiment Station.*

This study evaluated winter cover crop, tillage, and nitrogen fertilization effects on cotton yield response and profit-maximizing net returns. The hairy vetch winter cover has the potential to eliminate fertilizer nitrogen requirements and improve mean yields. With no nitrogen fertilizer nitrogen, vetch fixed enough nitrogen to increase conventional tillage yields by 122 lb/acre and no tillage yields by 203 lb/acre above yields without a winter cover. However, when costs were considered, vetch produced lower net returns than without a cover. Results indicate that farmers may have little incentive to adopt winter covers and no tillage for cotton production.

Rebuilding the Overfished Red Snapper Fishery: Economic and Biological Tradeoffs of Alternative Rebuilding Assumptions. *Sherry L. Larkin, University of Florida.*

The Gulf of Mexico red snapper fishery provides an example of the effects of alternative economic assumptions, discount rates, and mandated rebuilding horizons on the optional net present value, spawning biomass, and harvest quotes. This fishery provides an excellent example of the issues involved in determining optimal resource use for a relatively long-lived species with distinct user groups and a legal mandate to rebuild the stock to sustainable levels. Sensitivity results of a 20-cohort, 40-year, three-user group (i.e., recreational and targeted and non-targeted commercial) dynamic bioeconomic optimization model are used to graphically show explicit tradeoffs of alternative modeling assumptions.

Reported Trip Costs and Estimated Earnings for U.S. Atlantic Pelagic Longline Vessels. *Charles Adams and Sherry Larkin, University of Florida.*

National Marine Fisheries Service (NMFS) logbook data and US Coast Guard vessel data were analyzed for US pelagic longline vessels participating in Atlantic fisheries in 1996. Revenues were estimated using average fish weights and prices from NMFS observers, licensed seafood dealers, and the Fisheries Statistics and Economics Division. Average revenues were compared to average trip costs and earnings. Comparisons were based on differences in vessel size and fishing behavior. The analysis finds considerable fleet heterogeneity with regard to reported landings and costs. Incorporating these differences into management decisions addressing composition and behavior of the fleet may be important.

Measuring the Success of U.S. Cow-Calf Ranches in 1999. *Sara D. Short, U.S. Department of Agriculture.*

In 1999, cow-calf ranches benefited from the strongest cattle prices since 1993. With good grain supplies and favorable grain prices, feedlots were able to offer top dollar for cattle and maintain favorable gain costs. Understanding what other factors (e.g., size, costs, debt, and assets) contributed to the success of ranches is important to both ranchers and policymakers. It is expected that the most successful ranches were larger, had lower costs, fewer assets, and higher gross income.