Abstracts of Invited and Selected Papers and Organized Symposia

WAEA Annual Meetings, Kauai, Hawaii
June 24–26, 2009

Invited Paper Abstracts

WAEA PRESIDENTIAL ADDRESS

"Leadership Development in Agricultural Economics: Challenges for Academic Units." Michael A. Boland (Kans. State Univ.)

Crafting and executing strategy are key tasks to be carried out by a manager of an enterprise. Unit leaders are managers of an academic enterprise called a department. The objective of this paper is to provide an overview of information collected from interviews with unit leaders of departments of agricultural economics and discuss challenges being faced by these unit leaders in March 2009.

[*Note: The full presidential address is published in this journal issue.*]

KEYNOTE GUEST ADDRESS

"Biofuels: Political / Economic Boondoggle or Energy Salvation for Western States?" Douglas L. Young, Prof. Emeritus (Wash. State Univ.)

Nearly all western states lack comparative advantages for producing corn for ethanol and oilseeds for biodiesel. Despite this disadvantage, most western states have legislated incentives for production of biofuels. Unfavorable changes in price relationships, high transportation costs for imported feedstocks, and tight credit markets in 2008 and 2009 led to bankruptcies and plant closures at a disproportionate rate in the western biofuel industry. Policy makers in western states are advised to fund research and development for bioenergy and biofuel feedstocks in which they have a comparative advantage. These include forestry by-products, food processing and crop residues, and livestock wastes. Western states and the nation should also consider a broader menu of energy conservation and production policies beyond corn ethanol and oilseed biodiesel.

[*Note: The full keynote address is published in this journal issue.*]

Selected Paper Abstracts

SESSION: *The Interface Between Agriculture and Resources.* Moderator: David K. Lambert (Kans. State Univ.).

"Agricultural Land Use Change in Prairie Canada: Implications for Habitat Conservation." Benjamin S. Rashford and Christopher T. Bastian (Univ. of Wyo.).

Land use in the Canadian prairies is dominated by agriculture. Conversion of agricultural land from low- to high-intensity crops is a threat to critical waterfowl breeding habitat. We use a panel data set of Canadian agricultural land use to estimate a land use shares model that predicts regional conversion between major crop categories. We then simulate the effect of alternative agricultural incentive policies on waterfowl habitat conversion. Simulations predict that land conversion could remove over 4 million acres of waterfowl habitat by 2011. Heterogeneity in conversion rates implies, however, that spatial targeting can improve the cost-effectiveness of incentive programs.

"Factors Influencing the Adoption of Best Management Practices for Feedlot Ammonia Emissions." Carolyn Davidson and James Pritchett (Colo. State Univ.).

Ammonia emissions from feedlots pose risks to human and ecosystem health. Voluntary best management practices (BMPs) enable operators to reduce ammonia emissions in various stages of the production process. A survey examines adoption of 13 BMPs by feedlot producers in Colorado, Nebraska, Kansas, and Iowa. Univariate logit and multivariate probit regressions are conducted for each BMP or set of BMPs in order to identify factors that increase an operator's probability of adoption. Farm and operator characteristics as well as economic perceptions are found to influence adoption. Recommendations are made for outreach efforts targeted at increasing adoption rates.

"Identifying Influential Factors for Colorado and Wyoming Landowners Regarding Conservation Easement Acceptance." Graham H. McGaffin, Donald M. McLeod, Christopher T. Bastian (Univ. of Wyo.), Catherine M. Keske, and Dana L. Hoag (Colo. State Univ.).

Landowners in western states experiencing high population growth are facing pressure to sell their property rights to developers. Conservation easements (CEs) are private transactions that retire development rights. They may reduce adverse development impacts, particularly open space loss and landscape fragmentation. This research identifies factors that influence landowners' acceptance of CEs from a 2007 stated choice survey. Analysis was conducted using a random parameters estimation of a random utility framework. Colorado and Wyoming landowners differ in trusting and having contact with CE providers, in preferred attributes of CEs, and in percentage of off-farm income and education levels influencing CE acceptance.

"Nonrenewable Aquifer Depletion and the Transition to Dryland Agriculture." Aaron Benson and Michael Farmer (Tex. Tech. Univ.).

Agriculture on the Southern U.S. High Plains is dependent on the largely nonrenewable Ogallala aquifer. Decline in this section of the aquifer over the last decades has caused alarm locally, and in groundwater-dependent agriculture generally. In response, the State of Texas has mandated irrigation regulation. In this paper, we develop a theoretical model of optimal aquifer depletion subject to the profitability of a dryland production alternative. We show that conservation policies that emphasize irrigation efficiency over developing dryland alternatives risk implementing rules that restrict farmer profits, regional economic health, and water conservation.

SESSION: *Community and Regional Economics.* **Moderator: Ruby Ward (Utah State Univ.).**

"Community Recruitment and Retention of New Residents: A Study Using a Market Assessment Process." Gibson Nene, Bruce Johnson, Cheryl Burkhart-Kriesel, Randolph Cantrell, Charlotte Narjes, and Rebecca Vogt (Univ. of Nebr.).

In declining population regions such as much of the rural Great Plains, many rural communities are competing for both employment opportunities and workforce needs. In addition, it is increasingly evident that new resident recruitment and retention is just as critical (if not more so) to community sustainability. The purpose of this study was to explore new-resident recruitment and retention patterns, perceptions, and development strategies from both the demand side (new residents) and the supply side (communities marketing themselves) of the market. Using an iterative Delphi survey process of community practitioners, with input fed into the analysis from new-resident focus group findings, we were able to assess current market performance in terms of the relative effectiveness of new-resident recruitment and retention programs and draw implications for future improvement.

"Improving Financial Planning and Rate Analyses for South Texas Irrigation Districts." Allen W. Sturdivant, M. Edward Rister, and Ronald D. Lacewell (Tex. A&M Univ.).

South Texas Irrigation Districts diverting one million acre-feet from the Rio Grande River are encountering a rapidly changing agrarian-to-urban business environment due to record population growth. A static and archaic annual budgeting process by some (*a*) ignores capital equipment and infrastructure costs, and (*b*) depends upon declining non-operating revenues. To aid continued viability of these nonprofit entities, VIDRA$^{©}$ (Valley Irrigation District Rate Analyzer) has been customized for seven districts, allowing previews of likely financial outcomes of single or simultaneous changes in rates, expenses, etc. An array of gains/losses by client type and water-delivery method is projected based on average costs of delivery.

"Economic Contribution of the Aquacultural Suppliers of Recreational Fish in the Western U.S." Daniel Deisenroth, Craig Bond, Stephen Davies, John Loomis, Andrew Seidl, Amalia Davies, Chris Myrick (Colo. State Univ.), Kevin Fitzsimmons (Univ. of Ariz.), Gary Fornshell (Univ. of Idaho), Fred Conte (Univ. of Calif., Davis), and John Boren (N. Mex. State Univ.).

The economic contribution of the Aquacultural Suppliers of Recreational Fish (ASRF) has not been quantified in the western United States. The ASRF industry supplies fish to both public fishing outlets such as rivers, lakes, and streams, and to private fishing outlets such as fee-fishing operations and dude ranches. Ultimately, this study endeavors to present an informed estimate of the economic multipliers of this industry, along with any other information which is pertinent to an assessment of the

economic contribution of this industry, including a proper sampling of ASRF producers, their customers, and anglers.

"Economic Impacts of Selected Water Conservation Policies in the Ogallala Aquifer." Bridget Guerro, Steve Amosson (Tex. AgriLife Ext. Ser.), Lal Almas, Robert Taylor (West Tex. A&M Univ.), Bill Golden (Kans. State Univ.), Jeff Johnson, Erin Wheeler-Cook (Tex. Tech Univ.), and Thomas Marek (Tex. AgriLife Res.).

Availability of water in the western United States is a serious concern. Policy makers and stakeholders are considering ways to extend the life of the Ogallala aquifer for future generations. The objective of this study was to assess potential economic impacts from implementation of five alternative water conservation strategies identified by stakeholders. Economic optimization and socio-economic models were used to estimate changes in the aquifer, net farm income, and impacts on the regional economy. Results indicate accelerated adoption of improved biotechnology or irrigation technology without water use restrictions will not save water. In addition, temporary conversion to dryland has little impact.

SESSION: *Cattle Prices, Attributes, and Trade.* Moderator: Eric DeVuyst (Okla. State Univ.).

"Calf and Yearling Cattle Prices in Western Video Markets." Steven C. Blank, Larry Forero, Glenn Nader, and Annie Maddalena (Univ. of Calif., Davis).

Two long-standing questions of cattle ranchers in California and other western states are answered in this study using 11 years of data from video auction sales across the western half of the country. First, as expected, ranchers receive lower prices for cattle sold here compared to prices received by ranchers in the Midwest. Second, some (but not all) "value-adding" production and marketing practices do raise prices received by ranchers. The average amounts of location discounts and quality premiums are both reported for several market regions.

"Prediction Markets: An Application to Anticipating Information on USDA Cattle on Feed Reports." Karina Gallardo (Wash. State Univ.) and Jayson Lusk (Okla. State Univ.).

Prediction markets are a forecast tool currently applied to forecast a diverse array of events. This study applies this technique to forecast the number of cattle on feed reported by the USDA. The experiment consisted of creating a market comprised of students who bought and sold contracts throughout the semester that paid off based on the actual number of cattle on feed reported by the USDA at some future date. The market predicted 11.5 million head, whereas the USDA actually reported 11.684 million head (an error of 1.6%). Professional analysts predicted 11.795 million head (an error of about 1%).

"Effects of Cattle Attributes on Auction Prices in Manitoba." Jared Carlberg and Jordan Templeton (Univ. of Manitoba).

Prices from local cattle markets are an important source of feedback pertaining to animal quality for producers, but little work has been carried out in Canada to investigate price discovery at auctions. Data representing 5,425 head in 1,417 lots from seven auction marts in Manitoba were used to identify factors affecting prices within a hedonic model. It was found that breed, weight, sex, presence of visually identifiable defects, lot size, location, and futures price affect price in statistically significant ways. These findings imply that producers can benefit from careful decision making, from both marketing and production perspectives.

"Impacts of Trade-Related Policy on Canadian-U.S. Basis for Fed Cattle Transactions." Lee Schulz, Ted Schroeder (Kans. State Univ.), and Clem Ward (Okla. State Univ.).

Changing government regulations in Canada and the U.S. have affected transaction prices for fed cattle in Canada. This study uses transactions data from Canadian cattle feedlots to quantify fed cattle price determinants in light of new policy initiatives. We find evidence to support the hypotheses that divergence in slaughter regulations, labeling laws, and policies affecting market access to U.S. markets for Canadian cattle affect transaction prices. Evolving cattle trade policies, origin labeling, and beef packing regulations in both Canada and the U.S. are of considerable importance to Canadian cattle producers.

SESSION: *Applications in Quantitative and Research Methods.* Moderator: J. Marc Raulston (Tex. A&M Univ.).

"Forecasting the Choice-Select Spread." R. Curt Lacy, Berna Karali (Univ. of Ga.), and Timothy A. Park (ERS/USDA).

Recent changes in cattle marketing and technology used in beef packing plants have increased the importance of the Choice-Select Spread (CSS), the difference between the wholesale prices for choice and select boxed beef. Previous published research on the CSS is rather limited, using only quarterly data. Our paper strengthens previous research in two ways: by using weekly data and forecasting the CSS using the exponentially weighted quantile regression (EWQR) technique, which is equivalent to exponential smoothing of the cumulative distribution function (cdf). The approach can be presented in a regression-based framework and can incorporate trend and seasonal terms.

"A Missing Variable Imputation Methodology: Prototype Food Prices Database for Use with the National Health and Nutrition Examination Survey (NHANES) Dietary Intake Data." Gayaneh Kyureghian, Oral Capps, Jr. (Tex. A&M Univ.), and Rodolfo M. Nayga, Jr. (Univ. of Ark.).

Survey data with missing observations or latent variables are not rare phenomena. In this study we review missing data imputation methods commonly used in the agricultural economics literature. Our analysis revealed strong preference of researchers for the regression imputation method. As an empirical application of these methods, we use several alternative (regression, mean, and median) imputation methods to impute prices to commercially prepared foods that are consumed at home, from the NHANES dietary intake data. We demonstrate the superiority of the regression imputation method compared to the mean and median imputation methods for commercially prepared foods.

"Designing Rainfall Insurance Contracts for Pasture, Rangeland, and Forage." Denis Nadolnyak (Auburn Univ.) and Dmitry Vedenov (Tex. A&M Univ.).

Index insurance in agriculture largely avoids moral hazard issues and is applicable when yield records are limited. In the U.S., rainfall insurance and vegetation index insurance for pasture, rangeland, and forage were introduced in 2007. Relative risk-reducing effectiveness of rainfall insurance is analyzed using historical rainfall, sea surface temperature indexes, and forage yield data. Results indicate that long-term climate forecasts can be used

in optimizing rainfall insurance contracts, partially offsetting efficiency losses related to basis risk and imprecision of covariate risk measurement. These findings may be instrumental in detecting potential for improvements in the contract structure.

SESSION: *Research Valuation and Returns to Research.* **Moderator: Edward Rister (Tex. Agri-Life Research).**

"Are Public Preferences for Threatened and Endangered Species Sensitive to Scope? An Empirical Investigation Using Stated Preference Choice Experiments." Daniel K. Lew and Kristy Wallmo (NOAA Fisheries).

A criticism often levied against stated preference (SP) valuation results is that they sometimes do not display sensitivity to differences in the magnitude or scope of the public good being valued. We test the sensitivity of preferences to the number of species being protected under several proposed expanded protection programs for three Endangered Species Act-listed species: the Puget Sound Chinook salmon, the smalltooth sawfish, and the Hawaiian monk seal. A scope test is employed via a split-sample SP choice experiment survey to evaluate whether the willingness to pay (WTP) for protecting three species is greater than the WTP for protecting two species.

"Testing Surplus Values Gained Through Combining Stated and Revealed Preference Data: A Comparison of the Poisson and Multinomial Logit Models." David J. Gebben and John Loomis (Colo. State Univ.).

We compared net WTP per trip and statistical significance of site attributes estimated from two different revealed preference recreation models: count data models and multinomial logit models. The study utilized a data set collected in Puerto Rico at the El Yunque National Forest. Preliminary results suggest there are differences in which variables predicted trip frequency in the count data models and site selection in the multinomial logit models. We evaluated whether augmentation of the multinomial logit model with stated preference data improved that model's performance.

"Using Contingent Valuation to Estimate Benefits and Visitor Response to a Fee for Introducing a Visitor Shuttle System in Kilauea, Kauai." Lynne Koontz, Natalie Sexton (U.S. Geol. Survey), and John Loomis (Colo. State Univ.).

Surveys were used to estimate the net WTP for alternative transportation services at Kilauea Point National Wildlife Refuge. Visitor spending and dichotomous choice contingent valuation questions were asked to determine the net increase in value a shuttle would add to visitor experience and visitor spending changes in the local community of Kilauea, Kauai. Managers requested this information to determine if the benefits of a shuttle outweigh the costs and the economic impacts in Kilauea. Results indicate a shuttle increases WTP by $4 per visit for visitors but decreases community residents' WTP by $2 per visit.

"Returns to Research and Climate Change: Effects and Adaptation." Bruce A. McCarl, Xavier Villavicencio, and Ximing Wu (Tex. A&M Univ.).

This paper examines the role that climate change might be playing in the declining returns to agricultural research, and the implied needs for additional capital investment to adapt to future climate change scenarios. For this purpose, we estimate a state-level cross-section time-series econometric model of U.S. agricultural total factor productivity over 1970–1999 following Huffman et al. This is a panel model which both includes climate variables and controls for nonstationarity of the data. In turn, we use the estimates and subject them to the climate scenarios from the 2007 Intergovernmental Panel on Climate Change report, then compute the amount of needed increase in research investments that are needed to overcome the effects of projected climate change on agricultural productivity.

SESSION: *Research Advances for Production Economics.* Moderator: Tim Fitzgerald (Mont. State Univ.).

"Investigating the Effects of Technical Efficiency on Decisions of Farms to Exit the Aquaculture Industry in Taiwan: An Empirical Assessment Using a Semi-parametric Approach." Hung-Hao Chang, Ling-Yi Hung (Nat. Taiwan Univ.), and Richard N. Boisvert (Cornell Univ.).

This paper investigates the effects of groundwater use, production efficiency, and other socioeconomic factors on decisions of aquaculture producers in Taiwan to exit the industry. Using nationwide data, technical efficiencies of aquaculture firms are estimated using data envelopment analysis. Estimates of efficiency and other variables are incorporated as explanatory variables in a probit model of the exit decision. Results indicate that less efficient farms and those that rely on groundwater are more likely to exit. This positive association between groundwater use and the decision to exit may reflect policy efforts to reduce land subsidence attributable to aquaculture production.

"Quality Risk and Profitability in Cattle Production: A Copula-Based Approach." Eric J. Belasco (Tex. Tech Univ.), Ted C. Schroeder (Kans. State Univ.), and Barry K. Goodwin (N.C. State Univ.).

This study evaluates quality risk within the context of overall cattle profit risk. A Copula-based approach is used to explicitly characterize the covariance structure between production and quality variables, while allowing for each marginal density to have a unique specification. The covariance structure offers insights into the tradeoff between grade levels and production efficiency. Simulation procedures are used to assess the impact of quality risk on overall profit risk based on grid pricing structure and premiums/discounts. Results from this study add an important component to existing research by explaining why price signals do not move smoothly from packers to producers.

"Correlation Methods for Large Stochastic Systems." Steven L. Klose and Eric Manthei (Tex. A&M Univ.).

Application of analytical methods generally means striking a balance between the pure and the functional. Large, poorly defined correlation systems are the norm when it comes to applications of farm-level simulation. A traditional correlation matrix is often not an option for simulating the yields of a diversified farm operation with a large number of variables and limited data. This paper examines the adequacy of an alternative method for correlating large yield systems in whole-farm simulation. While statistically inferior to the correct method, the proposed alternative may provide a functional option for applied simulation models.

"A Spatial Analysis of Agricultural Cash Rents." Shannon M. Woodard and Nicholas D. Paulson (Univ. of Ill.).

Recognizing that agricultural rents are composite products with structural spatial interactions, this

study applies a spatial-hedonic model of Illinois farmland rents to certified farm-level data from 1996 to 2008. The primary focus is on the sensitivity of cash rents with respect to commodity prices while also controlling for exogenous farm and regional characteristics. Results indicate that while prices have a significant effect on rents, the magnitude of this effect is smaller than reported in previous work. Moreover, changes in commodity prices in high-yielding areas result in an increase in cash rents nearly double that of less productive regions.

SESSION: *Consumer Demand: Quality and Organics.* **Moderator: DeeVon Bailey (Utah State Univ.).**

"U.S. Consumers' Valuation of Quality Attributes in Beef Products." Babatunde Abidoye, Harun Bulut, John D. Lawrence, and Brian Mennecke (Iowa State Univ.).

U.S. consumers ($n = 1,145$) are surveyed online in a choice-based experiment during fall 2005 and spring 2006. Based on the resulting data, a random coefficients logit model is estimated, and consumers' willingness to pay for various quality attributes in beef products is obtained. Our results indicate strong valuation for traceability ($3.77), grass-fed ($3.44), and U.S. origin ($2.01) attributes in a standard rib-eye steak.

"Examining the Factors Affecting Household Purchase of Organic and Conventional Fluid Milk in the United States." (Pedro A. Alviola, IV and Oral Capps, Jr. (Tex. A&M Univ.).

Using the ACNielsen Homescan panel data for calendar year 2004, we estimated both multinomial logit and probit models in order to characterize and identify household characteristics that drive household buying behavior with respect to purchasing organic milk, conventional milk, and both milk types. The findings of the models indicate household socio-demographic characteristics play a key role in the likelihood of purchasing both milk types. We also note that little differences exist in the magnitudes of the marginal effects for both choice models. However, the standard errors from the multinomial probit model are higher than those from the multinomial logit model; thus we obtain more insignificant marginal effects with the multinomial probit model than from the multinomial logit model.

"Organic and Conventional Baby Food Consumption Analysis." Chung L. Huang, Victoria LeBeaux, Luanne Lohr, and Michael E. Wetzstein (Univ. of Ga.).

A two-stage switching regression model is applied to the 2005 Nielsen Homescan data for analyzing baby food demand. Major consumer characteristics associated with purchases of organic baby food are identified and their effects on consumption are investigated. Results indicate consumers are less likely to purchase organic baby food if they shopped outside of a traditional grocery store or did not purchase from one of the top two national brands of baby food. Empirical results imply a 1¢ increase in the price will decrease the probability of purchasing organic baby food by 1.2% with an estimated own-price elasticity of −3.73.

"Organic and Conventional Fluid Milk Consumption in Central Ohio." Neal H. Hooker, Ching-Hsing Chang, Abdoul Sam, and Eugene Jones (Ohio State Univ.).

Weekly milk scanner data (February 2006 to March 2008) from six stores of a national chain serving high- and low-income areas are explored. Products are categorized into nine subgroups (organic and fat content). High-income consumers purchase more organic and lower fat milk. Price premiums for organic milk are significant (146%). High-income consumers pay higher prices for milk. An AIDS model compares own-price and expenditure elasticities across products and stores. Own-price elasticities are higher for organic milk, yet there is no difference in own-price elasticities of organic milk across stores.

SESSION: *International Trade.* **Moderator: Huifang Zhang (Wash. State Univ.).**

"Expected Changes in China's Grain and Oilseed Industries and Implications for the U.S. and World Agriculture." Won W. Koo and Richard Taylor (N. Dak. State Univ.).

Chinese production of agricultural commodities has changed substantially, following its consumption pattern of the commodities. The consumption of corn and soybeans has increased due to changes in dietary patterns, and wheat and rice consumption has fallen. The objective of this study is to assess the impact of expected changes in Chinese consumption patterns of agricultural commodities

(corn, wheat, soybeans, and rice) on Chinese and world agriculture. A spatial equilibrium model based on a nonlinear programming algorithm was developed, focusing on Chinese agriculture, to evaluate the spatial distribution of production and consumption of these four commodities and their impacts on world agriculture. Unless China improves its farming technology significantly, China would be a major importer of corn and soybeans, affecting world agriculture significantly.

"Economic Impacts of an Outbreak of HPAI and Potential Market Disruptions." Kristyn L. Stone, Kamina K. Johnson, Diana R. Mitchell, and Ann H. Seitzinger (USDA/APHIS, Fort Collins, CO).

This study measures the economic impact of a simulated outbreak of HPAI H5N1 in a backyard flock in North Carolina using results from an epidemiologic simulation model to shock a partial equilibrium economic model. Analysis includes trade market recovery. The results show that producers are negatively impacted due to the loss of foreign markets, and negligible production losses, while consumers gain due to increased product available on the domestic market. Adverse reaction by consumers to an outbreak of disease negatively impacts both producers and consumers. Regionalization decreases trade impacts of the disease outbreak and is an attractive mitigation strategy.

"Interactions Between U.S. Biofuel Domestic and Trade Policies and Global Greenhouse Gas Emissions." Dileep K. Birur, Thomas W. Hertel, and Wallace E. Tyner (Purdue Univ.).

With increasing interest in renewable fuels across the world, several countries have set high targets for future biofuel production. Currently, the U.S. and Brazil are the leading producers of ethanol, generating 85% of the world's production. In this study, we use a global computable general equilibrium modeling approach to examine the impact of: (*a*) removal of the U.S. import tariff on ethanol, (*b*) changes in the ethanol blenders' credit, and (*c*) implementation of a U.S. biofuel mandate for the year 2015. This analysis offers a holistic picture regarding potential global impacts of current and prospective U.S. biofuel domestic and trade policies. The analysis reveals that elimination of import tariffs on ethanol provides sufficient ethanol in the U.S. to move toward a cleaner fuel infrastructure with decreased greenhouse gas (GHG) emissions.

"Prioritization of Sanitary Restrictions Facing U.S. Exports of Bovine, Porcine, and Ovine for Determination of Surveillance Needs." Philip L. Paarlberg (Purdue Univ.), Ann H. Seitzinger (USDA/APHIS), John G. Lee, and Mildred M. Haley (ERS/USDA).

A feature of U.S. livestock trade is the impacts of the variety of measures imposed due to diseases: export bans, testing, handling regulations, or quarantine time. Recently developed databases of sanitary export requirements are searched for commonalities across importing countries' restrictions as well as for exceptions. Excess demand shifts are used to represent bans or restricted trade quantities in modeling impacts. Other sanitary regulation costs are included using the compliance cost framework. The effects of sanitary restrictions are estimated to be worth several million dollars of potential exports.

SESSION: *Resource Issues in the West.*
Moderator: Dileep K. Birur (Purdue Univ.).

"Rangeland Management with Invasive Annual Grasses and Wildfire in the Great Basin." Mimako Kobayashi and Kimberly Rollins (Univ. of Nev., Reno).

Without timely and targeted land treatments to control invasive annual grasses, the Great Basin ecosystem is predicted to irreversibly lose the vigor of its native vegetation, and wildfire size and frequency will continue to increase. Greater cooperation between agencies and private ranchers may reduce costs of monitoring range condition and improve efficiency in treatment strategies. However, private incentives to invest in treatments are likely below socially desirable levels as the latter reflect other rangeland values, firefighting costs, and spatial and temporal externalities. Using a numerical dynamic model, we investigate under what conditions rancher behavior is more responsive to policy instruments.

"Federal Greenhouse Gas Regulation and Wyoming's Energy Economy: Impacts on Tax Revenue and Public Investment." Milton Geiger, Don McLeod, and Roger Coupal (Univ. of Wyo.).

The implementation of federal climate change legislation would alter the relative price advantages of fossil fuels produced in Wyoming and resultant tax revenue. A policy model demonstrates changes in the prices and quantities produced of

coal, natural gas, oil, and wind energy, including electrical generation and multiplier effects, from federal action. With CO_2 prices ranging from $0 to $150/ton, Wyoming tax revenue would increase, due to tremendous growth in natural gas production and price substituting for declines in coal revenue. Wind energy contributions to tax revenue would remain limited due to a low effective tax rate relative to fossil fuels.

"Economic Considerations in Selecting Best Management Practices for Watershed Management of Water Quality." M. Edward Rister, Ronald D. Lacewell, Taesoo Lee, Raghavan "Srini" Srinivasan, Balaji Narasimhan, Clint Wolfe, David Waidler, Allen W. Sturdivant (Tex. A&M Univ.), Darrel Andrews, Mark Ernst, and Jennifer Owens (Tarrant Reg'l. Water District).

A multidisciplinary team is addressing watershed management for improved water quality in north-central Texas, identifying the most economic means of implementing a plan for reducing (and/or preventing) phosphorous (P), nitrogen (N), and sediment annual inflows into the Cedar Creek Reservoir. A critical component of this research involves identifying a portfolio of best management practices (BMPs). The nutrient/sediment reduction information and related costs for the respective BMPs are transformed into a "most economical best management practices" (MEBMP) suite using financial and optimization analyses, i.e., capital budgeting, life-cycle annuity equivalents, and linear programming.

SESSION: *Responses to Drought and Weeds.* Moderator: Steve Amosson (Tex. AgriLife Ext. Ser.).

"Comparison of Drought Mitigation Strategies for Cow-Calf Producers." John P. Ritten, Christopher T. Bastian, Michael A. Smith, and Steven I. Paisley (Univ. of Wyo.).

Impacts of reduced forage production have forced many cattle producers to search for strategies to cope with periods of drought. Results of a multi-period linear programming model utilizing different combinations of precipitation and cattle prices suggest that over the entire planning horizon, retaining steers was the most profitable strategy, followed by late calving, early weaning, and summer feeding. This ranking was also seen in periods of moderate to long droughts. In times of short drought, however, both late calving and early weaning outperformed retained ownership of steers. Providing supplemental feed during summer months was always the least profitable strategy.

"Continuous versus Discrete Decision Variables in Farm-Level Programming Models: Implications for Optimal Drought Management." Dannele E. Peck (Univ. of Wyo.).

Many farm-level mathematical programming models define crop and irrigation decisions as continuous variables, implying that the farm's acreage can be infinitely divided. In reality, landscape features such as roads, windbreaks, and streams often break a farm's acreage into discrete fields that cannot easily accommodate more than one crop or irrigation system. Optimal solutions to continuous and discrete versions of a linear programming model are compared to determine whether the use of continuous variables to represent discrete decisions generates meaningful differences in a farm's optimal management plan. Important differences in optimal drought management exist between the continuous and discrete models.

"Grazing Allotment and Stochastic Wildfire: Cost of Wildfire in Southeast Oregon." Man-Keun Kim, Thomas R. Harris, Erqian Zhu (Univ. of Nev.), and Jonathan E. Alevy (Univ. of Alaska).

A ranch-level economic model is linked to a social accounting matrix to investigate the impact of wildfire on the regional economy, incorporating the effects of invasive cheatgrass. This study extends the work of Alevy and Harris (2008) with a newly developed stochastic wildfire module which consists of cheatgrass, wildfire, and land restoration modules. The wildfire module is calibrated using historical wildfire data and ecologists' supports. Using this model, the cheatgrass wildfire impact on the southeast Oregon region is investigated.

SESSION: *Agribusiness Issues.* Moderator: Steven C. Blank (Univ. of Calif., Davis).

"The Logistics of Herbaceous Crop Residue-Based Ethanol Production Under Uncertainty." David K. Lambert (Kans. State Univ.) and Jason Middleton (N. Dak. State Univ.).

A mixed-integer programming problem determines optimal networks for harvesting crop residues,

storage and transportation infrastructure for feedstock, and location of pretreatment facilities and ethanol refineries in North Dakota. Sensitivity analysis defines optimal logistical networks under varying parameter values. About $1.70/gallon of ethanol is needed before production becomes economically feasible. Network structure and output mix change with ethanol and feed prices. The major results of the research indicate the need for a large geographic perspective given the high volumes of feedstock required to provide the future goal of meeting 16 BGY of production from non-corn sources.

"Estimating the Effects of Nutrition Knowledge and Food Culture on Produce Consumption." Christiane Schroeter (Cal Poly State Univ.) and Lisa House (Univ. of Fla.).

In the United States, about 21% of all college students are overweight or obese. This study determines the impact of (*a*) dietary and health knowledge, (*b*) various food purchasing factors, and (*c*) food culture on produce consumption of college students in California, Florida, and Arkansas. Students' produce consumption decreased with an increased frequency of eating away from home. Most students expressed a desire for an increased availability of convenient and affordable fruit and vegetable products. Our results show that food culture and lifestyle significantly impact produce consumption, emphasizing the need to target cultural aspects when developing effective and efficient health promotion.

"Increasing Adoption of Renewable Energy in California Agribusinesses." Lynn Hamilton and Jay Noel (Cal Poly State Univ.).

State mandates in California for carbon emissions and renewable energy adoption necessitate increased use of renewable energy. This study estimates the long-term energy savings for agribusinesses that adopt solar and wind energy and determines the barriers to renewable energy adoption in agriculture. Much of California's prime agricultural areas have excellent solar resources or wind resources. Renewable energy use is very low in agriculture, despite generous state subsidies. This study will show the long-term economic benefits to targeted farming areas, and will provide a framework to develop outreach programs to help increase the adoption of renewable energy in agriculture.

"Examining the Farm-to-Retail Price Spread and Retail Price Rigidity in Light of High Food Price Volatility." Richard J. Volpe, III (Univ. of Calif., Davis).

Farm prices for nearly all U.S. commodities embarked on a meteoric rise beginning in 2007 and continuing through most of 2008, followed by a dramatic fall starting at the end of 2008 and into 2009. The purpose of this study is to examine the impacts of this farm price volatility on supermarket prices. Examining nine produce and dairy products and accounting for promotional activity on the part of retailers, we find very little evidence of price transmission. For the cases in which we do find evidence of price transmission, retailers are responding more fully to farm price increases than decreases.

SESSION: *Consumer and Household Economics.* Moderator: Lee Schulz (Kans. State Univ.).

"Adding Food-Away-from-Home to the Thrifty Food Plan: Feasibility and Nutritional Implications." Wen You, Ge Zhang, Brenda M. Davy (Virginia Tech), Andrea Carlson (USDA/ CNPP), and Biing-Hwan Lin (USDA/ERS).

The Thrifty Food Plan (TFP) is a nonlinear mathematical programming model that provides a healthful and economical dietary recommendation on home-prepared foods that deviates the least from the current low-income consumers' consumption pattern. This study investigates the nutrition impact of considering food away from home (FAFH) in the TFP. Measures of energy density, nutrient/food intake composition, and the overall diet quality measured by the Healthy Eating Index 2005 are presented. Results show that considering moderate FAFH yields intakes similar to the TFP while greatly increasing the recommendation practicality. Results provide useful information for educators to develop messages for FAFH choices.

"The Money-Time Poverty Threshold in At-Home Food Production: A Cost Difference Approach." George C. Davis and Wen You (Virginia Tech).

Food production at home requires two main inputs: money and time. Food assistance programs focus exclusively on the money cost, while completely ignoring the time cost. The purpose of this paper is to adapt the Vickery (1977) analysis to

the food production dimension and calculate money *and* time poverty rates in food production. Our theoretical foundations are based on a cost difference approach (Hicks, 1954). Our empirical results suggest that time is a more constraining factor in food production than money, and incorporating time into the calculation of food poverty rates more than doubles the food poverty rates.

"Consumer Willingness to Pay for Locally Made Specialty Food in New Hampshire: Effects of Promotional and Local Branding Programs." Osman Hamdan, Craig A. Bond (Colo. State Univ.), and Kelly Giraud (Univ. of N.H.).

This paper investigates the socioeconomic and demographic determinants of consumers' preferences and willingness to pay (WTP) for locally produced specialty food in New Hampshire. WTP premia for local food products in New Hampshire in 2004 were estimated and compared to findings from a previous survey conducted in 2002. Results indicate some evidence of an increase in WTP amounts and a shift in demand for local food products. This change could possibly be brought about by the intensification of the marketing and promotion efforts after 2002 and the ease of identification of local products as a result of introducing the "New Hampshire's Own" logo system.

"Private, Public, and Regulatory Incentives and Demand for Functional Food Innovation." Stavroula Malla (Univ. of Lethbridge) and Richard Gray (Univ. of Saskatchewan).

This paper examines the factors affecting R&D of functional foods, including the private market incentives, the consumers' demand, and public policy goals and regulations with respect to diet and health. A three-stage game theoretical model was developed to examine incentives, research intensity, pricing, and firm entry within the functional food industry. Horizontal product differentiation is assumed to exist in the sector where the differentiated attribute and consumers' preferences are distributed in a unit circle. A number of propositions are derived for key economic relationships, and policy implications are discussed.

SESSION: *Resource Economics: Policies and Techniques.* Moderator: Milton Geiger (Univ. of Wyo.).

"Reclamation Bonding in Oil and Gas Development in the State of Wyoming." Bridgette M. White (Univ. of Wyo.).

Oil and gas firms are required to purchase reclamation bonds as a means to ensure reclamation of the land they disturb during production and all related activities. Sites not reclaimed are known as orphaned wells, which must be reclaimed by state or federal agencies. A comprehensive cost analysis of reclamation activities is a critical component to establishing a sufficient bonding requirement, and therefore an analysis is provided of the cost of reclaiming orphaned wells in Wyoming from 1997–2007. This includes a hedonic analysis where the total cost of reclaiming orphaned wells is decomposed into various production, regulatory, and environmental attributes.

"Conjunctive Water Management and Managed Recharge: An Optimal Control Investigation." Levan Elbakidze and Garth Taylor (Univ. of Idaho).

The Snake River plain aquifer is in decline due to improved irrigation efficiency, reduced canal leakage, increased pumping, and prolonged drought. Resulting water shortages have provoked litigation between senior water users and junior ground water pumpers and massive taxpayer-funded water buyouts. Water allocation for aquifer recharge and pumping is determined by geographic distribution of water users and hydrologic as well as economic parameters of the system. Using a numerical dynamic optimization approach, the effects of recharge time-lag and the effects of geographically heterogeneous links between pumpers and spring water users on optimal recharge and pumping activities are analyzed.

"Informing Optimal Experimentation and Adaptive Management Through Dynamic Modeling with Multiple Controls." Craig A. Bond and John B. Loomis (Colo. State Univ.).

We solve a simple adaptive control model in which there are multiple control variables to perturb an ecosystem, but the marginal effects of these actions are uncertain. As such, the economic agent must trade off between the primary management objective and learning about the marginal effects of actions. Our example is fish population restoration in a river system. Results show how these models can (*a*) contribute to the prioritization of experiments in an adaptive management

framework, (*b*) provide ex ante and ex post values of information, and (*c*) illustrate how to objectively value management approaches when management objectives differ.

"The Impact of Irrigation Technology Improvements and the Loan Deficiency Payment Program on Agricultural Groundwater Use." David B. Willis (Clemson Univ.).

This study estimates the impact of the Loan Deficiency Payment (LDP) and/or irrigation efficiency increases on cumulative groundwater use and groundwater conservation cost over a dynamic 50-year planning horizon. Without the LDP, agricultural groundwater withdrawals are 3% less when 90% efficient LEPA technology is substituted for 65% efficient furrow technology. Groundwater use is 13% higher when moving from furrow without the LDP, to LEPA with the LDP. The marginal cost of decreasing baseline groundwater use by 50% is 22% higher under LEPA than furrow without the LDP, and nearly 200% greater with LEPA and the LDP, relative to furrow without the LDP.

SESSION: *Production Risk and Technology*. Moderator: Jeff Luckstead (Univ. of Idaho).

"Profit Determinants of Sexed Semen in Dairy Cattle." Dana L. Hoag, Katie McCullock, and Jay Parsons (Colo. State Univ.).

Sexed semen technology has been available for years, but adoption has been slow. We evaluate the implementation of sexed semen on commercial dairies. Enterprise budgets in Excel are used to explore what could be done in the laboratory to make use more feasible and what managers could do to make the technology more feasible. This budget exploration for managers and technicians, under varying market conditions, will help sexed semen producers identify where to concentrate efforts in the laboratory and what educational programs would benefit dairy managers. Results show returns to genetic improvements, sexing ratios, and pregnancy rates.

"Identifying Characteristics of Risk-Efficient Farms." Rebecca L. Goldbach, Dustin L. Pendell (Colo. State Univ.), and Jeffery R. Williams (Kans. State Univ.).

In 2008, total production expenses for U.S. agriculture reached a nominal record high of $282.2 billion, with total expenses constituting 77% of gross farm income and U.S. agricultural household income down 3% from 2007. To understand how these economic changes are affecting producers and how these changes are going to affect the future characteristics of farmers, we examine characteristics of farms that are financially performing well despite the changes. We identify efficient farms using stochastic efficiency with respect to a function, and then examine the unique characteristics of these risk-efficient farms.

"Measuring the Relative Impacts of Fuel Prices, Fertilizer Costs, and Crop Prices on Wheat Farm Income in Utah: A Sensitivity Analysis Using Simetar®." Ruby Ward and John C. Olsen (Utah State Univ.).

The rising world demand for fossil fuels has spurred a significant increase in crop production expenses since 2000. However, commodity prices also rose. The purpose of this study is to objectively measure the impact each of these variables has on net farm income. Enterprise budgets for wheat farming are used to factor these changing price levels into net farm income for hypothetical farms in the two wheat-producing counties of Utah. These results can also be used to examine the effect of holding over products produced with more expensive inputs, if the price drops.

"Interactive Effects of Production Practices on Risk Management Potential of Variable Rate Irrigation and Variable Rate Fertilization." Carl Dillon and Jordan Shockley (Univ. of Ky.).

Variable rate irrigation affords producers another dimension for the opportunity to both enhance crop yields and reduce production risks. The example of Kansas corn production is studied. Biophysical simulation is used to develop the underlying production functions under different states of nature embodied in a mean-variance quadratic programming model. Results demonstrate that optimal production practices (e.g., planting date, plant population, and cultivar) differ between variable rate and uniform rate irrigation. Variable rate and uniform rate irrigation both offer risk-reducing potential with the economically preferred method depending upon output and input prices as well as soil spatial variability.

SESSION: *Demand Assessment and Advertising*. Moderator: Jill McCluskey (Wash. State Univ.).

"Conjoint Experiment in Willingness to Pay for Ecolabel Attributes." Catherine A. Durham (Oreg. State Univ.), Cathy Roheim (Univ. of R.I.), and Brady P. Horn (Wash. State Univ.).

Given rising ecolabeling programs such as the Food Alliance and the Marine Stewardship Council, it appears that there is increasing interest in a variety of attributes for food other than sensory and nutritional qualities, such as production attributes that are consistent with good environmental practices. Data from 1,500 consumer surveys are used to investigate consumers' willingness to pay for ecolabel attributes of apples. The attributes considered include those of continuing and emerging interest for consumers and ecolabel organizations: pesticide usage, provision for wildlife habitat, water quality protection, and certification. Variation in WTP is also estimated across consumer characteristics.

"Import Demand for Tropical Fresh Fruits in the U.S.: A Dynamic Application of the AIDS Model." Jack E. Houston, Kilungu Nzaku, and Chung L. Huang (Univ. of Ga.).

This study estimates an almost ideal demand system (AIDS) model for U.S. imports of fresh tropical fruits: bananas, pineapples, avocados, papayas, mangoes/guavas, grapes, and other fresh fruit imports. Unit root and cointegration test results confirm nonstationarity and cointegration of the data that justify an error correction model specification. The error correction AIDS model elasticities show that fresh grapes imports are luxury commodities. Own-price elasticities, except papayas, are negative and significant. Demand for grapes and mangoes/guavas is elastic, while bananas, pineapples, and other fresh fruit imports are very inelastic. Complementary imported fruits include bananas/papayas and avocados/other fresh fruits.

"Why Do U.S. Products Suffer from Poor Images in Japan?" Linda Lehrke and Hikaru Hanawa Peterson (Kans. State Univ.).

U.S. beef exports to Japan resumed in July 2006, resolving a trade dispute since the 2003 discovery of BSE in the United States. According to a 2006 survey, Japanese consumers valued U.S. beef at only a third of their valuation of Japanese beef despite 29 confirmed domestic BSE cases at the time. A follow-up survey is designed to examine the effects of distrust in U.S. agencies and farming practices, such as the use of hormones, and recent changes in the political administration on values of U.S. products in Japan. Responses to choice experiments are analyzed using a random parameter logit model.

"Household Demand Analysis for Bottled Water in the United States." Senarath Dharmasena and Oral Capps, Jr. (Tex. A&M Univ.).

In the United States, bottled water (BW) consumption has shown phenomenal growth during the past three decades compared to other nonalcoholic beverages. Using household purchase data from 41,331 U.S. households over the period 1988 to 2003, we examine the factors affecting the decision to purchase BW, and once the decision to purchase BW is made, the drivers of purchase volume. The probability of purchase of BW is relatively low for poverty and Midwest households, and high among Blacks and households with children. The own-price elasticity of demand for BW is -1.29. Tea, soft drinks, and fruit juices are substitutes for BW.

"Optimal Advertising Allocations: The Case of the United States Potato Board." Jennifer Keeling Bond (Colo. State Univ.) and Tim Richards (Ariz. State Univ.).

Generic potato promotion by the United States Potato Board (USPB) has previously been found to benefit all varieties of potatoes. However, the benefits from promotion do not accrue equally across varieties and present an opportunity to investigate efficacy-increasing advertising effort redistribution scenarios. Sensitivity to the organization's need to remain neutral and to not appear to unduly favor any particular variety or region constrains efforts to optimally allocate promotion funds. Net benefits from organizing promotion expenditures according to these constraints are determined and compared to both the status quo and sales-maximizing situations.

SESSION: *Agricultural Policy I.* **Moderator: Steven Klose (Tex. A&M Univ.).**

"Economics of State-Level Water Conservation Goals." Justin Weinheimer, Phillip Johnson, Thomas Knight, and Eduardo Segarra (Tex. Tech. Univ.).

The state of Texas has shown a strong commitment toward enhancing water conservation efforts

through mandated policy implementation. This study examined the response of a representative farm on the Texas High Plains to a state-guided regional water conservation policy. Utilizing a combination of dynamic optimization and financial simulation methods, the consequences of the analyzed policy indicate potential changes in enterprise selection, net returns per acre, and probabilities of financial success. Results suggest that under the policy evaluated, regional commercial agricultural operations are likely to move toward more dryland-intensive cropping systems, resulting in increased financial stress.

"Farm-Level Impacts of 2008 Farm Bill Payment Limit Rules and Adjusted Gross Income Eligibility Criteria." J. Marc Raulston, George M. Knapek, Joe L. Outlaw, and James W. Richardson (Tex. A&M Univ.).

Consolidation, technological advances, and realized economic efficiencies have led to increasingly larger farms; however, political momentum is currently on the side of more scrutiny and stricter eligibility requirements for large farms receiving government support. This study utilizes representative farm data and whole-farm simulation modeling to quantify farm-level impacts of tighter eligibility rules and stricter payment limits implemented in the 2008 farm bill. The largest operations are more adversely affected by stricter payment limits and by the AGI limit. Regardless of farm size, producers growing the most highly valued crops are also susceptible to exceeding the AGI limit.

"Potential Ramifications of the EPA Dairy Cow Tax." Brian K. Herbst, David P. Anderson, Joe L. Outlaw, and James W. Richardson (Tex. A&M Univ.).

The Environmental Protection Agency (EPA) in its Advance Notice of Proposed Rulemaking (ANPR) of the Clean Air Act proposed levying a tax on the greenhouse gases emitted by livestock. This paper examines the aggregate supply and demand effects of the tax on milk price and production. These results are then used to show the impacts at the farm level. The representative dairies show how both large and small dairies are affected differently. The results reveal reduced milk production and higher milk prices. Smaller dairies are a casualty of the tax while large dairies are better able to weather the storm.

"Searching for the Right Niche: Biofuel Policy Design for Washington State." Jonathan Yoder, C. R. Shumway, P. Wandschneider, D. L. Young, H. H. Chouinard, A. F. Espiñola-Arredondo, S. Galinato, C. S. Frear, D. Holland, E. L. Jessup, J. T. LaFrance, J. K. Lyons, M. P. McCullough, K. M. Painter, and L. Stodick (Wash. State Univ.).

In 2007, the Washington State Legislature requested policy recommendations to promote biofuel and feedstock markets, reduce petroleum dependence, and reduce greenhouse gas emissions. This paper provides a synopsis and justification of the recommendations presented to the State. Given the State's economic characteristics, if the State chooses to invest in the three stated goals, we argue for implementation of a carbon tax on high-carbon fuels, and that these revenues should be used to support research and development for regionally promising low-carbon renewable fuels, and to fund tax credits for in-state low-carbon renewable fuel production. We recommend against most common approaches to biofuel policy.

SESSION: *Water, Land, and Recreation*. Moderator: Jonathan Yoder (Wash. State Univ.).

"The Value of Scouting for Big Game Animals for Hunters and Non-hunters: A Count Data Approach." Eugénie MontBlanc, Kimberly Rollins, Mimako Kobayashi, and M. D. R. Evans (Univ. of Nev.).

The western United States is undergoing ecological changes which reduce the region's ability to support wildlife. Estimates of these values provide information used to allocate management efforts. Hunters scout big game as an investment that increases the probability of a successful hunt. Using a count data model to predict demand for scouting trips, we show that big game resources are undervalued by almost $3 million. Our results suggest valuation of big game hunting should be based on the value of scouting trips and hunting trips to provide a more accurate basis with which to estimate these benefits.

"The Impacts of Changes in Surfacewater and Groundwater Supply Characteristics on Irrigated Agriculture: The Case of California's Central Valley." Kurt A. Schwabe, Kenneth A. Baerenklau, and Keith C. Knapp (Univ. of Calif., Riverside).

This research evaluates the ability of irrigated agriculture to respond to changes in both freshwater and groundwater supply characteristics in a closed drainage basin under drought. Using an economic-hydrologic model of agriculturally induced groundwater salinization and focusing on California's Central Valley, we investigate how changes in the quantity and quality of water supplies influence the productivity of irrigated agriculture given limited drainage disposal options. Furthermore, given that climate change may lead to a reduction in the quantity yet an increase in the variability of freshwater supplies, we evaluate the results under both a deterministic and a stochastic freshwater supply.

"Patterns of Palm Oil Expansion in Southeast Asia." Joanne Gaskell and Holly K. Gibbs (Stanford Univ.).

Now the world's leading source of vegetable oil, palm oil makes up 60% of traded vegetable oil. Over the last decade, land expansion rather than yield growth has supported higher production leading to environmental and social controversies, especially in cases where new plantations displace forests. Landsat scenes show palm oil plantations preferentially displaced forests in Kalimantan in the 1980s and 1990s relative to other land cover types. These trends result from negligible private land costs and weak institutional arrangements in Indonesia relative to other parts of Southeast Asia where palm plantations did not displace forests.

"Water Use, Sharing, and Willingness to Pay: A Survey of Western Households." Jennifer Thorvaldson, James Pritchett, Alan Bright, Andrea Shortsleeve, Troy Bauder, and Reagan Waskom (Colo. State Univ.).

Agricultural water is a preferred source for western cities seeking to meet burgeoning demands. Urban residents are asked to finance short- and long-term water strategies, yet little empirical evidence describes their preferences for coping with water scarcity. This study gauges western households' water policy preferences and willingness to pay for a number of water conservation and reallocation programs. A binary logit model is used to estimate the mean willingness to pay for each program. Data are comprised of 6,250 responses to an internet survey of 17 western states. Results for the entire West provide context for a more thorough examination of Colorado results.

SESSION: *Contracts, Techniques, and Costs.* Moderator: Penny Diebel (Oreg. State Univ.).

"Importance of Immigrant Workers for U.S. Agriculture." Stephen Devadoss and Jeff Luckstead (Univ. of Idaho).

California is responsible for 63% of U.S. vegetable production. Vegetable cultivation is labor intensive, and 95% of the farm workers in California are immigrants. A major concern with immigrants coming into the United States is that they adversely affect native workers through job competition and wage depression. Our findings show this concern is not valid in vegetable production because an addition of one new immigrant displaces only 0.0123 native workers and wage reduction is inconsequential. But one immigrant worker increases the vegetable production by $23,457 and augments the productivity of skilled workers, material inputs, and capital by $11,729. Without these immigrants, vegetable production will be drastically impacted.

"Contracting with Agents Seeking Status." Philippe Bontems (Toulouse School of Econ.).

We explore the consequences of status-seeking preferences among agents contracting with a private principal in a production context. We show that envy entails augmented distortions due to asymmetric information. Furthermore, if the principal neglects the status preferences, then there is under-participation to the contract. If the principal is free to choose who can participate, then under some conditions the principal may prefer to sign with only a subset of potentially "profitable" agents. We also show that the principal has incentives to discourage unobservable effort by the agents. Finally, we investigate whether or not envy encourages noncompliance.

"The Impact of the 2006 *E. Coli* Outbreaks on Consumer Demand for Salad Vegetables." Ron C. Mittelhammer, Jill J. McCluskey (Wash. State Univ.), and Faysal Fahs (N. Dak. State Univ.).

This study examines the impact of the *E. Coli* outbreaks on demand for salad vegetables that occurred in 2006 in the western United States. The data utilized include scanner data of tomatoes, onions, cabbage, lettuce, and spinach. We motivate the use of a multivariate Tobit model as a representation of consumer behavior by specifying the QUAIDS with demographic effects under binding nonnegativity constraints. The empirical

results suggest that during and after the outbreak period, lettuce and cabbage were substituted for spinach. The results also show that the second outbreak had a greater impact on the consumption of salad vegetables, suggesting cumulative effects.

SESSION: *Measuring Impacts on Supply and Demand.* Moderator: Lynn Hamilton (Cal Poly, San Luis Obispo).

"The Impact of Ethanol on the U.S. Livestock and Poultry Sectors: A Multi-Market Analysis." Suparna Bhattacharya, Azzeddine M. Azzam, and Darrell Mark (Univ. of Nebr.).

Since corn is the primary feedstock used for producing ethanol in the United States, and ethanol production yields by-products that can be fed to livestock in combination with corn, addressing the effect of ethanol production on meat markets should consider not only demand and supply interdependence among corn, ethanol, and ethanol by-products, but also demand and supply interdependence between different types of meats. This paper develops a multi-market equilibrium displacement model to account for the interdependence. Six markets are considered: beef, pork, poultry, corn, ethanol, and ethanol by-products. Results show that poultry is the most sensitive to ethanol production, followed by beef and pork.

"An Event Analysis of the 2006 *E. Coli* Outbreak in Spinach and Lettuce." Huifang Zhang, Thomas Marsh, and Jill McCluskey (Wash. State Univ.).

This study applies the event study method to analyze the impact of the 2006 *E. coli* outbreak on consumer demands for spinach and lettuce products with retail scanner data. A system of multi-factor economic models is formulated as the benchmark and is estimated using a structural modeling approach under a spatial error model scheme. Results indicate that the estimated sales loss was huge. Market responses to the outbreak tended to be distinct across regions and across different categories of products in terms of the patterns and rapidity of demand recovery. In addition, markdown promotion is more effective than price adjustment as a strategy to recover consumer demand.

"The Impacts of Food Scares on U.S. Meat Demand." Yanhong H. Jin (Rutgers Univ.), Sergio Collin-Castillo, and Victoria Salin (Tex. A&M Univ.).

This study investigates the effects of meat recalls and animal disease outbreaks on U.S. meat demand in 1982–2006 using a linear approximate AIDS model. The negative impact on demand persists up to five months for BSE discoveries, but food recalls have only contemporaneous impacts. The statistically significant, negative effects of meat recalls are found to be related to the severity of incidents but not the number of incidents. This study offers a methodological contribution to the literature as it uses a bootstrap procedure to correctly estimate the standard deviation of estimated elasticities that are nonlinear functions of estimated parameters.

"Generic and Brand Advertising: Is There an Economic Impact on U.S. Demand for Peanut Butter?" Stanley M. Fletcher and Tullaya Boon-saeng (Univ. of Ga.).

In 1999, peanut farmers voted to have a national grower check-off program which started a generic promotion/advertising and research program in 2000. A cointegration and error correction modeling strategy was utilized. While branded advertising is positive and significant, generic advertising was not found to be statistically significant. While this result differs from other research for agricultural commodities, this may be due to the peanut industry being oligopoly and the level of generic advertising relative to branded being small. Thus, additional research is needed before final conclusions can be drawn as to the best use of farmers' check-off money.

SESSION: *Agricultural Policy II.* Moderator: Gary Brester (Mont. State Univ.).

"Regulatory Compliance Costs and California Specialty Crop Producers' Profitability." Jay Noel (Cal Poly, San Luis Obispo), Mechel S. Paggi, and Fumiko Yamazaki (Calif. State Univ., Fresno).

Regulatory pressure is a source of increasing concern for agricultural producers, particularly in California. Though regulations can have a positive impact on society, they impose multiple costs to farmers in the state. We use a set of representative farm simulation models to measure the potential change in the returns to growers if existing policies

governing the disposal of food processing and citrus orchard pruning waste are replaced with alternative regulatory policies. In each case the results indicate that the inclusion of regulatory compliance costs into the representative farm cost of production will reduce the profitability of the enterprise.

"Evaluation of Production Behavior Under Decoupled Policy Options: An Experimental Economics Approach." Christopher T. Bastian, Dale J. Menkhaus, and Amy M. Nagler (Univ. of Wyo.).

There is increasing interest to minimize the distorting effects of tying production decisions in agriculture to government programs. In this study, laboratory market procedures involving a two-stage game are used to identify ex ante the direct market impacts of decoupled bond scheme programs paid out either annually or as a lump sum. Results suggest that production for the deficiency payment/support-price (DP) treatment was the highest, with the average levels of quantities produced and traded under bond scheme treatments falling between the DP and the base (no subsidy) treatments. Laboratory experiments offer a potential data source for ex ante policy analysis.

"Impacts of Dramatic Increases in Corn-Based Ethanol Production on Grain Production and Marketing Patterns in South Dakota." Bashir A. Qasmi, Yonas Hamda, and Scott W. Fausti (S. Dak. State Univ.).

Ethanol production in the United States has grown dramatically, and so has the corn use for ethanol production. The proportion of corn used for ethanol production in South Dakota is the highest in the nation (57% during the crop year 2007–08). This research reports the results of a survey of grain elevators in South Dakota, completed in early 2008. The grain marketing patterns revealed in the 2008 survey are compared with the patterns revealed in a similar survey completed in 1997. Impacts of explosive growth in corn-based ethanol production on grain elevator business in the state are also discussed.

"Landowner Willingness to Sell Water Rights in Nevada." Mimako Kobayashi, Kynda Curtis, and Staci Emm (Univ. of Nev., Reno).

While a federally funded program attempts to purchase water rights from Nevada agricultural producers for the purpose of increasing water flows to Walker Lake, a producer survey revealed that only 5.7% were willing to sell their water rights. With a higher proportion of respondents willing to lease water rights (21.4%) or adopt water-conserving strategies (51.4%), relaxing rigidities in Nevada's water institutions may bring about desired effects more effectively. Permitting partial sale/lease of water rights and revising the use-it-or-lose-it rule are potential examples. Profit-maximization model results suggest that relaxing the use-it-or-lose-it rule would achieve substantially higher farm profits, while lowering water usage.

Organized Symposia

SESSION: *"Great Teaching: Students' Perspective."*

Organizers: **Eric A. DeVuyst, Cheryl S. DeVuyst, and Bailey Norwood (Okla. State Univ.).**

Discussants: **Greg McKee (N. Dak. State Univ.) and David K. Lambert (Kans. State Univ.).**

Panelists: **Milton Geiger (Univ. of Wyo.), Linda Lehrke (Kans. State Univ.), Jeff Luckstead (Univ. of Idaho), Lee Schulz, and Craig Smith (Kans. State Univ.).**

Symposium Overview: Recently, an undergraduate (Carol Cook) at Oklahoma State University conducted one-on-one interviews with 50 of her peers. Her goal was to determine what characteristics make a great teacher from the perspective of students. In the organized symposium, we recreated, in part, that process. A panel of graduate student attendees answered a subset of questions from Carol's survey and fielded questions from audience members/participants.

The symposium objectives were to: (*a*) solicit graduate student panelists' views on what makes a great teacher, and (*b*) compare graduate student panelists' responses to results from Ms. Cook's interviews with OSU undergraduates.

The interview utilized a laddering methodology. Student panelists were first asked to identify desirable traits demonstrated by great teachers. Second, the students were asked to identify how those traits affected their performance, motivation, and other behaviors. Third, students were asked to identify the likely longer-term impacts on their personal and professional lives that result from these traits.

All of the panelists agreed that an instructor's enthusiasm is the most important trait possessed by great teachers. This result paralleled Carol Cook's findings from interviewing undergraduates. They, too, identified instructor enthusiasm as a highly important trait demonstrated by great teachers. Next, the panelists identified organization as a highly valued trait, also coinciding with Ms. Cook's interviews. The panelists also indicated that approachability and availability were important traits, similar to undergraduate responses. Finally, the graduate panelists identified challenging as a desirable trait—a trait that was not mentioned by undergraduates.

The graduate panelists indicated that the primary outcomes from these traits were improved performance in the classroom, increased desire to learn more about the subject, more frequent attendance in class, and a desire to pursue advanced degrees. The panelists concluded that the longer-term impact of instruction from great teachers was improved career opportunities.

Discussants and audience members noted that all of the identified traits can be readily developed by most teaching faculty. Improvement in instruction quality might not involve extensive revision of teaching materials and methods, but may require changes in how the instructor interacts with students.

SESSION: *"Old West, New West: What's Best?"*

***Organizer:* Catherine Keske (Colo. State Univ.).**

Symposium Description: Three papers are presented which compare traditional versus new applications of western resources such as water, multi-use lands, extraction, and regional economic development.

■ *Paper 1.* **"The New West: Increases in Income and Benefits of Fishing and Rafting in Colorado and Idaho with Increased Flows vs. Irrigated Agriculture." Author/Presenter: John Loomis (Colo. State Univ.).**

In Colorado and Idaho, the number of angler days and rafting days are sensitive to river flows either directly, or indirectly through improved fishing quality. These changes in angler days and rafting days are translated into changes in regional income and visitor consumers' surplus. These gains in benefits are compared to the traditional use of the majority of water (irrigated agriculture) to suggest that small shifts in water use from irrigated agriculture to instream flows may be justified on some rivers.

■ *Paper 2.* **"Using Audience Response Systems to Measure Stakeholder Preferences in Economies Transitioning from Extraction to Recreation." Authors: Catherine Keske, Steve Smutko, and Cara Doyle (Colo. State Univ.). Presenter: Catherine Keske.**

This study uses an audience response system to collect community stakeholder preferences for economic development in two Colorado counties that are transitioning from reliance on extraction to recreation and tourism based economies. By providing anonymity, we believe that the ARS has potential to minimize bias for data collection in rural community stakeholder meetings where participants may otherwise not reveal their preferences.

■ *Paper 3.* **"The Right of Non-Use: Providing Legal Rights to a Resource." Authors: Jan Laitos (Denver Univ., Sturm College of Law) and Catherine Keske (Colo. State Univ.). Presenter: Jan Laitos.**

This innovative legal paper relies on legal and economic arguments to effectively bestow legal rights upon a resource, making the resource itself a private player in a multi-player game. We believe that this legal designation will result in a Nash equilibrium and sustainable environmental quality.

JARE Editors' Report
December 2009

This report covers volumes 32 (2007), 33 (2008), and 34 (2009).

The *JARE* editorial team of David Lambert, George Davis, and Doug Larson (LDL) began their three-year term with manuscript 2006–0035 submitted in April of 2006. The 2004–2006 editorial team of DeeVon Bailey, Paul Jakus, Terry Glover, and David Aadland completed their responsibilities by publishing articles in volume 31 (2006), with carryover of eight articles into the April 2007 issue. Publication details for the three volumes published under LDL are reported in table 1.

Table 1. Articles and Page Counts for Volumes 32–34

	Number of Articles / (Page Count)			
	April	August	December*	Total
Vol. 32 (2007)	12 (224 pgs.)	9 (176 pgs.)	9 (154 pgs.)	30 (584 pgs.)
Vol. 33 (2008)	8 (135 pgs.)	9 (165 pgs.)	10 (185 pgs.)	27 (520 pgs.)
Vol. 34 (2009)	11 (212 pgs.)	8 (152 pgs.)	10 (172 pgs.)	29 (565 pgs.)

* The December issue contains non-billable pages, including committee reports, awards information, abstracts of papers presented at the annual meetings, and other front- and end-matter.

JARE Manuscript Management

Submission details from April 1, 2006–December 4, 2009 for papers managed by the LDL team are reported in table 2. Approximately 407 unique manuscripts were submitted over the period (ignoring multiple submissions when revisions were suggested to the authors). Only three papers remain under review. Based on completed reviews, the acceptance rate for manuscripts submitted to the *Journal* is 20%. This acceptance rate does not exclude papers that were rejected by the editors without being sent for review (i.e., desk rejections).

Table 2. Manuscript Status, April 1, 2006–December 4, 2009

Total submissions	505
Number of unique articles submitted	407
Number of papers still under review	3
Number of papers accepted	80
Acceptance rate	20%
Number of articles published (volumes 32, 33, and 34)	86

The time between manuscript submission and return of the editor's report to the authors is not easily accessible from the FastTrack system. The total time in review for each manuscript was therefore not determined. Factors influencing review time include: (1) processing of the submission by the Assistant Editor; (2) assignment of the manuscript by the Editor to the appropriate Co-editor; (3) selection of reviewers by the Co-editor; (4) time between receipt of request and submission of comments by the reviewers; (5) Co-editor synthesis of reviewer comments, decision on

manuscript status, and e-mailing of final report to author. Table 3 reports summary statistics for reviewers. The LDL team has requested 755 reviews. Completed reviews have been received for 86% of these requests. Reviewers declined 46 of these requests to review, and 56 of the reviews expired as Co-editors completed the manuscript reviews by contacting other reviewers or completing the reviews based on other information (e.g., sufficient comments from other reviewers and the Co-editor's own review of the manuscripts). Of the 652 completed reviews, the mean review time was 44.6 days between sending the request and receipt of the reviewer's comments. Discrepancy between the mean and the median review times suggests a rightward skew to the time manuscripts are with reviewers, which confirms the perception of the editors (i.e., a few reviewers take much longer than average to review papers).

Table 3. Reviewer Details, April 1, 2006–December 4, 2009

Total Reviews Requested	755
Status:	
Expired	56
Declined	46
Completed	652
In progress	4
Review Time (days)	
Mean (standard deviation)	44.6 (31.5)
Median	38.6

JARE Publication Costs

Publication of the *Journal* incurs fixed and variable costs. Table 4 illustrates approximate annual publication costs for volumes 32 and 33, averaging page counts for the two years. Complete data are not available for volume 34 (2009). Major fixed costs are reimbursement of the editorial team (Editor, Co-editors, and Assistant Editor). Variable costs arise from technical editing (mostly assessed on a per page basis) and publication (a combination of per page and per issue charges) and mailing costs (per issue basis). Publication costs are fairly evenly split between the editorial team (25.3%), technical editing (37.4%), and reimbursement of the Sheridan Press publication costs (37.3%).

Table 4. *JARE* Publication Costs

Expenses		Annual Costs	Cost/Page
Editor's Office (April 2006–December 2008)		$15,000	$27.17
Technical Editor (volumes 32–33):			
Pages/year	552	$21,114	
Billable to author pages	519.5		
Non-billable to author pages	32.5		
TE charge/page	$38.25		
TE annual bonus		$1,000	
Technical Editor Total Costs		$22,114	$40.06
Sheridan Press:			
Pages/year	552	$12,613	
Charge/page	$22.85		
Copies/year	3,150	$9,450	
Charge/copy	$3.00		
Sheridan Press Total Costs		$22,063	$39.97
Total Expenses		$59,177	$107.20

Total annual *Journal* costs of $59,177 are not offset by current $60 (members' rate) page charges. The Association receives approximately $31,170 per year in page charges based on the average number of billable pages for volumes 32 and 33. Total WAEA membership dues raise approximately $12,000 based on 515 regular, student, and lifetime members, though not all of the membership dues are used to support the *Journal*. The level of total revenues raised through institutional subscriptions and arrangements with EBSCO and other private database services is unclear. Concern over the possibility of costs exceeding revenues has led to the consideration of several possibilities to reduce publication costs the last several years.

1. Discussions were held in 2006 for Blackwell Publishing to assume technical editing, publication, and distribution responsibilities for the *Journal*. These discussions were discontinued in December of 2006. Blackwell proposed that approximately $105,000 in page charges and increased member and subscription charges would be collected by Blackwell. Approximately 10% of the member and subscription charges, or $9,500, would have been retained by the WAEA. The Executive Council decided at a December 2006 conference call that these charges were excessive. In addition to cost differences, any future discussions with potential publishers should also include copyright and exclusivity considerations.

2. Cancellation of the contract with the AAEA for author billing services in 2008 saved the WAEA $2,000 per year. Billing for volume 33 (3) and volume 34 (1–3) is now being done by the Assistant Editor. The Assistant Editor has been very successful in collecting page charges. All authors have paid their bills for the December 2008 issue (33,3) and for the first issue of volume 34 (April). One author has yet to pay for an August 2009 article, but payment is expected.

3. We continue to transform the technical editing process for the *Journal*. The *Journal of Agricultural and Applied Economics* uses Sheridan Press for both technical editing and publishing. Consequently, Lambert asked for a bid from Sheridan for them to work with accepted manuscripts from authors to prepare the final formatted files for publication. Sheridan's annual charge to the Association for just the technical editing would be about $33,510, compared with current technical editing costs of $22,114.

It appears that continuation of contracting for technical editing services by the Association is a lower cost alternative to integrating technical editing and publication (or at least with Blackwell or Sheridan). Therefore, our current Technical Editor, Judy Harrison, has changed the technical editing process by relying on electronic communication with authors and preparation of final electronic files of the publication-ready journal. The latter change was mandated by Sheridan Press now requiring electronic files of the complete journal in their publishing process. Judy has upgraded her investment in hardware and software necessary for the task, and is completing work on the December 2009 issue using the new protocol.

Closing Comments

Responsibilities of the editorial team of Lambert, Davis, and Larson are winding down with the terms of the new editors (Gary Brester, Myles Watts, Vince Smith, and Joe Atwood, all of Montana State University) beginning with new submissions received on and after April 1, 2009. The retiring editors greatly appreciate the efforts of Cybil Perkins, the Assistant Editor, Judy Harrison, the Technical Editor, and the excellent staff of Sheridan Press for overseeing the review process and publication and distribution of each issue. The editors extend special thanks to Rob Davis for his financial leadership as Secretary-Treasurer of the WAEA since 2007. We also wish

to thank the hundreds of reviewers who have provided us with extensive comments on the suitability of the submitted manuscripts for publication in *JARE*. Input and support by the Executive Council and the Directors of the Association have been instrumental in adopting several innovations, such as the contract with EBSCO Research Database and the policy to provide immediate accessibility of published articles on the University of Minnesota's AgEcon Search reference system. We have also enjoyed working with George Chronis of the University of Missouri's FastTrack electronic submission management system. It is hard to imagine the work that was necessary to edit the *Journal* before the electronic management system was available.

We also wish the new editors the best of luck in further enhancing the reputation of the *Journal of Agricultural and Resource Economics* as an excellent reference source for applied economists.

Respectfully submitted,

David K. Lambert, Editor
George C. Davis and Douglas M. Larson, Co-editors
Journal of Agricultural and Resource Economics

WAEA
2008 Award Winners

Outstanding Master's Thesis

JEFF LUCKSTEAD, "The Effects of Immigration, Farm, and Trade Policies and the Macroeconomic Conditions on Illegal Immigration and Agricultural Trade," Department of Agricultural Economics, University of Idaho.

STEPHEN DEVADOSS, Advisor

After the start of this decade, the population of illegal immigrants in the United States reached about 12 million, signifying a failure of all previous legislative attempts by the U.S. government to address the overarching issues surrounding illegal entry. In recent years, Congress considered several new proposals to curb illegal entry, but none were passed. Consequently, the U.S. government drastically increased its workplace raids and border patrols, creating agricultural labor shortages during peak operations.

Given the importance of Mexican labor to U.S. agriculture, this thesis analyzes the effects of trade liberalization, U.S. farm supports, and immigration policy on illegal immigration and agriculture. The theoretical analysis develops an integrated trade-migration model with two countries (United States and Mexico) linked by the commodity and labor markets. Trade is distorted by U.S. farm subsidies and pre-NAFTA tariffs. Labor flow is restricted by border and domestic enforcements. The theoretical results show that NAFTA and farm supports exacerbate the illegal labor flow and increase commodity trade, and heightened domestic enforcement and border control decrease the flow of illegal workers but also reduce U.S. exports.

For the empirical analysis, we estimate a system of commodity and labor demand and supply functions for the United States and Mexico using 3SLS for the period 1989–2007, and run simulation analysis for the period 1994–2007. These results show that trade liberalization under NAFTA increases the illegal labor flow to U.S. agriculture per year by about 3,093 workers and U.S. commodity exports by $17.10 billion per year at the end of NAFTA. In contrast, a decrease in U.S. farm subsidies contracts the illegal labor flow by an average of 0.20% to U.S. agriculture and U.S. exports by $3.42 billion to Mexico. Increased spending on domestic enforcement and heightened border enforcement decreased the number of illegal immigrants by about 42,000 and 8,147, respectively, and reduced U.S. exports by an average of 8.11% and 5%, respectively, in 2007. The results of these enforcements reveal a distinct tradeoff between a reduction in illegal labor flow and U.S. exports to Mexico because labor shortages adversely impact U.S. production and exports.

Outstanding Extension Program Award

"Oklahoma State University Master Cattleman Program"

Program Coordinators: DAMONA DOYE and DAVID LALMAN
Team Members: DERRELL PEEL, KELLIE RAPER, CHRIS RICHARDS, GLENN SELK, and CLEMENT WARD

The Master Cattleman Program has been an interdisciplinary team effort with numerous major contributions to Extension programming:

- The ***Oklahoma Beef Cattle Manual*** addresses business and production topics. Approximately 8,000 manuals have been distributed through local Extension offices, area and state meetings, and website to every county in Oklahoma plus 31 states and 6 foreign countries.

- The ***Master Cattleman Educator's Guidebook*** provides hard copies of learning modules, including PPTs, lesson plans, quizzes, and quiz keys.

- Through a *Master Cattleman website*, coordinators, educators, and participants access materials: www.agecon.okstate.edu/cattleman.

- The *Master Cattleman educational program* is delivered at local and regional sites using the Beef Cattle Manual as the primary reference. A producer must complete 28 hours of instruction and successfully complete the quiz associated with each learning module. Extension educators coordinate meetings and provide instruction in cooperation with state and area specialists. Approximately 650 students have enrolled in the Master Cattleman Program, and 445 are now graduates.

- Periodic *in-service training sessions* for Extension educators are held regularly to provide timely information.

- *Master Cattleman Summits* are statewide conferences held on the OSU campus.

- *Grant Funding* plus outside sponsors supported the educational efforts. The USDA Risk Management Agency partnered with Extension in funding the manual, educator in-service training, speaker travel, and other educational resources for four years.

- *Benchmarking of cow/calf and stocker producer practices* has resulted in M.S. theses, Extension fact sheets, journal articles, selected posters and papers at professional meetings, plus content for PPT presentations and manual updates.

- *Project evaluation* is ongoing and has included an Ag Communications thesis.

- A Master Cattleman quarterly *newsletter* was initiated in the summer of 2008 in response to requests for something to keep Master Cattleman graduates engaged with Extension.

Outstanding Published Research Award for 2008

JUNJIE WU and MUNISAMY GOPINATH (Oregon State University). "What Causes Spatial Variations in Economic Development in the United States?" *American Journal of Agricultural Economics* 90 (May 2008): 392–408.

This paper examines the causes of spatial disparities in economic development in the United States. A theoretical model is developed to analyze the location decisions of firms and households. An empirical model is estimated to quantify the contribution of alternative factors to spatial variations in wage, employment density, housing price, and land development density. Results suggest that remoteness is a primary cause of spatial disparities in economic development, while natural amenities are a major determinant of housing prices. Despite the dominant role of geography, public investments in infrastructure and human capital development could contribute to economic development in remote areas.

JARE Outstanding Journal Article for 2008

JAY R. CORRIGAN (Kenyon College, Gambier, OH) and MATTHEW C. ROUSU (Susquehanna University, Selinsgrove, PA). "Testing Whether Field Auction Experiments Are Demand Revealing in Practice." *Journal of Agricultural and Resource Economics* 33,2 (August 2008): 290–301.

Recent evidence suggests that participants' misunderstanding of experimental auction mechanisms can systematically bias auction results. We present a simple technique for testing whether field auction participants fully understand the demand-revealing nature of the auction mechanism and, by extension, whether auction bids provide an unbiased estimate of participants' willingness to pay.

Outstanding Undergraduate Instructor

- JAMES G. PRITCHETT, Colorado State University (less than 10 years)

- STEPHEN DEVADOSS, University of Idaho (more than 10 years)

Distinguished Scholar of the WAEA

This award is the highest recognition for individuals making an enduring contribution in their career to agricultural, resource, and/or environmental economics in the Western states and provinces and the WAEA.

JULIAN M. ALSTON (University of California, Davis), Distinguished Scholar

Julian Alston is known in particular for the quality of his research. This has focused on three major areas: the consequences of government policy (his work here ranges from export subsidy and trade barriers to marketing quotas and farm production subsidies); the demand for farm commodities (published in leading journals of economics and recognized with awards, as well as many citations in other published literature); and the economics of agricultural productivity growth and R&D (this work has been widely influential in helping to encourage more effective R&D policies and has also been recognized with awards). Julian has been recognized with the highest honors for career achievement by both the American Agricultural Economics Association and the Australian Agricultural and Resource Economics Society. The WAEA has recognized his contributions with outstanding published research awards on four separate occasions.

DEEVON BAILEY (Utah State University), Distinguished Scholar

DeeVon Bailey has an exceptional record in almost all of the areas that are considered for the WAEA distinguished scholar award. He has authored or co-authored more than 40 journal articles that have been published in the leading Agricultural Economics journals and has published numerous other articles and book chapters. He is a highly regarded teacher. His work on both regional and national extension projects has been recognized for its excellence, reflecting his exceptional capacity to be able to perceive the problem, do the research needed to address this, and effectively undertake the necessary extension work. His leadership in administration has been evidenced in his contributions to both his University and the WAEA. Among his many other highly effective contributions to WAEA, DeeVon's work as *JARE* editor and (immediate past) president of WAEA are particularly noteworthy.

DANA LOYD HOAG (Colorado State University), Distinguished Scholar

Dana Hoag is an insightful scholar who has made significant contributions to agricultural economics through his research, extension, and teaching (at both the graduate and undergraduate levels), as well as his leadership in making major service contributions. Dana has authored or co-authored five books and published more than 50 journal articles in the top journals in our field; he has received awards in teaching, research, and service. His outreach work in risk management, open space and conservation easements, and wildlife management has led to numerous policy presentations and invitations to give keynote presentations, both nationally and internationally. Dana has provided considerable professional leadership to the WAEA and other organizations, as seen in his 2005 WAEA presidency, his initiative in launching and editing the Western Economic Forum (2001–2004), and his work on the Board of Directors of C-FARE (2007–2010).

BRUCE A. MCCARL (Texas A&M University), Distinguished Scholar

Bruce McCarl is a highly influential, pioneering scholar whose work on agriculture, climate change, and mitigation has been widely recognized. His research on methodological development and mathematical programming, on water and sector modeling among other applications, has considerably influenced economic analysis and public policy formulation for highly important issues. He has authored 194 journal articles, six books, numerous book chapters, and other publications. As of December 2008, his writings had amassed 2,006 citations in the Web of Science. In addition to his record of distinguished scholarship, which includes research on topics of much importance to Western agriculture, he has served the profession as the main force behind the *Choices* revitalization, as Associate Editor of several journals, by his extensive reviewing, and through his outreach activities.

TED C. SCHROEDER (Kansas State University), Distinguished Scholar

Ted Schroeder has an exemplary record which extends across undergraduate teaching, graduate teaching, research, advising, outreach, and service. His work focuses in particular on the application of economics to real-world issues affecting the livestock industry. He is nationally and internationally recognized for his scholarly achievements in his work on livestock marketing and price analysis and for the relevance of this to industry. During the last 22 years, Ted has published 88 refereed journal articles and more than 260 professional papers, including nine articles in the *American Journal of Agricultural Economics*. His applied research regularly appears in newspapers and magazine articles, radio broadcasts, extension publications, newsletters, and presentations. His outreach contributions have been recognized by both the American Agricultural Economics Association and the WAEA. Ted has served in numerous leadership roles in our professional associations, including President of the Western Agricultural Economics Association (2004).

J. SCOTT SHONKWILER (University of Nevada), Distinguished Scholar

J. Scott Shonkwiler is a leading econometrician in our profession, whose outstanding research has influenced the way statisticians approach empirical work in many other fields. He has authored or co-authored over 70 refereed journal articles, and is cited in refereed journals over 600 times. He has advanced our understanding of a wide variety of topics such as food demand, social welfare, farmer conservation behavior, establishment counts, recreation demand, agricultural credit, technical change, and agricultural supply response. He has shown us how to correctly model count data, to correct for sampling error, model latent dependent variables such as welfare decisions or attitudes, estimate systems of censored equations, model stochastic trends, handle unobservables, estimate frontier production functions, model stochastic trends, identify autocorrelation in systems of equations, analyze structural time series relationships, generate rational expectations endogenously, and model demand systems rigorously, among many other contributions.

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