

Research Update

Oklahoma State University • Department of Agricultural Economics • Summer 2018



DEPARTMENT OF
Agricultural
Economics

ABOUT THE COVER

The Stillwater Farmers' Market currently has 18 vendors who offer garden fresh fruits and vegetables, various home-raised meats, herbs grown in greenhouses, homemade jams, jellies, and baked goods, and various other locally grown and made products. Farmers in Stillwater and surrounding areas bring their products Wednesdays and Saturdays. For more information on the Stillwater Farmers' Market, visit <http://www.stillwaterfarmersmarket.com>. Photo by: Mattie Moore

DEPARTMENT HEAD

Dr. Mike Woods

EDITOR/GRAPHIC DESIGNER

Mattie Moore

EDITOR/CONTRIBUTING WRITER

Judy Rudin

EDITING

Tiers Wells
Anna Whitney

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From the Department Head

Welcome to the current issue of our departmental research update. The research program in the Department of Agricultural Economics aims to provide practical, empirical knowledge that will increase the efficiency and productivity of Oklahoma agriculture and rural communities, as well as improve the well-being of Oklahomans. Our faculty members address a vast array of topics. We intend for these research results to serve producers, ranchers, policymakers, emerging and existing businesses, and the public. Research projects are determined by faculty members after reviewing current research efforts in our profession. We utilize input from peers, clientele, collaborators, extension educators, and funding agencies to determine the topics and directions of specific research projects. We hope you enjoy this issue.



Note From the Editors

In recent years, the demand for local food by consumers has grown significantly. At local farmers' markets and through community-supported agriculture (CSA) programs, consumers can connect directly with the people who grow the food they purchase about growing methods, use of chemicals, and other topics.

Also, farmers' markets, CSA programs, urban agriculture, and other aspects of the local food market strengthen local economies. By spending locally, the economic resources are recycled back into the community. Over the past several years, members of the agricultural economics department faculty have been studying and conducting research about local food. They have published articles and scholarly works addressing issues such as participation in local food markets, the Oklahoma Farm-to-School Food Program, agritourism, and local food economics and business models. They have also addressed related topics like animal welfare, animal health, and food safety.

The department also offers an on-line course, "Farm to Fork," which connects agricultural science and food consumption. It provides information about many of the questions that food buyers have about their food.

This issue includes research on the nutritional and monetary effects of a local food pantry on the community, the differences between local farming and conventional agriculture and what elements contribute to their profitability, and the importance and financial viability of local food farms.

There is no single solution to meeting all consumer needs for food. The research featured in this issue adds to the knowledge base we all need.

AAEA *Choices Magazine* online's current story on the evolution of local food cites several brand new articles featuring research by Dr. Rodney Holcomb, Dr. Clint Neill, and Dr. Dave Shideler. Read this timely feature story at [https://okla.st/2OKdMET!](https://okla.st/2OKdMET)

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Buy local, eat local, support local—three phrases people from small and rural towns hear frequently. In recent years, there has been an encouraging push for communities to support all things local, especially local food. Now more than ever, people want to know where their food comes from. Consumers want to be assured the food they are putting on the dinner table is healthy, safe, and nutritious for their families. Farmers' markets, family-owned grocery stores, homegrown beef, and farm-fresh eggs all contribute to this rising local food movement and meeting consumer demands.

With this increased demand for locally grown food, some researchers wonder if local food is profitable. Are local food entrepreneurs hobby farmers hoping to break even? Are these farmers trying to provide for their families? Are they high school kids hoping to earn FFA proficiency honors for their Supervised Agricultural Experience (SAE) projects? Are these local food markets generating jobs and income for communities? Little to no research has been conducted to answer these questions.

Researchers

Dr. Dave Shideler is an associate professor in the Department of Agricultural Economics at Oklahoma State University (OSU). His research interests include economic modeling, entrepreneurship, local and regional food systems, rural infrastructure, social interaction-capital, and networks social-capital. Dr. Dawn Thilmany is a professor and associate department head in the Department of Agriculture and Resource Economics at Colorado State University (CSU). Also in that department, Dr. Becca Jablonski is an assistant professor, and Dr. Allison Bauman is a research assistant.

Issues

In 2015, more than 167,000 farmers classified their farms' products as locally produced and sold. The data from this 2015 survey was the first of its kind, and was a giant leap towards understanding the economic development of the local food movement. However, little to no data documenting the profitability of these local farms and the financial impacts to their communities exist. The research by Shideler and the CSU researchers focused on benchmarking the financial performances of farmers producing local food.

However, before determining farmers' profitabilities, a consensus regarding the definition of local food was made, because there are many varying definitions. For the purpose of this research, local food was classified by data from the Agricultural Resource Marketing Survey (ARMS), which is an annual survey conducted by the United States Department of Agriculture (USDA). The data from the survey came from farmers who self-reported their farms as local food operations. The farmers who classified themselves in the local food category served consumers raw foods at farmers' markets, roadside stands, and other venues.

Objective

The objective of this research was to look at the financials of these producers and vendors, who classified themselves as local, in order to benchmark their performance. Researchers wanted to understand how local farmers might be different from conventional agriculture, and what specific elements of their business models contributed to profitability. From an economic development perspective, no data has been collected or analyzed to determine if local food systems contribute to economic development in communities or regions, such as creating jobs or generating sales tax.

Project

The data used for this research project came from the 2013 Phase III ARMS, to which 30,000 farms nationwide responded regarding farm business. Shideler and the three researchers from CSU analyzed data from the 2013 survey in order to understand financial differences between local and conventional farms. Through this analysis, a website was created, a workshop was conducted, and conversations regarding small farms' financials occurred.

Results

Using this data, Shideler and the CSU researchers distinguished differences in expenditure patterns between local and conventional farms. Small farms' labor expenditures increased as farm sizes increased, which is not true in conventional agriculture. There has not been much data collected regarding this finding, which led researchers to speculate it was due to small farms becoming more specialized as their farm sizes increased, thus causing farmers to spend more on labor costs.

There has been speculation about small farms' profitabilities related to labor expenditures. Researchers broke producers into quartiles by profitability and size categories by sales. They found 25-50% of small farms broke even and were, in fact, profitable. This result led researchers to believe smaller operations can be profitable, and they can develop local food demand when the right market channels and products are available. Even though their analysis showed that the smallest farms can be profitable, it was determined the size of the operation was the biggest factor impacting profitability.

Another interesting finding was local farmers were more likely to lease land and equipment rather than owning either outright. Researchers speculated this finding was due to the ease of starting up in this niche. The small farmers used this as a cash flow management strategy, which is uniquely different from conventional farming. Another interesting finding specific to small farms was debt distribution. The data showed the lowest and best performing operations had the highest debt. Low performing farming operations used debt as a cash flow management strategy, while the best performing farming operations used debt as a way to expand their operations.

Impact

This research helped lay the foundation for small farmers, lenders, consumers, and others to understand how small farming operations differ from conventional agriculture. Through this research, the website, localfoodeconomics.com, was created as a central location for people to share and publish research about local food. The website has more than 25,000 visits from people across the nation. A few educational webinars have aired on localfoodeconomics.com, all of which were widely attended.

Researchers hosted a pre-conference workshop where they shared preliminary results from the data. People attended the workshop in teams, which consisted of members inside and outside academia, such as farmers, ranchers, producers,

or individuals involved at the ground level. Upon sharing the data and research findings, attendees were given the opportunity to "ground the truth" or interpret the realities of this information. The discussion allowed researchers to understand the truth behind the data, in order to make the information more useful. In addition to sharing this data and information, the workshop had a goal of teaching about program evaluation. This goal was to help farmers implement strategies for collecting data and gathering information at the local level, in order to use it specifically in their operations.

One struggle for small farmers is the financial reality of their operations being so different from conventional farms, which is a challenge for lenders. For this reason, researchers gave several presentations to Farm Credit agencies throughout the country. These sessions were to help lenders understand the benchmark data, what local farmers' expenditure patterns looked like, and how labor differs greatly from larger operations. Their goal was to bridge the knowledge gap between small farmers and their lenders, in order to help both parties identify appropriate loans, while teaching best financial practices. The ultimate goal of this research was to help small farmers be profitable.

Publications

Bauman, A., D. Thilmany, and B.B.R. Jablonski. 2017. "Evaluating scale and technical efficiency among farms and ranches with a local market orientation." *Renewable Agriculture and Food Systems*.

Thilmany McFadden, Dawn, Allie Bauman and Becca B.R. Jablonski. 2016. "The financial performance implications of differential marketing strategies: Exploring farms that pursue local markets as a core competitive advantage." Presented as part of an organized symposium at Agricultural and Applied Economics Association Annual Meeting, Boston, MA.

Angelo, Blake E., Becca B. R. Jablonski and Dawn Thilmany. 2016. "Meta-analysis of U.S. intermediated food markets: Measuring what matters." *British Food Journal*, 118(5): 1146-1162.

Source of Funding

National Institute of Food and Agriculture – United States Department of Agriculture (NIFA-USDA) Agriculture and Food Research Initiative (AFRI) Grant # 2014-68006-21871

CONTACT

Dave Shideler

Associate Professor and Extension Economist
323 Ag Hall | Stillwater, OK 74078
(405) 744-6170
dave.shideler@okstate.edu

Food Pantries' Contributions Towards Reducing The Needs-Gap

The United States Department of Agriculture-Economic Research Service (USDA-ERS) reported that in 2016, 15.6 million American households struggled to put food on the table for their families, and were considered food insecure. Members of many of these struggling households seek assistance from government and charity programs. One government program, the Supplemental Nutrition Assistance Program (SNAP) offered by the government to low-income households, provides supplemental income for certain types of food and grocery products.

The Basic Needs Budget, an online budget calculator developed by the National Center for Children in Poverty, allows individuals to calculate the amount of income required to satisfy a household's basic needs including food, housing, transportation, health insurance, and taxes. The budget uses a household's composition, location, and job status to determine the household's needs. The amount of income by which households are unable to meet their basic needs is known as the needs-gap.

The Our Daily Bread Food and Resource Center is a non-profit, client choice food pantry located in Stillwater, Oklahoma, that serves households in Payne County. It is open four days a week and one Saturday a month. The center has two full-time paid staff, including Executive Director Becky Taylor. The remaining staff members are volunteers.

The food pantry provides a unique experience for their

clients (known as guests). The shopping area is configured with product shelves, fruit and vegetable bins, bread racks, and refrigerated units, where guests can choose which products they wish to obtain from the different product sections. This layout and process provides the guests with an experience similar to shopping in a grocery store.

Researchers

Zuhrah Alwahabi, Tehachapi, California, Master's agricultural economics graduate student studying with Dr. Bailey Norwood, professor and holder of the Barry Pollard, M.D./ P&K Equipment Professorship in Agribusiness, is gathering data for this research at Our Daily Bread.

Issues

While more than 200 food banks and 60,000 food pantries and meal programs in this country offer assistance to lower income households, research has been limited regarding the nutritional and monetary benefits of their contributions to the households in the communities they serve. The limited research that exists shows the number of additional meals provided by the food charities, but it lacks the monetary value of the food and grocery products that households receive.

Research on the monetary value of the products that food pantries provide to households is needed to determine the extent to which food pantries help a household meet



Becky Taylor, Executive Director at Our Daily Bread in Stillwater, preps volunteers prior to starting another shopping day. Our Daily Bread volunteers help Payne County residents with such activities as assessing their needs, stocking the pantry, maintaining the garden, and performing behind-the-scenes duties. Photo by: Judy Rudin

their needs-gap. Although extensive literature is available on determinants of food insecurity and the relationships between income and food insecurity, little is available on the value of the contributions of food pantries to households.

Future research on food insecurity and the use of charitable organizations may look more closely at the value of the goods that food insecure households receive from charitable organizations. Estimating the percentage of the needs-gap being met by food pantries provides evidence to further justify the need for food assistance programs other than government programs like SNAP.

Objective

The research objective of this project is to estimate the percentage of the needs-gap being met by Our Daily Bread by determining the monetary and nutritional values of the products provided to their guests.

This project will also provide data to help increase the efficiency of the allocation of goods and services provided to alleviate poverty by both charitable organizations and government programs.

Project

Data is being collected to show the nutritional values of products available, the number of products selected by households, households' incomes and demographics, and how frequently households seek assistance from Our Daily Bread.

On the days that Our Daily Bread is open, Alwahabi observes the guests as they shop in a particular section of the pantry and records which products they select. She has already entered the information from the nutrition labels on these products into her database.

Once the data has been collected, the results from the studies done on the cost of foods as related to their nutritive value will be used to convert calories received at Our Daily Bread into U.S. dollars.

These values can be validated by sampling a household's goods received and finding their actual price at the retailer that made the donation. Comparing the actual price to the study's value will show if the values are representative of the goods the households receive.



Zuhrah Alwahabi, a Master's agricultural economics graduate student at OSU, enters data on available food for eligible Payne County residents to pick up at Our Daily Bread in Stillwater. Alwahabi is collecting data on the nutritional values of food available at Our Daily Bread, as well as product selection and household demographics. Photo by: Judy Rudin

Another element of the project is tracking the number of times household members visit the pantry, and how much time is spent selecting products. A queuing machine has been installed in the entry room at Our Daily Bread. Each individual punches in and out before and after shopping. This provides information on how many people come to the pantry, when they come, and how much time they spend there.

Results

The results from this study will provide information such as household incomes, what is needed to bridge the needs-gap, what kinds of food and products are available and which are chosen, what the nutritional and caloric values of the foods chosen are, and what the foods' net values are. This information will be used to determine how well Our Daily Bread is meeting the needs-gaps of their guests.

Tracking the individuals entering and leaving the pantry has already provided some definitive results. While households may visit the pantry once every 30 days, the data has shown that only nine percent of the households served have visited the pantry every month. As Taylor stated, "This shows that they are coming when they need to. It also negates one of the common negative conceptions that people take advantage of food banks and pantries-visiting when they don't need to." The data from this project is also used by Norwood for the students in his "Farm to Fork" online course, regarding food management.

Impact

This research will provide unprecedented insight into the nutritional and monetary values of the foods provided by one food pantry (Our Daily Bread) to households in one area (Payne County, Oklahoma). Data collected from this study will be used to estimate the percentage of the needs-gap being met by the Our Daily Bread Food and Resource Center.

Source of Funding

Partial funding comes from the Barry Pollard, M.D./P&K Equipment Professorship in Agribusiness.

CONTACT

Bailey Norwood

Professor and Barry Pollard, M.D./P&K
Equipment Professorship in Agribusiness
426 Ag Hall | Stillwater, OK 74078
(405) 744-9820
bailey.norwood@okstate.edu

What is Local Food?

What do consumers want? Do they prefer locally grown produce and grass-fed beef? How do they define local? Do labels, like “Oklahoma Grown” and “Made in Oklahoma (MIO),” matter to consumers? How much are consumers willing to pay for what they want? These are the types of questions researchers, like Dr. Rodney Holcomb, ask consumers in order to understand opinions on local food.

Once researchers have information about consumers’ desires, they can educate local farmers about consumers’ expectations for “local” food. This information starts the conversation about the costs of producing and distributing local food, which are two topics often overlooked. Are local farmers aware of various expenses when selling fresh or processed local products? Do they know most farmers’ markets can require permits, enforce taxes, or expect a marketing fee? These unexpected expenses contribute to local food’s pricing, as well as farmers’ profitabilities. The bottom line is: consumers’ opinions matter and affect perceptions of local food.

Researchers

Dr. Rodney Holcomb is the Charles B. Browning Endowed Professor at Oklahoma State University. His research interests include food, food processing, and food marketing.

Issues

Two things consumers have said are important to them are farmers who grow locally and cutting out the middleman. However, can cutting out the middleman and selling directly to consumers, like at a farmers’ market, be profitable for farmers? Does information about a farm’s food safety program impact consumers’ buying probabilities? Researchers wonder whether it makes economic or common sense for farmers to do either of these. However, small producers and local farmers have heard consumers, and see the demand for buying local as an opportunity for a new food niche. But, can they do so in a safe and efficient manner?

Objective

The objective of this research was to determine what is important to consumers, and whether it is financially viable for small farmers to meet their demands. Researchers wanted to understand why consumers preferred local food rather

than more commercial options, and if those buying decisions were affected at all by labels identifying in-state production and/or food safety protocols followed by the grower. All this information has contributed to giving researchers a better understanding of what consumers define as local.

Project

There is no doubt there are questions about the definition of “local,” especially concerning food. This definition issue is a contributing factor that inspired Holcomb to focus much of his research on local food, and ask consumers the pressing question: what is local food to you? The answer is: it depends. Local means different things to consumers. For one consumer, local food can be grown and sold at a farmers’ market within a 20-mile radius, but for other consumers, local food is simply grown in their home states. However, the United States Department of Agriculture (USDA) still has not set a list of standards for what qualifies food as local.

Results

Holcomb and other researchers organized food safety workshops around the state to educate local farmers who wanted to sell their products locally, like at farmers’ markets. At these workshops, farmers learned what the law requires, what constitutes good food safety practices, and other food production regulation topics. The farmers gained a better idea of what the consumer is willing to pay for certain characteristics within the local food niche. These workshops had a goal of informing producers and better understanding consumers.

By asking consumers what they view as important, researchers were able to get an idea of what characteristics different people use to classify local food. While there is still no standardized definition of local, similar to the one USDA has for organic food, this research allows local food producers to be better informed and understand what consumers want.

Another interesting finding was what consumers are, or are not, concerned with in regards to buying local food. Some consumers viewed local food labeled with organic as more valuable, while other consumers placed more value on the food’s distance from original production. The consumers concerned more with the latter liked knowing who grew their food, and wanted a relationship with that producer.

Impact

This research gave producers and consumers the knowledge to make more efficient market transactions. By being informed, farmers can make better financial decisions when working with farmers' markets, farm to school programs, and retail marketing programs.

By knowing which aspects of local food mean the most to consumers, more efficient marketplaces can be created because producers understand the consumers' wants. Holcomb and fellow researchers created several fact sheets, all of which are available to producers, to bridge the gap among local food, small farmers, and consumers who support local.

Publications

Bowser, T.J., and R.B. Holcomb. "Financial Analysis Tools for On-Farm and Off-Farm Commercial Kitchens." *Journal of Extension* 56,2 (April 2018): Article 2TOT3. Available online at <https://www.joe.org/joe/2018april/tt3.php>.

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Source of Funding

Oklahoma State University Agricultural Experiment Station, Robert M. Kerr Food and Agricultural Products Center, and Charles B. Browning Endowed Professorship



There are many different reasons consumers choose to buy and support local food. Nearing the top of that list is consumers want to meet the farmers and producers themselves. This builds a relationship and validates where the food they are purchasing comes from. Photo by: Mattie Moore

CONTACT

Rodney Holcomb

Professor and Charles B. Browning Endowed Professorship in Food Science
114 FAPC | Stillwater, OK 74078
(405) 744-6272
rodney.holcomb@okstate.edu

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2016 WAEA PRESIDENTIAL ADDRESS: COMMENTS ON AGRICULTURAL ECONOMICS RESEARCH

Author(s): Wade Brorsen
Source: Journal of Agricultural and Resource Economics, 42:1-9
Date: 2017
Subject: Other, Quantitative Methods
Keywords: agricultural economics, impact factors, values

A NOTE ON MODELING HOUSEHOLD FOOD WASTE BEHAVIOR

Author(s): Ellison B., Jayson Lusk
Source: Applied Economics Letters, 24: 1199-1202
Date: 2017

AN EXPERIMENT ON CASH AND IN-KIND TRANSFER WITH APPLICATION TO FOOD ASSISTANCE PROGRAMS

Author(s): Weaver A.S., Jayson Lusk
Source: Food Policy, 68: 186-192
Date: 2017

ANCHORING, INFORMATION, AND FRAGILITY OF CHOICE EXPERIMENTS: AN APPLICATION TO CONSUMER WILLINGNESS TO PAY FOR RICE WITH IMPROVED STORAGE MANAGEMENT

Author(s): Lianfan Su, Jayson Lusk, Frank Arthur
Source: J of Agricultural and Resource Economics, 42(2), p. 255-274
Date: 2017
Subject: Marketing

ARE CONSUMERS WILLFULLY IGNORANT ABOUT ANIMAL WELFARE?

Author(s): Eryn Bell, Bailey Norwood
Source: Animal Welfare, 26:399-402
Date: 2017
Subject: Marketing, Policy
Keywords: animal welfare, willful ignorance, consumer attitudes, consumer preferences, swine production, gestation crate

**ASYMMETRIC ADJUSTMENT IN VERTICAL PRICE TRANSMISSION IN THE U.S. BEEF SECTOR:
TESTING FOR DIFFERENCES AMONG PRODUCT CUTS AND QUALITY GRADES**

Author(s): Prasanna Surathkal, Chanjin Chung
Source: Applied Economics
Date: 2017
Subject: Agribusiness, Marketing

**CONSEQUENCES OF A CARBON TAX ON HOUSEHOLD ELECTRICITY USE AND COST, CARBON
EMISSIONS, AND ECONOMICS OF HOUSEHOLD SOLAR AND WIND**

Author(s): Ahmad Ghaith, Francis Epplin
Source: Energy Economics, 67(2017):159-168.
Date: 2017
Subject: Environment, Production Economics
Keywords: carbon tax, social cost of CO2, smart meter, solar panel, wind turbine

CONSUMER PREFERENCE FOR GOAT MEAT IN A BLIND SENSORY ANALYSIS

Author(s): Kelyn Jacques, Bailey Norwood
Source: Sheep and Goat Journal, 32:28-35
Date: 2017
Subject: Marketing
Keywords: sensory analysis, goat meat, flavor, juiciness, taste, goat

CONSUMER PREFERENCES FOR FAIR LABOUR CERTIFICATION

Author(s): Andreas Drichoutis, Jayson Lusk, Nayga R.M.
Source: European Review of Agricultural Economics, 44: 455-474
Date: 2017

**CONSUMER RESEARCH WITH BIG DATA: APPLICATIONS FROM THE FOOD DEMAND SURVEY
(FOODS)**

Author(s): Jayson Lusk
Source: American Journal of Agricultural Economics, 99: 303-320
Date: 2017

**COST OF REMOVING AND ASSEMBLING BIOMASS FROM RANGELAND ENCROACHING
EASTERN REDCEDAR TREES FOR INDUSTRIAL USE**

Author(s): Nurul Nadia Ramli, Francis Epplin, Tracy Boyer
Source: Rangelands, 39-6(2017):187-197.
Date: 2017
Subject: Environment, Production Economics
Keywords: eastern redcedar encroaching species economics removal business

COST TO PRODUCE LIQUID BIOFUEL FROM INVASIVE EASTERN RED CEDAR BIOMASS.

Author(s): Nurul Nadia Ramli, Francis Epplin
Source: Biomass and Bioenergy, 104(2017):45-52.
Date: 2017
Subject: Environment, Production Economics
Keywords: minimum selling price, biofuel, biomass, Eastern Redcedar Juniperus virginiana L., feedstock
Invasive species, mathematical programming, pyrolysis

DISTRIBUTIONAL EFFECTS OF CROP INSURANCE SUBSIDIES

Author(s): Jayson Lusk
Source: Applied Economic Perspectives and Policy, 39: 1-15
Date: 2017

ECONOMICS OF GRID-TIED HOUSEHOLD SOLAR PANEL SYSTEMS VERSUS GRID-ONLY ELECTRICITY.

Author(s): Ahmad Ghaith, Francis Epplin, R. Scott Frazier
Source: Renewable and Sustainable Energy Reviews, 76(2017):407-424.
Date: 2017
Subject: Environment
Keywords: grid-tied net metering smart meter solar panel

ECONOMICS OF HOUSEHOLD WIND TURBINE GRID-TIED SYSTEMS FOR FIVE WIND RESOURCE LEVELS AND ALTERNATIVE GRID PRICING RATES.

Author(s): Ahmad Ghaith, Francis Epplin, R. Scott Frazier
Source: Renewable Energy, 109(2017):155-167.
Date: 2017
Keywords: grid-tied renewable distributed generation smart meter wind energy wind turbine

EFFECTS OF CLIMATE VARIATION AND WATER LEVELS ON RESERVOIR RECREATION.

Author(s): Tracy Boyer, Richard Melstrom, Larry Sanders
Source: Journal of Lakes and Reservoir Management
Date: 2017
Keywords: Fort Cobb, climate change, reservoir management, recreation valuation

EFFECTS OF FOOD ASSISTANCE PROGRAMS, DEMOGRAPHIC CHARACTERISTICS, AND LIVING ENVIRONMENTS ON CHILDREN'S FOOD INSECURITY

Author(s): Zhiming Qui, Chanjin Chung
Source: Journal of Applied Economics and Finance
Date: 2017

ESTIMATING A MODEL OF SPORTFISHING TRIP EXPENDITURES USING A QUASI MAXIMUM LIKELIHOOD APPROACH

Author(s): D. Harshanee Jayasekera, Richard Melstrom
Source: Tourism Economics, 23: 448-459
Date: 2017

ESTIMATING WILLINGNESS TO PAY FOR BROADBAND ATTRIBUTES AMONG LOW-INCOME CONSUMERS: RESULTS FROM TWO FCC LIFELINE PILOT PROJECTS

Author(s): Hyunji Lee, Brian Whitacre
Source: Telecommunications Policy 41(9): 769-780
Date: 2017
Subject: Community & Rural Development
Keywords: broadband, willingness-to-pay, lifeline pilot projects

EXAMINING RECREATION DEMAND FOR LAKESHORE PARKS IN OKLAHOMA

Author(s): Brannon Daniels, Richard Melstrom
Source: Journal of Park and Recreation Administration,, 35: 25-36
Date: 2017

EXTERNALITIES, PROFIT, AND LAND STEWARDSHIP: CONFLICTING MOTIVES FOR SOIL AND WATER CONSERVATION ADOPTION AMONG ABSENTEE LANDOWNERS AND ON-FARM PRODUCERS.

Author(s): Benjamin Tong, Tracy Boyer, Larry Sanders
Source: Journal of Agricultural And Applied Economics
Date: 2017
Subject: Environment
Keywords: water and soil conservation, conservation adoption, best-worst analysis, Fort Cobb

FIXED BROADBAND OR MOBILE: WHAT MAKES US MORE CIVICALLY ENGAGED?

Author(s): Brian Whitacre
Source: Telematics and Informatics, 34(5): 755-766
Date: 2017
Subject: Community & Rural Development
Keywords: civic engagement, broadband, fixed vs. mobile internet, mobile phones

FORECASTING UREA PRICES

Author(s): Seonwoong Kim, Wade Brorsen
Source: Applied Economics, 49:4970-4981
Date: 2017
Subject: Marketing
Keywords: fertilizer, prediction, prices

GENETIC TESTING TO SIGNAL QUALITY IN BEEF CATTLE: BAYESIAN METHODS FOR OPTIMAL SAMPLE SIZE

Author(s): Nathanael M. Thompson, Wade Brorsen, Eric DeVuyst, Jayson Lusk
Source: American Journal of Agricultural Economics, 99:1287-1306
Date: 2017
Subject: Production Economics, Quantitative Methods
Keywords: Bayesian, cattle, DNA testing, optimal sampling

IMPACT OF THE LIVESTOCK MANDATORY REPORTING ACT ON THE VERTICAL PRICE TRANSMISSION WITHIN THE BEEF SUPPLY CHAIN

Author(s): Chanjin Chung, Johnna Rushin, Prasanna Surathkal
Source: Agribusiness: An International Journal
Date: 2017
Subject: agribusiness, marketing, policy

IMPACTS OF FOOD SAFETY RECALLS AND CONSUMER INFORMATION ON RESTAURANT PERFORMANCE

Author(s): Ross Pruitt, Rodney Holcomb
Source: Journal of Food Distribution Research, Vol 48 No 3
Date: 2017
Subject: marketing

IMPLICATIONS OF THE 2006 E. COLI OUTBREAK ON SPATIAL PRICE TRANSMISSION IN THE U.S. FRESH SPINACH MARKET

Author(s): Samantha Durborow, Chanjin Chung, Seonwoong Kim
Source: Agribusiness: An International Journal
Date: 2017
Subject: agribusiness, marketing, quantitative methods

PERMANENT BREAKS AND TEMPORARY SHOCKS IN A TIME SERIES

Author(s): Yoonsuk Lee, Wade Brorsen
Source: Computational Economics, 49:1213-1225
Date: 2017
Subject: Marketing, Quantitative Methods
Keywords: time series analysis

PERMANENT SHOCKS AND FORECASTING WITH MOVING AVERAGES

Author(s): Yoonsuk Lee, Wade Brorsen
Source: Applied Economics, 49(12):1213-1225
Date: 2017
Subject: Marketing, Quantitative Methods
Keywords: basis, forecasting, grain

PRICE DETERMINANT OF BRED COWS

Author(s): James Mitchell, Derrell Peel, Wade Brorsen
Source: Journal of Agricultural and Applied Economics, 10.1017/aae.2017.20.2017
Date: 2017

PROMOTION OF ORANGE FLESH SWEET POTATO BY DEMONSTRATION OF ACCEPTANCE AND FOOD PRODUCT DEVELOPMENT

Author(s): Tim Bowser, Frank Ojwang, Roger Sahs, Lynn Brandenberger
Source: OSU, AGECON, Vol 11
Date: 2017
Subject: Horticulture
Keywords: enterprise budgets

RECRUITING TECHNIQUES AND INFLUENCES ON COLLEGE CHOICE

Author(s): Brittney Rochell, Dwayne Cartmell, Shelley Sitton, Shannon Ferrell
Source: NACTA Journal
Date: 2017
Keywords: recruitment, undergraduate

SCALE HETEROGENEITY IN RECREATIONISTS' DECISION MAKING: EVIDENCE FROM A SITE CHOICE MODEL OF SPORT FISHING

Author(s): Richard Melstrom, Deshamithra Jayasekera, Tracy Boyer, Jager Corey
Source: Journal of Outdoor Recreation and Tourism, 18
Date: 2017
Keywords: recreation demand, valuation, non-market fisheries, random utility model

SOCIOECONOMIC DETERMINANTS OF HYBRID MAIZE ADOPTION IN KENYA

Author(s): Yu Wang, Jeffrey Vitale, Pilja Park, Brian Adam
Source: African Journal of Agricultural Research, Vol 12(8), pp.617-631
Date: 2017

SOIL AND WATER CONSERVATION METHOD ADOPTION IN A HIGHLY EROSIIVE WATERSHED: THE CASE OF SOUTHWEST OKLAHOMA FORT COBB WATERSHED.

Author(s): Benjamin Tong, Tracy Boyer
Source: Journal of Environmental Planning and Management
Date: 2017

SPATIAL PRICE EFFICIENCY IN THE UREA MARKET

Author(s): Zhepeng Hu, Wade Brorsen
Source: Agribusiness, 33:98-115
Date: 2017
Subject: Agribusiness, Marketing
Keywords: fertilizer, price, time series, urea

STARTING ON THE RIGHT FOOT: DOES SCHOOL CHOICE AFFECT VETERINARIAN STARTING SALARIES?

Author(s): Clinton Neill, Rodney Holcomb, Wade Brorsen
Source: Journal of Agricultural and Applied Economics, 49:120-138
Date: 2017
Subject: Agribusiness, Labor Economics
Keywords: veterinary services

TECHNICAL EFFICIENCY OF SMALLHOLDER MAIZE PRODUCTION IN ZAMBIA: A STOCHASTIC META FRONTIER APPROACH

Author(s): John Ng'ombe
Source: Agrekon
Date: 2017

TECHNOLOGY AND EVOLVING SUPPLY CHAINS IN THE BEEF AND PORK INDUSTRIES

Author(s): Joshua G. Maples, Derrell Peel, Jayson Lusk
Source: Food Policy, August 2017
Date: 2017

THE EFFECT OF LISTING THE LESSER PRAIRIE CHICKEN AS A THREATENED SPECIES ON RURAL PROPERTY VALUES

Author(s): Derek Wietelman, Richard Melstrom
Source: Journal of Environmental Management, 191
Date: 2017
Subject: environment

THE INFLUENCE OF THE DEGREE OF RURALITY ON EMR ADOPTION

Author(s): Brian Whitacre
Source: Health Services Research, 52(2): 616-633
Date: 2017
Subject: Community & Rural Development
Keywords: Electronic Medical Records, EMR adoption, rural, specialty

TRADING BASED ON KNOWING THE WASDE REPORT IN ADVANCE

Author(s): Trent Milacek, Wade Brorsen
Source: Journal of Agricultural and Applied Economics, 49(3):400-415
Date: 2017
Subject: Marketing
Keywords: grain, forecasting, prices

TWO-STAGE ESTIMATION TO CONTROL FOR UNOBSERVABLES IN A RECREATION DEMAND MODAL WITH UNVISITED SITES

Author(s): D. Harshanee Jayasekera, Richard Melstrom
Source: Land Economics
Date: 2017

UNINTENDED CONSEQUENCES OF THE QUEST FOR INCREASED EFFICIENCY IN BEEF CATTLE: WHEN BIGGER ISN'T BETTER

Author(s): Joshua Maples, Jayson Lusk, Derrell Peel
Source: Food Policy, Vol. 74
Date: 2017
Subject: Marketing
Keywords: beef cattle, steaks

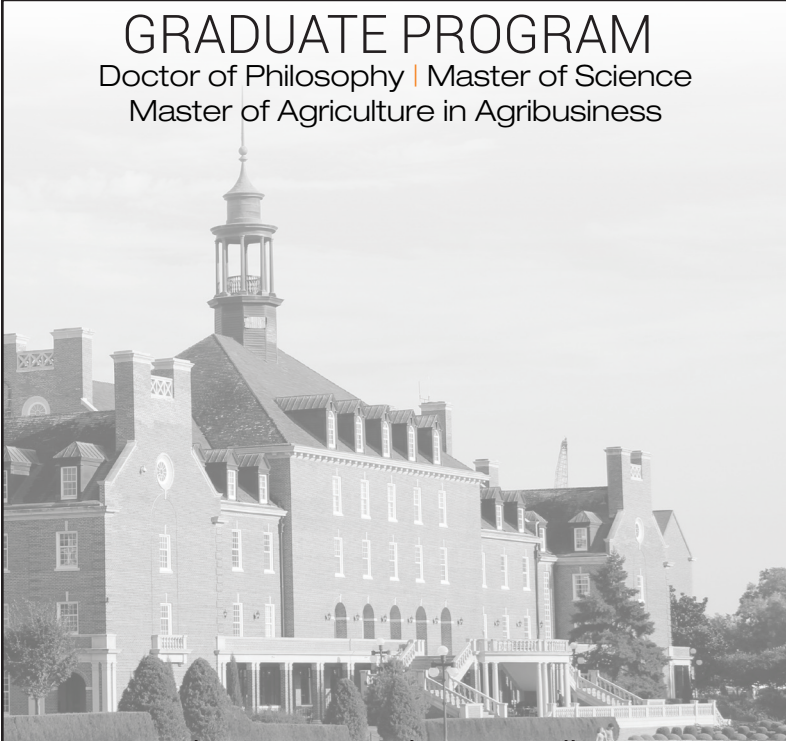
WHAT CAN THE NATIONAL BROADBAND MAP TELL US ABOUT THE HEALTHCARE CONNECTIVITY GAP?

Author(s): Brian Whitacre, Denna Wheeler, Chad Landgraf
Source: The Journal of Rural Health, 33(3): 284-289
Date: 2017
Subject: Community & Rural Development
Keywords: broadband, rural, connectivity, National Broadband Map, healthcare connectivity

WHERE TO DRILL THE PETROLEUM INDUSTRY RESPONSE TO AN ENDANGERED SPECIES LISTING

Author(s): Richard Melstrom
Source: Energy Economics, 66: 320-327
Date: 2017

GRADUATE PROGRAM
Doctor of Philosophy | Master of Science
Master of Agriculture in Agribusiness



Wade Brorsen, Graduate Coordinator
Anna Whitney, Student Services Specialist
417A Ag Hall • Stillwater, OK
agecgrad@okstate.edu

The Department of Agricultural Economics has a long tradition of being one of the best departments in the U.S. working on the most relevant and applied issues in agricultural and food industries.

Students completing degrees have excelled throughout the world in teaching, research, extension, government service, and business. The department has an environment conducive to considerable interaction among students and faculty.



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**Agricultural
Economics**

2017 Graduate Student Dissertations and Theses

ECONOMICS OF HOUSEHOLD SOLAR PANEL AND WIND TURBINE SYSTEMS

Author: Ahmad Ghaith, Advisor: Dr. Francis Epplin
Graduation Date: Spring 2017
Degree: Ph.D.

ESSAYS ON AFRICAN RURAL DEVELOPMENT AND ENVIRONMENTAL AND NATURAL RESOURCE POLICY

Author: Patrick Kanza, Advisor: Dr. Jeff Vitale
Graduation Date: Spring 2017
Degree: Ph.D.

INCORPORATING BEHAVIORAL PRINCIPLES IN PRIMARY DATA COLLECTION AND ANALYSIS WITH APPLICATION TO BEER DEMAND

Author: Trey Malone, Advisor: Dr. Jayson Lusk
Graduation Date: Spring 2017
Degree: Ph.D.

ESSAYS ON VETERINARY ECONOMICS

Author: Clint Neill, Advisor: Dr. Rodney Holcomb
Graduation Date: Spring 2017
Degree: Ph.D.

THREE ESSAYS ON INSURANCE AND OPTION IN AGRICULTURAL ECONOMICS

Author: Eunchun Park, Advisor: Dr. Wade Brorsen
Graduation Date: Spring 2017
Degree: Ph.D.

ESSAYS ON ECONOMIC ISSUES OF EASTERN REDCEDAR ENCROACHMENT

Author: Nurul Nadia Ramli, Advisor: Dr. Francis Epplin
Graduation Date: Spring 2017
Degree: Ph.D.

CONSUMER PREFERENCE FOR WILLFUL IGNORANCE ON ANIMAL WELFARE ISSUES USED SWINE PRODUCTION

Author: Eryn Bell, Advisor: Dr. Bailey Norwood
Graduation Date: Spring 2017
Degree: M.S.

RISK MANAGEMENT CASH REQUIREMENTS AND OPTIMAL MARKETING STRATEGIES FOR WINER GRAZED STOCKER CATTLE

Author: Blayne Horn, Advisor: Dr. John Michael Riley
Graduation Date: Spring 2017
Degree: M.S.

MIDWESTERNERS' CONSUMER PREFERENCE FOR GOAT MEAT IN A BLIND SENSORY ANALYSIS

Author: Kelyn Jacques, Advisor: Dr. Bailey Norwood
Graduation Date: Spring 2017
Degree: M.S.

INVESTIGATING ENTERPRISE RISK MANAGEMENT IN THE CONTEXT OF GRAIN & FARM SUPPLY COOPERATIVES

Author: Robert Parrish, Advisor: Dr. Phil Kenkel
Graduation Date: Spring 2017
Degree: M.S.

APPLYING THE COOPERATIVE MODEL TO VETERINARY MEDICINE: A CASE STUDY OF SHARED IMAGING CENTER

Author: Dillon Rapp, Advisor: Dr. Rodney Holcomb
Graduation Date: Spring 2017
Degree: M.S.

FORMAL REPORT - ESTIMATING NON-MARKET VALUE FOR THE GRAND RIVER WATERSHED

Author: Susan Brand, Advisor: Dr. Max Melstrom
Graduation Date: Spring 2017
Degree: M.Ag.

DETERMINING IMPLICIT OPTION PREMIUMS FOR GOVERNMENT FARM PROGRAM PAYMENTS

Author: Meagan Rhodes, Advisor: Dr. Eric DeVuyst
Graduation Date: Summer 2017
Degree: M.S.

MACHINE LEARNING: A POTENTIAL FORECASTING TOOL

Author: Jasdeep Banga, Advisor: Dr. Wade Brorsen
Graduation Date: Fall 2017
Degree: Ph.D.

ESSAYS ON CONSUMER DEMAND FOR RECREATIONAL ACTIVITIES

Author: Wonkyu Cha, Advisor: Dr. Tracy Boyer
Graduation Date: Fall 2017
Degree: Ph.D.

CHARACTERISTICS THAT INFLUENCE FINANCIALLY RISKY OCCUPATIONAL CHOICE

Author: Haotian Cheng, Advisor: Dr. John Michael Riley
Graduation Date: Fall 2017
Degree: M.S.

FORMAL REPORT - COST OF MEETING BEEF CATTLE NUTRITION REQUIREMENTS CONSIDERING HAY QUALITY

Author: Tyler Williams, Advisor: Dr. Damona Doye
Graduation Date: Fall 2017
Degree: M.Ag.

Current Hatch Projects

COMMUNITY HEALTH AND RESILIENCE

The objectives of this research project are to better understand the emerging opportunities and threats to the economic structure of non-metropolitan communities arising from the potential shifts in local and regional food systems and to identify and analyze policies and strategies contributing to the viability and resiliency of communities in responding to economic and policy changes and to natural and human-made stocks. (2840)

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Brian E. Whitacre

AN IMPROVED UNDERSTANDING OF CONSUMER PREFERENCES FOR FOOD AND FOOD POLICY, ESPECIALLY IN REGARDS TO CONTROVERSIAL ISSUES

The purpose of this research is not to be controversial but to study controversy. The research objectives are to develop methods of measuring consumer preferences for food and food policy, especially those containing controversial attributes, by capturing preferences in the same context which human values and beliefs form: in a social dialogue, much like a debate.

One specific food topic that will definitely be considered is food paternalism, though other issues may be addressed as the research evolves. The specific paternalistic policy concerns whether the individual wants to assert control over the food choices of kids and their guardians. (2851)

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: F. Bailey Norwood

RESILIENCY OF SOCIO-ECONOMIC BEHAVIOR AND POLICIES TO PROTECT NATURAL RESOURCES AND THE ENVIRONMENT UNDER CLIMATE VARIABILITY IN OKLAHOMA AND THE U.S.

The general objectives of the proposed research project are to study the resilience of economic institutions to address natural resource and environmental issues of policy interest to

Oklahoma and the nation, and to contribute to developing the theoretical and empirical

literature on managing change and risk for managing natural resources such as land, water, and ecosystems in the face of changing temperature and water regimes and to analyze the determinants of adoption of conservation and environmental mitigation practices for shaping sustainable and resilient water and land management policies, pricing, and institutions. (2852)

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Tracy Boyer

MARKETING AND DELIVERY OF QUALITY GRAINS AND BIOPROCESS COPRODUCTS

Consumers are increasingly demanding high-quality, safe wholesome foods. At the same time, environmental and safety restrictions have reduced the availability of certain chemicals to control insects. As biological and chemical scientists and entomologists are developing alternative methods of insect control, there is a need for economic analysis and optimization to identify the most cost-effective of these alternatives so that increases in food costs can be minimized. (2879)

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Brian Adam

IMPROVING THE EFFICIENCY OF AGRICULTURAL DECISIONS

Agricultural producers are faced with many decisions regarding new and existing technology.

These producers can make more efficient decisions when they are provided with more accurate information.

The proposed research would help provide this information. A variety of applied topics will be addressed such as forecasting fertilizer prices, DNA testing of livestock, precision sensing fertilizer recommendations, design of forage crop insurance for wheat pasture, likely effects of mandatory price reporting for livestock, and calculating settlement prices for calendar spread options. (2939)

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Wade Brorsen

ECONOMIC IMPACTS OF MARKET POWER AND CHECKOFF PROGRAM

The project is expected to provide economic analyses of market power and checkoff programs in food and agricultural industries. Specifically, the project will develop generalized and flexible models for market conduct in food and agricultural industries. The newly developed models will be used for the analyses of bilateral market power between retailers and processors for various agricultural and food markets. The project also will focus on determining the relationship between auction and traditional new empirical industrial organization (NEIO) models of market power. (2941)

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Chanjin Chung

PROVIDING INFORMATION AND DECISION SUPPORT TOOLS TO INCREASE THE EFFECTIVENESS OF TRADITIONAL AND NON-TRADITIONAL COOPERATIVES

The goal of this project is to increase the efficiency and profitability of agricultural cooperatives.

This goal will be accomplished through a wide range of activities including survey research, case study research and the development of decision aids and best management practices. Many of these activities will focus on financial choices which are an integral part of the profit distribution and equity structure which is unique to the cooperative firm. Because these firms are owned and controlled by agricultural producers, this research will benefit Oklahoma farmers and ranchers. (2942)

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Phil Kenkel

THE ECONOMICS OF MARKET RELATIONSHIPS AND VALUE ENHANCEMENT IN LIVESTOCK AND AGRICULTURE

The market landscape in agriculture is constantly changing, whether induced by market forces, policy changes, technological innovation, or weather. Participants in the food system must navigate that changing landscape along with the management and marketing challenges that it presents. Changes in market structure and evolution in the nature of market relationships can lead to more cost-efficient production and stronger marketing channels. This research provides economic analysis of these change catalysts, of potential responses to the associated challenges and opportunities, and of associated supply chain behavior. Particular emphasis is placed on value enhancement in the livestock industry and implications for Oklahoma livestock producers and processors. (2943)

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Kellie Raper

SELECTION AND LOCATION OF COST EFFECTIVE MANAGEMENT PRACTICES IN OKLAHOMA WATERSHEDS

This proposed research will focus on selecting and locating the most cost effective best management practices (BMPs) to reduce sediment and nutrient loading in selected Oklahoma watersheds. Mathematical optimization techniques such as nonlinear and genetic programming will be used to control watershed and instream simulation models to determine the most effective combination on land surface and instream BMPs to reduce sediment and nutrient loading from individual watersheds. Studies in other watersheds have shown that cost effective selection of BMPs can reduce the cost of given sediment and nutrient reductions by as much as 60 percent when compared to conventional targeting. (2944)

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Art Stoecker

RURAL COMMUNITY ECONOMIC RESILIENCE IN THE FACE OF CHANGING FOOD SYSTEMS, MINING AND CLIMATE VARIABILITY

The proposed research will explore the concept of economic resiliency in the context of three trends facing Oklahoma communities: changing food systems, oil and gas development, and climate variability. The research will identify how rural Oklahoma communities will be impacted by these three trends. In particular, the research will focus on how various forms of capital, using the Community Capitals framework, contribute or detract from local economic resilience.

This will enable the researcher to identify policies and tools for local and state decision makers to build economic resiliency in rural Oklahoma. (2947)

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Dave Shideler

ECONOMIC AND ENVIRONMENTAL IMPACTS OF OKLAHOMA AGRICULTURAL PRODUCTION AND AGRICULTURAL TECHNOLOGY

Although it is difficult to conduct a fully comprehensive evaluation of any emerging agricultural production system, the state-of-the-practice analysis tools have demonstrated their utility in providing producers, researchers, and decision makers with beneficial information on the impacts of new agricultural technology. Future research will provide even more the basis for initiating comprehensive analysis, particularly as more seamless integration between economic and environmental analysis is achieved (Plucknett et al.; Hildebrand; McConnell and Dillon). (2948)

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Jeff Vitale

ECONOMICS OF OKLAHOMA AGRICULTURAL PRODUCTION SYSTEMS

The goal of this project is provide economic analyses of alternative production systems in the U.S. Southern Plains. Agricultural producers are confronted with new production, marketing, and financing methods/technologies. Often these new tools are promoted by parties with a vested financial interested. This project will assess the economic feasibility (i.e., cash flow considerations) and advisability (i.e., economic profitability) of alternative agricultural production practices and where applicable marketing and financial considerations. (2974)

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Eric DeVuyst

COSTS, BENEFITS, AND RISKS OF ALTERNATIVE INSECT MANAGEMENT STRATEGIES IN FOOD PROCESSING AND GRAIN STORAGE FACILITIES

Consumers desire wholesome, insect-free foods. Meanwhile, because of consumer preferences and regulations insecticide options are increasingly limited. In order to improve the ability of food providers to respond to these conflicting challenges, costs benefits, and risks of alternative insect control methods, including integrated pest management approaches, will be estimated. The focus is on grain storage and food processing facilities. Especially in the food processing industry, limited economic analysis of insect control has been published, especially analysis that considers the risks of alternative strategies. Partial budgeting and economic engineering will be used to analyze costs. (2977)

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Brian Adam

THE ECONOMICS OF WATER USE, RECREATION AND WILDLIFE MANAGEMENT IN OKLAHOMA

This project measures the economic value and economic impacts of water and wildlife in Oklahoma. There is a critical need for economic information about natural resources, which provide essential inputs into local and regional markets, and directly affect individuals' wellbeing. To date, however, little socioeconomic data has been collected on water uses and wildlife management in Oklahoma, and hence the value of these resources and the effect that conservation and management can have on that value. This project is conducting several surveys to measure demand for water and wildlife resources. Summary data and analysis will be presented to resource managers through reports, and important findings will be published in peer-reviewed journals. (2997)

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Richard Melstrom

CONSUMER PREFERENCES FOR MEAT QUALITY ATTRIBUTES AND LIVESTOCK PRODUCTION PRACTICES

Criticism of animal agriculture is growing. The negative publicity is multifaceted and ranges from concerns about animal welfare, health impacts, food safety, climate change, environmental impacts, water usage, and food security. The concerns are also beginning to be reflected in public policy. This research will focus on several questions. How much impact has this publicity and had on demand for meat, dairy, and eggs? Which aspects of meat consumption are most troubling to consumers? How will industry responses affect consumer demand for meat, dairy, and eggs in the future? These questions are important given the economic size of the poultry and livestock sector, and the impact of meat, dairy, and eggs in the American diet. (2998)

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Jayson Lusk

OKLAHOMA CROP AND LIVESTOCK PRODUCTION SYSTEMS ECONOMICS

The project has several overarching objectives relative to Oklahoma crop and livestock production systems. One is to determine the economic and institutional feasibility, producer impacts, with respect to expected net return, production and financial risk, and rate of return on resources, of alternative crop and livestock production systems relative to conventional systems. A second objective is to determine environmental tradeoffs between alternative and contemporary crop and livestock production systems. (3028)

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Francis Epplin

EVALUATION OF PRICE AND PRODUCTION RISK MANAGEMENT WITH CHANGING MARKETS AND POLICIES FACED BY PRODUCERS IN OKLAHOMA AND THE SOUTHERN PLAINS

Risks in agriculture are not uncommon. However, markets, prices, advanced technologies and data collection have altered the landscape of agricultural risks. While available tools offer the ability to reduce these, they all bring about very complex strategies and inter-related outcomes. This project attempts to quantify the changing risk landscape and evaluate strategies, both old and new, to combat price and production risks. Additionally, the relationship across the portfolio of risk mitigation protocols for decision makers will be considered and measured both for specific and highly targeted risks as well as broader whole farm prescriptions related to risk management. (3029)

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: John Michael Riley

Remembering Art Stoecker

Arthur (Art) L. Stoecker, agricultural economics associate professor and researcher, passed away on June 3, 2018 at the age of 75.

A pillar in the Department of Agricultural Economics, Dr. Stoecker taught two graduate courses, Advanced Applications of Mathematical Programming and Planning/Policy for Development. He also taught both graduate and undergraduate courses related to natural resource economics and environmental economics. He cared greatly about many environmental science issues such as water resources, sustainability, and recycling.

Dr. Stoecker was a mentor, friend, and supporter to many graduate students, who now have successful careers throughout the world. He was known for his successful mentoring and advising of graduate students, including many international students. His passion was helping to build capacity for international students through education. Throughout his career, he served as Chair for 45 graduate committees. He was currently serving as PI on a student-led project with the Oklahoma Water Resources Center through a United States Geological Survey (USGS) water grants program.

Also known for his ability with computer programming and complex mathematical analysis, Dr. Stoecker's software development accomplishments included "microcomputer applications for resources policy analysis" and "water quality – natural resource issues".



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Nathan Kauffman

Kansas City Federal Reserve Bank – Omaha Branch

James MacDonald

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Research Update
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