



United States Department of Agriculture
National Institute of Food and Agriculture

Agriculture and Food Research Initiative
Agricultural Economics and Rural Communities Program
Project Director Webinar Series

Program Areas: Markets and Trade, Environment

January 22, 2013

January 30, 2013

February 7, 2013

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Welcome to the AFRI Agricultural Economics and Rural Communities Program's First Online Project Director's Meeting!

January 22, 2013

Dear Project Directors and Other Colleagues,

Thank you for participating in the online Project Directors meeting. You are also participating in an experiment in using an online format. The format provides an opportunity to present your research findings to a broader potential audience while saving time and travel costs. This approach comes at the cost of the loss of personal contact and interaction; but we hope it's a reasonable trade-off. Your feedback and comments are welcomed as we work to improve the process.

We have many interesting and exciting project reports to hear about. The projects are of high quality and the result of a competitive grant process. They address topics ranging from technology adoption, consumer behavior, market development and performance, and various aspects of public policy. We are spreading the presentations over three sessions and grouped them loosely based on topic. We hope the online presentations will excite and encourage others to apply to this grant program and continue its success as a source of high quality economic research.

Thank you again for participating and I hope you enjoy the presentations.

Sincerely,

Robbin Shoemaker
National Program Leader, Economics
National Institute of Food and Agriculture

Agriculture and Food Research Initiative - Agricultural Economics and Rural Communities Program

Program Area: Markets and Trade, Environment

Project Director Webinar Series Agenda, January 22 - February 7, 2013

Session 1: January 22, 2013, 12:00-2:00pm (EST)			
	Project Director	Institution	Presentation Title
1	Bradford Barham	University of Wisconsin	Experimental Approaches To Understanding Technology Adoption Among Wisconsin Farmers
2	Amani Elobeid	Iowa State University	An Analysis of the Impact of Biofuel Expansion through Linking of Agricultural and Energy Markets
3	Hirotsugu Uchida	University of Rhode Island	Long-Term Health Effects, Risk Perceptions, and Implications for Ag Markets: Modeling Consumption Patterns for Aquacultured Seafood
4	Glynn Tonsor	Kansas State University	Ex Post Impact of MCOOL: Extensive Assessment Comparing Novel Demand Estimation Techniques
5	Rui Huang	University of Connecticut	Advertising to Children and Food Choices: Implications for Public Policy
6	Harry de Gorter and David R. Just	Cornell University	An Integrated Framework to Analyze the Impact of Biofuel, Energy and Environmental Policies on U.S. Agriculture and Policies
Session 2: January 30, 2013, 1:00-3:00pm (EST)			
	Project Director	Institution	Presentation Title
1	Tomislav Vukina	North Carolina State University	Effects of Productivity and Demand Specific Factors on Plant Survival and Ownership Change in U.S. Poultry Industry
2	Timothy Richards	Arizona State University	Social Networks and New Product Choice
3	Steve Hamilton	California Polytechnic State University	Variety Pass-through: An Examination of the Ready-to-Eat Cereal Market
4	Wade Brorsen	Oklahoma State University	Using Agent-Based Models to Better Understand the Effects of Changes in Agribusiness Market Structure
5	Ivan Eastin and Indroneil Ganguly	University of Washington	Modeling Adoption And Diffusion Of Certified Wood In The U.S. Residential Housing Sector
Session 3: February 7, 2013, 2:00-4:00pm (EST)			
	Project Director	Institution	Presentation Title
1	Steven Y Wu and Barry Wittman	Purdue University	Agricultural Market Structure and Conduct, and Robust Market and Contract Design
2	Jason Grant	Virginia Polytechnic Institute and State University	Assessing the Impact of Standards and Regulations on U.S. Fruit and Vegetable Exports
3	Stephen Devadoss	University of Idaho	Trade in Intermediate and Final Products: Policy Impacts in Apple and Juice Markets
4	Thomas Iver Wahl	North Dakota State University	Chinese Urban Food Consumption Project: Implications for U.S. Exporters and International Agricultural Markets
5	Munisamy Gopinath	Oregon State University	Trade Costs and Business Dynamics in the U.S. Processed Food Industry

CRIS Instructions: How to Search for a Project's Full Report

1. Find the grant number (See figure 1 below)
2. Go to: <http://cris.nifa.usda.gov/>
3. Select "Assisted Search" from the left-hand side bar
4. Scroll down and enter the grant number (See figure 2 below)
5. Click "Search"
6. Click "Display results"

Figure 1.

ACCESSION NO: 0219592 [[Full Record](#)]
 PROJ NO: **NMW-2009-03858** AGENCY: **NIFA NM.W**
 PROJ TYPE: **OTHER GRANTS** PROJ STATUS: **NEW**
 CONTRACT/GRANT/AGREEMENT NO: **2009-49400-05967** PROPOSAL NO: **2009-03858**
 START: **01 SEP 2009** TERM: **31 AUG 2012** GRANT YR: **2009**
 GRANT AMT: **\$639,301**

INVESTIGATOR: **Adams, A. J.**

PERFORMING INSTITUTION:
HOLISTIC MANAGEMENT INTERNATIONAL
1010 TIJERAS AVE., NW
ALBUQUERQUE, NEW MEXICO 87102

EMPOWERING BEGINNING WOMEN FARMERS IN THE NORTHEAST THROUGH WHOLE FARM

NON-TECHNICAL SUMMARY: **This Standard BFRDP Project will empower beginning women farmers in teaching them entrepreneurship and business planning skills, whole farm planning, and profitable cu**

Figure 2.

Fulltext Terms
 ...AND these
 ...NOT these

Subfile (Any) CRIS HNRIMS

Records retrieved: 1 Max Records to Display: 50

Search CRIS by Individual Data Fields

Results from searches in boxes below (including classification codes) will be "ANDed" together, as well as with Full Text searches above.

Project Type	(Any) 3D Grant (I) AFRI Competitive Grant (F)	Project Status	(Any) Active Extended
Project ID	<input type="text"/>	Grant No. NEW	<input type="text" value="2009-49400-05967"/>
Agency	<input type="text"/>	Division/Station	<input type="text"/>
Investigator	<input type="text"/>	Institution/Department	<input type="text"/>
City	<input type="text"/>	State/Country	<input type="text"/>
Region	<input type="text"/>	Grant Year NEW	<input type="text"/>
Multistate Project No.	<input type="text"/>	Keywords	<input type="text"/> <input type="button" value="Terms"/>



**United States Department of Agriculture
National Institute of Food and Agriculture**

Agriculture and Food Research Initiative - Agricultural Economics and Rural Communities Program
Program Areas: Markets and Trade, Environment

Session 1 Summaries

January 22, 2013

12:00-2:00pm (EST)

ACCESSION NO: 0220667 **SUBFILE:** CRIS
PROJ NO: WIS01464 **AGENCY:** NIFA WIS
PROJ TYPE: AFRI COMPETITIVE GRANT **PROJ STATUS:** NEW
CONTRACT/GRANT/AGREEMENT NO: 2010-65400-20443 **PROPOSAL NO:** 2009-04157
START: 01 JAN 2010 **TERM:** 31 DEC 2012 **GRANT YR:** 2010
GRANT AMT: \$292,806

INVESTIGATOR: Barham, B.; Chavas, J.

PERFORMING INSTITUTION:
Agri and Applied Economics
UNIV OF WISCONSIN
MADISON, WISCONSIN 53706

EXPERIMENTAL APPROACHES TO UNDERSTANDING TECHNOLOGY ADOPTION AMONG WISCONSIN FARMERS

NON-TECHNICAL SUMMARY: Cultivated acres in genetically modified (GM) crops have increased 67-fold in the US since 1996, yet heterogeneity among farmers remains high. It has long been postulated that more risk-averse farmers are less likely to adopt and are likely to wait longer before adopting new technologies. Recent research seeks to distinguish between risk aversion (aversion to choices for which the probability of each outcome is known) and ambiguity aversion (aversion to choices for which the distribution of outcomes is unknown). We hypothesize that ambiguity aversion is a significant deterrent to adoption. Resolution of ambiguity may vary across farmers based on learning processes and cognitive ability. We will conduct experiments measuring risk aversion, ambiguity aversion, cognitive ability, and learning processes with Wisconsin soy and corn farmers who have participated in a panel survey regarding GM adoption. We will combine experimental and survey data to examine the determinants of farmer technology adoption.

OBJECTIVES: Our proposed research will use experimental methods to examine how Wisconsin corn and soy farmers respond to risk and uncertainty, and then will build in successively more complex learning processes to understand better how these farmers use and process new information. Farmers will be selected from an ongoing, random sample study (Useche et al., 2009; Aldana et al., 2009) that has been examining farmer adoption of genetically modified crops. In the empirical work thus far, learning emerges as a general (but crudely specified) factor shaping the adoption of GM crops. We propose to conduct experimental games measuring risk aversion, ambiguity aversion, and learning styles with these farmers to develop a refined analysis of the process of technology adoption. Our study would be the first to use experimental data to analyze how uncertainty, information, and learning shape US farmer adoption of agricultural biotechnologies. In the first year of the project, we will analyze the distinct effects of risk aversion and ambiguity aversion on technology adoption. In addition, in the first year we will explore individual learning by which a farmer observes 'draws' from a distribution of outcomes and processes these observations. A second facet of private learning which we will investigate in the second and third years involves actual experimentation with a new technology. The difference between these facets is that, in the first, farmers learn whether or not they try the new technology, while in the second farmers only learn through their own experimentation. A third facet of learning, which we will also investigate in the second and third years, is social learning in which farmers learn from others.

ACCESSION NO: 0220450 **SUBFILE:** CRIS
PROJ NO: NYC-121562 **AGENCY:** NIFA NY.C
PROJ TYPE: AFRI COMPETITIVE GRANT **PROJ STATUS:** TERMINATED
CONTRACT/GRANT/AGREEMENT NO: 2010-65400-20461 **PROPOSAL NO:** 2009-04097
START: 01 JAN 2010 **TERM:** 31 DEC 2011 **GRANT YR:** 2010
GRANT AMT: \$317,388

INVESTIGATOR: de Gorter, H.

PERFORMING INSTITUTION:

Applied Economics & Management
CORNELL UNIVERSITY
ITHACA, NEW YORK 14853

**AN INTEGRATED FRAMEWORK TO ANALYZE THE IMPACT OF AGRICULTURAL,
ENERGY, AND ENVIRONMENTAL POLICIES ON U.S. AGRICULTURE**

NON-TECHNICAL SUMMARY: Biofuel policies are motivated by concerns related to energy security, improving the environment and increasing prosperity for agriculture. The new administration's clear focus and emphasis on renewable energy and global warming mitigation will provide additional challenges but also opportunities for U.S. agriculture. One key issue is compatibility with existing biofuel and agricultural price, trade and environmental policies. There will be potential ramifications for international trade as energy costs will go up with a cap and trade policy while carbon offsets can be a source of revenue for agriculture. We propose a thorough examination of U.S. biofuels and agricultural policies, and their proposed changes, with an eye toward welfare and efficiency analysis. The most important ethanol policies we will evaluate are ethanol consumption subsidies (tax credits), mandatory blending and ethanol consumption requirements, production subsidies for both ethanol and corn (the latter including direct, counter-cyclical, loan deficiency and ACRE payments), ethanol import tariffs and quotas, and sustainability standards. The latter include both the federal requirement for a 20 percent reduction in greenhouse gas (GHG) emissions. Environmental policy to be evaluated includes current agro-environmental programs (e.g., CRP and EQIP) and pending legislation for cap and trade and carbon offsets for agriculture. Relevant energy policy includes fuel taxes and biomass production subsidies. Current and proposed policies involve several layers of incentives and regulations, and will become even more complex with proposed legislation on renewable energy and global climate change. To illustrate how biofuel policies can be contradictory, consider the case of the current tax credit for ethanol and the simultaneous consumption mandate where these two policies, designed to increase ethanol consumption when implemented alone, can encourage gasoline consumption when instituted together. Further, given the mandate, this tax credit not only constitutes a substantial burden on taxpayers, it also contradicts the new energy bill's stated objectives of reducing dependency on oil, improving the environment and enhancing rural prosperity. This is but one example of the complex interactions between agricultural, environmental and energy policies. The proposed legislation on cap and trade with carbon offsets for agriculture and the issue of leakage and loss of competitiveness due to higher energy prices will complicate the analysis further. Proposed legislation includes a proviso for rebates and "green" tariffs on products from countries with less stringent GHG emissions regulations. The long term goals of our proposed research are to develop an integrated model to evaluate the interactions between agricultural, energy and environmental policies (biofuel policies being an element of each policy category; examine the impact of U.S. policy on efficiency, equity and competitiveness of U.S. agriculture; and evaluate alternative policy structures that could meet

the stated goals of the current policy regime at potentially lower costs to taxpayers and the public at large.

OBJECTIVES: The long terms goals of this project are to develop an integrated model to evaluate the interactions between agricultural, energy and environmental policies (biofuel policies being an element of each policy category). Much of the current analyses of biofuel and agricultural policies rely on large empirical models. While these models can be useful in looking at simple policy impacts (such as taxes or subsidies that simply shift supply or demand curves), they are not well equipped to handle complex policy designs currently in play which will become even more complex with proposed legislation on renewable energy and global climate change. Current and proposed policies involve several layers of incentives and regulations, requiring clear theoretical and empirical modeling for effective policy analysis. Thus we propose to design a robust model for policy analysis based on the program parameters and structures in place, as well as those that are proposed, and most importantly, the interaction effects between them. We will extend our previous research and modeling efforts of the U.S. markets to include biodiesel and policies of our largest trading partners. We will then examine the impact of U.S. policy on efficiency, equity and competitiveness of U.S. agriculture. Because current and proposed policies are complex and have complex interaction effects, it is important to determine how each of the policies may impact agricultural producers, food consumers, energy consumers, taxpayers and the environment. Thus, we will do comprehensive social cost benefit analysis to determine the effects on all major groups affected including the crop sectors and crop using sectors (meat and dairy). To this end, we will conduct both comparative static and simulation analyses of the various policies (individually and in combination). We will also determine the impact of changes in foreign policies for biofuels, energy and environment (global climate change policies with biofuel on international market opportunities for U.S. agriculture). Given the U.S. tariff and the producer and consumer incentives in other developed nations, there is the potential for strong interaction effects within the market. It is important to determine how U.S. policies may help or hurt U.S. agricultural production which is energy intensive on the international market. We will analyze the impact of these countries' agricultural, environmental, energy and trade policies on U.S. consumers, producers, taxpayers and the public at large. We will then evaluate alternative policy structures that could meet the stated goals of the current policy regime at potentially lower costs to tax payers and the public at large. In addition, we will develop a set of potential policy instruments designed to achieve the stated policy goals with the least amount of taxpayer costs, or dead weight costs. Our analysis will account for the various political constraints that may be faced by policy-makers. U.S. agriculture can lose or does not benefit from particular policy combinations so we will evaluate U.S. competitiveness with own policy and policy of other countries.

ACCESSION NO: 0220254 **SUBFILE:** CRIS
PROJ NO: IOW05241 **AGENCY:** NIFA IOW
PROJ TYPE: AFRI COMPETITIVE GRANT **PROJ STATUS:** EXTENDED
CONTRACT/GRANT/AGREEMENT NO: 2010-65400-20434 **PROPOSAL NO:** 2009-04160
START: 15 JAN 2010 **TERM:** 14 JAN 2014 **GRANT YR:** 2010
GRANT AMT: \$360,396

INVESTIGATOR: Elobeid, A.

PERFORMING INSTITUTION:

Center For Agr & Rural Dev
IOWA STATE UNIVERSITY
1350 BEARDSHEAR HALL
AMES, IOWA 50011

AN ANALYSIS OF THE IMPACT OF BIOFUEL EXPANSION THROUGH LINKING OF AGRICULTURAL AND ENERGY MARKETS

NON-TECHNICAL SUMMARY: This project intends to further advance knowledge of the emerging market for biomass feedstocks, by looking at this market within the context of: (1) the broader agricultural market, (2) the broader energy market, and (3) the impacts on land productivity and the environment. This latter component is critical, because the demand for biofuels is currently being driven largely by mandates for renewable fuels that are intended to provide environmental benefits, such as reductions in lifecycle greenhouse gases. To the extent that these feedstocks have beneficial impacts on the environment, their prospects will be positive. Those feedstocks, on the other hand, that are unable to meet certain parameters for environmental performance, may be excluded from the emerging market for biofuels and bioenergy. This study will contribute to a better understanding of feedbacks between energy supply and agriculture production in the context of biofuel expansion, as well as the environmental consequences of this expansion due to increased land-based feedstock production. Two models will be integrated to achieve this objective: a U.S. agricultural model and an energy systems model. Additionally, a micro-based fine scale analysis will be conducted to determine the effect of biofuel expansion on land use and assess any environmental impacts. The outcomes of this project include the further development and refinement of a linked modeling framework for the analysis of the agriculture-energy-environment system, as it relates to the development of the biofuel markets, as well as the development and analysis of policy scenarios, which will have policy implications for a variety of stakeholders. Additionally, the study will contribute to the understanding of the environmental impacts of and limits to achieving certain biofuel production targets as it pertains to meeting the mandated amounts of biofuels from cellulosic feedstock. The knowledge that the project will generate will be disseminated to a wide audience. Since this project involves a close partnership with EPA, which is playing a major role in Federal biofuels policy, the project's results will clearly receive due consideration by Federal agencies. Specifically, we intend to disseminate the output of this project to Federal and state agencies that are responsible for the development and implementation of biofuel policy, farmers and farm groups that are interested in the production of both first and second generation feedstocks and their implications for their production systems, and to the ethanol industry, which is interested in the potential locations of biofuel processing plants. Results will be presented at professional and policy-oriented conferences, and will be published in scholarly journals in the areas of agricultural, energy and environmental economics. Results will also be disseminated through CARD technical reports, which have a wide audience and are available

on CARD's website. Finally, non-technical reviews will be submitted to the growing field of publications that are bridging the gap between academic journals and the general press.

OBJECTIVES: The objective of this project is to examine the feedbacks between agricultural production, energy supply, and environmental quality through the linkages brought about by the expansion of biofuels. The project has two components - one at the macro-level, and a second at the micro-level. At the macro-level, it addresses the need to analyze the impact of biofuels while incorporating the interactions between energy and agricultural markets, and investigates specifically how this interaction influences the development of the market for biomass feedstocks. At the micro-level, the project will assess land use and environmental impacts of biofuel expansion in general and of increased cellulosic-based biofuel production in particular. In terms of the latter, the project's aim is to investigate the economic viability of agricultural residue as a biofuel feedstock, to determine whether there are unintended environmental consequences in using this feedstock, to examine how these consequences may limit development of feedstock markets, and to put forth policy recommendations to mitigate the environmental impacts. This analysis will be achieved through an integrated modeling of energy systems and agricultural markets, which will allow us to analyze a range of scenarios regarding the role that biomass feedstocks from agricultural lands may have in an expanding market for bio-based fuels and energy. This addresses the objective of providing information to decision makers regarding the potential long-range improvement in and sustainability of U.S. agriculture and food systems. Moreover, by linking the macro-level analysis to the micro-scale analysis of production practices and environmental impacts, decision makers will be provided with relevant information regarding how to develop a sustained production system for biofuels and bioenergy feedstocks. The expected outcomes of this work will come in several forms. The first outcome is the further development and refinement of a linked modeling framework for the analysis of the agriculture-energy-environment system, as it relates to the development of the biofuel markets, and thus, the markets for diverse types of biomass feedstock from agricultural lands. The second outcome is the development and analysis of policy scenarios, which will have policy implications for a variety of stakeholders. A third outcome is an understanding of the environmental impacts of and limits to achieving certain biofuel production targets as it pertains to meeting the mandated amounts of biofuels from cellulosic feedstock. This is particularly important given that a major rationale behind our current biofuel policy is the hypothesis that these fuels - particularly second generation crops - have a variety of benign environmental attributes, from their net carbon footprint to lower fertilizer use and nutrient losses. Our study will allow a very fine grained, spatially detailed analysis of a variety of these effects.

ACCESSION NO: 0220266 **SUBFILE:** CRIS
PROJ NO: CONS-2009-04121 **AGENCY:** NIFA CONS
PROJ TYPE: AFRI COMPETITIVE GRANT **PROJ STATUS:** EXTENDED
CONTRACT/GRANT/AGREEMENT NO: 2010-65400-20440 **PROPOSAL NO:** 2009-04121
START: 01 JAN 2010 **TERM:** 31 DEC 2012 **GRANT YR:** 2010
GRANT AMT: \$199,248

INVESTIGATOR: Huang, R.; Lopez, R. A.

PERFORMING INSTITUTION:

Agri & Resource Economics
UNIV OF CONNECTICUT
STORRS, CONNECTICUT 06269

ADVERTISING TO CHILDREN AND FOOD CHOICES: IMPLICATIONS FOR PUBLIC POLICY

NON-TECHNICAL SUMMARY: Many urge regulating television food advertising to children to address fast-rising childhood obesity. However, scientific evidence on whether advertising contributes to obesity is weak, as previous studies largely failed to separate the effects of advertising on food choices from those of TV watching (e.g., reduced physical exercise). The proposed study is the first to tackle the identification problem head-on by directly examining how advertising to children affects their consumption of advertised foods, using a unique panel data set with detailed brand-level information on household purchases of candy products and related advertising aimed at children. The identification strategy exploits a natural experiment involving recent self-regulation programs curbing advertising to children by leading firms. The project has two objectives: (1) to empirically estimate how advertising impacts consumer preferences and choices, with an emphasis on advertising directed to children, in a structural model that distinguishes informative and persuasive advertising; and (2) to increase our understanding of how potential regulation schemes affect competition, industry structure, and consumer welfare, by considering firms' strategic responses to the interventions in a dynamic game framework. This project develops new models to enhance understanding of (1) changes in domestic consumer tastes and preferences and (2) changes in agribusiness structure and conduct and the ensuing public policy implications.

OBJECTIVES: The proposed project has four objectives: The first objective is to employ data from the U.S. industry of candy, gum and confectionery products to tackle the main difficulty of the obesity debate, the identification issue, by directly examining the impact of TV food advertising on children's consumption of the advertised foods. The second objective of the study is motivated methodologically but has great policy relevance. We attempt to distinguish empirically the informative and the persuasive roles of advertising. The distinction is important because the two different roles advertising plays can have radically different implications for consumer welfare and market outcomes. The third objective is to empirically investigate the relationship between advertising channels and advertising effects on consumers of different demographic groups. The fourth objective deals with the supply side effects of advertising regulations. The research seeks to study the immediate and long-term impacts of possible interventions in TV food advertising practice on industry competition and structure, which in turn would affect consumer welfare. This project can be divided into two phases, roughly corresponding to years 1 and 2, i.e., the demand effects of advertising (objectives 1-3) and the supply side effects (objective 4) as well as writing up publications. The demand

estimates would shed light on a number of interesting questions, such as how effective advertising to different age groups are in influencing households' decisions, whether past advertising fades quickly, and whether advertising makes consumers less sensitive to changes in prices. We would then be able to tell whether the self-regulation on advertising to children by the candy industry has succeeded in moving Americans towards healthier candy products. The project examines whether certain consumers, for example, lower income consumers, are more affected by the "obesity tax" than other consumers. This project estimates the effects of a selective ban on some media channels. On the supply side, the project generates new knowledge with respect to the impact of advertising restrictions on pricing and advertising strategies of firms.

ACCESSION NO: 0221913 **SUBFILE:** CRIS
PROJ NO: KS601644 **AGENCY:** NIFA KAN
PROJ TYPE: AFRI COMPETITIVE GRANT **PROJ STATUS:** EXTENDED
CONTRACT/GRANT/AGREEMENT NO: 2010-65400-20847 **PROPOSAL NO:** 2009-04126
START: 15 JUN 2010 **TERM:** 31 DEC 2012 **GRANT YR:** 2010
GRANT AMT: \$376,342

INVESTIGATOR: Tonsor, G.

PERFORMING INSTITUTION:
Agri Economics
KANSAS STATE UNIV
MANHATTAN, KANSAS 66506

EX POST IMPACT OF MCOOL: EXTENSIVE ASSESSMENT COMPARING NOVEL DEMAND ESTIMATION TECHNIQUES

NON-TECHNICAL SUMMARY: The United States implemented mandatory country of origin labeling (MCOOL) in September 2008. Given the controversial nature of MCOOL a range of ex ante economic impact assessments were conducted. However, no ex post evaluation has been completed. The economic impact of MCOOL hinges upon any value of the added label information to consumers. The value of MCOOL to consumers needs careful assessment in an ex post setting using novel estimation approaches as aggregate demand analyses is inadequate to determine value of such a newly enacted labeling law. Accordingly, the two core purposes of this research are 1) to provide an ex post evaluation of MCOOL and 2) to assess food demand methodological and data selection issues, and their impact on an MCOOL assessment. To accomplish these objectives, we will employ a multi-methods approach utilizing transaction data of meat purchases, as well as experimental economics methods involving in-store and online experiments with consumers. Our novel approach not only provides the first ex post economic impact assessment of MCOOL, but also contributes a robust evaluation of previously unexamined, but valuable meat demand estimation techniques. Given our focus on understanding the impacts of MCOOL, which are heavily influenced by United States consumer preferences, and evaluation of previously unexamined methodological issues in food demand analyses, this project directly addresses priority area #3 of the Agribusiness Markets & Trade program.

OBJECTIVES: In this project, Drs. Tonsor, Lusk, Taylor, and Schroeder will meet these objectives and fill existing knowledge gaps by a) estimating domestic meat demand adjustments induced by MCOOL; b) identifying the value of MCOOL information to consumers; c) investigating the impact of using alternative stated- or revealed-preference data sources; d) evaluating the impact of meat product separability assumptions; and e) exploring the importance of using quantity-weighted prices rather than traditionally used simple average prices in applied demand analyses. Accordingly, the two core purposes of this research are 1) to provide an ex post evaluation of MCOOL and 2) to assess food demand methodological and data selection issues, and their impact on an MCOOL assessment. We expect to find that MCOOL's impacts have been small and varied across product type. In particular, we anticipate most consumers are unaware of the regulation change and accordingly our estimates of MCOOL's value of information will not be sizeable. That said, these expected findings are difficult to forecast given the novelty of our ex post assessment and range of methodological considerations that previously have been omitted. Broader short-term outcomes include improvements in upcoming WTO discussions, more accurate discussions domestically on the effect of MCOOL and the

value in additional adjustments in its implementation, etc. Longer-term outcomes include improved understanding of the impacts of labeling regulation on consumers and the appropriateness of a range of food demand methods that have previously been used and imposed without formal evaluation for correctness.

ACCESSION NO: 0220428 **SUBFILE:** CRIS
PROJ NO: RIR-2009-04125 **AGENCY:** NIFA RI.W
PROJ TYPE: AFRI COMPETITIVE GRANT **PROJ STATUS:** EXTENDED
CONTRACT/GRANT/AGREEMENT NO: 2010-65400-20438 **PROPOSAL NO:** 2009-04125
START: 01 FEB 2010 **TERM:** 31 JAN 2014 **GRANT YR:** 2010
GRANT AMT: \$360,261

INVESTIGATOR: Uchida, H.; Johnston, R.; Tuler, S.

PERFORMING INSTITUTION:

Environmental and Natural Resource Economics
UNIVERSITY OF RHODE ISLAND
19 WOODWARD HALL 9 EAST ALUMNI AVENUE
KINGSTON, RHODE ISLAND 02881

**LONG-TERM HEALTH EFFECTS, RISK PERCEPTIONS, AND IMPLICATIONS FOR
AGRICULTURAL MARKETS: MODELING CONSUMPTION PATTERNS FOR
AQUACULTURED SEAFOOD**

NON-TECHNICAL SUMMARY: The goal of this project is to provide policymakers and industry with information necessary to promote more informed food choices among consumers - and in particular farmed seafood purchase behavior that reflects informed perceptions of long-term health risks and benefits. Project outputs of direct utility for industry and policymakers will include reports providing practical guidance regarding product differentiation as to the type, format and presentation of risk communication materials that are most likely to encourage an informed processing of health risk/benefit information among consumers when choosing among competing agricultural products, with particular emphasis on farmed seafood. Recommendations will be directly targeted at case-study aquaculture seafood products. Recommendations and presented models will also be designed for transferability to other agricultural products for which misperceptions of risks and benefits may influence consumer demand and detract from long-term competitiveness of US agriculture.

OBJECTIVES: To improve consumers' ability to make informed purchase decisions reflecting long-term risks and benefits of consuming farmed fish and shellfish from US producers. This will enable consumers to better differentiate and identify net consumption benefits related to US aquaculture products, thereby enhancing demand for these products, promoting healthful consumption, and improving competitiveness of the US aquaculture industry. Objectives include: 1) Develop conceptual and structural economic models relating (a) risk preferences and attitudes among consumer groups, (b) risk information/communication and (c) consumption choices for aquacultured seafood products. 2. Employ empirical models to forecast consumer behavior and test hypotheses addressing interactions among risk perceptions and attitudes, the availability and format of risk/benefit information, and farmed seafood consumption. 3. Apply research findings to evaluate the effects of different risk/risk communication approaches on consumer demand. Provide recommendations on effective risk communication approaches for use in marketing and promoting US aquaculture products.



**United States Department of Agriculture
National Institute of Food and Agriculture**

Agriculture and Food Research Initiative - Agricultural Economics and Rural Communities Program
Program Areas: Markets and Trade, Environment

Session 2 Summaries

January 30, 2013

1:00-3:00pm (EST)

ACCESSION NO: 0220175 **SUBFILE:** CRIS
PROJ NO: OKL02761 **AGENCY:** NIFA OKL
PROJ TYPE: AFRI COMPETITIVE GRANT **PROJ STATUS:** EXTENDED
CONTRACT/GRANT/AGREEMENT NO: 2010-65400-20432 **PROPOSAL NO:** 2009-04153
START: 01 JAN 2010 **TERM:** 31 DEC 2012 **GRANT YR:** 2010
GRANT AMT: \$140,034

INVESTIGATOR: Brorsen, W.

PERFORMING INSTITUTION:

Agri Economics
OKLAHOMA STATE UNIVERSITY
STILLWATER, OKLAHOMA 74078

**USING AGENT-BASED MODELS TO BETTER UNDERSTAND THE EFFECTS OF
CHANGES IN AGRIBUSINESS MARKET STRUCTURE**

NON-TECHNICAL SUMMARY: A long-time concern in livestock markets is that having few meat packers gives packers an unfair bargaining advantage and allows them to pay lower prices to producers. These lower prices are not equitable. They also represent inefficiency, since cattle are not priced at their true value. Market power also can reduce the quantity of output produced as well as increase its price to consumers or exporters. Reducing market power can clearly contribute to increasing the competitiveness of U.S. agriculture. The three specific objectives are related to (i) explaining why packers choose a bargaining strategy as opposed to just posting a price, (ii) determining the effects of mandatory price reporting, and (iii) determining the relative importance of the total number of buyers relative to the number of buyers at a local market. While the proposed research only has three specific objectives, we certainly hope to use the agent-based simulation model to study other market structure issues in the beef industry. The research will involve computer simulation of packers and feeders. The packers and feeders will select actions that give them the most profit. The market equilibrium that evolves is what is of interest. Ultimately, the research will attempt to provide a better understanding of the effects of market structure. The U.S. government has a role to play to assure that markets are competitive as possible. But, government intervention has also sometimes led to unintended negative consequences. By providing a better understanding of markets, hopefully the research can lead to more desirable policy choices.

OBJECTIVES: Long-Term Goal: The long-term goal is to provide a better understanding of the effects of changes in market structure on the competitiveness of markets. Specific Objectives: The specific objectives of this project are: 1. Determine when buyers choose a bargaining strategy as opposed to a posted-price strategy. 2. Determine the effects of mandatory price reporting on the relative market power of feedlot operators and beef packers. 3. Determine market equilibrium when market power is present both at the aggregate level and within local auction markets.

ACCESSION NO: 0220037 **SUBFILE:** CRIS
PROJ NO: WNZ-1397 **AGENCY:** NIFA WN.Z
PROJ TYPE: AFRI COMPETITIVE GRANT **PROJ STATUS:** EXTENDED
CONTRACT/GRANT/AGREEMENT NO: 2010-65400-20435 **PROPOSAL NO:** 2009-04161
START: 15 JAN 2010 **TERM:** 31 DEC 2013 **GRANT YR:** 2010
GRANT AMT: \$278,401

INVESTIGATOR: Eastin, I.; Ganguly, I.; MacLachlan, D.

PERFORMING INSTITUTION:

College Administration
UNIVERSITY OF WASHINGTON
SEATTLE, WASHINGTON 98195

MODELING ADOPTION AND DIFFUSION OF CERTIFIED WOOD IN THE US RESIDENTIAL HOUSING SECTOR

NON-TECHNICAL SUMMARY: The success of sustainable forest management program through eco-labeling of wood products is largely dependent on consumer confidence, awareness and willingness to use environmentally certified wood products? (ECWPs).

OBJECTIVES: To provide comprehensive understanding of the roles homebuilders and remodelers play in adoption and usage of ECWPs.

ACCESSION NO: 0220226 **SUBFILE:** CRIS
PROJ NO: CALY-CP-0903 **AGENCY:** NIFA CALY
PROJ TYPE: AFRI COMPETITIVE GRANT **PROJ STATUS:** EXTENDED
CONTRACT/GRANT/AGREEMENT NO: 2010-65400-20441 **PROPOSAL NO:** 2009-04141
START: 01 JAN 2010 **TERM:** 31 DEC 2012 **GRANT YR:** 2010
GRANT AMT: \$309,378

INVESTIGATOR: Hamilton, S.; Richards, T.

PERFORMING INSTITUTION:

Economics
CAL POLYTECHNIC STATE UNIV
SAN LUIS OBISPO, CALIFORNIA 93407

FARM-RETAIL PRICE TRANSMISSION IN MULTI-PRODUCT RETAIL ENVIRONMENTS

NON-TECHNICAL SUMMARY: Understanding how changes in farm prices transmit through the food system is essential to developing public policies that enhance the efficiency, equity, and competitiveness of the U.S. agribusiness sector. The U.S. agribusiness sector has become considerably more complex over the past several decades due to coincident rises in industrialization, market concentration, and product variety in the food system. Food processors and retailers have dramatically expanded the number of consumer goods derived from agricultural commodities, so that a single farm product, for instance corn, is a primary ingredient in a large number of consumer products. A rise in the price of an agricultural commodity is projected through an industrialized food system into an expanding array of downstream consumer prices. Understanding how changes in agricultural commodity prices are transmitted in an industrial food system depends on isolating the linkages between farm prices, retail product variety, and retail prices. We examine a multi-product agribusiness sector that interfaces with consumers by jointly selecting retail prices and the breadth of product variety derived from an underlying agricultural product. A rise in farm prices transmits through the agribusiness sector into higher consumer prices and a narrower breadth of product variety, and the efficiency and the distribution of rents in the food system are jointly determined by these price and variety outcomes. Higher farm prices that reduce product variety among goods derived from the farm product in turn raise retailer market power as narrower product ranges soften price competition between food retailers. The independent effect of farm prices on market power through product variety decisions places additional upward pressure on retail prices, and these effects to date have not been encompassed by empirical studies of farm-retail price transmission. Unprecedented volatility in agricultural commodity prices over the past several years offers a rare opportunity to empirically examine farm-retail price transmission in a multi-product food system. We construct a test that is capable of isolating how farm price changes transmit into retail prices and product variety and analyze supermarket conduct in several major U.S. markets.

OBJECTIVES: The primary objective of the proposed research is to determine the impact of agricultural commodity price changes on retail prices and breadth of product variety in the U.S. agribusiness sector. Our aim is to explore these effects, and isolate their independent influences, by examining consumer demand and marketing margins in major U.S. markets (Atlanta, Chicago, Dallas, Los Angeles and New York City) for food products sold in three important food categories: dairy products, fresh produce and ready-to-eat cereal. In completing this objective, we will provide: 1) estimated effects of agricultural commodity price changes on

the provision of product variety in food categories derived from the commodity; 2) estimates of retail demand elasticities at the household level for products within the above categories using retail scanner data covering a large number of markets throughout the U.S.; 3) estimated pass-through rates (both mean and standard deviation, or the pass-through of volatility) and marketing margins between food suppliers and retailers, and between retailers and consumers; 4) estimated deviations from competitive behavior (Bertrand Nash) for food suppliers and retailers, and the impact of commodity price inflation on estimated deviations; 5) estimated differences in consumer demand elasticities and likely responses to food price inflation by demographic segment: ethnicity, region, income and education and occupational status of the household head; 6) estimated linkages between farm prices, retail prices, and the number of retail goods; 7) simulated effects of assumed commodity-price inflation rates on food price inflation and reduced product variety, and changes in consumption patterns that result; 8) simulated effects on the size and distribution of surplus changes in the food system following a rise in commodity prices. The proposed research is targeted to provide valuable input to the debate surrounding: (i) the impact of higher agricultural commodity prices on food price inflation; (ii) the role of food processors in mediating farm price effects through changes in product variety and prices in downstream consumer markets; and (iii) the effect of farm price changes on the efficiency of markets, the competitiveness of domestic producers, and the distribution of economic surplus between farmers, food processors/retailers, and consumers in industrialized food systems. The expected output of the proposed research consists of a research report to be sent to AFRI-CSREES officials, at least two published research articles, and a comparable number of conference presentations. The first research paper, projected to be completed in December 2010, will combine the theoretical framework with the empirical estimation of the model, focusing on the price and product variety implications of the recent changes in agricultural commodity prices. The second research paper, projected to be completed in December 2011, will use the estimated results to calculate pass-through rates, and then characterize the implications of a rise in agricultural commodity prices on the size and distribution of surplus in the multi-product food system.

ACCESSION NO: 0220257 **SUBFILE:** CRIS
PROJ NO: ARZR-2009-04140 **AGENCY:** NIFA ARZW
PROJ TYPE: AFRI COMPETITIVE GRANT **PROJ STATUS:** EXTENDED
CONTRACT/GRANT/AGREEMENT NO: 2010-65400-20487 **PROPOSAL NO:** 2009-04140
START: 01 FEB 2010 **TERM:** 31 JAN 2013 **GRANT YR:** 2010
GRANT AMT: \$239,932

INVESTIGATOR: Richards, T.

PERFORMING INSTITUTION:
Morrison School of Management and Agribusiness
ARIZONA STATE UNIVERSITY
TEMPE, ARIZONA 85287

EQUILIBRIUM PRICING AND POSITIONING OF NEW FOOD PRODUCTS IN A SOCIAL NETWORK

NON-TECHNICAL SUMMARY: Developing and marketing innovative food products is essential to keep up with changing consumer tastes, sustain international competitiveness, and improve the efficiency of the agricultural marketing system. While there is large amount of research on the value of new products, there is little on key strategic problems faced by innovating firms: how to price and design new food products subject to social network, or interpersonal demand effects. The primary objective of the proposed research is to describe equilibrium pricing and design strategies in a multi-product, differentiated-product, vertical market characterized by social network effects. We use an explicitly spatial model in which manufacturers choose both the price and location in attribute space in a two-stage game-theoretic framework. Both stages are subject to indirect network effects through the interaction of individual demands. We estimate the model using experimental choice data on a hypothetical new breakfast cereal. The empirical model of demand explicitly considers each product's unique location in attribute space, and uses these results to simulate pricing and product design. Our results will provide stakeholders with critical insights into how pricing and design decisions are influenced by social network effects.

OBJECTIVES: The primary objective of the proposed research is to estimate equilibrium pricing and design strategies for new food products in a multi-product, differentiated-product market characterized by social network effects. By allowing for the effect of human interaction on the demand for a hypothetical new food product, we apply the behavioral economics paradigm to innovation in food supply networks for the first time. In order to achieve these objectives, in the proposed research, we will first construct a theoretical model of equilibrium price and attribute-design (location in attribute space) for differentiated food products sold in a differentiated-products oligopoly retail market. Second, we will specify a structural (demand and supply) econometric model of new food product demand, incorporating explicit definitions of social and attribute space, and estimate the model using spatial econometric methods. Our third objective is to design and implement a social network analysis experiment in order to generate willingness-to-pay data from a realistic test-bed environment for a series of new food products that differ in terms of their price and location in attribute space. Fourth, we will estimate the econometric model using the data generated from the social network analysis / choice experiment. With these results, our fifth objective is to conduct welfare simulations on the economic value (consumer surplus plus producer surplus) of the equilibrium pricing, design and social network effects described in this research. As a sixth objective, we also seek to estimate

the effect of demographic and socioeconomic attributes on equilibrium pricing, product design and social network effects in the development of local and other value-added food products. Finally, our seventh objective is to develop and recommend business and government strategies that will aid in the successful development and commercialization of value-added food products using the insights and methods developed in this research. In terms of expected results, we believe that successful achievement of these objectives will generate significant advances in: (1) the theoretical industrial organization literature on equilibrium price and product location, (2) the empirical literature on estimating price and location games, and (3) the social network literature on applications to the economics of product innovation. On a practical level, USDA, state departments of agriculture and emerging agribusinesses responsible for either designing and marketing new food products, or helping others to do so, will be better armed to make effective decisions with our research. Further, managers need to understand the role social networks can play in helping their product gain market share, and how they can use their marketing resources to exploit any social networks they may have access to.

ACCESSION NO: 0220126 **SUBFILE:** CRIS
PROJ NO: NC09797 **AGENCY:** NIFA NC.
PROJ TYPE: AFRI COMPETITIVE GRANT **PROJ STATUS:** TERMINATED
CONTRACT/GRANT/AGREEMENT NO: 2010-65400-20427 **PROPOSAL NO:** 2009-04096
START: 01 JAN 2010 **TERM:** 31 DEC 2012 **GRANT YR:** 2010
GRANT AMT: \$286,567

INVESTIGATOR: Vukina, T.; Zheng, X.

PERFORMING INSTITUTION:

Agricultural and Resource Economics
NORTH CAROLINA STATE UNIV
RALEIGH, NORTH CAROLINA 27695

ENTRY, EXIT AND MERGERS IN THE POULTRY SECTOR: EFFECTS ON CONTRACT GROWERS WELFARE AND INDUSTRY COMPETITIVENESS

NON-TECHNICAL SUMMARY: In the last decade, poultry industry has experienced tremendous increase in concentration mainly through mergers and acquisitions. Most of the standard literature examined mergers in a static setting and have not modeled an endogenous merger process. This is why the effects of exogenous shocks, such as a large increase in feed prices that peaked in summer of 2008, on industry dynamics have been poorly understood. Our proposed approach is based on the dynamic game-theoretic model where entry, exit and mergers are treated endogenously. We will empirically estimate the parameters of this model using the combination of the Agricultural Resource Management Survey (ARMS) and the Census of Manufacturers data. Rather than treating entry, exit and mergers as given, our approach would enable us to understand the impact of an increase in feed prices on firms' decision to expand, contract, merge or exit, thereby predicting the new equilibrium structure after a permanent or transitory exogenous shock has materialized. Second, we will analyze the impact of the endogenous change in industry structure on the the contract growers' welfare (number of growers and their payments). The number of contract growers will be determined by the firms' strategic decisions about varying the scale of processing capacities, whereas the contract payments will be determined in an oligopsony setting where the processing plants are competing on the regional market for grower services. Finally, we will analyze the impact of the endogenous change in the poultry industry structure on its global (export) competitiveness.

OBJECTIVES: The study has three main objectives: First, we will develop and empirically estimate a dynamic industry conduct model where entry, exit and merger decisions are endogenous. Rather than treating entry, exit and mergers as given, our approach would enable us to understand the impact of exogenous shocks, such as an increase in feed prices, on firms' decision to expand, contract, merge or exit, thereby predicting the new equilibrium industry structure after a permanent or transitory exogenous shock has materialized. Second, we analyze the impact of the endogenous change in industry structure on the the contract growers' welfare (number of growers and their payments). The number of contract growers is determined by the firms' strategic decisions about varying the scale of processing capacities, whereas the contract payments are determined in an oligopsony setting where the processing plants are competing on the regional market for grower services. Finally, we analyze the impact of the endogenous change in the poultry industry structure on its global (export) competitiveness. This will allow us to answer the question whether an exogenous increase in feed prices would create an industry structure whose aggregate average cost of producing poultry meat normalized by

the price of feed will increase or decrease. The project should generate research output of one Ph.D. dissertation and several important policy papers.



**United States Department of Agriculture
National Institute of Food and Agriculture**

Agriculture and Food Research Initiative - Agricultural Economics and Rural Communities Program
Program Areas: Markets and Trade, Environment

Session 3 Summaries

February 7, 2013

2:00-4:00pm (EST)

ACCESSION NO: 0220092 **SUBFILE:** CRIS
PROJ NO: IDA00904-CG **AGENCY:** NIFA IDA
PROJ TYPE: AFRI COMPETITIVE GRANT **PROJ STATUS:** EXTENDED
CONTRACT/GRANT/AGREEMENT NO: 2010-65400-20431 **PROPOSAL NO:** 2009-04135
START: 01 DEC 2009 **TERM:** 30 NOV 2013 **GRANT YR:** 2010
GRANT AMT: \$399,331

INVESTIGATOR: Devadoss, S.

PERFORMING INSTITUTION:
Agri Economics & Rural Sociol
UNIV OF IDAHO
MOSCOW, IDAHO 83843

TRADE IN INTERMEDIATE AND FINAL PRODUCTS: POLICY IMPACTS IN APPLE AND JUICE MARKETS

NON-TECHNICAL SUMMARY: World apple and juice trade has steadily grown over the years; however, U.S. apple and juice exports and domestic consumption have remained stagnant relative to production. Consequently, U.S. apple prices have been depressed in recent years. Since the United States is a mature market, increasing exports to foreign markets is crucial to the profitability and long-run sustainability of the apple industry. However, U.S. apple and juice exports face unfair competition from other exporters and are also affected by trade barriers imposed by importers. A full understanding of the effects of foreign countries' policies on U.S. apple and juice markets is vital to the future of the industry. Objectives of this project are to a) theoretically specify and empirically estimate apple supply, juice production, and apple and juice demand for 32 countries/regions, b) theoretically analyze the impacts of tariffs and production subsidies on apple and juice markets, c) develop a large-scale trade model for world apple and juice markets and analyze the effects of trade barriers on U.S. supply, demand, exports, and prices, d) examine Chinese export competition using a strategic trade policy framework, e) analyze the implications of the ASEAN and MERCOSUR preferential free trade agreements, and f) investigate the effects of the Free Trade Agreement of America and U.S.-Chile free trade. This project addresses priority #2. provide knowledge to increase market access and reduce trade impediments, and #3. develop new models and theories to assess domestic and foreign consumer tastes and preference.

OBJECTIVES: The goals of this project are to analyze the impacts of import barriers, China's dominance, regional trade agreements, emerging trade agreements, and new market potential for U.S. apple and juice products. The specific objectives are to: 1) theoretically specify and empirically estimate perennial crop supply function for major apple producing regions, 2) estimate apple juice production for major producing regions, 3) theoretically specify and empirically estimate apple and juice demand for all important consumption regions, 4) analyze theoretically the impacts of tariffs and production subsidies on apple and juice markets using an intermediate and final good trade model, 5) develop a large-scale mixed complementary problem (MCP) model for the world apple and juice markets by including major exporters and importers and by incorporating trade distorting policies and transportation costs, 6) analyze the effects of importing countries' tariffs on U.S. apple and juice supply, demand, trade, and prices, 7) analyze export market competition arising from Chinese dominance in the world apple and juice markets using a strategic trade policy framework, 8) examine the implications of the ASEAN preferential trade agreement on U.S. and world apple and juice markets, 9) study the implications of the

MERCOSUR preferential trade agreement on U.S. and world apple and juice markets, 10)investigate the effects of the U.S.-Chile free trade agreement on bilateral and world apple trade, and 11)analyze the impacts of the proposed FTAA on U.S. and world apple and juice markets.

ACCESSION NO: 0220118 **SUBFILE:** CRIS
PROJ NO: ORE00610 **AGENCY:** NIFA ORE
PROJ TYPE: AFRI COMPETITIVE GRANT **PROJ STATUS:** EXTENDED
CONTRACT/GRANT/AGREEMENT NO: 2010-65400-20444 **PROPOSAL NO:** 2009-04144
START: 15 JAN 2010 **TERM:** 14 JAN 2013 **GRANT YR:** 2010
GRANT AMT: \$239,415

INVESTIGATOR: Gopinath, M.; Buccola, S.; Reimer, J.

PERFORMING INSTITUTION:

Agricultural and Resource Economics
OREGON STATE UNIVERSITY
CORVALLIS, OREGON 97331

TRADE COSTS AND BUSINESS DYNAMICS IN U.S. PROCESSED FOOD INDUSTRIES

NON-TECHNICAL SUMMARY: We propose investigating the spatial pattern of business entry, exit, and job creation in the U.S. processed food industry. In particular, we seek to identify the role of declining international trade costs, especially reduced tariffs and transportation costs, on food processing firms' decision to enter, exit, and create jobs at the county level. Recent studies of firm heterogeneity predict declining trade costs will boost industry productivity, but that the accompanying death of low-productivity plants will reallocate resources to high-productivity firms. However, such predictions are space-blind because they fail to account for the location of low- and high-productivity enterprises and hence, for the spatial consequences of resource shifts. The locational aspects of any resource allocation in fact have important consequences for regional and rural development. Our major objectives therefore are to: (i) identify the spatial pattern of business dynamics in U.S. food industries, with emphasis on employment and job creation; and (ii) quantify declining trade costs' impacts on business dynamics and employment in U.S. food industries, and the consequences of those impacts on rural welfare. We propose first to employ the Business Dynamics Database of the U.S. Census Bureau to identify county-level entry, exit, and job creation rates in each major U.S. industry. Second, we will survey the economic development officials in food-manufacturing-intensive counties to quantify food industry entry, exit, and job creation patterns in recent years. Third, spatial econometric techniques will be used in conjunction with the survey data to estimate plant entry and exit decisions, and their associated employment effects, controlling for county and industry characteristics. Finally, we will derive the county-level welfare consequences and resource relocations of these employment shifts. Decomposing employment growth in such manner into trade-cost and non-trade-cost components will inform a more region-specific trade adjustment and development policy.

OBJECTIVES: Expanding global trade opportunities boost average profitability in particular food industries, raising the minimum productivity necessary for a firm to survive in that industry. International trade therefore contributes to U.S. welfare and to the health of the U.S. agricultural economy. However, policy must take account of losers as well as winners. In particular, understanding where low-productivity firms are located, how rapidly they exit in response to declining trade costs, and to what extent resources are reallocated toward high-productivity firms, is an important element of regional and rural development. The objectives of our study therefore are to: 1. Identify the spatial pattern of business dynamics in U.S. food industries, focusing on plant entry, exit, and job creation. 2. Estimate U.S. food processors' inter- and intra-national trade costs, especially those associated with transportation distance and policy

barriers. 3. Quantify the impacts of falling trade costs - especially of trade liberalization - on the spatial patterns of food business dynamics. 4. Examine resulting intra-industry resource reallocations, with particular reference to trade's effects on food industry employment and job creation, and the implications of such effects for U.S. rural welfare. In the first three quarters of the first year, we plan to: (i) Deepen our review of literature on firm heterogeneity (productivity), trade costs and regional/rural development, (ii) Identify graduate student/research assistant, (iii) Re-examine and further develop a theoretical model generating firms' entry and exit/survival depending on trade costs and their spatial distribution, (iv) Complete the survey instrument, get approval from the Institutional Review Board and implement a pilot/test survey, (v) Obtain pilot/test survey feedback, refine and finalize the survey instrument to focus on food industries, and (vi) Sampling of counties for survey based on exit and entry data from the Census Bureau's Business Dynamics Database (county data). During the last quarter of the first year and the first quarter of the second year, we are planning to: (vii) Mail surveys and follow up by phone, (viii) Collect necessary county-level data for empirical analysis, (ix) Construct trade cost indicators using information on trade, tariffs, distance, freight rates and others, (x) Complete the development of the theoretical model and use it to set up estimable equations for entry, exit/survival and net job creation, and (xi) Complete data collection. The last three quarters of the second year would be devoted to: (xii) estimation of trade-cost induced changes in food firms' entry, exit/survival and net job creation, (xiii) Complete the empirical model and policy analysis, (xiv) Summarize the results and prepare manuscripts, (xv) Communicate the results to academic audience, policymakers and rural communities, and (xvi) Prepare final project report. Project outputs include survey activities, participation in conferences, symposia and other events, developing products such as databases, methods or techniques, policy information and training graduate students.

ACCESSION NO: 0220323 **SUBFILE:** CRIS
PROJ NO: VAW-2009-04137 **AGENCY:** NIFA VA.W
PROJ TYPE: AFRI COMPETITIVE GRANT **PROJ STATUS:** EXTENDED
CONTRACT/GRANT/AGREEMENT NO: 2010-65400-20437 **PROPOSAL NO:** 2009-04137
START: 15 JAN 2010 **TERM:** 14 JAN 2013 **GRANT YR:** 2010
GRANT AMT: \$209,627

INVESTIGATOR: Grant, J. H.; Peterson, E. B.; Roberts, D. H.; Orden, D.

PERFORMING INSTITUTION:

Agricultural & Applied Economics
VIRGINIA POLYTECHNIC INSTITUTE
BLACKSBURG, VIRGINIA 24061

ASSESSING THE IMPACT OF STANDARDS AND REGULATIONS ON U.S. FRUIT AND VEGETABLE EXPORTS

NON-TECHNICAL SUMMARY: This proposal seeks to understand how SPS regulations affect the international competitiveness of U.S. fruits and vegetables - one of the most important and fastest growing agricultural export sectors over the last decade. This project provides an important step in this regard by constructing a novel dataset that maps detailed qualitative information on regulatory regimes from the EXCERPT database into well defined variables for use in empirical economic analyses and develops a concordance between product line SPS regulations with US fruit and vegetable export flows. Supporting documentation will be sought from a number of other sources (e.g., U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS), USDA's Agricultural Trade Advisory Committee (ATAC), and industry representatives). Impacts and outcomes from the project include knowledge to enhance economic efficiency and equity in the U.S. agribusiness sector, a database and empirical methods to support research that builds international market opportunities and avenues to provide economic analysis to assist with new product development. The project will enhance understanding of the changes in agribusiness structure and conduct as well as its effectiveness in the development of markets at home and abroad. The project outputs will provide knowledge to increase market access and reduce trade impediments for major agricultural products and the results will inform producers, policy-makers and agribusiness firms to formulate relevant approaches that address the adoption of SPS regulations in partner countries.

OBJECTIVES: Sanitary and phytosanitary (SPS) measures play a prominent role in agricultural markets because of the sensitive nature of issues such as food safety and the protection of plant and animal health from pest and disease risks. While there is a growing body of literature assessing the impacts of SPS regulations on international trade and whether these regulations are "standards as barriers" or "standards as catalysts," there is insufficient empirical evidence to determine how SPS measures affect the competitiveness of U.S. fruit and vegetable exports. The specific goals and objectives of this project are: (i) to construct a comprehensive empirical database that maps SPS measures to U.S. export flows by product, importer and year; (ii) to investigate how existing SPS regulations affect the structure and composition of U.S. fruit and vegetable exports and to determine what types of SPS treatments matter in affecting the competitiveness of U.S. exports; and (iii) to investigate the extent to which the adoption of international standards has lowered the costs of regulatory compliance for U.S. exporters in selected instances as envisioned under the terms of these international agreements. Expected outputs include: Activities - construction and documentation of a comprehensive database of

SPS measures affecting U.S. exports of select fruits and vegetables; specification and estimation of empirical econometric models to evaluate the effects of SPS measures on U.S. export flows; analyzing and interpreting results. Service - Results from this proposal, including the development of the database, will be widely applicable to industry stakeholders as well as academic and other researchers conducting empirical analyses of SPS regulations impacting some of the most important and historically sensitive U.S. fruit and vegetable exports. Events - presentations at conferences and organized symposiums. Products - SPS database, empirical models suitable for analysis; project report and/or graduate student thesis

ACCESSION NO: 0220722 **SUBFILE:** CRIS
PROJ NO: ND05233 **AGENCY:** NIFA ND.
PROJ TYPE: AFRI COMPETITIVE GRANT **PROJ STATUS:** EXTENDED
CONTRACT/GRANT/AGREEMENT NO: 2010-65400-20489 **PROPOSAL NO:** 2009-04130
START: 01 FEB 2010 **TERM:** 31 JAN 2014 **GRANT YR:** 2010
GRANT AMT: \$299,542

INVESTIGATOR: Wahl, T.

PERFORMING INSTITUTION:

Agribusiness and Applied Economics
NORTH DAKOTA STATE UNIV
FARGO, NORTH DAKOTA 58105

URBAN FOOD CONSUMPTION PATTERNS AND TRENDS IN CHINA: IMPLICATIONS FOR U.S. EXPORTERS AND INTERNATIONAL AGRICULTURAL MARKETS

NON-TECHNICAL SUMMARY: Increasingly prosperous and busy consumers in China are consuming fewer food grains and choosing more dairy, fruits, vegetables, meat, food away from home and processed foods. The emerging market for these products is large and growing rapidly, with 600 million urban consumers whose choices are influenced by quality and opportunities to dine out. With projected middle class growth and demographic changes in China over the next 20 years, these trends hold significant opportunities for U.S. food exporters. Despite the importance, there is an acute lack of information on consumption patterns, trends in China, and their underlying economic determinants, leaving U.S. agricultural interests with few means to identify market opportunities. To improve our understanding of consumption patterns and trends in urban China, we propose to collect primary data from urban households on food consumption at and away from home over a 7-day period, along with other economic, social and demographic information, and information on how they make food consumption choices, and convert the reported foods into commodity equivalents. We will conduct a wide variety of descriptive and econometric analysis with this data to understand patterns and determine how these patterns change as economic, social, and demographic variables change. These estimates will be incorporated into trade models to forecast the how future changes in the economic, social and demographic variables will affect international markets. This project will improve U.S. agricultural interests' ability to assess the potential for promoting U.S. products in China and understanding of overall consumption of agricultural commodities in China.

OBJECTIVES: Objective 1: Understand Consumer Behavior in Urban China - This includes i) empirically evaluating the extent and determinants of consuming convenience and processed foods at home, consuming food away from home, and shopping at supermarkets; ii) assessing with empirical models how consumers evaluate the safety and quality of food, including brand reputation, certification, and shopping venue; and iii) evaluating the extent to which convenience, quality, safety, and nutrition affect food choice . Objective 2: Assess and Forecast Aggregate Demand for Key Commodities - This includes i) determining the levels of and demand for livestock products, edible oils, starches, sweeteners, fruits, and vegetables that comprise the foods consumed at and away from home; and ii) identifying how future income growth and urbanization in China will affect the demand for these commodities, their inputs, and international markets.

ACCESSION NO: 0220194 **SUBFILE:** CRIS
PROJ NO: INDW-2009-04101 **AGENCY:** NIFA INDW
PROJ TYPE: AFRI COMPETITIVE GRANT **PROJ STATUS:** EXTENDED
CONTRACT/GRANT/AGREEMENT NO: 2010-65400-20430 **PROPOSAL NO:** 2009-04101
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AGRICULTURAL MARKET STRUCTURE AND CONDUCT, AND ROBUST MARKET AND CONTRACT DESIGN

NON-TECHNICAL SUMMARY: This proposal responds to the Agribusiness Markets and Trade program priority of enhancing the understanding of the changes in agribusiness structure and conduct, as well as its effectiveness in the development of markets. This project will use cutting edge methods from economic theory and algorithmic game theory to design and test robust contractual trading mechanisms (rules) that promote efficiency (value-creation) while imposing constraints on rent-seeking (see below). An obvious application is in agricultural contracting markets where there is a perceived imbalance of market power between integrators and growers. Recent research has shown that in contracting environments with unbalanced market power, the stronger party will typically offer highly discretionary contracts that are stacked in favor of the strong party. While these contracts do not necessarily decrease efficiency, they can be used to extract profits from the weaker party without creating efficiency gains (rent-seeking). Recent research has shown that, in the absence of efficiency losses, standard economic theory would treat rent-seeking as a distributional issue. However, in practice, rent-seeking can create political pressure to regulate which can indirectly reduce the competitiveness of U.S. agriculture. Our goal of creating contractual and bargaining mechanisms that are robust to rent-seeking can provide model private strategies that can be used to preempt pressures to regulate. Even in cases where regulation is unavoidable, our goal is to create efficient rent-seeking proof mechanisms that can provide benchmarks by which new regulatory proposals can be measured.

OBJECTIVES: This project proposes to combine cutting edge methods from the fields of contract theory, mechanism design, and algorithmic game theory to design and test robust contractual and trading mechanisms. The overall goal is to design mechanisms that simultaneously promote efficiency and are robust to rent-seeking behavior in contracting environments where there is an imbalance of market power. An obvious application for these ideas is in agricultural contracting markets where there is perceived imbalance of market power between processors/integrators and growers. The project director's previous research has shown that in contracting environments with unbalanced market power, the stronger party will typically offer highly discretionary contracts that are stacked in favor of the strong party. These discretionary contracts are a double edged sword - on the one hand, they can mitigate agency conflicts and improve efficiency, but on the other hand, they can be used to extract rents from the weaker party without creating efficiency gains. With this in mind, the goals of this project are threefold. The first objective is to design robust contracts and market trading mechanisms. The mechanisms must be robust against ex post rent-seeking and must incorporate bargaining rules

that optimize the probability of acceptance so as to maximize ex ante efficiency (ex ante efficiency increases when more people are willing to conduct trades). Another desirable property of any practical contract or mechanism is that it must be reasonably simple and be robust across different information assumptions. It would be desirable to create contractual mechanisms that are not excessively sensitive to assumptions about what participants know so that the performance of the mechanism does not "crash" if the designer misspecifies the contracting environment. Theoretical designs typically do not guarantee sensible real world contracts and mechanisms. Therefore, the second objective of this proposal is to complement the theoretical designs with other tools such as experimental economics. Experimental economics relies on laboratory experiments with human subjects to test the validity of the contracts in a controlled environment stripped of other complicating factors. A successful contract should, at minimum, pass the laboratory test to ensure that its basic incentive and robustness properties can survive a simple market test. If these contracts do not work as predicted in the laboratory, then they will be modified accordingly. While laboratory experiments can provide important insights, recent literature suggest that laboratory results may deviate from results obtained in naturally occurring settings. Therefore, the third objective of this research is to test theoretical mechanisms using field experiments.