

# **Agricultural and Environmental Sciences Students' Views of U.S. Food and Agricultural Policy**

NACTA/DOCE Conference

University of Wisconsin- River Falls

June 27, 2012



# Authors and Acknowledgements

Kyle W. Ferrell and Foy D. Mills, Jr., Ph.D.

Agricultural and Environmental Sciences

Abilene Christian University

Brenna Ellison, Ph.D.

Agricultural and Consumer

Economics

University of Illinois



## Acknowledgements

Jason Lusk, Ph.D., Agricultural Economics, Oklahoma State University

Ed Brokaw, Ph.D., Agricultural and Environmental Sciences, Abilene Christian University



# Context

- Limited agricultural literacy among students
- The powerful collision of an election year and agriculture policy development
- Changing demography of A&E students as ACU has concentrated recruiting in urban areas as rural populations decline
- Current domestic and international economic conditions (i.e., federal budget pressure)
- Taxpayer preferences and budget allocation reality
- Actions/implications- first time voters



# Objectives

- Identify unique demographic characteristics of entering A&E students relative to ACU non-science majors (sample of general population)
- Measure entering A&E students' views compared to the control group of ACU non-science majors regarding:
  - Most important role of USDA
  - Preferences for allocating USDA's budget
- Compare and contrast ACU student responses to those of the national electorate



# Review of Literature- Literacy

- Limited agriculture knowledge among freshmen surveyed at West Virginia University including freshmen agriculture majors (Pfeifer, 2011)
- Freshmen surveyed at Texas State University- San Marcos scored only 50.39% on the Food and Fibers Systems Literacy student assessment for grades 9-12...raises concerns about voting, future policy makers, etc. on food and agriculture issues (Keith, 2007)
- Most positive impacts of an introductory agricultural education on agricultural literacy and perceptions of agriculture among urban secondary students was improved understanding of public policy (Riedel, 2006)



# Review of Literature- Public Policy

- Benefits to farmers based upon USDA budget spending vastly differ in rate of return (Alston, 2009)
- Large majority of taxpayers support subsidies to farmers to ensure secure food supply (Ellison et al., 2010)
- Relatively small share, 22% of USDA budget devoted to direct farm support in 2008 (Ellison et al., 2011)
- Farmers effectively play politics of the minority (Knutson et al., 2007)
- Four out of 10 first time voters fail to identify with a political party (Harvard, 2004)



# Methods and Procedures

## Survey Development

- National survey
  - Survey instrument developed by Ellison and Lusk
  - Web-based survey administered by Knowledge Networks (KN) in July 2009
  - KN maintains a probability-based survey pool representative of national electorate
  - Approx 20 questions, average response time- 10 minutes
- ACU (modified survey)
  - Adjusted demographic questions
  - Simplified one segment in response to sample size
  - Gained approvals through ACU IRB



# Methods and Procedures

## Survey Administration

- Selected comparison groups
  - AENV 110- introductory course for entering A&E majors (n=37)
  - AENV 130- introductory science course choice for non-science majors (sample of general population) (n=33)
- Students informed of survey opportunity
- Chose to participate by signing consent form
- Surveys administered within first 15 minutes of class during week 4 of fall 2011 semester
- Two subsets of the survey (one with, one without 2008 USDA budget allocations) were randomly distributed to both groups





# Methods and Procedures

## Sample Survey Excerpt

**Which category of the United States Department of Agriculture (USDA) budget do you believe is *most important*?** (Please check only one box.)

- Farm Support*** – includes farm and commodity programs (direct payments, price supports), crop insurance fund, etc.
- Food Assistance*** – includes Food Stamp Program, Women, Infants, and Children (WIC), School Lunch Program, etc.
- Food Safety and Inspection*** – includes Food Safety and Inspection Service, Animal and Plant Inspection, Grain Inspection, etc.
- Natural Resources and Environment*** – includes Natural Resource Conservation Service, National Forest System, etc.
- Research and Education*** – includes Agriculture Research Service, cooperative state research, education, extension, etc.
- Rural Development*** – includes loans and grants for rural utilities, housing, and businesses



# Methods and Procedures

## Sample Survey Excerpt

| USDA Budget Component   | Dollars Given (\$) |
|---|--------------------|
| <b>Farm Support</b> – includes farm and commodity programs (direct payments, price supports), crop insurance fund, etc.           | \$_____.           |
| <b>Food Assistance</b> – includes Food Stamp Program, Women, Infants, and Children (WIC), School Lunch Program, etc.              | \$_____.           |
| <b>Food Safety and Inspection</b> – includes Food Safety and Inspection Service, Animal, Plant, and Grain Inspection, etc.        | \$_____.           |
| <b>Natural Resources and Environment</b> – includes Natural Resource Conservation Service, National Forest System, etc.           | \$_____.           |
| <b>Research and Education</b> – includes Agriculture Research Service, cooperative state research, education, and extension, etc. | \$_____.           |
| <b>Rural Development</b> – includes loans and grants for rural utilities, housing, and businesses                                 | \$_____.           |



# Methods and Procedures

## Data Analysis

- Data inputted into Microsoft Excel 2010
- Excel 2010 data analysis package used for statistical investigation.
  - Descriptive statistics
  - Means/standard deviations
  - ANOVA
  - Paired t-test
- $P=0.10$  was used to measure significant difference due to nature of data, establishing a 90% confidence level



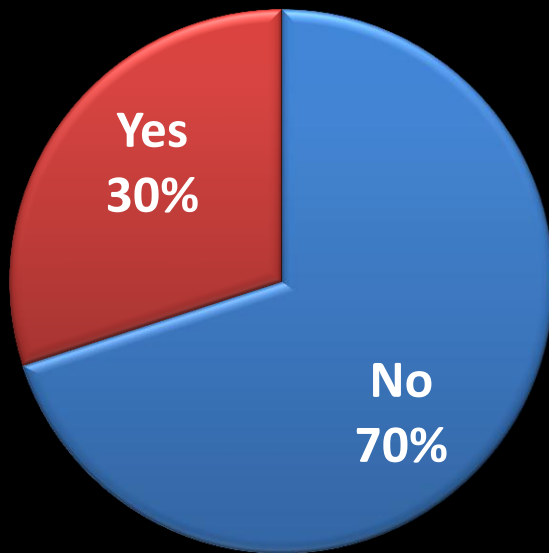
# Results and Discussion

- Demographics (selected)
- Priority USDA category
- Budget category allocations

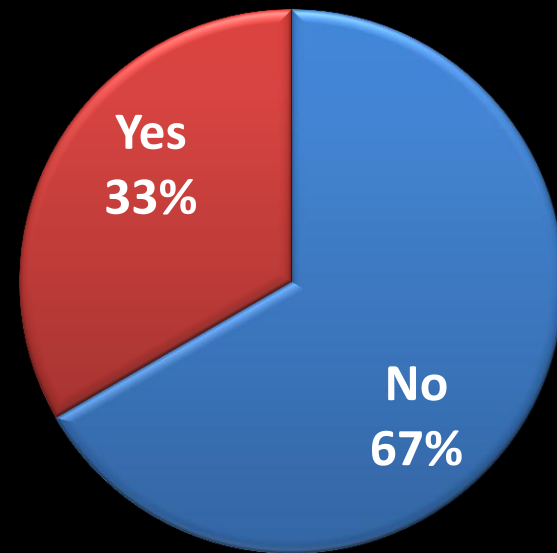


# Demographics-Family Agriculture

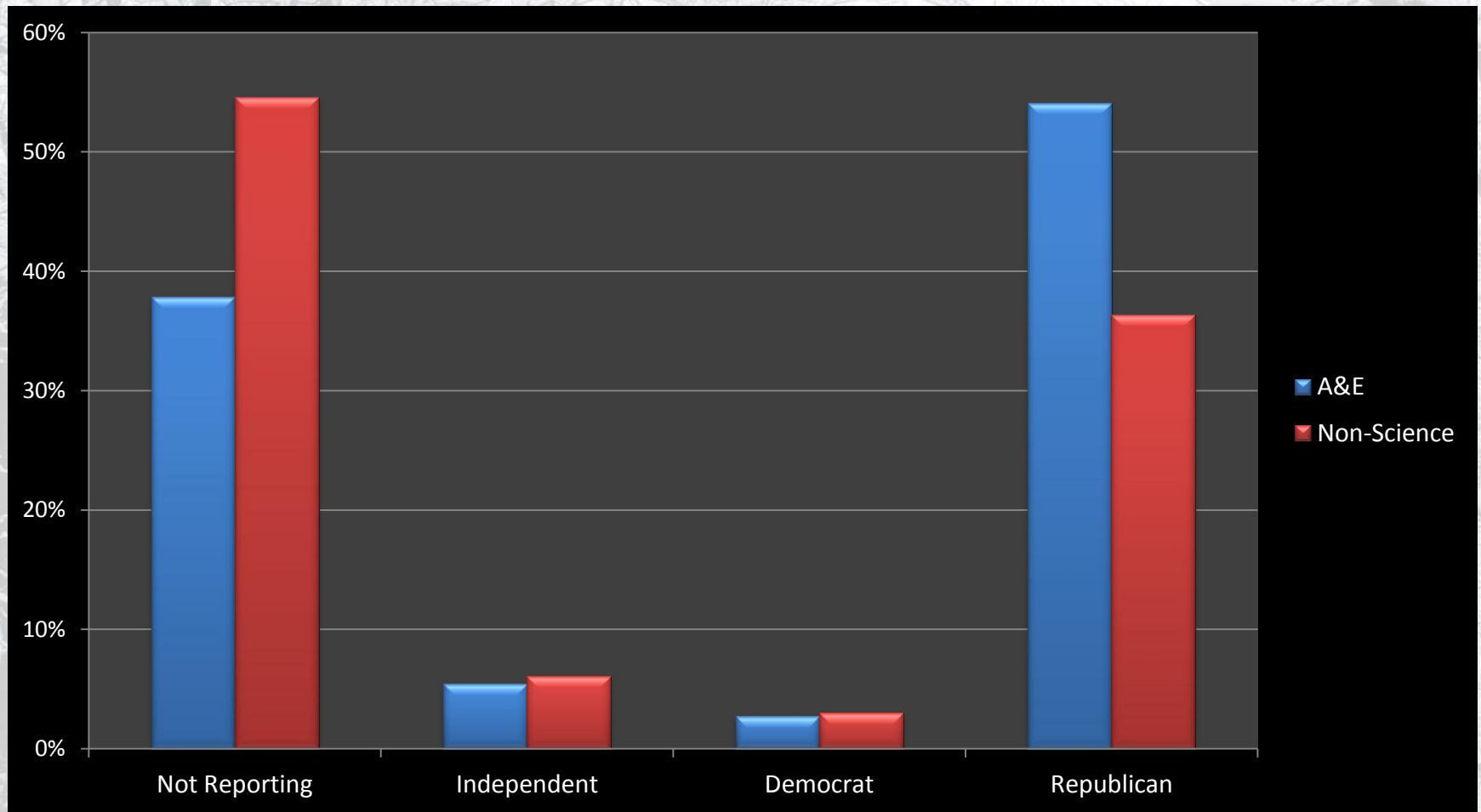
**A&E Student's Family Involvement in Agriculture**

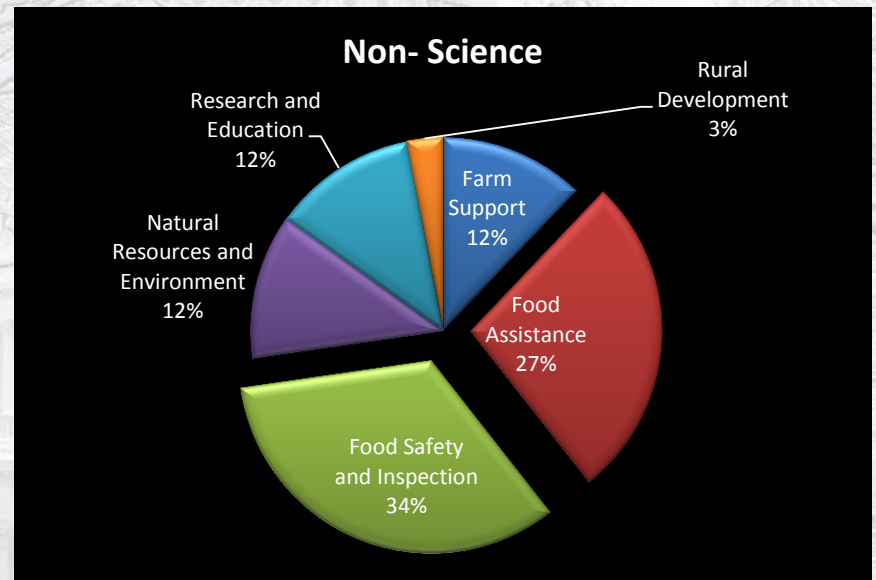
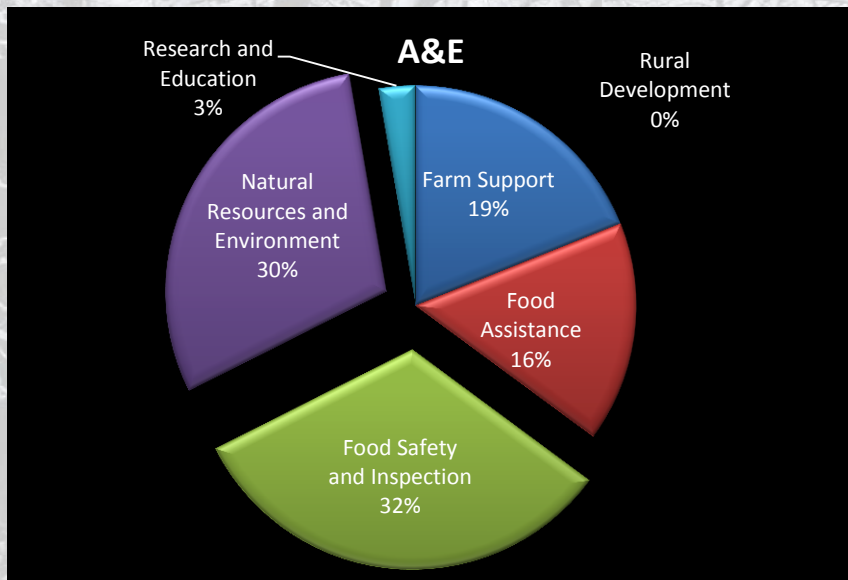
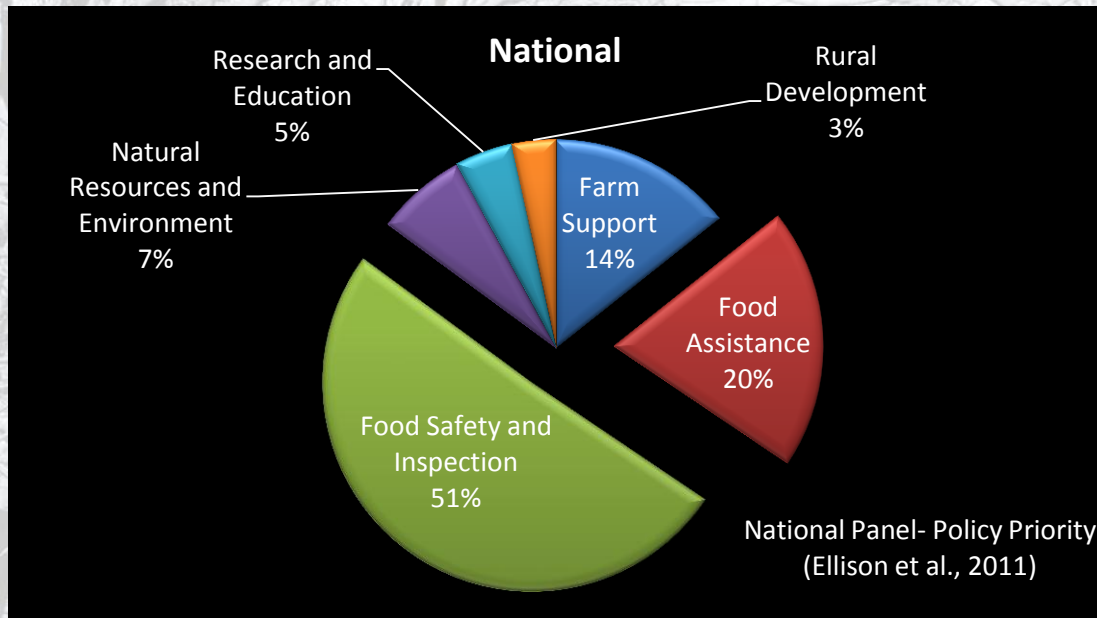


**Non-Science Student's Family Involvement in Agriculture**



# Demographics-Political Views





**A&E—Non-Sci, ANOVA, P=0.0736**



# USDA Budget Allocation

## A&E—Non-Sci, ANOVA, P=0.0283

| USDA Budget Component              |                  |          |         |         |         |         |         |
|------------------------------------|------------------|----------|---------|---------|---------|---------|---------|
|                                    | Actual<br>(2008) | National |         | A&E     |         | Non-Sci |         |
|                                    |                  | W/out    | With    | W/out   | With    | W/out   | With    |
| Farm Support                       | <b>\$22.03</b>   | \$15.82  | \$17.94 | \$18.67 | \$17.74 | \$19.48 | \$16.62 |
| Food Assistance                    | <b>\$60.40</b>   | \$20.54  | \$28.43 | \$15.83 | \$32.58 | \$16.04 | \$26.82 |
| Food Safety &<br>Inspection        | <b>\$3.14</b>    | \$30.07  | \$24.72 | \$18.39 | \$17.95 | \$20.10 | \$16.60 |
| Natural Resources<br>& Environment | <b>\$8.27</b>    | \$13.06  | \$11.61 | \$23.11 | \$11.89 | \$15.73 | \$15.04 |
| Research &<br>Education            | <b>\$2.97</b>    | \$11.44  | \$9.04  | \$13.39 | \$11.42 | \$15.73 | \$14.25 |
| Rural<br>Development               | <b>\$3.19</b>    | \$9.08   | \$8.25  | \$10.61 | \$8.42  | \$12.92 | \$10.66 |





# Summary

- ACU students agree with national electorate regarding policy priority of food safety and inspection, yet at a significantly lower rate
- Second policy priority shifts for A&E majors to natural resources and the environment compared to ACU non-science students and the national sample who both chose food assistance
- USDA budget allocations among the six categories differ significantly among the three sample groups
- Taxpayer preferences continue to differ from actual USDA budget allocations



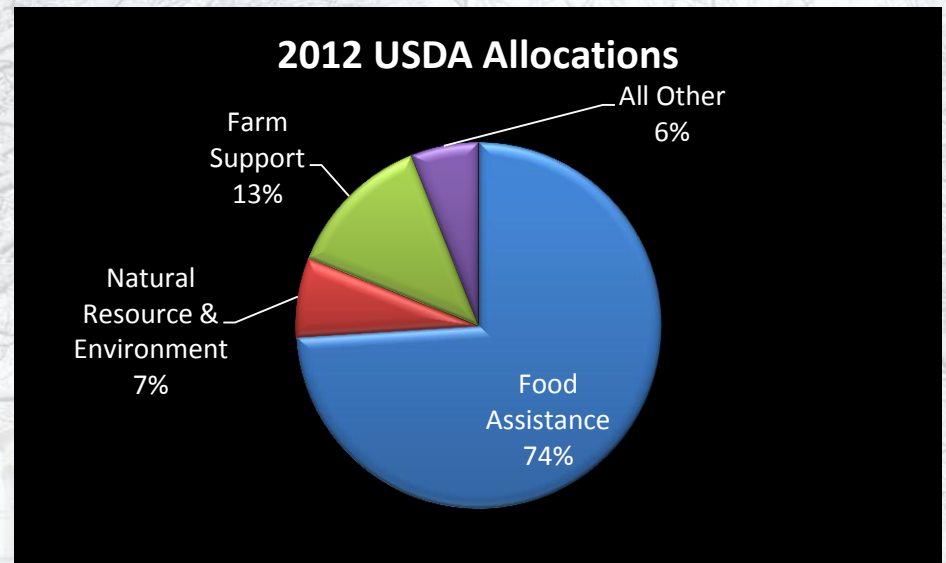
# Implications

- Though ACU students' chose the same USDA budget priority, food safety and inspection, as did the national sample, other budget areas were almost as important to ACU students (e.g., natural resources)
- Additionally, as new voters and current/future taxpayers, ACU students chose to allocate USDA funds differently than national sample
- Almost 40% of A&E majors and over 50% of ACU non-science majors noted no political affiliation
- Given these tendencies, if ACU students approximate even some portion of emerging voters, different national priorities may be pushed for and established by voting patterns



# Implications

- The gap continues to widen between taxpayer preferences and actual USDA allocation
- Special interests groups continue to practice the politics of the minority influencing USDA spending



# Areas for Additional Research

- Political affiliation and voting patterns among Millennials
- Importance of natural resources and environment budget allocations among A&E majors
- Why A&E majors rank the importance of budget allocations to research and education so low
- Interest groups lobbying power relative to USDA expenditure





Thank You



# Questions

