Sampling
Interview Team

Biofuels and Climate Change: Farmers' Land Use Decisions Research Symposium
University of Kansas, Lawrence, KS
August 25, 2011
Sampling Methods

• Sample based on Farmers who indicated on the survey they were willing to be contacted again – 650 survey respondents
• Compared the characteristics of these 650 respondents to the entire pool of survey respondents
  – Farm size, Irrigation, Region, Age, etc. .
Sampling Methods

• Drew a random sample of 200 and repeated the validity checks, comparing them to the survey respondents

• Second week of June, we started calling
  – Started in the South and moved North to avoid wheat harvest
  – As much as possible, we wanted to avoid any response bias
  – Using survey techniques, we tried to give each of these farmers an equal chance of being interviewed
Survey Methods

• In late July, we added 100 additional names to the original pool of 200. Used about 50% of these new names.
• Ended with 151 respondents
## Interview Sample

Tentative Final Interview Sample by Region,  
Compared to Survey Sample Distribution

**8/24/11**

<table>
<thead>
<tr>
<th>Region</th>
<th>Survey Count</th>
<th>% of total</th>
<th>Interview Count</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>NW</td>
<td>332</td>
<td>15%</td>
<td>23</td>
<td>16%</td>
</tr>
<tr>
<td>NC</td>
<td>378</td>
<td>17%</td>
<td>22</td>
<td>15%</td>
</tr>
<tr>
<td>NE</td>
<td>429</td>
<td>19%</td>
<td>24</td>
<td>16%</td>
</tr>
<tr>
<td>SW</td>
<td>483</td>
<td>22%</td>
<td>35</td>
<td>24%</td>
</tr>
<tr>
<td>SC</td>
<td>376</td>
<td>17%</td>
<td>30</td>
<td>20%</td>
</tr>
<tr>
<td>SE</td>
<td>239</td>
<td>11%</td>
<td>14</td>
<td>9%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>2237</strong></td>
<td><strong>101%</strong></td>
<td><strong>148</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Final Goal**  
22.5  25.5  28.5  34.5  25.5  16.5  150
Research Activities

• Sarah Beach, Chris Jahns and I developed a poster for EPSCOR meeting. The research question focuses on whether crop insurance influences farmers’ land use practices? Do they take more risks with their cropping practices if they have crop insurance and their level of coverage is substantial?
Socio-economic Implications of the U.S. Crop Insurance Program

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Introduction
There are several approaches farmers utilize to manage risks, including financial diversification, financial leverage, vertical integration, contracting, hedging, liquidity, crop yield insurance, crop revenue insurance, and household off-farm employment or investment (Harwood et al. 1999). Federally subsidized crop insurance, including both crop yield and crop revenue insurance, is available across the United States for key crops (Harwood et al. 1999). Crop insurance policies are obtainable for more than one hundred commodities, but only four crops, including corn, soybeans, wheat, and cotton account for nearly 80 percent of the crops covered (World Bank 2005). Now over 80 percent of eligible crop acres are covered by insurance (Babcock 2010). Research suggests that crop insurance may be being used by farmers to mitigate risk and loss from climate change (Mendelsohn 2006 and Antle 2010). The research questions are 1) how ubiquitous is crop insurance, and 2) does it impact farmers’ land use practices, such that they take more risks with their cropping practices if they have 1) crop insurance and 2) their level of exposure is substantial (beyond hail insurance).

Preliminary Results (n=16)
As part of the EPSCoR team, we have interviewed sixteen farmers who returned our statewide survey and indicated they were willing to be contacted further regarding the project.

- Kansas farmers surveyed: Types of insurance held: % have APH, % have RA and/or CRC, % have ACRE, and % have others.
- The same Kansas farmers were interviewed, and one of the questions they were asked is if the rules of crop insurance influence their farming decisions:
  - 1 does not have insurance; the farmer said they could absorb loss
  - 14 answered negatively (e.g., no, not really)
  - 1 answered in a neutral to negative manner and said only mostly after loss occurs
  - 14 of 15 = 93% of interviewees do not believe crop insurance impacts their farming decisions

Conclusion, Considerations, and Future Research
- The U.S. crop insurance program brings together the private sector and the public sector to administer and operate the program for the benefit of farmers and arguably U.S. society.
- Mendelsohn (2006) and Antle (2010) caution against using Federally subsidized crop insurance as a long-term mitigation tool for climate change, because it may reduce farmers’ willingness to adapt to climate change. In addition, of the sixteen farmers mentioned here, some do not believe climate change is occurring, and it can be inferred they are not thinking of how to adapt to the projected climate changes.
- Future research: we need to 1) move to use the survey data collected this spring, 2) supplement this analysis with all the interviews to see if patterns hold and validate the generalizability of these findings with survey data, and 3) distinguish between dry land acres and irrigated acres, because, dry land acres are the most exposed to risk. Our main question is: Do dry land fields covered by crop insurance, have crops that are more prone to failure due to weather conditions than acres without insurance, controlling for region of Kansas and its climate and type of insurance coverage?

References


Kansas NSF EPSCoR
Biofuels and Climate Change: Farmers' Land Use Decisions

For Further Information
Contact: Sarah Beach, sbbeach@ksu.edu
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Future Research Plans

• Develop article from EPSCOR Poster, using both interview and survey data
Research Activities

• Laszlo J. Kulcsar, Sarah Beach, Jacob Muslein and I presented “Hyper-Extractive Economies and Sustainability” at Rural Sociological Society conference in Boise, ID on July 28-31, 2011
Cluster analysis #3

- Employment structure, population change 1990-2000, %65+, immigration, crime, race/ethnicity (% Black and % Hispanic), and irrigation, distance to metro
Future Research Activities

- Develop existing article from hyper-extractive economies presentation and develop new paper using more explicit indicators farmers’ land-use patterns in the model