Do Farmer's Environmental Perspectives Drive their Decision to Transition to Organic Production?

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Introduction

- The USDA estimates a 170% increase in certified organic U.S. land used for crops and livestock from 2000 to 2021
- Previous research suggests that wider profit margins and a concern for health and the environment are major factors for farmers transitioning to organic farming
- The **objective** of this study is to **estimate** the determinants of what makes a farmer produce organically, specifically a kale farmer
  - Kale is a dominant superfood on today's grocery shelves. Recent studies show that farmers who switch to organic kale have higher returns after 4 years than if they continued to produce conventionally.
- In addition, major goal of this paper is to understand what effect a farmer's environmental perception may have on their choice to produce organically or conventionally

Data

- The sample will contain **telephone surveys** collected from **98** organic and conventional farmers in the USA
  - Pilot test of survey gives 20 valid surveys to explore, 12 which are organic producers
- Covered topics such as **farm demographics**(location, crops, organic production etc.), **environmental** awareness, and farmer **demographics.**
- To participate in the survey, the farmer must have produced kale within the last 2 years

Organic Vs. Conventional Farmers

	Organic (n=38)	Conventional (n=60)
Average Farmer Age	36	40
Average Experience (Years)	16-20 Years	Less than 5 Years
Average Farm Income	$130657.89	$43083.33
Average Farm Acreage	114	5482

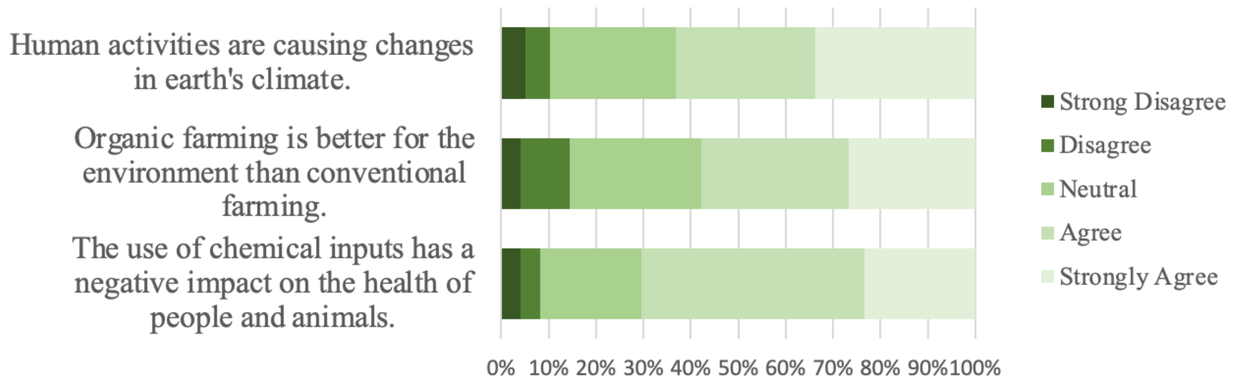
Methods

To identify the likelihood a farmer produces organically, I used a logistic model:

- Dependent Variable: Binary variable equal to 1 if the farmer is a current or transitioning organic farmer, and equal to 0 otherwise
- The independent variables ($X's$) are variables that explore topics from farm structure, farmer environmental awareness, and Farmer demographics
  - Acreage, Income, Age, Experience, Environmental Awareness, States, etc.

Environmental Awareness

- A series of statements were presented to the survey respondents regarding their environmental awareness. The initial answers to three of the questions are provided below.



- The results of environmental awareness and organic farmers from the logistic regression are as follows:
  - farmers who responded "strongly agree" or "agree" to the statement "Human activities are causing changes in climate" are more likely to be organic farmers.

Logit Results

- A kale farmer who was female and obtained at least a 2-year college degree was associated with a higher likelihood of producing organically.
- Farmers who talk to extension agents at least 4-5 times a year had a higher probability of being an organic farmer signifying that there may be a connection between communication with extension officers and producing organically.
- Surveys obtained from farmers located in Alabama or Mississippi were less likely to be organic farmers when compared to the other states in the southeast.
- A farmer with a farm income over $50,000 was associated with a higher probability of being an organic farmer

Conclusions

- Organic production has taken a life of its own as many will lump these practices in with those of the environmental movement, and as the practice has grown, the farmers' motivations and backgrounds, too, have grown.
- Results indicate that factors such as farmer education, farmer gender, use of extension, farm income, and environmental awareness have a statistically significant impact on the likelihood of producing using organic practices.