

The Role of Producer and Operation Characteristics in Organic Production Adoption Decisions

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Introduction

Highlights

- To better understand the organic systems-related educational and resource needs of Utah's agricultural producers, USU conducted a study that included a statewide survey of producers in 2024.
- Those with higher annual sales, specialty crop production, and female producers were more likely to adopt organic practices, while age and education level had little impact.
- Those with larger operations were less likely to adopt organic practices.
- Organic adoption is influenced not only by farm resources but also by producer experience, business goals, and the type of agricultural enterprise.
- Understanding producer types can help those providing educational opportunities, technical assistance, and mentoring target programming to strengthen Utah's organic agriculture sector.

The Transition to Organic Partnership Program (TOPP), administered by the U.S. Department of Agriculture (USDA) Agricultural Marketing Service (AMS), was established to increase the number of successful organic producers, strengthen organic supply chains, and support the growth and resilience of organic agriculture in the U.S. (AMS, 2022). The program represents a five-year, approximately \$100 million investment through partnerships with universities and organizations to expand education, technical assistance, and mentorship opportunities for organic and transitioning producers.

The TOPP focuses on organic farming as it provides economic opportunities for producers, such as premium pricing and market access, while supporting environmental stewardship (Crowder & Reganold, 2015; LaCanne & Lundgren, 2018; Tuck et al., 2014).

To better understand the organic systems-related educational and resource needs of Utah's agricultural producers, Utah State University (USU) conducted a study that included a statewide survey of producers in 2024. Researchers collected data through an online Qualtrics survey and received 131 usable responses. Survey questions examined farm characteristics, production methods, motivations for adopting organic practices, attitudes about organic agriculture, and concerns related to organic production, markets, and certification. Respondents also evaluated the importance and usefulness of information, tools, services, and educational programs that may support organic production decisions.

Survey data were used to examine the aspects of producer and farm or operation characteristics, as well as producer attitudes and concerns related to producing and selling organic products that may impact their decisions to use organic production methods. This fact sheet discusses the study results related to the producer and operation characteristics that may or may not impact the adoption of organic production methods. The study findings provide valuable information for designing targeted Extension programming, educational resources, and technical assistance that address the needs of different producer groups. By understanding which producer and operation characteristics are associated with organic adoption, organizations can better support informed decision-making and encourage successful transitions to organic production.

Results Overview

Producer and Operation Characteristics

Table 1 shows survey respondent characteristics. Respondents represented a broad range of ages, with the largest proportion aged 65 years or older (25.9%), followed by those aged 35–44 (24.4%) and 55–64 (22.9%). Nearly two-thirds of respondents identified as men (62.6%), while 28.2% identified as women, and 9% preferred to self-describe. Respondents were generally well educated, with approximately 68.7% holding a bachelor's or graduate degree, 16.8% reporting some college or an associate degree, and 11.5% having a high school diploma or GED. More than half (58.1%) indicated they had a farming or ranching background, while 41.9% did not. In addition,

nearly two-thirds (64.9%) reported earning income from sources outside their farming or ranching operation, suggesting that many respondents relied on off-farm employment or other income sources.

Table 1. Respondent Characteristics (N = 131)

Characteristic	Category	Sample (%)
Age	25 to 34	4.58%
	35 to 44	24.43%
	45 to 54	16.03%
	55 to 64	22.90%
	65 and over	25.95%
Gender	Man	62.6%
	Woman	28.24%
	Prefer to self-describe	9.16%
Education level	High school diploma/GED	11.45%
	Associates degree/some college	16.79%
	College degree (BS, BA, etc.)	43.51%
	Graduate degree (MS, PhD, etc.)	25.19%
Farming/ranching background	Yes	58.02%
	No	41.98%
Outside income	Yes	64.89%
	No	35.11%

Table 2 shows respondent operation characteristics. Approximately 40.0% of respondents reported using organic production methods, while 61.0% did not. Nearly half (49.6%) had operated their business for more than 20 years, indicating that many respondents were experienced producers. Almost two-thirds sold products through direct-to-consumer markets, and just over half (53.4%) produced specialty crops. Most operations were small employers,

with 74.8% reporting five or fewer employees. Farm size varied considerably, although most respondents operated on 5 acres or less (38.9%) or more than 150 acres (34.3%), reflecting respondents' diversity. Annual gross sales also spanned a wide range, with 25.9% reporting \$10,000 or less and 16.9% reporting sales exceeding \$500,000, demonstrating substantial variation in the scale and economic size of respondent operations.

Table 2. Respondent Operation Characteristics

Characteristic	Category	Sample (%)
Employ organic methods	Yes	39.93%
	No	61.07%
Business duration	Less than 1 year	3.82%
	1 to 5 years	22.90%
	6 to 10 years	13.74%
	11 to 20 years	9.92%
	More than 20 years	49.62%
Direct-to-consumer markets	Yes	64.89%
	No	35.11%
Specialty crop production	Yes	53.44%
	No	46.56%
Number of employees	1 or less	35.11%
	2 to 5	39.69%
	6 to 10	9.92%
	11 to 20	7.63%
	More than 20	7.63%
Total operation acreage	None or not applicable	3.82%
	5 acres or less	38.93%
	6 to 10 acres	4.58%

Characteristic	Category	Sample (%)
11 to 25 acres	0.76%	
26 to 50 acres	11.45%	
51 to 100 acres	1.53%	
101 to 150 acres	4.58%	
More than 150 acres	34.35%	
Gross annual sales	\$10,000 or less	25.95%
\$10,001–\$50,000	16.03%	
\$50,001–\$100,000	9.16%	
\$100,001–\$200,000	11.45%	
\$200,001–\$500,000	10.69%	
More than \$500,000	16.97%	
Prefer not to answer	9.92%	

How Producer Characteristics Affect Organic Adoption Decisions

Table 3 presents the model results examining the impact of producer characteristics on the adoption of organic production methods. The coefficient estimates indicate that producers with a farming or ranching background were less likely to adopt organic methods. Marginal effects suggest that producers who grew up on a farm or ranch were approximately 34.4% less likely to adopt organic production practices. Similarly, producers with outside income or employment, either personally or through a household member, were approximately 17.1% less likely to adopt organic methods.

In contrast, respondent gender had a significant positive relationship with organic adoption, with female producers in the sample being approximately 12.3% more likely to adopt organic production methods than male producers. Interestingly, age and education level did not have a statistically significant impact on the likelihood of adopting organic practices.

Table 3. *Producer Characteristics Modeling Results*

Variable	Coefficient estimates	Marginal effects
Age	-0.200 (0.131)	-0.036 (0.023)
Gender	0.683* (0.393)	0.123* (0.068)
Education level	0.185 (0.192)	0.033 (0.034)
Farming/ ranching background	-1.914*** (0.472)	-0.344*** (0.064)
Outside income	-0.949** (0.469)	-0.171** (0.080)
Constant	3.349** (1.553)	NA
McFadden R²	0.194	
Observations	131	
Log likelihood	-70.618	
Akaike inf. crit.	153.235	

Notes. A bivariate logit model was used in the analysis. The signs (+ or -) of the variable coefficient estimates indicate the positive or negative impact of the independent variable on the dependent variable or outcome. Variable marginal effects indicate how a change in an independent variable affects the probability of the outcome occurring, holding the other variables constant. Single, double, and triple asterisks (*, **, ***) denote significance at the 10%, 5%, and 1% level, respectively.

How Operation Characteristics Affect Organic Adoption Decisions

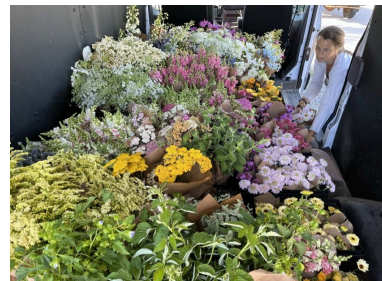


Table 4 presents the model results on how operation characteristics affect producers' decisions to adopt organic production methods. The coefficient estimates indicate that higher gross annual sales and specialty crop production are significantly and positively related with adopting organic methods. In contrast, larger operation size (measured by acreage) has a negative relationship.

Marginal effects indicate that producers with higher annual sales are approximately 3.8% more likely to adopt organic production practices. Similarly, farms producing high-value specialty crops, such as fresh produce and cut flowers, are approximately 32.4% more likely to adopt organic methods. In contrast, producers operating larger farms are approximately 3.7% less likely to adopt organic production practices. Operation characteristics including business duration, market type, and number of employees were not statistically significant predictors of organic adoption.

Table 4. *Operation Characteristics Modeling Results*

Variable	Coefficient estimates	Marginal effects
Business duration	-0.211 (0.208)	-0.036 (0.035)
Direct-to-consumer markets	-0.407 (0.761)	-0.07 (0.131)
Number of employees	-0.115 (0.220)	-0.02 (0.038)
Specialty crops	1.876*** (0.674)	0.324*** (0.104)
Gross annual sales	0.218* (0.119)	0.038* (0.020)
Total acreage	-0.215* (0.131)	-0.037* (0.022)
Constant	-1.738 (1.438)	NA
McFadden R²	0.220	
Observations	131	
Log likelihood	-68.292	
Akaike inf. crit.	150.585	

Notes. Single, double, and triple asterisks (*, **, ***) denote significance at the 10%, 5%, and 1% level, respectively.

Conclusions

The results discussed here demonstrate that both producer and operation characteristics influence the likelihood of adopting organic production methods in Utah. Producers with a farming or ranching background and those relying on off-farm income were less likely to use organic practices, while women producers were more likely to adopt organic methods. At the operation level, producers growing specialty crops and those with higher annual sales were more likely to adopt organic production, whereas operators of larger farms were less likely to do so. These findings suggest that organic adoption is influenced not only by farm resources but also by producer experience, business goals, and the type of agricultural enterprise.

These results provide valuable guidance for Extension educators, agricultural organizations, and others offering educational opportunities, technical assistance, or mentoring around organic production. A better understanding of producer types most interested in organic agriculture can help Extension and partner organizations develop targeted programming that supports informed decision-making and strengthens Utah's organic agriculture sector.

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