

FIRM AND OWNER CHARACTERISTICS OF GEORGIA AGRITOURISM OPERATIONS
AS THEY CORRELATE TO SALES

by

SARAH MASTRARIO COOK

(Under the Direction of Jason Peake)

ABSTRACT

In order for Georgia's agritourism industry to have an idea of where it is going, it is important to know where it has been and what is currently in place. The ultimate goal (with few philanthropic organizations as the exception) of any business is to generate income. It is generally agreed that greater income relates to more employees, a larger economic impact, and a healthier fiscal position for the owner. By correlating owner and firm characteristics to sales, one can draw conclusions that indicate potential avenues for improvements for the industry. This quantitative study examines owner characteristics (years of farming, primary occupation, age, gender) as well as firm characteristics (professional organizations, acreage, proximity to metropolitan areas, attractions offered, number of employees, length of time open) and correlates them with total farm sales in Georgia.

INDEX WORDS: Agritourism, Firm Characteristics, Owner Characteristics, Georgia, Sales

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DEDICATION

This work is dedicated to all of the hard working men and women who are striving to promote agritourism as an industry in Georgia and across the United States. It is my hope that a small part of my work might assist in those efforts.

ACKNOWLEDGEMENTS

I am grateful for such a wonderful and loving family that has helped me throughout the course of my academic career thus far. I could not have done it without their support, babysitting, or late night editing sessions.

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CHAPTER 1

INTRODUCTION

Introduction of Agritourism

Over the past 150 years, agritourism as an industry in the United States that has grown exponentially. Agritourism is defined by the Official Code of Georgia Annotated as “charging admission for persons to visit, view, or participate in the operation of a farm or dairy or production of farm or dairy products for entertainment or educational purposes or selling farm or dairy products to persons who visit such farm or dairy (Ad valorem taxation of property, 2012).” According to Chesky (2009), some of the first traces of agritourism began in mid-Eastern states North Carolina in the late part of the nineteenth century. Small farms were pressured for development of mineral rights and those that did not want to sell had to find a way to remain economically viable. These farmers opened up their homes to allow visitors to experience the true Appalachian farm. The federal government began subsidizing the efforts with the construction of the Blue Ridge Parkway and the Great Smoky Mountains National Park.

There are a number of forces that shifted traditional commodity farmers to agritourism. In a study about California agritourism, Rilla et al. attribute the shift to the “pressures of urbanization” (Rilla, Hardesty, Getz, & George, 2011). Another driving force for the shift toward agritourism enterprises is the need for supplemental income (Che, Veeck, & Veeck, 2005; Chesky, 2009). Che et al. identified several other common threads: cost increases from inputs and advanced technology has driven farmers to alternative sources of income; global economics

are also changing price and market demands; and income from “growing houses (p. 232)” is much higher than that from farming income.

Background of the Study

In an interview with *Southscapes* magazine writer Stephanie Schupska (2009), Scott Cagle, one of Georgia’s first agritourism operators, attributes agritourism’s start in Georgia to the apple industry. As with Che et al.’s research, pressures from apple suppliers outside of the state were driving apple wholesale prices down and producers had to adapt or shut their doors for business. Cagle’s own operation faced dismay when they discovered that their farm was landlocked with no room to grow due to urban pressure. These farmers were motivated to find ways to change their business model and generate more income without expanding their actual landholdings. Producers in the northern part of Georgia such as Jaemor Farms have adopted agritourism operations and thrive with corn mazes, farm festivals, flower picking, educational field trips and tours, and other on-farm events (<http://www.jaemorfarms.com/>).

The Georgia Agritourism Association was formed in 2009. These agritourism operators have formed to advocate for the industry, participate in state-wide marketing efforts, and have even worked with state legislature to introduce limited liability laws for on-farm visitors. The association offers continuing education classes, on-farm tours, and an annual conference that allows operators to exchange ideas (About the Georgia Agritourism Association, 2012). This phenomenon is not uncommon in the agritourism industry. Che et al. (2005) summarize that agritourism operators in Michigan are much more willing to cooperate and collectively market their endeavors as opposed to traditional commodity operations. Referrals to other operators for

items not carried by individual farms, group information sharing, and cooperation in general bridge the marketing gap.

Most of the literature about agritourism operations focuses on what the operators are doing with little reference to whom the operators are.

Statement of the Problem

What are the correlations among various demographic characteristics of agritourism operators and firm characteristics and sales?

Subproblems

1. What are the correlations among firm characteristics and sales?
2. What are the correlations among owner characteristics and sales?

Limitations and Delimitations

Because the survey could not possibly reach every single agritourism operation in Georgia, the results were not random samples and therefore cannot be generalized to all agritourism operations in Georgia. This study was delimited to only those operators of agritourism businesses (as defined above) in the State of Georgia. It did not include any prior producers that are no longer in business. For the purposes of this study, recreational use of parks, nature trails, and hunting plantations were not be included, so as to conform to the definition of agritourism in the Official Code of Georgia.

Definition of Terms

Agritourism: “As used in this paragraph, the term "agritourism" means charging admission for persons to visit, view, or participate in the operation of a farm or

dairy or production of farm or dairy products for entertainment or educational purposes or selling farm or dairy products to persons who visit such farm or dairy (Ad Valorem Taxation of Property Act, O.C.G.A. § 48-5-7.4, 2012).”

Metropolitan Statistical Area: “Metropolitan Statistical Areas have at least one urbanized area of 50,000 or more population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by community ties (About metropolitan and micropolitan statistical areas, 2013).”

Regional Tourism Association: A regional tourism association is defined as a group of tourism assets and supporting organizations that associate to promote tourism in a particular region in the State of Georgia

Rural: More than fifty miles from a metropolitan statistical area

Suburban: Within fifty miles but not inside a metropolitan statistical area

Urban: Within the boundaries of a metropolitan statistical area

Firm characteristics: Firm characteristics include participation in professional associations, location in proximity to a metropolitan statistical area (rural, suburban, or urban; overall acreage; acreage dedicated to agritourism enterprises; longevity of the firm; number of employees; months of operation; total annual sales; annual sales as a result of agritourism efforts; having a business plan; and type and number of activities available for visitors to participate.

Owner characteristics: Owner characteristics include gender; age; race; educational attainment; if farming is primary occupation; if agritourism is primary occupation; if there are other occupations; and number of years engaged in agritourism.

Assumptions

It is assumed for the purposes of this study that respondents will be truthful, honest, and forthcoming in their answers. It is assumed for the purposes of this study that respondents will accurately assess their own financial standing for the purposes of reporting sales. It is assumed for the purposes of this study that sub-strata of the population will not be excluded. It is assumed for the purposes of this study that agritourism operators are involved in some degree with the Georgia Agritourism Association or other government agencies and will be presented with the

opportunity to participate. It is assumed for the purposes of this study that operators will self-select correctly in accordance with the definitions of agritourism provided.

Importance of Study

In order for Georgia's agritourism industry to have an idea of where it is going, it is important to know where it has been and what is currently in place. The ultimate goal (with few philanthropic organizations as the exception) of any business is to generate income. It is generally agreed that greater income relates to more employees, a larger economic impact, and a healthier fiscal position for the owner. By correlating owner and firm characteristics to sales, one can draw conclusions that indicate potential avenues for improvements for the industry. This is not to say that if the results indicate that male-owned firms show increased revenues that women should not become involved with an agritourism operation; it is merely to distinguish a trend. Perhaps firms that are owned by college graduates are positively correlated with sales and therefore might indicate the benefits of earning a degree before starting an agritourism venture.

CHAPTER 2

LITERATURE REVIEW

Reference Study

The article *The role of the firm and owner characteristics on the performance of agritourism farms* by Barbieri and Mshenga (2008) is the cornerstone of this research. In my review of the literature, there have been numerous studies that have been conducted that focus external factors to agritourism with very little internal reference. While this study incorporates some external factors, there is a greater emphasis placed on the operator and the business itself. Data points include farm acreage, number of employees, and location. Internal factors include whether or not there is a business plan, age, education, sex, and principal occupation, replicating this study with a focus on Georgia operators. Similar methods will be taken, including snowball sampling to gather responses (i.e. asking providers to forward the survey on to others that might be interested in completing such a survey).

Professional Organization Involvement

In an earlier article by Che, Veeck, and Veeck (2005), the authors demonstrate a study conducted in Michigan through several focus groups. The researchers identified several common threads: cost increases from inputs and advanced technology has driven farmers to alternative sources of income; global economics are also changing price and market demands; and income from “growing houses (p. 232)” is much higher than that from farming income. The authors summarize that agritourism operators are much more willing to cooperate and collectively market their endeavors as opposed to traditional commodity operations. Referrals to other

operators for items not carried by individual farms, group information sharing, and cooperation in general seem to be the bridge for the marketing gap. Because of this information, I would like to explore the relationship of involvement in industry groups to sales at agritourism operations.

Owner Characteristics

Carpio, Wohlgenant, and Boonsaeng (2008) study the effects of demographics of visitors to agritourism enterprises. They study race, age, family income, household size, as well as several other data points to determine the effects on number of visits and spending. This focuses on the consumer end of agritourism operations. This study intends to understand similar demographics and their relationship to agritourism operations from the operator's end of the equation. This study will consider age, race, and years of education.

Gender

In their article, Brandth and Haugen (2010) explore the sociological aspects of gender roles in agritourism operations and how those roles are changing from traditional farming. This is a sociological study with several case studies based on farms in Norway. These farms are traditionally experience-based including farm stays and overnight lodging. This provides introductory information about how women have become more involved in the daily workings of the operations and suggests that gender roles are becoming more balanced in agritourism. This study examines sex as a demographic and its relationship to agritourism sales in Georgia.

Sales

In of agritourism in Arkansas, Das and Rainey (2010) pointed out that with the growing use of the internet, agritourism enterprises saw an increase in attendance from their state and neighboring states. They estimated that agritourism expenditures will grow from \$123 million in 2007 to a projected \$263 million in 2012. They also point out that agritourism awareness is

evident in the fact that the 2002 Agriculture Census did not include agritourism information but the 2007 Agriculture Census did. Finally, the authors point out that determining net profit on agritourism operations is difficult because they are almost always in addition to traditional farming operations, thus making the differentiation of costs of shared equipment and supplies almost impossible. This furthered the decision to include just sales rather than profit for Georgia agritourism operations.

Business Longevity

Rilla, Shermain, and George (2011) studied characteristics of agritourism operations in California. This particular study was more focused on activities and promotions involved in agritourism events rather than on sales, but they did study operator characteristics, which led to adding business longevity to my study. One idea was that "pressures from urbanization (p. 57)" and population growth might attribute to the demand for traditional farm operations to seek other sources of revenue. They also provided some valuable insight on creating a database of potential survey respondents. They experienced a similar problem in that there was no central database in existence when they began. They compiled a database from academics, workshop participants, and other agencies. This will serve as a model to generate this research participant list. They did acknowledge that it was not a random sample and therefore could not be generalized.

Firm Characteristics

Brelik's (2011) article is an example of a study that focuses on internal demographic factors of agritourism operators. The study was conducted in Western Pomerania, Poland. It will allow a frame of reference of how agritourism operators in Georgia compare to their international cohort. This study does not relate these demographics to agritourism sales, however. This study examined sex, age, education, and farm size.

In their 2012 study, Bagi and Reeder (2012) utilized a national survey of farms to determine if certain factors affect participation in agritourism enterprises. Their research concluded that "characteristics of age, education, access to the internet, use of farm management advice, and the farm's organization as a partnership or corporation had positive and significant effects (p. 196)." This led me to believe these were critical factors to study in this research.

Hypotheses

Firm Characteristics

It is hypothesized that participation in business associations will be positively correlated to sales. This is possibly attributable to professional development and knowledge exchange at professional business events (Barbieri and Mshenga, 2008). Group collateral marketing, referrals to competing entities for products not carried locally, purchasing linkages, and information sharing are all phenomena identified in Michigan's agritourism market according to Che, D., Veeck, A., and Veeck, G. (2005).

It is hypothesized that the presence of a business marketing plan will be positively correlated to sales. Barbieri and Mshenga (2008) determined that having a business marketing plan was not statistically significant to the sales of an agritourism operation. This variable is included to determine if different demographics affect this variable. It is hypothesized that it will be statistically significant and have a positive effect on agritourism sales.

It is hypothesized that proximity to urban centers will have the greatest positive correlation to sales. Proximity to populations that are furthest removed from agricultural operations is believed to increase attendance.

It is hypothesized that acreage of farm will have an inverse relationship to sales due to the theory of diminishing returns.

It is hypothesized that firms that are open for longer periods of time rather than seasonally will have a positive relationship to sales.

It is hypothesized that the number of employees employed by the firm will have a positive relationship to sales.

It is hypothesized that each additional attraction will have a positive relationship to sales.

Owner Characteristics

It is hypothesized that age of the producer will have a positive relationship to sales. This is one of two variables where conflicting research exists. In the cornerstone research for this study, Barbieri and Mshenga (2008) found that age is inversely related to performance. They asserted that perhaps younger farmers are more willing to take risks and try new production techniques. Baghi and Reeder (2012), however, assert that there is a positive relationship between age and profitability. Similarly, Barbieri and Mshenga determined that education does not have a statistically significant effect on farm sales whereas Baghi and Reeder assert there is a positive relationship.

There are several potential explanations for these discrepancies: the first is the difference is that Barbieri and Mshenga study sales, whereas Baghi and Reeder study probability. These are different figures, so perhaps a correct relationship cannot be inferred. Since both of these were not truly random selections, generalizations cannot be made, possibly explaining the difference. Based on the research presented, it is hypothesized that Barbieri and Mshenga's results will be similar to those in this study.

Based on Brandth and Haugen (2010) and Barbieri and Mshenga (2008), it is hypothesized that male producers will have greater sales. This is attributed to gender issues and

female roles in the home. Brandth and Haugen conducted an in-depth study on European farms and determined that females have greater demands outside of the professional realm that possibly detract from business.

Based on Barbieri and Mshenga (2008) it is hypothesized that having farming as a primary occupation and business longevity will have positive effects on agritourism sales. Rilla, et al. (2011) agree that business longevity has a positive effect on sales. These two variables are similar because with extended periods of time focused on business operations, producers can hone skills, perfect techniques, and learn from difficult mistakes.

CHAPTER 3

METHODS

Data collection

I followed Dillman's Tailored Design Method to create a pilot questionnaire for my thesis. The requirements for this survey document, with help from Dillman's Tailored Design Method, included having at least three constructs with at least three questions each, as well as bivariate and multivariate demographics. All responses were then analyzed in the statistical software package SPSS, version 21.

Pilot questionnaire

After completing peer review for face validity and to reduce measurement error, I then emailed the survey to a list of Alabama agritourism producers as found on www.alabamaagritourism.com. Despite repeated email reminders, only 18 responses were recorded from the 80 potential respondents. After the questionnaire was closed, I conducted a statistical analysis on the three constructs.

Participants

Because there is no centralized database of all agritourism operations in Georgia, a probability (random) sampling could not be used and thus a purposive sample method was used. Initially, a survey would be sent out to all members of the Georgia Agritourism Association. It would also be sent to representatives from Georgia Department of Agriculture, Georgia Department of Economic Development, United States Department of Agriculture, and

Department of Community Affairs representatives with instructions to forward to all agritourism operators that they work with.

Information was collected via a web-based survey using Qualtrics, a statistical analysis software and included demographics that describe the farm or operator: age, sex, education level, association memberships, primary occupation, number of years farming, presence of marketing plan, activities provided, location, and annual sales. Similar to Barbieri and Mshenga, income level was categorized into intervals, such as <\$10,000, \$10,000–\$49,999, \$50,000–\$249,999 and >\$250,000, to protect anonymity.

The survey timeline is as follows:

Survey announcement	Georgia Agritourism Conference, Athens, Georgia, April 1, 2014
Survey announcement	September 10, 2014
Email reminder	September 23, 2104
Email reminder	September 30, 2014
Survey closed	October 17, 2014

Data Analysis

Owner characteristics:

Age: This question had scale-level open ended response option. This item was transformed from the year of birth to age by subtracting responses from 2014. Frequency, mean, range, and standard deviation were used to summarize this data.

Gender; race; farming as primary occupation; agritourism as primary occupation; off-farm occupation: These questions had nominal-level bivariate response option. Frequency and percentages were used to summarize this data.

Education and years engaged in agritourism: These questions had scale-level multivariate response option. Frequency and percentages were used to summarize this data.

Firm Characteristics:

Organizational Memberships

These questions had nominal-level bivariate response option. Frequencies and percentages were used to summarize this data.

Firm characteristics: Location, Acreage, Months Open, Employees

These questions had nominal-level multivariate response options. Frequencies and percentages were used to summarize this data.

Agritourism Activity

These questions had nominal-level bivariate response options. Frequencies and percentages were used to summarize this data.

Recoding of responses

Because multiple regression was utilized, SPSS requires that all nominal or ordinal-level data independent variables are dichotomous. Each question was recoded and broken out into multiple questions with only yes/no responses. For example, the question “How many months of

the year is your agritourism enterprise open?” included four potential responses: 2 months or fewer, 2-6 months, 6-9 months, and 9 months or more. This question was then changed into four individual questions:

Is your agritourism operation open 2 months or fewer per year?

Is your agritourism operation open 2-6 months per year?

Is your agritourism operation open 6-9 months per year?

Is your agritourism operation open 9 months or more per year?

The responses available for these questions were then recoded into yes/no format, thus allowing SPSS software to conduct the multiple regression analysis. This changed the forty original variables to seventy-one variables.

CHAPTER 4

RESULTS

Firm Characteristics

1. Are you a farm-based business that is open to visitors for recreational and/or educational purposes (i.e. agritourism business)?

Table 1 Number and percentage of firms that identify as agritourism-based business.

Table 1. Agritourism-based business?		
Yes	82	77%
No. Please stop here and go to the end of the survey.	24	23%
Total	106	100%

Of more than three hundred emails were sent requesting responses to the survey, not including those that were sent out by governmental partners, 106 respondents participated in the questionnaire. Of those, 82 percent self-categorized themselves as farm-based businesses that are open to visitors (i.e. agritourism businesses). Twenty-four reported that they were not and the survey was discontinued for that group.

2. Are you a member of the following?

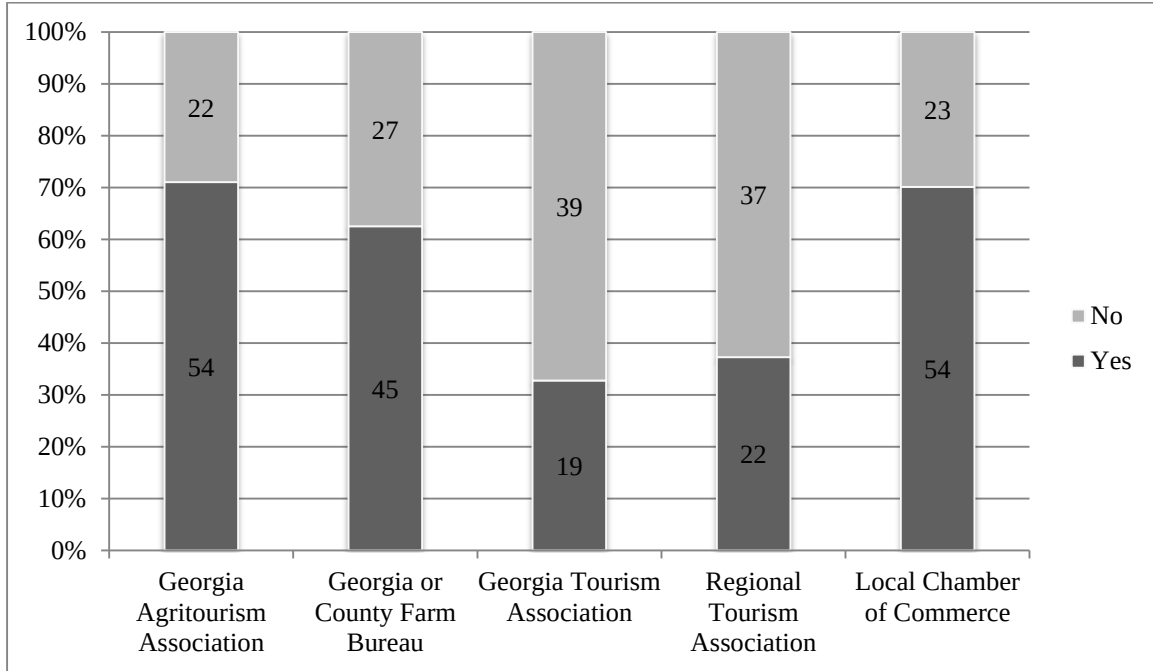


Figure 1 Indication of firms' membership in industry organizations.

Figure 1 represents the memberships that respondents may or may not hold. Although the question was requesting a yes or no answer, some questions were not answered. No question had more than 77 responses. Of the responses, more than 70% ($n = 24$) of agritourism businesses are members of the Georgia Agritourism Association. The same number of respondents indicated they were also members of a local chamber of commerce, although these are not necessarily the same groups. The second largest organization of participation is Georgia or county Farm Bureau organizations with more than 60% of respondents answering affirmatively. Nearly 1/3 of respondents are members of regional tourism associations and similar amounts are members of a Georgia tourism association.

3. Farm proximity to metropolitan area

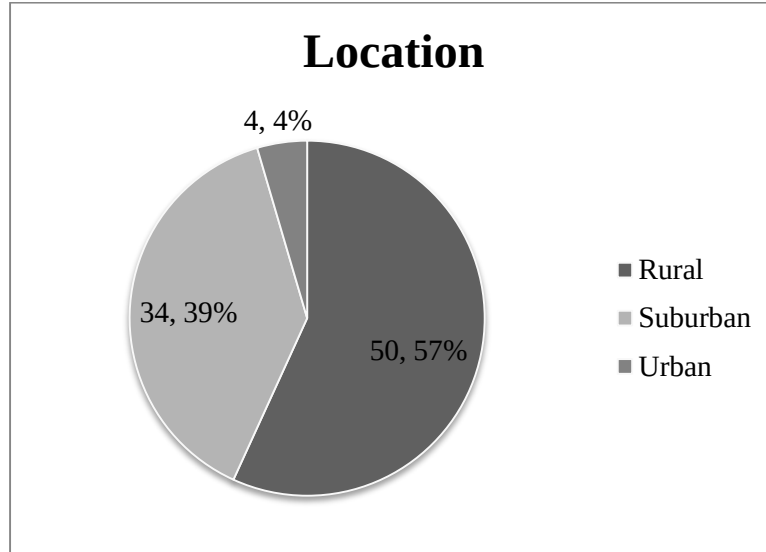


Figure 2 Number and percentage of distribution classified as rural, suburban, or urban.

Figure 2 demonstrates respondents' proximity to a metropolitan statistical area. Those that are considered rural (more than 50 miles from a MSA) comprised of 50% of responses. Suburban was the second highest selection at 39% and only 5% of respondents were located in a MSA.

4. What is the approximate acreage of your farm?

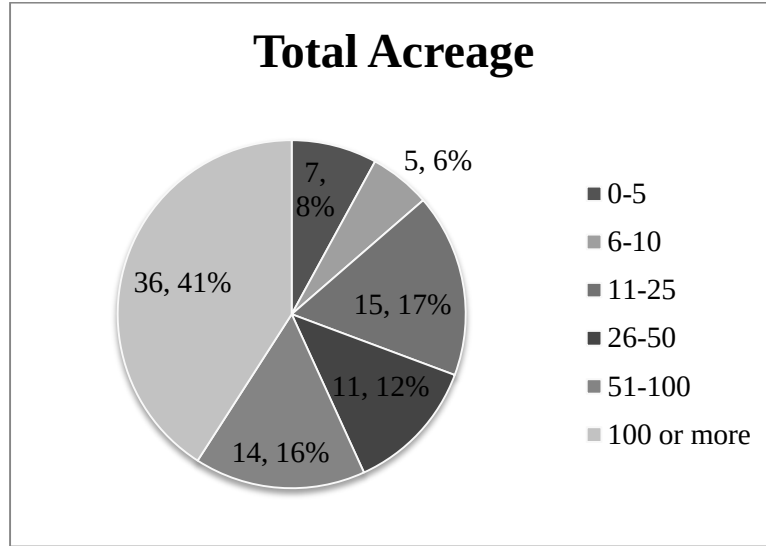


Figure 3 Number and percentage of distribution of total farmed acreage.

Figure 3 indicates that the most frequent size of total farmed acreage is more than 100 acres. Farms that are between 11-25 acres and 51-100 acres are similar in frequency. Farms that are 26-50 acres account for 13% of respondents and farms that are less than 10 acres account for less than 15%.

5. What is the acreage dedicated to agritourism enterprises?

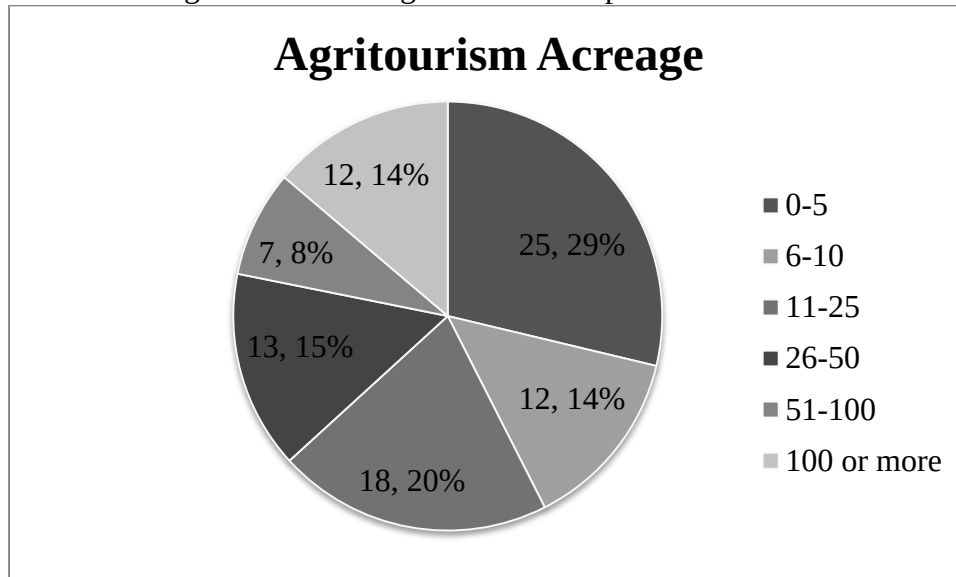


Figure 4 Number and percentage of distribution of agritourism acreage.

Figure 4 indicates that the most common acreage dedicated to agritourism enterprises is less than 5 acres, accounting for nearly 1/3 of the responses. 6-10 acre tracts, 26-50 acre tracts, and 100+ acre tracts are similar in number of responses hovering around 15% each.

6. How long has your operation been in existence?

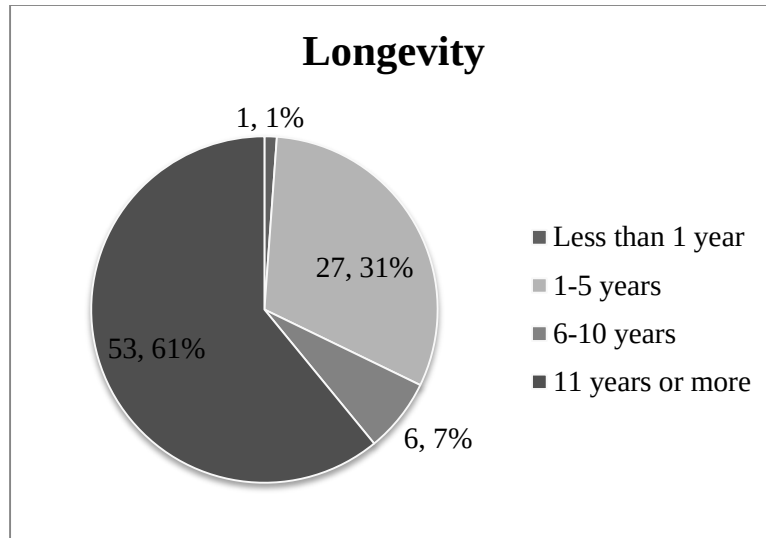


Figure 5 Number and percentage of distribution of firm longevity.

Figure 5 indicates that more than 60% of agritourism farms have been in existence for more than 11 years. Nearly 1/3 of respondents indicated that their operation is 1-5 years old.

7. How many employees do you have?

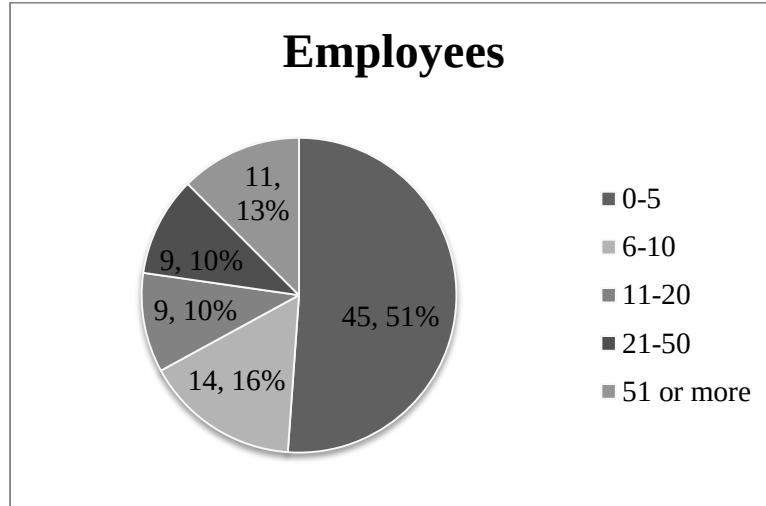


Figure 6 Number and percentage of distribution of number of employees.

Figure 6 indicates that more than half of all respondents have fewer than 5 employees. Only 11 respondents indicate they have 50 or more employees.

8. When is your farm open for visitors?

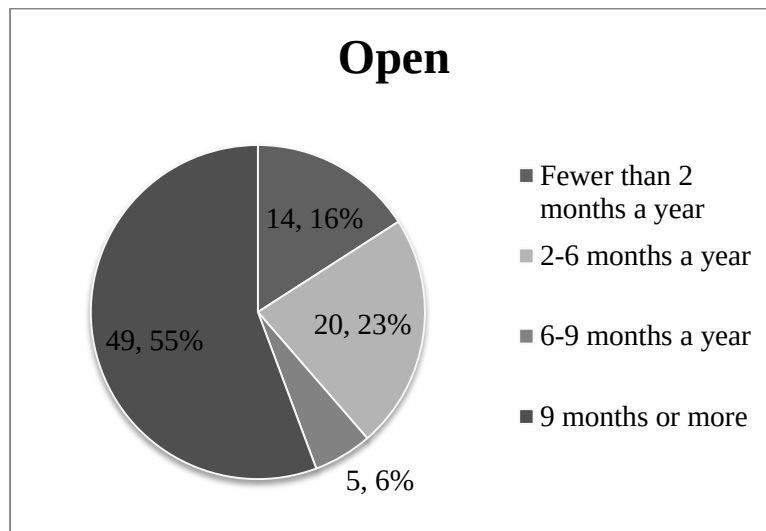


Figure 7 Number and percentage of distribution of months open per year for visitors.

Figure 7 indicates that more than 50% of agritourism firms are open for the majority of the year, although 39% are open for less than half a year.

9. What are your approximate annual sales?

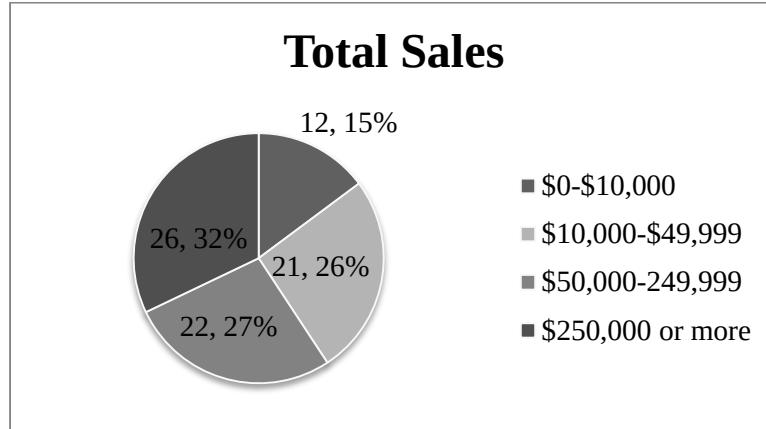


Figure 8 Number and percentage of distribution of annual total sales.

Figure 8 indicates that respondents' total annual sales are fairly well-distributed among the three higher income categories. Only 15% make less than \$10,000 per year.

10. What are your approximate annual sales as a result of agritourism enterprises?

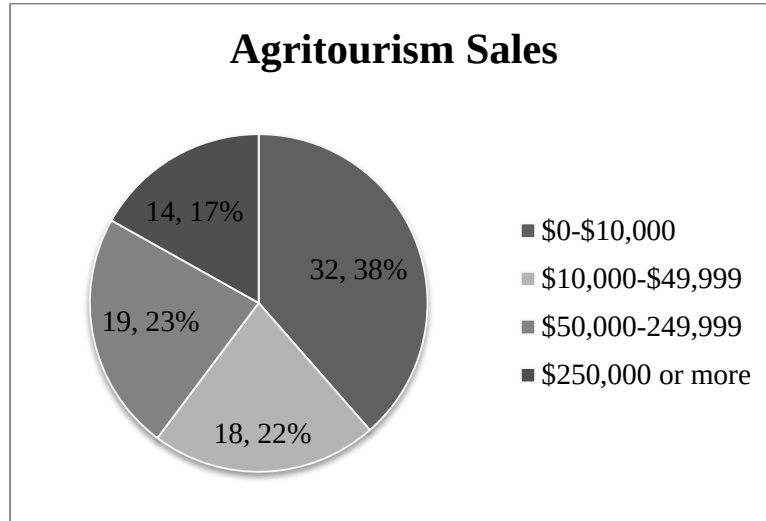


Figure 9 Number and percentage of distribution of annual agritourism sales.

Figure 9 indicates that nearly 40% of respondents agree that less than \$10,000 of their total annual sales come from agritourism enterprises. Other respondents are fairly well-distributed in their responses.

11. Does your operation have a written business plan?

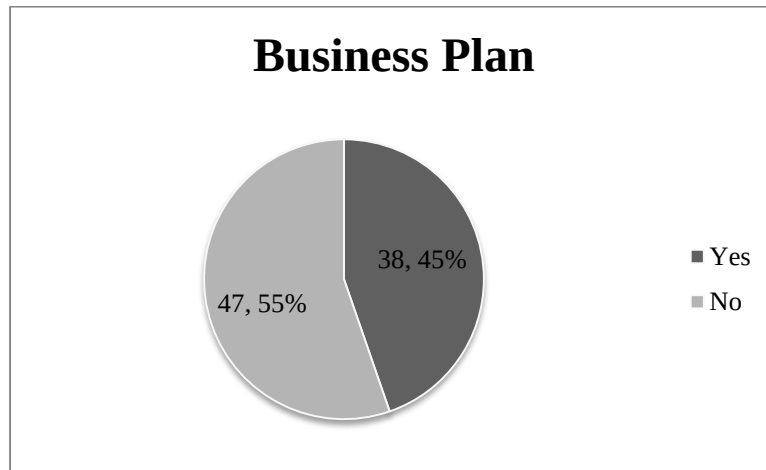


Figure 10 Number and percentage of distribution of firms with written business plans.

Figure 10 indicates that more than half of the agritourism entities do have a written business plan.

12. Does your farm offer the following activities?

Table 2 Number of respondents that participate in various agritourism attractions.

Agritourism Activity	Farms (n=80)	Percentage
Tours (other than school groups)	60	75.0
School tours	55	68.8
Picnic area	52	65.0
Weddings/Birthday parties/Private events	47	58.8
Outdoor activities	45	56.3
Hayrides	37	46.3
Farm Stand	36	45.0
Other recreation activities	34	42.5
Restaurant or snack bar	28	35.0
U-pick vegetable or fruit operation	27	33.8
Petting zoo	23	28.8
Nature-based recreation	22	27.5
Mazes	22	27.5
Tasting room	18	22.5
On-farm overnight stays	15	18.8
Horse or pony rides	13	16.3
Vineyard Tours	12	15.0
Haunted Houses	6	7.5

Table 2 indicates that the most-participated in agritourism activities among respondents are tours other than school groups, school tours, picnic areas, and weddings/birthday parties/private events. Activities that were least-participated in include haunted houses, vineyard tours, horse or pony rides, and on-farm overnight stays.

Owner Characteristics

13. What is your gender?

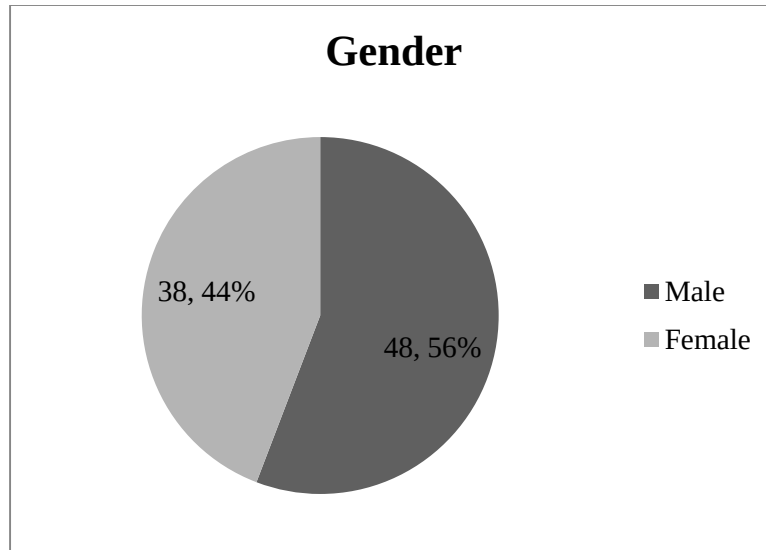


Figure 11 Number and percentage of distribution of owners' gender.

Figure 11 indicates that 56% of respondents are male.

14. What year were you born?

Table 3 Years respondents were born.

1950	1966	1963	1970	1972
1968	1952	1951	1975	1950
1956	1971	1949	1957	1948
1952	1950	1944	1956	1938
1953	1964	1985	1954	1955
1990	1951	1958	1963	1967
1966	1965	1967	1958	1965
1989	1948	1941	1957	1960
1954	1938	1978	1943	1970
1979	1963	1952	1981	1979
1963	1959	1958	1978	1980
1983	1949	1947	1972	1978
1963	1936	1958	1981	1962
1959	1941	1977	1990	1957
1955	1964	1962	1967	1961
1989	1977	1980		

Table 3 indicates the year respondents were born. The average age is 51 with a standard deviation of 13.29.

15. What is your race?

Table 4 Number and percentage distribution of respondents' race.

White/Caucasian	84	99%
African American	0	0%
Hispanic	0	0%
Asian	0	0%
Native American	0	0%
Pacific Islander	0	0%
Other	1	1%
Total	85	100%

Table 4 indicates that all but one respondent identifies as white/Caucasian. The one respondent that indicated otherwise selected the "other" descriptor.

16. What is the highest level of education you have completed?

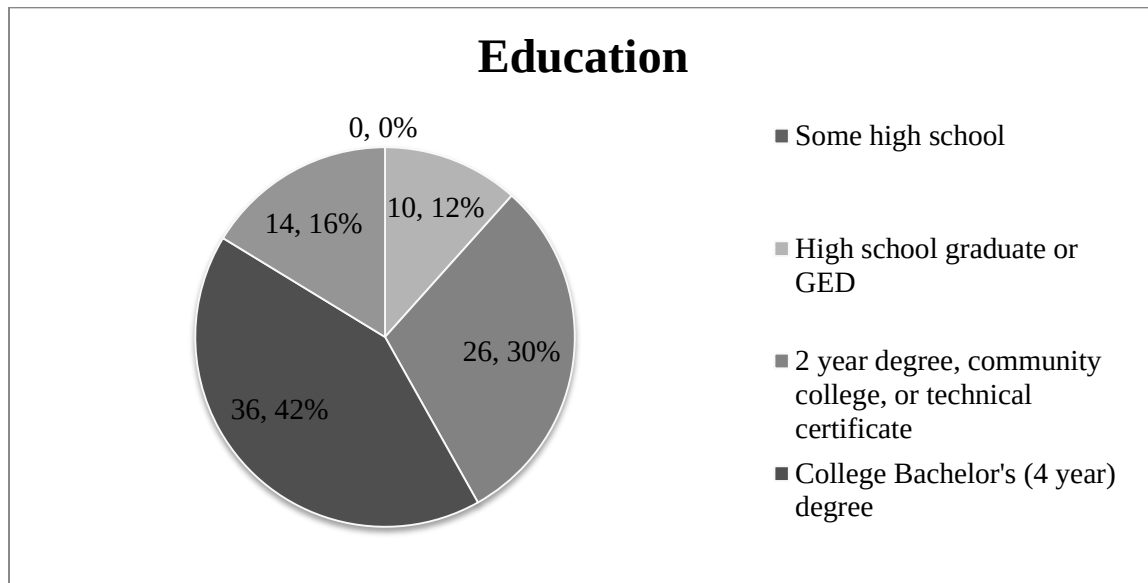


Figure 12 Number and percentage of distribution of owners' highest level of education completed.

Figure 12 indicates that more than 40% of respondents have attained a college bachelor's degree. 88% of all respondents have at least a 2 year degree, community college, or a technical certificate or higher.

17. Is farming your primary occupation?

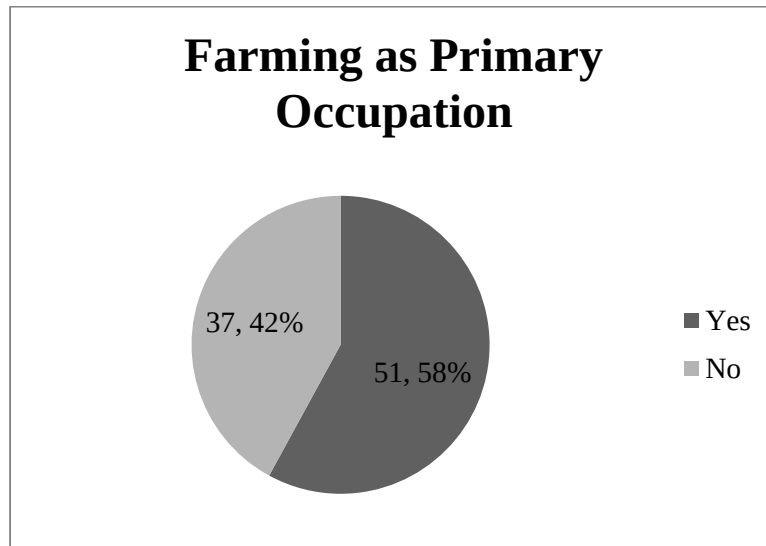


Figure 13 Number and percentage of distribution of owners whose primary occupation is farming.

Figure 13 indicates that more than half of all respondents' primary occupation is farming.

18. Is agritourism your primary occupation?

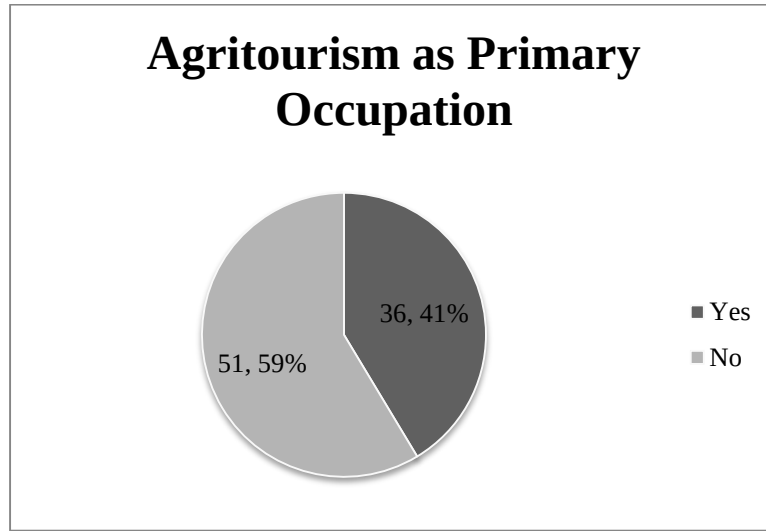


Figure 14 Number and percentage of distribution of owners whose primary occupation is agritourism.

Figure 14 indicates that only approximately 60% of respondents' primary occupation is something other than agritourism.

19. Do you have an additional occupation off the farm?



Figure 15 Number and percentage of distribution of owners who hold additional occupations off the farm.

Figure 15 indicates that 44% of respondents have additional occupations off the farm.

20. How many years have you been engaged in agritourism operations?

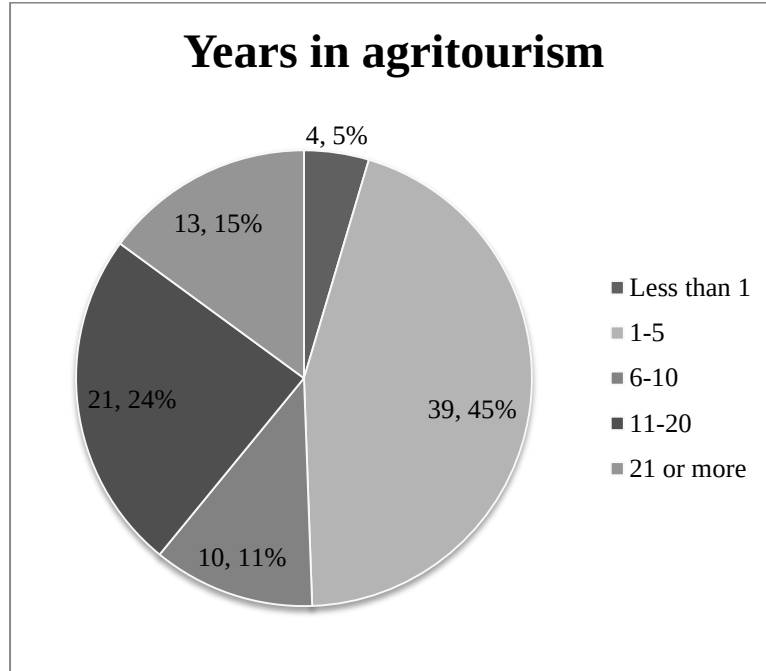


Figure 16 Number and percentage of distribution of owners' years engaged in agritourism.

Figure 16 indicates that the half of all respondents have been engaged in agritourism for more than 6 years. However, a full 45% of respondents have only been engaged in agritourism for 1-5 years.

CHAPTER 5

CONCLUSIONS

Analysis

There were 138 responses to the online questionnaire. The gender ratio was 34.8% (n = 48) male and 27.5% (n = 38) female. Because all 138 participants did not answer the question, the ratio percentage and valid percentage are different, indicating that the valid percent is 55.8% male and 44.2% female. When highest education level completed was analyzed, 7.2% (10) completed high school or a GED only, 18.8% (26) had a 2 year degree, community college, or technical certificate, 26.1% (36) completed a Bachelor's degree, and 10.1% (14) completed a graduate degree (Masters or PhD). As with the gender item, all 138 participants did not answer the question, therefore the ratio percentage and valid percentage are different, with the valid percentages being 11.6%, 30.2%, 41.9%, and 16.3% respectively. All participants were asked what year they were born and age was calculated by subtracting the year of birth from 2014. The average age of the participants that answered was 51.5443 with a standard deviation of 13.29. Ages ranged from 24 to 78 years. The most frequently occurring age of the participants was 51 with five respondents.

Construct reliability

After analyzing the constructs in SPSS and measuring the Cronbach's Alpha (CA) of each, I was able to determine all three of my constructs return a CA of more than 0.7, which is the acceptable level. The Cronbach's Alphas are as follows: .776 for organizational membership

construct; .766 for firm characteristics construct; .827 for the agritourism activity construct. Removing several of the questions including membership in Georgia Farm Bureau, length of operational existence, length of time farm is open to visitors, presence of written business plan, presence of u-pick operations, and presence of vineyard tours would have increased Cronbach's Alpha. I felt these are critical questions that must remain in the questionnaire to help provide context so I opted to keep those items.

Econometric Model

The reference study by Barbieri and Mshenga (2008) utilized an interval regression model. This type model is typically used in agriculture economics. Agriculture leadership utilizes the same model, but it is referred to as multiple regression. An econometric model was used to evaluate the impact of owner and firm characteristics on total farm sales. The formula is:

$$\begin{aligned} \text{Annual Sales} = & 4.548 - 1.015(\text{GAAMember}) + 0.473(\text{GFBmember}) + \\ & 1.960(\text{RegTourismMember}) + 0.077(\text{Urban}) - 1.074(\text{Suburban}) - \\ & 0.262(\text{TotAcres11_25}) + 0.953(\text{TotAcres25_50}) - 0.686(\text{AgTAcre6_10}) + \\ & 0.176(\text{AgTAcre26_50}) - 1.159(\text{AgTAcre51_100}) - 1.130(\text{OpLongevity6_10}) + \\ & 2.247(\text{Emp11_20}) + 0.384(\text{Emp21_50}) + 0.655(\text{Emp51plus}) \\ & + 1.780(\text{FarmOpen2orfewer}) + 0.513(\text{FarmOpen6_9months}) + \\ & 1.118(\text{AgTSales10k_49K}) + 1.276(\text{AgTSales50k_249K}) + 0.027(\text{BusPlan}) - \\ & .979(\text{PettingZoo}) - 1.842(\text{HauntedHouse}) + 0.430(\text{HorseRide}) + \\ & 0.533(\text{OutdoorAct}) + 0.677(\text{OtherTour}) + 0.303(\text{TastingRoom}) + \\ & 0.219(\text{OtherRecAct}) + 2.472(\text{VineyardTours}) - 0.466(\text{RestaurantSnackBar}) - \\ & 1.964(\text{PicnicArea}) + 1.498(\text{Gender}) - 0.072(\text{Age}) - 0.044(\text{EdHSGrad}) + \\ & 1.586(\text{Ed2yrCCTech}) + 1.839(\text{EdGraduate}) + 0.528(\text{FarmPrimOcc}) - \end{aligned}$$

$$1.190(\text{OtherOcc}) - 1.500(\text{AgTLongevityLess1}) + 1.622(\text{AgTLongevity6_10}) + \\ 0.080(\text{AgTLongevity21plus})$$

Many variables were excluded from this formula because this version of SPSS found them not to be significant in the final model. Those variables include: GATourismMember, ChamberMember, Rural, TotalAcre0_5, TotalAcre6_10, TotalAcre51_100, TotalAcre100plus, AgTAcre0_5, AgTAcre11_25, AgTAcre100plus, OpLongevity1_5, OpLongevity11plus, Emp0_5, Emp6_10, Emp51plus, FarmOpen2_6months, FarmOpen9monthsplus, AgTSales0_10K, AgTSales250Kplus, Hayride, Mazes, NatureRec, OvernightStay, SchoolTour, UPick, WeddingsParties, FarmStand, PicnicArea, EdBachelors, AgTPrimOcc, AgTLongevity1_5, and AgTLongevity11_20.

This model returned an R^2 value of 0.977 meaning that the variables accounted for approximately 97.7% of the variability in the dependent variable. The standard error of the estimate was 1.506. No variable was found to be significant on its own.

Variables that are said to have a positive correlation with total sales include being a member of the Georgia Farm Bureau; being a member of a regional tourism association; being located in an urban area; having a total farm acreage of 26-50 acres; having between 26-50 acres dedicated to agritourism operations; having more than 11 employees; having a farm open for agritourism operations fewer than two months or from six to nine months out of the year; having total agritourism sales greater than \$10,000; having a business plan; offering horse rides, outdoor activities, other tours (not including school tours), tasting rooms, other recreational activities, and vineyard tours; being male; having an associates, community college, technical, or graduate

degree; farming as one's primary occupation; having an agritourism business for six to ten years; and having an agritourism business for twenty-one years or more.

Variables found to have a negative correlation with total sales include being a member of the Georgia Agritourism Association; being located in a suburban area; having total farm acres of 11-25; having agritourism total acres of 6-10; having agritourism acres of 51-100; having an operational longevity of 6-10; offering a petting zoo, haunted house, restaurant or snack bar, or picnic area; age; only obtaining a high school diploma; having a primary occupation other than farming; and having an agritourism operation less than one year.

Many of these are easily explained by common economic principles and the review of the literature regarding previous agritourism studies.

Firm Characteristics

This study found that membership/participation in business associations is positively correlated to sales in the case of the Georgia Farm Bureau and regional tourism associations. This is possibly attributable to professional development and knowledge exchange at professional business events (Barbieri and Mshenga, 2008). Group collateral marketing, referrals to competing entities for products not carried locally, purchasing linkages, and information sharing are all phenomena identified in Michigan's agritourism market according to Che, D., Veeck, A., and Veeck, G. (2005). The only exception to this was membership in the Georgia Agritourism Association. Since it has only been an official association for five years, one could attribute this negative correlation to sales as a function of new operators, or perhaps even as a function of less organizational structure compared with organizations like the Georgia Farm Bureau which has been in operation for decades.

Barbieri and Mshenga (2008) determined that having a business marketing plan was not statistically significant to the sales of an agritourism operation, however this study indicated that having a business plan is positively correlated to sales. The difference could be attributed to strong business support services in Georgia including the Georgia Small Business Development Centers.

It was hypothesized that proximity to urban centers will have the greatest positive correlation to sales. Proximity to populations that are furthest removed from agricultural operations is believed to increase attendance. This was confirmed through this study. Suburban locations have been found to have a negative correlation to sales.

It was hypothesized that acreage of farm will have an inverse relationship to sales due to the theory of diminishing returns. This research indicates that having a total farm acreage and agritourism acreage from 26-50 acres has a positive correlation to sales. The theory of diminishing returns was supported by the fact that farms with agritourism acreage from 51-100 acres had a negative correlation to sales. Smaller acreage of total farm (11-25) and agritourism acres (6-10) were shown to have a negative correlation to sales, perhaps indicating that these operations were too small to reach the number of visitors necessary to achieve higher volumes of sales.

It was hypothesized that firms that are open for longer periods of time rather than seasonally will have a positive relationship to sales. Agritourism operations that were open 2 months or fewer or that were open from 6-9 months per year were found to have a positive correlation to sales. Seasonal operations had higher sales. This contradicted the original hypothesis.

It was hypothesized that the number of employees employed by the firm will have a positive relationship to sales. This study found that having more than 11 employees was positively related to sales. This makes sense because an operation would need larger volumes of sales to justify having larger numbers of employees.

It was hypothesized that each additional attraction will have a positive relationship to sales. This was not found to be true all of the time. Some attractions including horse rides, outdoor activities, tours, tasting rooms, and vineyard tours did have positive correlation to sales. Others including petting zoos, haunted houses, restaurants, snack bars, and picnic areas had negative correlations to sales.

Agritourism sales greater than \$10,000 were found to have a positive correlation to total sales. This is logical since agritourism sales were a function of total sales.

Owner Characteristics

It was hypothesized that age of the producer will have a positive relationship to sales. This is one of two variables where conflicting research exists. In the cornerstone research for this study, Barbieri and Mshenga (2008) found that age is inversely related to performance. They asserted that perhaps younger farmers are more willing to take risks and try new production techniques. Baghi and Reeder (2012), however, assert that there is a positive relationship between age and profitability. This study confirmed Barbieri and Mshenga's findings. Increased age is negatively correlated to sales.

Similarly, Barbieri and Mshenga determined that education does not have a statistically significant effect on farm sales whereas Baghi and Reeder assert there is a positive relationship. This study supported what Baghi and Reeder found in that having an associate's (2 year),

community college, technical, or graduate degree are positively correlated to sales. An agritourism operator with only a high school diploma was negatively correlated to sales.

Based on Brandth and Haugen (2010) and Barbieri and Mshenga (2008), it was hypothesized that male producers will have greater sales. This study confirmed that male producers were positively correlated to sales.

Based on Barbieri and Mshenga (2008) it was hypothesized that having farming as a primary occupation and business longevity will have positive effects on agritourism sales. Rilla, et al. (2011) agree that business longevity has a positive effect on sales. This study confirmed both of the previous works. Farming as one's primary occupation was found to have a positive correlation to sales while having another primary occupation outside of agriculture was found to have a negative correlation. Similarly, this study confirmed that having an agritourism operation for 6-10 years and for more than 21 years has a positive correlation to sales while having an agritourism operation for less than one year has a negative correlation.

Recommendations

Question #6 asked how long the operation has been in existence but I did not differentiate between regular farming operations and agritourism operations. This would have been a good indicator of when operators added agritourism to existing operations or if they started from scratch with agritourism. Question #20 asked a similar question about the length of time the owner was in agribusiness but it did not specifically address his/her activity with the current business. An owner might have worked with another agritourism entity prior to starting his/her

own business and that might skew the results. I recommend that further research take this into consideration and clarify the question to include prior work history in the agritourism industry.

As was the case in Barbieri and Mshenga's original study, statistical analysis would have been much more accurate with actual total sales figures or net profit figures rather than intervals. It is important to note that total sales are different than net profits. In this study, it is generally assumed that total sales are a good thing, but it doesn't address the profitability issue. One farm might make thousands of dollars more in total sales than another but might be far less profitable than another smaller operation.

As was also Barbieri and Mshenga's suggestion, it would be beneficial to maintain a state-wide database with up-to-date information of any agritourism operation, regardless of its professional affiliations, participation in state or federal programs, or dependence on governmental agencies for assistance. I am sure there are some agritourism farms that were not reached despite the best efforts put forth by this researcher and her colleagues.

It would be easier to address firm characteristics for improvement rather than changing owner characteristics. Adding or selling off acreage, changing activities offered on the farm, and seasonal operations are all easier to address than owner age, education, etc.

One flaw to this research was that respondents were not asked to indicate fees associated with the various activities. Some of these including offering picnic areas and petting zoos might not have utilized a fee for use. A better, more robust study would evaluate these operations on profitability and correlate prices for activities as well.

This research indicates that having a total farm acreage and agritourism acreage from 26-50 acres has a positive correlation to sales. Therefore it is recommended that 26-50 acres should be dedicated to agritourism operations.

This research supported the fact that seasonal operations might be the best option for agritourism operations because they have a positive relationship with sales.

Another factor that might be related to sales that was not addressed in this research is presence on social media as well as use of paid and unpaid advertising efforts. To study activity and engagement with the consuming public of an agritourism farm would be a valuable bit of information. While there are certainly anecdotal stories of positive experiences with social media, there are likely agritourism operators that are unsure of the time and effort to maintain these presences without evidence of the benefits to the farm.

Conclusion

As one can see, there is a clear and positive correlation of memberships in professional organizations, location in proximity to urban areas, acreage of farm and agritourism operations of 26-50 acres, number of employees, seasonal agritourism operations, business plans, farming as primary occupation, being male, and operation longevity to sales. This research provides an analysis of current agritourism operations in Georgia and valuable data that might be applied to development of future agritourism business development programming for major industry associations and can possibly direct the need for further research on this industry for the State.

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APPENDICES

Appendix A

Consent Letter

Dear Participant:

I am a graduate student under the direction of Dr. Jason Peake in the Department of Agricultural Leadership, Education, and Communication at The University of Georgia. I invite you to participate in a research study entitled "How do demographics, location, and operation variety relate to agritourism income?"

Your participation will involve answering this short questionnaire honestly and should only take about 15 minutes. Your involvement in the study is voluntary, and you may choose not to participate or to stop at any time without penalty or loss of benefits to which you are otherwise entitled. If you decide to stop or withdraw from the study, the information/data collected from or about you up to the point of your withdrawal will be kept as part of the study and may continue to be analyzed.

Your information will be kept confidential and anonymously. The results of the research study may be published, but your name or any identifying information will not be used. In fact, the published results will be presented in summary form only.

The findings from this project may provide information on agritourism operations in Georgia. There are no known risks or discomforts associated with this research.

If you have any questions about this research project, please feel free to call my professor, Dr. Jason Peake at 229-386-3085 or by email at jpeake@uga.edu. Questions or concerns about your rights as a research participant should be directed to The Chairperson, University of Georgia Institutional Review Board, 629 Boyd GSRC, Athens, Georgia 30602; telephone (706) 542-3199; email address irb@uga.edu.

By completing and returning this questionnaire, you are agreeing to participate in the above described research project.

Thank you for your consideration! Please keep this information for your records.
Sincerely,

Sarah Cook, Co-Principal Investigator
Special Projects Coordinator
Center of Innovation for Agribusiness
scook@georgia.org

Dr. Jason Peake, Principal Investigator
Associate Professor
Dept. of Agric. Lead., Educ., & Comm.
jpeake@uga.edu

Appendix B Instrument

Section 1. First I would like to gain some background information about your participation in several professional organizations.

1. Are you a farm-based business that is open to visitors for recreational and/or educational purposes (i.e. agritourism business)?

- ☐ Yes
- ☐ No. Please stop here and go to the end of the survey.

2. Are you a member of the following?

	Yes	No
Georgia Agritourism Association	☐	☐
Georgia or County Farm Bureau	☐	☐
Georgia Tourism Association	☐	☐
Regional Tourism Association	☐	☐
Local Chamber of Commerce	☐	☐

Section 2. This section asks a few descriptive questions about your operation.

3. Is your farm

- ☐ Rural (more than 50 miles of a major metropolitan area)
- ☐ Suburban (within 50 miles of a major metropolitan area)
- ☐ Urban (in a major metropolitan area)

4. What is the approximate acreage of your farm?

- ☐ 0-5
- ☐ 6-10
- ☐ 11-25
- ☐ 26-50
- ☐ 51-100
- ☐ 100 or more

5. What is the acreage dedicated to agritourism enterprises?

- ☐ 0-5
- ☐ 6-10
- ☐ 11-25
- ☐ 26-50
- ☐ 51-100
- ☐ 100 or more

6. How long has your operation been in existence?

- ☐ Less than 1 year
- ☐ 1-5 years
- ☐ 6-10 years
- ☐ 11 years or more

7. How many employees do you have?

- ☐ 0-5
- ☐ 6-10
- ☐ 11-20
- ☐ 21-50
- ☐ 51 or more

8. When is your farm open for visitors?

- ☐ Fewer than 2 months a year
- ☐ 2-6 months a year
- ☐ 6-9 months a year
- ☐ 9 months or more

9. What are your approximate annual sales?

- ☐ \$0-\$10,000
- ☐ \$10,000-\$49,999
- ☐ \$50,000-249,999
- ☐ \$250,000 or more

10. What are your approximate annual sales as a result of agritourism enterprises?

- ☐ \$0-\$10,000
- ☐ \$10,000-\$49,999
- ☐ \$50,000-249,999
- ☐ \$250,000 or more

11. Does your operation have a written business plan?

- ☐ Yes
- ☐ No

12. Does your farm offer the following activities?

	Yes	No
Petting zoo	☐	☐
Haunted Houses	☐	☐
Hayrides	☐	☐
Horse or pony rides	☐	☐
Mazes	☐	☐
Nature-based recreation	☐	☐
On-farm overnight stays	☐	☐
Outdoor activities	☐	☐
School tours	☐	☐
Tours (other than school groups)	☐	☐
U-pick vegetable or fruit operation	☐	☐
Weddings/Birthday parties/Private events	☐	☐
Tasting room	☐	☐
Other recreation activities	☐	☐

	Yes	No
Vineyard Tours	☐	☐
Farm Stand	☐	☐
Restaurant or snack bar	☐	☐
Picnic area	☐	☐

Section 3. This section asks a few demographic questions.

13. Are you

- ☐ Male
- ☐ Female

14. What year were you born?

15. What is your race?

- ☐ White/Caucasian
- ☐ African American
- ☐ Hispanic
- ☐ Asian
- ☐ Native American
- ☐ Pacific Islander
- ☐ Other

16. What is the highest level of education you have completed?

- ☐ Some high school
- ☐ High school graduate or GED
- ☐ 2 year degree, community college, or technical certificate
- ☐ College Bachelor's (4 year) degree
- ☐ Graduate degree (Masters or PhD)

17. Is farming your primary occupation?

- ☐ Yes
- ☐ No

18. Is agritourism your primary occupation?

- ☐ Yes
- ☐ No

19. Do you have an additional occupation off the farm?

- ☐ Yes
- ☐ No

20. How many years have you been engaged in agritourism operations?

- ☐ Less than 1
- ☐ 1-5
- ☐ 6-10
- ☐ 11-20
- ☐ 21 or more

21. Is there anything else you'd like to tell me?

Thank you for your time. I appreciate your help!