

# A VISITATION-BASED PROFILE OF AGRITOURISM FARMS IN MISSOURI

---

Christine Tew  
Department of Parks, Recreation and Tourism  
University of Missouri  
cet337@mail.missouri.edu

Carla Barbieri, Ph.D.  
University of Missouri

---

**Abstract.**—We conducted a survey in 2008 to examine the farmland physical characteristics, operator attributes, agritourism offerings, and business operations associated with different levels of visitation on agritourism farms. Responses from 164 agritourism farms show that the majority are family-owned and family-operated and are located in rural areas. In addition to providing for visitors, agricultural production remains a priority on most farms. Chi-square and ANOVA tests show that larger numbers of visitors are associated with increased farm sales and profits, and that the targeted number of visitors is a management option not related to characteristics of the farmland or operator.

---

## 1.0 INTRODUCTION

As the agricultural context in the United States changes, farmers' attention is increasingly turning toward agritourism (Veeck et al. 2006, Nickerson et al. 2001). Family farms are facing challenges related to price instability, increasing land values, increasing agricultural input costs, reduced government support, and the economics of large-scale commodity production (Salamon 2003, Busby and Rendle 2000, Ilbery 1991). Coping strategies vary among farmers but include taking off-farm employment, abandoning farming, and developing non-farming enterprises.

On-farm entrepreneurial diversification, especially in the form of agritourism, is another way of responding to changes in the agriculture industry. Some have

suggested that agritourism can create a more stable, and often higher, income for the producer and can supplement farm incomes in times of economic distress, such as a poor harvest or depressed prices (Barbieri et al. 2008, Brandth and Haugen 2007, Fisher 2006, McGehee and Kim 2004, Nickerson et al. 2001). Although agritourism may increase farm revenues (Che 2007, Veeck et al. 2006), the impact of the number of visitors on farm profits remains poorly understood. Further, little information is available about different farm attributes associated with various levels of visitation.

The purpose of this study was to examine differences in farmland physical characteristics, operator attributes, agritourism offerings, and business operations (i.e., economic performance, marketing strategies and management indicators) among agritourism farms in Missouri receiving different levels of visitation. It is important to understand the influence of farm attributes on farm visitation and the effect of visitor numbers on farm profits since there is growing interest in agritourism among Missouri farms and within the state agriculture agency.

## 2.0 LITERATURE REVIEW

Agritourism is usually defined as any recreational or leisure activity programmed on a working farm or other agricultural operation with the purpose of attracting visitors (Che et al. 2005, Ollenburg and Buckley 2007). Diversifying via agritourism can help farms expand their business and increase economic gains either directly through the generation of revenues or indirectly through the sales and branding of other farm products/services (e.g., value-added products) and increased business awareness (Barbieri and Mahoney 2009, Ilbery 1991, Nickerson et al. 2001).

Some farm attributes, such as low fixed costs, length of time in business, number of employees, and farm acreage may contribute to increased agritourism farm

profitability (Barbieri and Mshenga 2008, Barbieri et al. 2008, Che 2007, Veeck et al. 2006). Veeck et al. 2006 suggested that a higher numbers of farm visitors will directly generate greater revenues and Che (2007) found a positive association between number of visitors and the overall farm sales. However, the specific relationship between visitor numbers and farm profits has received little attention in past research.

### 3.0 METHODS

In 2008, we conducted a survey of Missouri farmers with diversified enterprises including agritourism, using both printed and electronic questionnaires. The survey collected information on the characteristics of responding farmers and their land, types of agritourism offerings, and different business indicators (i.e., economic performance, marketing strategies, and management resources). The study sample of 564 was drawn from farms affiliated with Missouri Department of Agriculture marketing programs and a keyword Internet search. In addition, a snowball sampling technique was employed to capture those not included on formal lists. A total of 260 farm operators completed the questionnaire (43.6 percent response rate). This paper presents data from the 164 respondents involved in agritourism.

Responding farms were divided into three groups based on the number of visitors they had between January and December 2008. The first group (n=77; 50.7 percent), labeled “Low Visitation” farms, received less than 500 visitors during the year. “Moderate Visitation” farms (n=40; 26.3 percent), received 500-2,999 visitors, while “High Visitation” farms (n=35; 23.0 percent) reported 3,000 or more visitors that year. This study utilized chi-square and analysis of variance (ANOVA) to compare the three groups regarding the attributes of their farmland, operators, agritourism offerings, and business operations. Subsequent pairwise comparisons (including Tukey post-hoc) were conducted to examine differences between groups.

## 4.0 RESULTS

### 4.1 Profile of Responding Agritourism Farms and their Operators

Responding agritourism farms had, on average, 333.1 acres. About two-thirds (67.3 percent) were located at least 30 miles away from an urbanized area with at least 50,000 population, and 85.2 percent were still in the business of farming, mainly growing specialty crops (58.4 percent). The majority were owned and operated by an individual (32.5 percent) or a non-corporate family (32.5 percent), which are the traditional family farm structures. There was an even distribution between first-generation (48.8 percent) and multi-generational farmers (50.6 percent). Although they had diverse educational backgrounds, over a quarter (26.1 percent) had formal education in both agriculture and business. A total of 53.4 percent of the respondents (53.4 percent) were at least 55 years old and 32.9 percent were retired from a previous job or profession.

About one-fifth (19.6 percent) of the respondents had entered into the agritourism market within the past two years, while 40.6 percent had been receiving visitors for more than ten years. This shows the co-existence of new entrants and well-established agritourism farms in Missouri. Respondents were generally very proactive in their marketing strategies, using about five marketing methods on average ( $M=4.6$ ). Nearly all (90.8 percent) reported at least one membership in agriculture, business, and/or tourism associations.

Responding agritourism farms received more than 1.2 million visitors in 2008, mostly seniors (73.5 percent), families with young children (73.5 percent) and couples without children (72.2 percent). Farms that participated in this study offered a variety of recreational activities, the most prevalent of which were education and leisure tours (62.8 percent), recreational self-harvest crops (37.7 percent), and observation of agricultural processes (34.6 percent). On average, farms offered four different recreational activities ( $M=3.7$ ) to visitors, with 64.6 percent also offering at least one type of hospitality service, most frequently related to food and beverages (53.0 percent).

## 4.2 Comparison of Farmland and Operator Attributes among Visitor Classes

Statistical analysis showed no significant differences among the three farm groups in their physical farmland characteristics including total acreage, acreage farmed, and proximity to an urban area (Table 1). There were no significant differences among groups regarding the operator's retirement status or educational background or the number of family generations involved in farming.

There were significant differences between farms in the low, medium, and high visitation groups in terms of recreational and hospitality offerings, the types of visitors they received, and the marketing strategies they used to promote farm offerings and services (Table 2). Farms with the highest numbers of visitors offered a significantly greater number of recreational activities and food services on average ( $M=5.3$  activities/services) than did farms in the "Moderate" ( $M=3.8$  activities) and "Low" ( $M=3.2$  activities) visitation groups ( $F=11.065$ ,  $p<0.001$ ). Offerings of specific activities also varied; recreational self-harvest activities were more often available on

"Low Visitation" farms ( $x^2=11.210$ ,  $p=0.004$ ), while field or hay rides ( $x^2=10.372$ ,  $p=0.006$ ) and pumpkin patches ( $x^2=17.090$ ,  $p<0.001$ ) were more likely to be offered on "High Visitation" farms. There were no significant differences between the visitation level groups regarding leisure and educational tours. Farms receiving more than 3,000 visitors per year received a more diverse clientele in terms of party composition ( $F=10.214$ ,  $p<0.001$ ). Seniors and families with young children were the most common visitor types reported, with seniors varying significantly across the three study groups ( $x^2=16.376$ ,  $p<0.001$ ).

Farms with a higher number of visitors were more proactive in their marketing strategies, which included blogs and Web sites, paid advertisements, and memberships in professional or trade associations. Three-quarters of "Moderate Visitation" farms (75.0 percent) and 85.7 percent of "High Visitation" farms but only 43.8 percent of "Low Visitation" farms placed paid advertisements in mass media ( $x^2=21.481$ ,  $p<0.001$ ). There were no differences among the three segments in their use of blogs and Web sites (Table 3). Membership in agricultural,

**Table 1.—Farmland physical characteristics and operator attributes associated with different levels of farm visitation**

Farmland and Operator Attributes	Low Visitation (n=77)	Moderate Visitation (n=40)	High Visitation (n=35)	Test Statistics*
<b>Farm Size (n=144)</b>				
Number of farmland acres	293	248	562	$F=1.192$
Number of acres in production	267	183	523	$F=1.171$
<b>Distance from an Urban Area (n=150)</b>				
Less than 10 miles	10.5%	17.5%	14.7%	$F=0.627$
10-29 miles	18.4%	15.0%	20.6%	
30-59 miles	30.3%	35.0%	29.4%	
60 miles or more	40.8%	32.5%	35.3%	
<b>Retirement Status of Farm Operator (n=144)</b>				
Retired from previous career	23.9%	46.2%	32.4%	$x^2=5.715$
Not retired from previous career	76.1%	53.8%	67.6%	
<b>Farmer Educational Background (n=144)</b>				
Agriculture	20.0%	12.8%	14.3%	$x^2=7.175$
Business	17.1%	23.1%	17.1%	
Agriculture and business	18.6%	28.2%	40.0%	
Other educational background	44.3%	35.9%	28.6%	
<b>Generations in Farming (n=146)</b>				
First generation farmers	48.6%	51.3%	45.5%	$x^2=0.243$
At least 2nd generation farmers	51.4%	48.7%	54.5%	

\* No significant differences were found ( $p<.05$ ).

**Table 2.—Agritourism offerings and visitor types associated with different levels of farm visitation**

Agritourism Indicators	Low Visitation (n=77)	Moderate Visitation (n=40)	High Visitation (n=35)	Test Statistics
<b>Recreation Activities Available on Farm (n=152)</b>				
U-pick or U-harvest items	23.4% <sup>a</sup>	47.5% <sup>b</sup>	51.4% <sup>b</sup>	$\chi^2=11.210$ **
Festivals	15.6% <sup>a</sup>	32.5% <sup>b</sup>	57.1% <sup>c</sup>	$\chi^2=20.159$ ***
Field or hay rides	19.5% <sup>a</sup>	25.0% <sup>a</sup>	48.6% <sup>b</sup>	$\chi^2=10.372$ **
Winery	5.2% <sup>a</sup>	37.5% <sup>b</sup>	22.9% <sup>b</sup>	$\chi^2=19.615$ ***
Pumpkin patch	7.8% <sup>a</sup>	17.5% <sup>a</sup>	40.0% <sup>b</sup>	$\chi^2=17.090$ ***
Number of available activities <sup>1</sup>	3.2 <sup>a</sup>	3.8 <sup>a</sup>	5.3 <sup>b</sup>	$F=11.065$ ***
<b>Hospitality and Hosting Services Available on Farm (n=152)</b>				
Tasting rooms	11.7% <sup>a</sup>	37.5% <sup>b</sup>	37.1% <sup>b</sup>	$\chi^2=13.569$ **
Food stand	14.3% <sup>a</sup>	12.5% <sup>a</sup>	48.6% <sup>b</sup>	$\chi^2=19.351$ ***
Cookouts, barbecues, picnics	15.6% <sup>a</sup>	20.0% <sup>a</sup>	42.9% <sup>b</sup>	$\chi^2=10.378$ **
Catering or customized meals	5.2% <sup>a</sup>	20.0% <sup>b</sup>	34.3% <sup>b</sup>	$\chi^2=16.039$ ***
Weddings or private parties	22.1% <sup>a</sup>	50.0% <sup>b</sup>	45.7% <sup>b</sup>	$\chi^2=11.392$ **
<b>Types of Farm Visitors (n=152)</b>				
School groups	42.9% <sup>a</sup>	40.0% <sup>a</sup>	68.8% <sup>b</sup>	$\chi^2=7.775$ *
Families with young children	67.5%	80.0%	85.7%	$\chi^2=4.966$
Families with older children	61.0%	75.0%	71.4%	$\chi^2=2.709$
Couples without children	64.9% <sup>a</sup>	82.5% <sup>b</sup>	82.9% <sup>b</sup>	$\chi^2=6.162$ *
Seniors	61.0% <sup>a</sup>	87.5% <sup>b</sup>	91.4% <sup>b</sup>	$\chi^2=16.376$ ***
Organization groups	46.8% <sup>a</sup>	67.5% <sup>b</sup>	88.6% <sup>c</sup>	$\chi^2=18.569$ ***
Others	18.2%	10.0%	14.3%	$\chi^2=1.398$
Number of visitor types	3.6 <sup>a</sup>	4.4 <sup>b</sup>	5.0 <sup>b</sup>	$F=10.214$ ***

<sup>1</sup> The index of available farm activities (1-18) excludes wineries and festivals.

a,b,c Any two values that do not share a superscript are significantly different in pairwise comparisons and Tukey's HSD ( $p<.05$ ).

\*  $p<.05$  \*\*  $p<.01$  \*\*\*  $p<.001$

**Table 3.—Farm marketing and management attributes associated with different levels of farm visitation**

Marketing and Management Indicators	Low Visitation (n=77)	Moderate Visitation (n=40)	High Visitation (n=35)	Test Statistics
<b>Types of Marketing Methods (n=148)</b>				
Blogs	84.9%	90.0%	94.3%	$\chi^2=2.155$
Specialized directories	37.0% <sup>a</sup>	50.0% <sup>b</sup>	80.0% <sup>c</sup>	$\chi^2=17.521$ **
Ads in media	43.8% <sup>a</sup>	75.0% <sup>b</sup>	85.7% <sup>b</sup>	$\chi^2=21.481$ ***
Printed materials	58.9% <sup>a</sup>	70.0% <sup>b</sup>	91.4% <sup>c</sup>	$\chi^2=11.831$ **
Personal selling	54.8%	62.5%	71.4%	$\chi^2=2.812$
Number of methods	3.8 <sup>a</sup>	4.8 <sup>b</sup>	6.1 <sup>c</sup>	$F=16.205$ ***
<b>Involvement with Business-related Associations (n=137)</b>				
Number of memberships	2.1 <sup>a</sup>	2.9 <sup>b</sup>	3.7 <sup>c</sup>	$F=15.891$ ***
<b>Years Receiving Visitors to the Farm (n=152)</b>				
Less than 1 year	7.8% <sup>a</sup>	5.0% <sup>b</sup>	0.0% <sup>a</sup>	$\chi^2=24.821$ **
1-2 years	23.4%	10.0%	0.0%	
3-5 years	23.4%	25.0%	11.4%	
6-9 years	18.2%	17.5%	20.0%	
10 years or more	27.2%	42.5%	68.6%	
<b>Charging for Farm Activities (n=149)</b>				
Fees charged at farm	45.3% <sup>a</sup>	69.2% <sup>b</sup>	85.7% <sup>c</sup>	$\chi^2=17.846$ **
Fees not charged	54.7%	30.8%	14.3%	
<b>Average Number of Farm Employees (n=131)</b>				
Total farm employees	6.2 <sup>a</sup>	6.0 <sup>a</sup>	29.1 <sup>b</sup>	$F=14.287$ ***
Agritourism employees	1.8 <sup>a</sup>	5.0 <sup>a</sup>	16.8 <sup>b</sup>	$F=17.828$ ***

a,b,c Any two values that do not share a superscript are significantly different in pairwise comparisons and Tukey's HSD ( $p<.05$ ).

\*  $p<.05$  \*\*  $p<.01$  \*\*\*  $p<.001$

tourism, and other professional organizations was also associated with visitor numbers ( $F=15.891$ ,  $p<.001$ ). Farms with greater longevity in agritourism were likely to be receiving more visitors ( $\chi^2=24.821$ ,  $p=0.002$ ), and a significantly larger proportion of “High Visitation” farms (85.7 percent) charged some type of fees for participating in agritourism activities compared to “Moderate Visitation” (69.2 percent) and “Low Visitation” (45.3 percent) farms ( $\chi^2=17.846$ ,  $p=0.004$ ). “High Visitation” farms were likely to employ more people overall ( $M=29.1$ ) and more employees dedicated specifically to agritourism activities ( $M=16.8$ ) than “Moderate Visitation” ( $M=6.0$  and  $M=5.0$ ) and “Low Visitation” ( $M=6.2$  and  $M=1.8$ ) farms ( $F=14.287$ ,  $p=0.001$  and  $F=17.828$ ,  $p<0.001$ ).

There were significant differences in economic situations among farms in the different visitation categories. “High Visitation” farms were most likely to perceive their agritourism operation as profitable (33.3 percent) or generating some profits (48.5 percent). In contrast, only a small proportion of “Moderate Visitation” farms (15.8 percent) and “Low Visitation” farms (18.4 percent) perceived themselves as profitable ( $\chi^2=15.319$ ,  $p=0.018$ ; Table 4). Furthermore, farms with greater numbers of visitors had higher gross farm sales across all three visitor number segments ( $\chi^2=36.313$ ,  $p<0.001$ ). Finally, the “High Visitation” (37.3 percent) and “Moderate Visitation” (27.2 percent) farms received a greater percentage of their

farm sales from recreational activities than did “Low Visitation” (11.0 percent) farms ( $F=9.500$ ,  $p<0.001$ ).

## 5.0 CONCLUSIONS

This study revealed that agritourism operations can be managed to attract a high number of visitors, regardless of the farm’s specific physical or operator characteristics. The lack of significant differences in visitor levels between farms of different sizes and different urban proximity statuses suggests that such characteristics are neither incentives nor barriers to increasing farm visitor numbers. Likewise, results suggest that agritourism is a viable option for both new entrants and those rooted in the agriculture industry no matter their educational background. This is critical since the current agricultural context is attracting hobby or part-time farmers seeking a rural lifestyle, while also pushing established farmers to seek alternative ways to manage the economic challenges associated with farming.

While the number of farm visitors is related to management decisions about outreach and programming, the study results also suggest that farm sales and profit levels are dependent upon those management decisions, rather than on farm attributes. In addition, a larger number of visitors is associated with increased farm sales and increased farm profits. Therefore, farm operators who are willing to make greater investments in their agritourism activities,

**Table 4.—Economic indicators of the farm business associated with different levels of farm visitation**

Economic Indicators	Low Visitation (n=77)	Moderate Visitation (n=40)	High Visitation (n=35)	Test Statistics
<b>Farm Economic Situation (n=147)</b>				
Profitable business	18.4% <sup>a</sup>	15.8% <sup>a</sup>	33.3% <sup>b</sup>	$\chi^2=15.319$ *
Generates some profit	25.0%	42.1%	48.5%	
Breaking even	21.1%	15.8%	6.1%	
Operating at a loss	35.5%	26.3%	12.1%	
<b>Gross Farm Sales in 2008 (n=143)</b>				
Less than \$49,999	63.2% <sup>a</sup>	65.7% <sup>b</sup>	6.3% <sup>c</sup>	$\chi^2=36.313$ ***
\$50,000 to \$499,999	25.0%	31.4%	59.3%	
\$500,000 or more	11.8%	2.9%	34.4%	
<b>Recreation Related Farm Sales (n=143)</b>				
Recreation percentage of sales	11.0% <sup>a</sup>	27.2% <sup>b</sup>	37.3% <sup>b</sup>	$F=9.500$ ***

<sup>a,b,c</sup> Any two values that do not share a superscript are significantly different in pairwise comparisons and Tukey’s HSD ( $p<.05$ ).

\*  $p<.05$  \*\*  $p<.01$  \*\*\*  $p<.001$

such as by providing more activities, promoting the business with paid advertisements, or devoting more time to the farm business during retirement, may improve their economic situation. These results also suggest that marketing efforts directed toward entrepreneurs involved with agritourism may be tailored to their desired visitation level, rather than limited to their personal characteristics and those of their farmland.

## 6.0 LITERATURE CITED

- Barbieri, C.; Mahoney, E. 2009. **Why is diversification an attractive farm adjustment strategy? Insights from Texas farmers and ranchers.** *Journal of Rural Studies*. 25(1): 58-66.
- Barbieri, C.; Mahoney, E.; Butler, L. 2008. **Understanding the nature and extent of farm and ranch diversification in North America.** *Rural Sociology*. 73(2): 205-229.
- Barbieri, C.; Mshenga, P. 2008. **The role of firm and owner characteristics on the performance of agritourism farms.** *Sociologia Ruralis*. 48(2): 166-183.
- Brandth, B.; Haugen, M.S. 2007. **Gendered work in family farm tourism.** *Journal of Comparative Family Studies*. 38(3): 379-393.
- Busby, G.; Rendle, S. 2000. **The transition from tourism on farms to farm tourism.** *Tourism Management*. 21(8): 635-642.
- Che, D. 2007. **Agritourism and its potential contributions to the agricultural economy.** *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources*. 63(2): 1-7.
- Che, D.; Veeck, A.; Veeck, G. 2005. **Sustaining production and strengthening the agritourism product: linkages among Michigan agritourism destinations.** *Agriculture and Human Values*. 22(2): 225-234.
- Fisher, D. 2006. **The potential for rural heritage tourism in the Clarence Valley of Northern New South Wales.** *Australian Geographer*. 37(3): 411-424.
- Ilbery, B. 1991. **Farm diversification as an adjustment strategy on the urban fringe of the West Midlands.** *Journal of Rural Studies*. 7(3): 207-218.
- McGehee, N.; Kim, K. 2004. **Motivation for agritourism entrepreneurship.** *Journal of Travel Research*. 43(2): 161-170.
- Nickerson, N.; Black, R.; McCool, S. 2001. **Agritourism: motivations behind farm/ranch business diversification.** *Journal of Travel Research*. 40(1): 19-26.
- Ollenburg, C.; Buckley, R. 2007. **Stated economic and social motivations of farm tourism operators.** *Journal of Travel Research*. 45(4): 444-452.
- Salamon, S. 2003. **From hometown to nontown: rural community effects of suburbanization.** *Rural Sociology*. 68(1): 1-24.
- Veeck, G.; Che, D.; Veeck, J. 2006. **America's changing farmscape: a study of agricultural tourism in Michigan.** *The Professional Geographer*. 58(3): 235-248.

The content of this paper reflects the views of the author(s), who are responsible for the facts and accuracy of the information presented herein.