

Motivation for Agri-Tourism Entrepreneurship

NANCY G. MCGEHEE AND KYUNGMI KIM

The purpose of this study was to reveal the motivations for agri-tourism entrepreneurship among Virginia farm families and to explore Weber's theory of formal and substantive rationality as a possible theoretical framework for agri-tourism entrepreneurship motivation. Results of this study support the use of Weber's theory of formal and substantive rationality as a framework for the dynamic nature of motivations for agri-tourism entrepreneurship between formal (primarily economic) reasons and substantive (primarily socio-cultural) reasons. Respondents indicated that Virginia farm families owned small farms, utilized farming as a secondary income source, and indicated their most popular agri-tourism activities to be pick-your-own produce, Christmas tree sales, hayrides, children's educational programs, petting zoos, and on-farm festivals. Agri-tourism planners should be aware that acres owned, economic dependence on farming operation, and perceived popularity of agri-tourism activities are influential factors to motivate agri-tourism entrepreneurs.

Keywords: *agri-tourism; formal and substantive rationality; entrepreneurship motivation; rural tourism development*

A great deal of interest has been focused on the area of agri-tourism in recent years (Bowen, Cox, and Fox 1991; Cawley et al. 1995; Davies and Gilbert 1992; Mjalager 1996; Nickerson, Black, and McCool 2001; Vogeler 1977). Poor agriculture commodity prices, rising production costs, globalization, industrialization, the encroachment of suburban development, loss of government-supported agriculture programs, and the elasticity of commodities markets have led farm families to explore the viability of alternative economic strategies in an effort to preserve the family farm (Doyle and McGehee 2002; Lobo et al. 1999; Weaver and Fennell 1997). According to Bowler et al. (1996), these strategies include receiving compensation from the state, farm size expansion, specialized production, off-farm employment, leaving agriculture altogether, or, most importantly for this study, the development of alternative farm enterprises (AFE's) like agri-tourism.

While a growing body of literature in agri-tourism development exists, a great deal more focused, organized research is needed to maximize the success of this particular form of rural tourism. In response to a call to build on existing research in a logical and organized manner (Busby and Rendle, 2000), this article uses an existing agri-tourism development study conducted in Montana by Nickerson, Black, and McCool (2001) to conduct a similar study in Virginia. Both studies examine the supply side of agri-tourism, specifically the motivation for agri-tourism entrepreneurship

by farm families. The research focus for this study targets the motivations for agri-tourism entrepreneurship among Virginia farm families and frames it in the context of Weber's formal and substantive rationality. The study investigates whether different motivations exist based on types of agricultural operation, size of operation, years in agriculture, and years in agri-tourism.

Following a discussion of the challenges surrounding the development of a consistent definition of agri-tourism, an overview of the state of the research in motivation for agri-tourism entrepreneurship will be outlined. Next, an exploratory theoretical foundation for motivations of agri-tourism entrepreneurship will be presented. The methods and findings sections will focus on the Virginia study but will also include comparisons of motivations for agri-tourism entrepreneurship between the Virginia findings and the results of other studies. Results will be analyzed, and a discussion will follow that provides research and policy recommendations concerning agri-tourism entrepreneurship.

DEFINING AGRITOURISM

There are many definitions of agri-tourism in existence, and many types and terms of agriculture-related tourism that are similar to agri-tourism. For example, agri-tourism is seen as virtually identical to its European equivalent "farm tourism" (Busby and Rendle 2000; Getz and Carlsen 2000). With both terms, the farm environment is part of the product (Clarke 1996). Busby and Rendle (2000, p. 636) report an evolution of more than 13 definitions of farm tourism/agri-tourism currently in the literature. Other terms such as rural tourism and farm vacation tourism differ from agri-tourism. For example, agri-tourism and rural tourism are not the same—agri-tourism may be seen as a segment within rural tourism (Wilson et al. 2001). Rural tourism includes

Dr. Nancy G. McGehee is an assistant professor at Virginia Polytechnic Institute and State University. She is a sociologist whose areas of research include rural tourism and social effects of tourism. Dr. Kyungmi Kim is an assistant professor at Southern Illinois University at Carbondale. She recently graduated with a Ph.D. in the department of Hospitality and Tourism Management at Virginia Tech. Her interests cover rural tourism development and residents' quality of life in tourism destination. The authors wish to thank the Virginia Farmers Direct Marketing Association as well as the Virginia Department of Agriculture for providing a database from which a target population for this study was derived. We are also very grateful to Dr. Norma Nickerson at the University of Montana for sharing her survey instrument.

Journal of Travel Research, Vol. 43, November 2004, 161-170
DOI: 10.1177/0047287504268245
© 2004 Sage Publications

additional forms of tourism that exist in a rural setting, including eco-tourism and other nature-based forms of tourism, cultural tourism that does not relate directly to agriculture (e.g., outdoor dramas that occur in rural areas but do not have an agriculture theme), or rural adventure tourism (O'Donnell 1991; Lane 1995). Farm vacation tourism is a segment within the realm of agri-tourism but includes only the accommodations sector of tourism (Pizam and Poleka 1980; Weaver and Fennell 1997). Agri-tourism can include various types of overnight accommodations but also encompasses day visits to on-farm attractions like festivals and educational events.

The definition utilized in this study is that of Weaver and Fennell (1997): "rural enterprises which incorporate both a working farm environment and a commercial tourism component" (p. 357). Examples of agri-tourism may include farm stays, bed-and-breakfasts, pick-your-own produce, agricultural festivals, farm tours for children, or hayrides.

CURRENT RESEARCH IN MOTIVATION FOR AGRI-TOURISM ENTREPRENEURSHIP

Many studies have focused on motivation or rationale for development of agri-tourism enterprises. The obvious, and most prevalent, reasons for agri-tourism development are economically based (Busby and Rendle 2000; Weaver and Fennell 1997; Miller 1993; Nickerson, Black, and McCool 2001). Weaver and Fennell (1997) found Canadian respondent's "reasons for establishing their vacation farms" (pp. 359-60) to be primarily economic or financial, specifically in terms of offsetting falling income from agriculture. As with many economic endeavors, motivation to develop an agri-tourism business may change over time. For example, in the United Kingdom, what may be initially rooted in social or cultural motivations may become more economically based as some agri-tourism businesses take over as the primary income-producer (Busby and Rendle 2000). Stewart (as quoted in Peebles 1995) pointed out numerous examples where agri-tourism enterprises had grown from a secondary business that provided minimal income to the primary source of income for the farm family. Getz and Carlsen (2000) found that the appeal of finding economic means to support a rural lifestyle was the strongest motivation among rural Western Australians. However, the economic success of agri-tourism is often modest. Busby and Rendle (2000) found that for many, the added revenue gained from agri-tourism activities is minimal (an average of only 5% according to Weaver and Fennell [1997]), as is employment (an average of four part-time employees dedicated to the farm vacation component of an agricultural operation), but even the small contribution may provide the difference between survival and bankruptcy. Finally, it should be recognized that not all agri-tourism development is derived from economic hard times. Cawley et al. (1995) found that level of farm debt was not a significant determinant in alternative farm enterprise development.

Some researchers have found more socially based reasons for agri-tourism development among their study subjects (Getz and Carlsen 2000; Maude and van Rest 1985; Weaver and Fennell 1997). Weaver and Fennell (1997) found motivations among their Canadian respondents to include sharing the rural experience with outsiders, opportunities to

socialize and meet new people, and satisfaction. Nickerson, Black, and McCool (2001) found a desire to educate the public about agriculture to rank high as a motivation among Montana farm and ranch families. Putzel (1984) also identified commitment to educate consumers as a reason to diversify into farm and ranch tourism.

While a growing body of research has examined the motivations for agri-tourism development, very little theoretical work has been initiated. Evans and Ilbery (1989) established a conceptual framework for examining farm-based accommodation. Their work comes from a political economy perspective, which "allows a conceptualization (sic) of the behavior (sic) of individuals as constrained by the political economy in which such action occurs" (pp. 258-9). Concentration and accumulation of wealth primarily account for changes in agriculture production. Evans and Ilbery concentrate their attention on the external and internal environments surrounding the agricultural entrepreneur. These influences are very important and cannot be overstated; however, individual agency cannot be discounted or ignored. Agency may be defined as an individual's ability to alter his or her social environment. A political economy perspective is invaluable as a lens through which we can examine the macroenvironment of agriculture, but the microenvironment, specifically the role of the individual in the environment, needs a slightly different perspective.

INTRODUCING A WEBERIAN THEORETICAL FRAMEWORK

Max Weber is considered to be one of the founders of sociological theory (Jagd 2002). While many originally analyzed and critiqued his concepts in the context of macroeconomic sociology, recent analysis posits that much of his work, particularly volume 2 of *Economy and Society*, was more oriented toward microeconomics and "can be explained as an attempt to present a conceptual framework for the analysis of the genesis and the development of the modern rational business enterprise" (Jagd 2002, p. 210). A great deal of Weber's interpretation of the business enterprise in the context of capitalism rested on his ideas about economic rationality. Rationality, according to Weber, is the underlying force or reasoning (means) behind the creation of some form of economic activity (ends) (Roth and Wittich 1978; Taylor 1994). Rationality may be formal or substantive. "Weber distinguished between formal rationality, which sought efficiency, and substantive rationality, which sought adherence to a conceptual or ideological system, and saw those two as opposed, particularly in economic life" (Nwala 1974, p. 22).

Weber's formal rationality identifies the means in which the end goal of the "provision of needs, which is essential to everyday rational economy, [and] is capable of being expressed in calculable terms" (Roth and Wittich 1978, p. 95), may be achieved. Agri-tourism motivations that are formally rational include offsetting falling income; supplementing a season of poor yield and, hence, little profit; or providing additional revenue.

Substantive rationality describes choices motivated by more than the provision of economic needs. For instance, choice may be motivated by a particular philosophical bent, sense of morality, or simply a vision for societal change. An

agri-tourism entrepreneur who is substantively motivated is concerned with the “degree to which the provisioning of given groups of persons (no matter how delimited) with goods is shaped by economically oriented social action (means) under some criterion (past, present, or potential) of ultimate values, regardless of the nature of those ends” (Roth and Wittich 1978, p. 85). Substantive rationality is exemplified in the interest of agri-tourism entrepreneurs to educate the public about agriculture. Substantive rationality can be characterized as a desire to cultivate the values of the farm family (and often the larger community as well) as opposed to only individual economic gain.

Weber argued that those who manage any postcapitalist business enterprise must recognize and deal with the tensions between formal and substantive rationality. Any business, including the agri-tourism business, rarely forms around a singular purpose; therefore entrepreneurs must find their place along the formal-substantive rationality continuum (Flora and Flora 1988; McGehee and Meares 1998; Seitz 1995). Individual agri-tourism businesses cannot be simply categorized as either formal or substantively rational in their motivation but, more likely, as a mix of each, weighted toward one or the other.

The formal-substantive mix of one enterprise does not operate in a vacuum. Unlike critical sociological perspectives, Weber argued that an individual can have an effect on the larger community. Weber’s ideas about what drives people—as individuals and as part of a business—to organize in specific ways are used as a springboard for understanding how differences in motivation and means lead to different ends. The forms agri-tourism businesses take and the purposes to which they work (means) may vary, resulting in different ends or outputs (Moye 1993). Through analysis of the motivation of farm families involved in agri-tourism (means), the kinds of contributions that can be made to a community by an agri-tourism business (ends) are examined. Hence, the way in which one pursues the development of an agri-tourism business on the farm will affect the larger community. In this sense, individuals and the businesses they form can be seen as agents of change—agents reacting against the dominance of dependency-oriented structures often found in other forms of rural development (Seitz 1995). The agri-tourism entrepreneurs in this study embody this type of local agency. Literature on agri-tourism development suggests that perhaps the mix of economic and social motivators (formal and substantive rationality) of an agri-tourism business results in various contributions to the community (Nickerson, Black, and McCool 2001). Additionally, understanding where various groups of agri-tourism entrepreneurs fall in the continuum of rationality in terms of motivation, informed by Weber’s concepts, is an important step in revealing specific needs for community self-development. In other words, a better understanding of what motivates agri-tourism entrepreneurs in a Weberian framework will (1) help identify a wider range of potential contributions made by the presence of agri-tourism in the community and (2) assist community development specialists like extension agents and small business development centers in providing the appropriate assistance to agri-tourism entrepreneurs.

METHODS

Data were collected from farm families throughout Virginia. The study used Virginia’s farmer’s marketing association membership list along with addresses contributed by cooperative extension agents throughout the Commonwealth. After gleaning incorrect addresses, deceased members, and those no longer farming from the list, a total of 987 farm families served as the sampling frame for the study. A questionnaire was developed to identify motivation for agricultural diversification. The instrument was adopted from the study by Nickerson, Black, and McCool (2001). As a result of discussion with industry and university personnel, appropriate changes were made to the instrument to fit the population. A mail-back survey was then conducted following Dillman’s (1978) protocol. After first-round surveys were mailed, a reminder postcard was sent to every respondent 1 week later. A second round of surveys was mailed to nonrespondents 2 weeks after the mailing of the postcard. Surveys were distributed during the early spring to ensure that most respondents would be at home. Of the useable surveys, 412 were returned from 987 mailed for a 42% response rate. This response rate fell between typical agri-tourism studies, including Vogeler’s (1977) 32% response rate and Oppermann’s (1995) 68% response rate.

A six-page survey instrument that included a business reply envelope was mailed to the entire population in the marketing association mailing list. The survey instrument consisted of two parts: (1) general information about the respondents (time involved in agriculture, current type[s] of agriculture business, projected future type[s] of agri-tourism business, size of agriculture business, the number of employees and income) and (2) the 11 motivations of operating an agri-tourism business. The following 11 reasons were listed:

1. fluctuations in agriculture (AG) income,
2. employment for family members,
3. additional income,
4. losing government agriculture (AG) programs,
5. to meet a need in the tourism market,
6. tax incentives,
7. companionship with guests/visitors,
8. it’s an interest/hobby of ours,
9. to fully utilize our resources,
10. observed agri-tourism successes of others, and
11. to educate the consumer.

Respondents rated each reason on a 5-point Likert-type scale with the level of importance ranging from *not at all relevant* (1) to *very relevant* (5).

Data analysis of the study consisted of three steps. The first step was to provide a descriptive profile of the general information of the agricultural business and agri-tourism based on selected questions. In the second step, the study employed factor analyses of the socioeconomic motivation scales to delineate the underlying dimensions of the motivations of operating agri-tourism business. In the final step, a MANOVA was performed using SPSS 11.0 to investigate whether there were significant differences based on general information related to agri-tourism businesses. This test is more appropriate than univariate ANOVA to assess overall

TABLE 1
RESPONDENT CHARACTERISTICS

Variables	Frequencies	%
Acres you own and operate (<i>n</i> = 338, <i>M</i> = 200)		
Less than 100 acres	72	48.6
101 acres to 300 acres	41	27.7
More than 300 acres	35	23.6
Acres you lease (<i>n</i> = 99, <i>M</i> = 251)		
Less than 100 acres	60	60.6
101 acres to 300 acres	20	20.2
More than 300 acres	19	19.2
The number of full time employees (<i>n</i> = 214)		
1 person	80	37.4
2 persons	71	33.2
3 and over	63	29.4
Dependence on farming operation (<i>n</i> = 351)		
Full-time with all income from farming	117	33.3
Part-time farm income primary and off-farm secondary	26	7.4
Part time, off-farm income primary and on-farm income secondary	102	29.1
Part time, on- and off-farm equal importance	26	7.4
Hobby interest, farm income not critical	54	15.4
Household income (<i>n</i> = 327)		
Less than \$50,000	111	33.9
\$50,001 to \$100,000	140	42.8
More than \$100,000	76	23.2
How many years involved in agriculture? (<i>n</i> = 331, <i>M</i> = 36.6)		
1 year to 10 years	52	15.7
11 years to 20 years	81	24.5
21 years to 30 years	71	21.5
31 years to 40 years	36	10.9
41 years to 50 years	34	10.3
51 years to 60 years	22	6.6
More than 61 years	35	10.6
How many years involved in agri-tourism? (<i>n</i> = 148)		
1 year to 10 years	72	48.6
11 years to 20 years	41	27.7
More than 20 years	35	23.6
Currently operate an agri-tourism business? (<i>n</i> = 331)		
Yes	148	44.7
No	183	55.2
Most popular agri-tourism activities		
Pick your own produce (<i>n</i> = 74)	55	74.3
Christmas trees (<i>n</i> = 54)	51	94.4
Hayrides (<i>n</i> = 48)	38	79.2
Children's program (<i>n</i> = 46)	31	67.4
Petting zoo/farm animal (<i>n</i> = 39)	30	76.9
On-farm festivals (<i>n</i> = 38)	26	68.4

differences between groups when there are multiple dependent variables (the factors driven from motivations of operating agri-tourism business), and multicollinearity exists between dependent variables (Hair et al. 1992). An alpha level of $p < 0.05$ was used for all statistical tests and Tukey's post hoc tests were also adopted to see if any differences occurred.

ANALYSIS AND RESULTS

Descriptive analysis of the study revealed that 338 respondents owned an average of approximately 200 acres (Table 1), with the majority of respondents (48.6%) owning less than 100 acres. Among the 99 respondents who leased land for farming, 61% of them leased less than 100 acres.

TABLE 2
TYPES OF AGRICULTURAL BUSINESSES OPERATED BY RESPONDENTS

Type of Agricultural Business	Frequency	%	Primary Income Source	Frequency	%
Working farm	211	55.1	Working farm	71	29.3
Pick-your-own	105	27.4	Christmas tree farm	43	17.8
On-farm market	102	26.6	Pick-your-own	24	9.9
Christmas tree farm	72	18.8	On-farm market	22	9.1
Roadside stand	61	15.9	Roadside stand	13	5.4
Educational activities	53	13.8	Hayrides	4	1.7
Hayrides	47	12.3	Restaurant	4	1.7
Petting zoo/farm animal	37	9.7	Fee hunting/fishing	3	1.2
On-farm festival	33	8.6	Farm vacation	3	1.2
Fee hunting/fishing	26	6.8	Guest house	3	1.2
Corn maze	12	3.1	On-farm festival	3	1.2
Restaurant	9	2.3	Educational activities	3	1.2
Guest house/cabin rent	8	2.1	Petting zoo/farm animal	3	1.2
Bed-and-breakfast	6	1.6	Bed-and-breakfast	3	1.2
Horseback riding	5	1.3	Campground	2	0.8
Campground	5	1.3	Corn maze	2	0.8
Farm vacation	3	0.8			
Guiding/outfitting	2	0.5			

This is not surprising, because 59% of the respondents expressed that their primary income source was not farming. Respondents, in general, had small agriculture operations. Consistently, only 214 respondents answered that they had full-time employees; otherwise, the owners themselves operate the farm. Among those with full-time employees, the majority of respondents (70.6%) answered that they had one or two full-time employees, and 32% of employees were involved in the agri-tourism component of their business. Nearly half (43%) of 327 respondents answered that their household income ranged from \$50,000 to \$100,000, while 34% of respondents reported household incomes of less than \$50,000. Very few respondents (4%) reported a household income of more than \$300,000, while only 1% of respondents' household income ranged between \$250,000 and \$300,000.

A total of 331 people responded to the question about how many years they were involved in agriculture. Even though respondents averaged 37 years of involvement in agriculture, most respondents (61.7%) answered that they have been involved in agriculture for less than 30 years. Only 10% of the respondents have been involved in agriculture business for more than 61 years. Around 83% of respondents answered that they planned to expand or start at least one type of agricultural business within the next 5 years. Of the respondents who specifically operated an agri-tourism business, the greatest percentage (48.6%) had been in business less than 10 years (Table 1). About 45% of respondents operated an agri-tourism business at the time of the study. The most popular activities among respondents who operate agri-tourism businesses were pick-your-own produce, Christmas tree sales, hayrides, children's educational programs, petting zoos, and on-farm festivals.

Respondents were asked what types of agricultural/agri-tourism businesses they operated. Respondents first indicated all types of agricultural/agri-tourism business they operated and then selected the type of agricultural/agri-tourism business considered the greatest source of income. The highest percent of respondents (55%) indicated that they operated a working farm, and the second highest

TABLE 3
MOTIVATIONS FOR OPERATION OF AGRITOURISM

Motivations	M	SD
Additional income	3.88	1.32
To fully utilize our resources	3.51	1.59
To educate the consumer	3.00	1.60
It's an interest/hobby	2.87	1.56
Employment for family members	2.65	1.62
Fluctuation in agriculture income	2.62	1.69
Observed agri-tourism successes of others	2.61	1.51
Companionship with guests	2.58	1.48
To meet a need in the tourism market	2.45	1.56
Tax Incentive	2.17	1.42
Losing government	1.87	1.35

percentage of respondents (27.4%) answered that they operated a pick-your-own business. When asked about their primary income source, working farm (29.3%) was the primary income source of agricultural business most likely to be offered, followed by Christmas tree farms (17.8%) (Table 2).

Table 3 displays the mean scores for the importance ratings of the motivation for participation in agri-tourism. The variable additional income had the highest mean score (3.88) and lowest standard deviation (1.32), followed by the variable fully utilizing resources, supporting findings from the Nickerson, Black, and McCool (2001) study. However, the third most common motivation variable was to educate the consumer, which is contrary to the Nickerson, Black, and McCool study, which found fluctuations in agriculture income as the third most common motivation for agri-tourism participation. In this study, fluctuation in agriculture income was not found to be a primary motivation, which does make sense since most farmers indicated that their primary income source was not agriculture.

As part of the factor analysis procedure, a correlation matrix was created from the scales of the motivations for operating agri-tourism business. The results indicated that more than half of the coefficients were greater than the

TABLE 4
EXPLORATORY FACTOR ANALYSIS OF MOTIVATIONS OF AGRI-TOURISM BUSINESS

Motivations	Formal Motivations	Formal-Substantive Mix Motivations	Substantive-Formal Mix Motivations
Losing government agriculture (AG) programs	.808		
Employment for family members	.723		
Fluctuation in AG income	.593		
Observed agri-tourism successes of others	.539		
Additional income		.716	
To fully utilize our resources		.697	
To meet a need in the tourism market		.549	
To educate the consumer		.519	
It's an interest/hobby of ours			.814
Companionship with guests/visitors			.749
Tax incentives			.564
Eigenvalue	2.48	2.26	1.98
Percentage of variance explained	22.5	20.5	17.9
Reliability	.76	.73	.65

NOTE: Total variance explained 61.1%.

absolute value 0.2 and found a small percentage of nontrivial residuals. Therefore, most of the variables had a large correlation with at least one of the other variables in the scale. All 11 items from the motivations of operating an agri-tourism business scale were factor analyzed.

The principal components analysis with Varimax rotation was used to confirm the dimensions of the underlying motivations of operating agri-tourism business. The results showed that all items loaded saliently (0.50 or higher) on any of the three factors for the motivations for operation of the agri-tourism business with an eigenvalue greater than one.

The first factor consisted of four items and explained 23% of the total variance with an eigenvalue of 2.48 (Table 4). This factor included the following: losing government AG programs, employment for family members, fluctuation in AG income, and observed agri-tourism success of others. The second factor consisted of four items that highlighted the positive and active reasons to participate in the operation of the agri-tourism business, which included additional income, to fully utilize our resources, to meet a need in the tourism market, and to educate the consumer. This factor explained almost 21% of the total variance with an eigenvalue of 2.26. The third factor consisted of 3 items: companionship with guest/visitors, it's an interest/hobby of ours, and tax incentives, and it explained 18% of the total variance with an eigenvalue of 1.98. Based on the subitems of the motivations of the agri-tourism business construct, the factors were labeled as Formal Motivation, Formal-Substantive Motivation (since the motives were more heavily weighed toward formal rationality), and Substantive-Formal Motivation (since the motives were more heavily weighed toward substantive rationality), respectively.

To verify reliability within factors, Cronbach's alpha was used. The results revealed that the reliability alpha values were 0.76 for Formal Motivation, 0.73 for Formal-Substantive Motivation, and 0.65 for Substantive-Formal Motivation. The three factors accounted for 61% of the variance in the motivation of operating agri-tourism business (Table 4). Nunnally (1978) mentioned that reliability over 0.7 is the rule of thumb.

However, 0.65 for the third factor was very close to reliability 0.7. Therefore, all three factors were preserved.

Next, MANOVA analysis was conducted to find out if there were differences between extracted factors and general information related to individual businesses. The general information related to individual businesses was acres leased, number of full-time employees, years involved in agriculture, and years involved in agri-tourism. The most popular agri-tourism activity variables were considered nominal variables, which were measured categorically and mutually exclusive despite being measured by interval scales from 1 (*being not at all popular*) to 5 (*being very popular*). All variables were entered into a general linear model two-by-two approach. The sample size for each group was seen as acceptable considering other variables were constant.

Principal assumptions underlying the MANOVA analysis involve normality, independence, and equality of the variance-covariance matrices. The histogram for dependent (extracted factors) variables showed that the data were slightly skewed to each side. As a result, the MANOVA was performed because multivariate tests are generally robust to nonnormality. For the assumption of homogeneity of variance-covariance matrices, Box's *M* test indicated a significance level of .004, thus suggesting the violation of homogeneity of variance-covariance matrices. Further analysis was conducted using Pillai's trace as the test statistic since it is slightly more sensitive to any violation of homogeneity of variance-covariance. Finally, the significance of the Bartlett's test was .678, indicating that there is not serious correlation to indicate a lack of independence among observations.

The MANOVA model tests not only for the main effects of independent variables but also for their interaction or joint effect on the independent variables. The first step is to examine the interaction effect and determine whether it is statistically significant. A multivariate test (Pillai's trace) indicated that any interaction effect of all combinations of independent variables was not significant. For example, the interaction effect of household income and the years involved in agri-tourism was not significant at $p = .462$. This means that the

difference between “household income” groups is roughly equal across the “year involved in agri-tourism” groups for all dependent variables collectively. With a nonsignificant interaction effect, the main effect can be interpreted directly without adjustment. The results of the main effects showed the significance in “acres owned,” “dependence on farming operation,” and “household income.” The “acres owned” variable had a significance level of $p = .003$ for multivariate tests, indicating a significant difference attributable to different size of acres owned groups. Another significant independent variable, dependence on farming operation, also showed highly significant effects for all multivariate tests with $p = .003$. Moreover, the statistical power was .946 and .984 for acres owned and dependence on farming operation, respectively. The effect size was .108 and .136 for acres owned and dependence on farming operation, respectively, indicating that the middle effect sizes ensured high levels of power with the sample size per group. The third significant independent variable, household income, had a significance level of .004 for multivariate tests, denoting a high statistical power of .928, and a middle effect size of .105. Finally, among six most popular agri-tourism activities, only pick-your-own produce was significant at $p = .001$, with power .985, and the effect size .441 (Table 5). Therefore, in a practical sense, agri-tourism planners should be aware that acres owned, dependence on farming operation, household income, and existence of pick-your-own produce as a primary activity are influential factors to motivate operation of agri-tourism business.

The examination of each dependent variable showed some different results from the multivariate test. For example, the acres owned and pick-your-own produce variables were significant when the set of dependent variables were evaluated, while the univariate test showed some interesting points. Acres owned and pick-your-own produce did affect the Formal Motivation and the Formal-Substantive Motivation variables significantly but not the Substantive-Formal Motivation variable. In other words, even though most farm families are motivated by formal and Formal-Substantive

Motivation, motivation involving economic reasons are significantly different among the owners of different sized farms and among the farm families who think the pick-your-own activity is popular. The univariate results of dependence on farming operation variable affected significantly on Formal Motivation and Substantive-Formal Motivation ($p = .005$ and $p = .027$, respectively) but not on the Formal-Substantive Motivation ($p = .127$). Household income was significant at the .01 alpha levels when the dependent variables were evaluated. However, univariate tests for household income showed that only Formal-Substantive Motivation of dependent variables was significant.

A comparison among the different groups for acres owned, dependence on farming operation, and household income was performed with Tukey’s post hoc test, which made all possible comparisons while controlling for overall Type 1 error. Pairwise comparison for acres owned indicated that Formal Motivation and Formal-Substantive Motivation variables were significantly different between respondents owning less than 100 acres and respondents owning more than 300 acres (Table 6). However, pairwise comparison for dependence on farming operation showed that only Formal Motivation variable differed between the full-time with all

TABLE 5
MANOVA BETWEEN MOTIVATION FACTORS AND RESPONDENT CHARACTERISTICS

Type Significance (mean)	AC	DOF	HI	PYO
Formal motivation	2.45*	2.48*	2.34	2.35*
Formal-substantive	3.20*	3.24	3.19*	3.21*
Substantive-formal	2.54	2.56*	2.47	2.50
Pillai’s trace (<i>F</i>)	3.40	2.396	3.29	3.951
Significance (<i>p</i>)	0.003*	0.003*	0.004*	0.001*

NOTE: AC = acres you own; DOF = dependence on farming operation; HI = household income; PYO = pick-your-own produce.
* Significant at $\alpha = 0.05$ level.

TABLE 6
DIFFERENCES IN MOTIVATION BASED ON ACRES OWNED

Motivation Factors	Acres Owned		
	Less Than 100 Acres	101 Acres-300 Acres	More Than 300 Acres
Multiple Comparison (mean)			
Formal motivation	2.28*	2.34	3.03*
Losing government agriculture (AG)	1.88	1.64	2.17
Employment for family	2.43	2.86	3.16
Fluctuation in AG income	2.25	2.52	3.63
Observed agri-tourism successes	2.54	2.34	3.17
Formal-substantive motivation	3.05*	3.10	3.70*
Additional income	3.80	3.63	4.43
To fully utilize resources	3.33	3.50	4.00
To meet a need in the tourism market	2.21	2.45	3.04
To educate the consumer	2.84	2.83	3.33
Substantive-formal motivation	2.80	2.34	2.45
It’s an interest/hobby of ours	3.12	2.33	2.79
Companionship	2.60	2.44	2.64
Tax incentives	2.67	2.25	1.92

* Significant at $\alpha = 0.05$ level between two groups.

TABLE 7
DIFFERENCES IN MOTIVATION FACTORS BASED ON DEPENDENCE ON FARMING OPERATION

Motivation Factors	Dependence on Farming Operation				
	FIF	PIP	PIS	PEI	HIF
Multiple Comparison (mean)					
Formal motivation	2.78*	3.05	2.50	2.59	1.33*
Losing government agriculture (AG)	2.00	2.63	1.97	2.09	1.00
Employment for family	3.15	2.86	2.95	2.42	1.11
Fluctuation in AG income	3.05	3.12	2.50	3.00	1.67
Observed agri-tourism successes	2.93	3.57	2.57	2.83	1.55
Formal-substantive motivation	3.53	3.45	3.24	3.14	2.55
Additional income	4.24	3.70	3.89	3.64	3.29
To fully utilize resources	3.52	4.38	3.72	3.00	3.42
To meet a need in the tourism market	2.79	2.62	2.39	2.83	1.60
To educate the consumer	3.56	3.10	2.95	3.08	1.89
Substantive-formal motivation	2.28	2.33	2.80	2.64	2.82
It's an interest/hobby of ours	2.45	2.57	3.05	2.92	3.91
Companionship	2.56	2.14	2.76	2.69	2.64
Tax incentives	1.82	2.29	2.58	2.31	1.90

NOTE: FIF = full-time with all income from farming; PIP = part-time farm income primary and off-farm secondary; PIS = part-time, off-farm income primary and on-farm income secondary; PEI = part-time, on- and off-farm equal importance; HIF = hobby interest and farm income not critical.

* Significant at $\alpha = 0.05$ level between two groups.

TABLE 8
DIFFERENCES IN MOTIVATION FACTORS BASED ON HOUSEHOLD INCOME

Motivation Factors	Household Income		
	Less than \$50,000	\$50,001-\$100,000	More than \$100,000
Multiple Comparison (mean)			
Formal motivation	2.25	2.49	2.20
Losing government agriculture (AG)	2.20	1.96	1.25
Employment for family	2.19	2.78	2.42
Fluctuation in AG income	2.54	2.43	2.66
Observed agri-tourism successes	2.08	2.77	2.47
Formal-substantive motivation	2.82*	3.23	3.44*
Additional income	3.53	3.95	4.16
To fully utilize resources	2.72	3.65	3.86
To meet a need in the tourism market	1.96	2.32	2.82
To educate the consumer	3.06	3.00	2.91
Substantive-formal motivation	2.10	2.66	2.52
It's an interest/hobby of ours	2.43	2.96	2.83
Companionship	1.86	2.73	2.65
Tax incentives	2.00	2.29	2.09

* Significant at $\alpha = 0.01$ level between two groups.

income from farming (FIF) respondents and hobby interest and farm income not critical (HIF) respondents. Even though level of dependence on farming operation affected Substantive-Formal Motivation collectively, the difference between groups was not significant (Table 7).

Pairwise comparison for household income showed that only the Formal-Substantive Motivation variable differed between the less than \$50,000 and more than \$100,000 income groups. None of the other variables were significantly different among household income groups (Table 8).

DISCUSSION AND RECOMMENDATIONS

The purpose of this study was to reveal the primary motivations for agri-tourism entrepreneurship among Virginia farm families and to explore Weber's theory of formal and substantive rationality as a possible theoretical framework for agri-tourism entrepreneurship motivation. This study investigated whether different motivations among Virginian farm families existed based on various characteristics of farm families, such as size of operation, dependence on farming operation, household income, and agri-tourism activity.

Agri-tourism entrepreneurship motivations were then placed within the Weberian framework of a formal-substantive rationality continuum.

There were many instances where this study confirmed previous research. Farm families in Virginia were similar to those in Montana (Nickerson, Black, and McCool 2001) in that those currently participating agri-tourism businesses indicated a desire for additional income, to fully utilize resources, and to educate the consumers as their primary motivators. When farming was conducted primarily as a hobby, employment for family members was a secondary motivation.

These similar findings are especially interesting since the characteristics of farm families in Virginia and those in Montana were quite different. For example, the 51% of respondents in the Montana study described their operations as ranches, 36% of respondents owned more than 3,000 acres, and 63% of respondents operated recreation business. In Virginia, respondents described their operation as a working farm, with 24% of respondents owning much smaller farms (300+ acres). Since most of the Montana study respondents depended on farming and/or ranching as their primary income source, their motivation for operating agri-tourism was more likely to be economically based than farmers in Virginia, who indicated agriculture was a secondary source of income.

Support for Weber's Formal versus Substantive Rationality

Three theoretically based categories of motivations were found for farm families involved in agri-tourism in accordance with Weber's framework: Formal, Formal-Substantive, and Substantive-Formal Motivations. The result of MANOVA tests showed that significantly different motivation among farm families operating agri-tourism existed based on various characteristics of farm families, such as acres owned, dependence on farming operation, household income, and pick-your-own produce activities. Much of the published research about farm-based tourism (Benjamin 1994; Evans and Ilbery 1989; Oppermann 1995; Putzel 1984) states that operators are primarily involved with recreation as supplemental farm income. Social reasons for participation in agri-tourism (substantive motivation), although important, are secondary to economic reasons. However, farm families in Virginia revealed that their motivations for participating in agri-tourism are both economic (formal) and social (substantive). The results of Nickerson, Black, and McCool's (2001) Montana study supports this thesis as well. That means that the motivation comes from not only economic reasons such as an "additional income" but also other reasons such as "to fully utilize resources, to meet a need in the tourism market, and to educate the consumer." Findings from this study may also confirm McGehee and Meares' (1998) findings that motivation for the development of rural tourism enterprises fall along various points of a continuum between formal and substantive rationality.

The results of this study coincide with Bird's (1989) idea of entrepreneurship as a lifestyle and Getz and Carlson's (2000) findings that urban and suburban families move to rural locations to change their lifestyles. Virginia farmers as self-employed, second-income entrepreneurs may view agriculture as a way of life, not as a job or a career. They may

want to keep the family farm operating through diversification and to live a more rural lifestyle.

Evans and Ilbery (1989) state that farm-based accommodation has attracted much attention in Britain because it is a well-established alternative. Virginia farm families were more likely to indicate pick-your-own, Christmas tree farms, hayrides, children's programs, petting zoo/farm animals, and on-farm festivals as their most popular activities. Since farm-based accommodations typically require a high level of investment (Evans and Ilbery 1989), the Virginia farm families who indicated that farming is not their primary income source may be reluctant to invest their finances and time in operating accommodation business.

Even though farm tourism provides a means for external money to farm families in Virginia (formal motivation), the primary formal motivation for operating agri-tourism is quite different between farm families who own less than 100 acres and those who own more than 300 acres. Farm families who own less than 100 acres may start an agri-tourism business after observing agri-tourism success of others, whereas the farm families who own more than 300 acres may get involved in agri-tourism to compensate for the fluctuation in income from agriculture. Additionally, the farm families in Virginia who own less than 100 acres rated "It's an interest hobby of ours" as their primary substantive motivation, whereas the farm families who own more than 300 acres expressed "companionship with guest and visitors" as their primary substantive motivation. Table 7 clearly shows there is different motivation between people who work full-time with all income from farming and people who work on the farm as a hobby and farm income is not critical. The people who work full-time with all income from farming rated additional income as their primary motivation, whereas the people who express farm income is not critical rated "it's a hobby/interest" as their primary motivation in operating agri-tourism. However, it should be noted that the people who earn less than \$50,000 a year rated the "additional income" as the first motivation, then "to educate the consumer" as the second motivation, whereas the people who make more than \$100,000 a year reported that their primary motivation in operating agri-tourism is "additional income" and then "to fully utilize resources" as the second motivation.

The theoretical framework of formal and substantive rationality as well as the subsequent findings from this study should be utilized by community developers to help agri-tourism entrepreneurs achieve their goals and maximize contributions to their communities. For example, if a farm family has a primarily formal rationale for agri-tourism entrepreneurship, developers should focus their assistance to that farm family on market-based issues such as the implementation of product and marketing strategies to increase the local and international clientele (Clarke 1999), enhancing marketing effectiveness through the utilization of more diverse advertising options at different levels (Clarke 1996; Embacher, Bramwell, and Lane 1994), and organizing complimentary agri-tourism operations into collaborative consortia (also known as "coordinate and cooperate" according to Clarke 1996). Farm families with more substantive motivations may appreciate assistance in establishing dialogue and relationships between themselves and state agencies that support and/or practice public agriculture education (Weaver and Fennell 1997). Of course, findings from this study indicate that most farm families expressed a combination of both

formal and substantive rationality for entering into agri-tourism entrepreneurship; the key for community developers and supporters of agri-tourism is to discover the correct balance of types of support for farm families.

While every effort was made to include an exhaustive list of motivations for agri-tourism entrepreneurship in this study, there are others that could be included in subsequent studies. Getz and Carlsen (2000) studied the goals of tourism-related owner-operated businesses that are family-owned. This perspective could also be applied to agri-tourism enterprises in the United States.

Other work in this area could include typologies of agri-tourism entrepreneurs, with specific attention paid to differences between farm families turning to agri-tourism as a form of rural diversification versus urban or suburban families looking to return to more traditional lifestyles by purchasing farms and using agri-tourism to support this new lifestyle (Getz and Carlsen 2000). The existence and unique elements of agri-tourism "copreneurs" (Sharma, Chrisman, and Chua 1996) should also be explored.

Although it was not the focus of this study, a great deal more attention could be allotted to gender issues surrounding agri-tourism development. Female heads of the household are often the primary operators of agri-tourism enterprises (Kousis 1989; Oppermann 1997). When studying motivation for any activity, researchers often look for relationships between demographics and motivation types. For the most part, there has been very little support for any relationships between motivations and demographic characteristics, with one exception: gender. A growing body of work is recognizing unique motivations for agri-tourism among women. Agri-tourism efforts are commonly spearheaded by the female head of the household (Neate 1987; O'Connor 1995). O'Connor found that women enjoyed the increased independence brought about by agri-tourism revenues. Many value-added agri-tourism activities find their origins among labor traditionally performed by women on the farm: preserving jams, jellies, and other foods; creating household items like quilts and baskets; and so forth. It would be very useful to explore whether there are gender differences in motivation for the agri-tourism entrepreneurship and whether Weber's theory of formal and substantive rationality could again provide a solid theoretical framework.

REFERENCES

- Benjamin, C. (1994). "The Growing Importance of Diversification Activities for French Farm Household." *Journal of Rural Studies*, 10 (4): 331-41.
- Bird, B. J. (1989). *Entrepreneurial Behavior*. Glenview, IL: Scott Foresman.
- Bowen, R. L., L. J. Cox, & M. Fox (1991). "The Interface between Tourism and Agriculture." *Journal of Tourism Studies*, 2 (2): 43-54.
- Bowler, I., G. Clarke, A. Crockett, B. Ibbery, and A. Shaw (1996). "The Development of Alternative Farm Enterprises: A Study of Family Labour Farms in the Northern Pennines of England." *Journal of Rural Studies*, 12 (3): 285-95.
- Busby, G., and S. Rendle (2000). "The Transition from Tourism on Farms to Farm Tourism." *Tourism Management*, 21: 635-42.
- Cawley, M., D. A. Gillmor, A. Leavy, and P. McDonagh (1995). *Farm Diversification: Studies Relating to the West of Ireland*. Dublin: Teagasc.
- Clarke, C. (1999). "Marketing Structures for Farm Tourism: Beyond the Individual Provider of Rural Tourism." *Journal of Sustainable Tourism*, 7 (1): 26-47.
- Clarke, J. (1996). "Farm Accommodation and the Communication Matrix." *Tourism Management*, 17 (8): 611-6.
- Davies, E. T., and D. C. Gilbert (1992). "A Case Study of the Development of Farm Tourism in Wales." *Tourism Management*, 13 (1): 56-63.
- Dillman, D. A. (1978). *Mail and Telephone Surveys*. New York: John Wiley.
- Doyle, A. B., and N. G. McGehee (2002). "Case Statement for the Development of Agri-Tourism in the Commonwealth of Virginia." Unpublished document. Blacksburg, VA: Virginia Tech.
- Embacher, H., B. Bramwell, and B. Lane (1994). "Marketing for Agri-Tourism in Austria: Strategy and Realisation in a Highly Developed Tourist Destination." *Journal of Sustainable Tourism*, 2 (1/2): 61-76.
- Evans, N. J., and B. W. Ilbery (1989). "A Conceptual Framework for Investigating Farm-Based Accommodation and Tourism in Britain." *Journal of Rural Studies*, 5 (3): 257-66.
- Flora, C. B., and J. L. Flora (1988). "Characteristics of Entrepreneurial Communities in a Time of Crisis." *Rural Development News*, 12 (2): 1-4.
- Getz, Donald, and J. Carlsen (2000). "Characteristics and Goals of Family and Owner-Operated Business in the Rural Tourism Industry and Hospitality Sectors." *Tourism Management*, 21 (6): 547-60.
- Hair, J. F., Jr., R. E. Anderson, R. L. Tatham, and W. C. Black (1992). *Multivariate Data Analysis*. New York: Macmillan.
- Jagd, S. (2002). "Weber's Last Theory of the Modern Business Enterprise." *Max Weber Studies*, 2 (2): 210-38.
- Kousis, M. (1989). "Tourism and the Family in a Rural Cretan Community." *Annals of Tourism Research*, 16 (3): 318-32.
- Lane, B. (1995). "Creating Niche Markets in a Growing Sector: Rural Tourism." In *Niche Markets and Rural Development. Workshop Proceedings and Policy Recommendations*. Bristol, UK: University of Bristol, pp. 81-109.
- Lobo, R. E., G. E. Goldman, D. A. Jolly, B. D. Wallace, W. L. Schrader, and S. A. Parker (1999). "Agritourism Benefits Agriculture in San Diego County." *California-Agriculture*, 53 (6): 20-4.
- Maude, A. J. S., and D. J. van Rest (1985). "The Social and Economic Effects of Farm Tourism in the United Kingdom." *Agricultural Administration*, 20: 85-98.
- McGehee, N. G., and A. C. Meares (1998). "A Case Study of Three Tourism-Related Craft Marketing Cooperatives in Appalachia: Contributions to Community." *Journal of Sustainable Tourism*, 6 (1): 4-25.
- Miller, B. (1993). "Farm Tourism—Sustaining Employment in a Rural Area." *Agricultural Manpower*, 1 (24): 8-11.
- Mjalager, Anne-Mette (1996). "Agricultural Diversification into Tourism: Evidence of a European Development Programme." *Tourism Management*, 7 (2): 103-11.
- Moye, A. M. (1993). "Mondragon: Adapting Co-Operative Structures to Meet the Demands of a Changing Environment." *Economic and Industrial Democracy*, 14: 251-76.
- Neate, S. (1987). "The Role of Tourism in Sustaining Farm Structure and Communities on the Isles of Scilly." In *Who From Their Labors Rest? Conflict and Practice in Rural Tourism*, edited by M. Bouquet and M. Winter. Aldershot, UK: Avebury, pp. 9-21.
- Nickerson, N. P., R. J. Black, and S. F. McCool (2001). "Agritourism: Motivations behind Farm/Ranch Business Diversification." *Journal of Travel Research*, 40 (1): 19-26.
- Nunnally, J. C. (1978). *Psychometric Theory*. 2nd ed. New York: MacGraw Hill.
- Nwala, T. (1974). "Max Weber's Concept of Value-Free Science and the Problem of Social Philosophy." *New School Social Research*, 3 (2): 22-32.
- O'Connor, P. (1995). "Tourism and Development in Ballyhoura: Women's Business?" *Economic and Social Review*, 26 (4): 369-401.
- O'Donnell, M. (1991). "Rural Tourism: The Evolving Irish Model." *World Tourism Organization*, 70-77.
- Oppermann, M. (1995). "Holidays on the Farm: A Case Study of German Hosts and Guests." *Journal of Travel Research*, 34 (1): 63-7.
- (1997). "Rural Tourism in Germany—Farm and Rural Tourism Operators." In *The Business of Rural Tourism: International Perspectives*, edited by S. Page and D. Getz. London: International Thomson Business Press, pp. 108-19.
- Peebles, M. S. (1995). "Cultivating the Tourist/Farm Tourism." *Journal of the Tourism Society*, 86 (Autumn).
- Pizam, A., and J. Poleka (1980). "The Vacation Farm: A New Form of Tourism Destination." In *Tourism Marketing and Management Issues*, edited by D. E. Hawkins, E. L. Shafer, and J. M. Rovelstad. Washington, DC: George Washington University, pp. 203-16.
- Putzel, S. (1984). "Farm Holidays: Combining Agriculture and Recreation." *Agrilogist*, Fall: 20-1.
- Roth, G., and C. Wittich, eds. (1978). *Max Weber, Economy and Society*. Berkeley: University of California Press.
- Seitz, V. R. (1995). *Women, Development, and Communities for Empowerment in Appalachia*. Albany: State University of New York Press.
- Sharma, P., J. Chrisman, and J. Chua (1996). *A Review and Annotated Bibliography of Family Business Studies*. Boston: Kluwer.
- Taylor, P. L. (1994). "The Rhetorical Construction of Efficiency: Restructuring and Industrial Democracy in Mondragon, Spain." *Sociological Forum*, 9 (3): 459-89.
- Vogeler, I. (1977). "Farm and Ranch Vacationing." *Journal of Leisure Research*, 9: 291-300.
- Weaver, D. B., and D. A. Fennell (1997). "The Vacation Farm Sector in Saskatchewan: A Profile of Operations." *Tourism Management*, 18 (6): 357-65.
- Wilson, S., D. R. Fesenmaier, J. Fesenmaier, and J. C. Van Es (2001). "Factors for Success in Rural Tourism Development." *Journal of Travel Research*, 40 (2): 132-8.