



Socioeconomic Factors Affecting Participation in Agritourism: A Logistic Regression Analysis on Fresh Fruit and Vegetable Marketing in the Mid-Atlantic Region of the USA

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ABSTRACT

The aim of this study is to identify the factors influencing the likelihood of target groups participating in agricultural tourism activities. The study collected data from 1,246 participants living in New York, Delaware, New Jersey, North Carolina, Virginia, Maryland, Pennsylvania, and the District of Columbia through online surveys. The resulting dataset was analyzed using logistic regression. According to the analysis results, social classes with a higher probability of participating in agricultural tourism activities have been identified. It was found that middle-aged and younger people, those unfamiliar with agricultural activities, individuals involved in agriculture, those generally residing in cities, and those with higher income levels are more likely to participate in agricultural tourism. The study reveals that agricultural tourism participants are mostly high-income urban dwellers seeking experiential activities, demonstrating that agricultural tourism plays a significant role not only in fresh produce marketing but also as a vital social and economic diversification strategy for small farms.

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Tarım Turizmine Katılımı Etkileyen Sosyoekonomik Faktörler: ABD'nin Orta Atlantik Bölgesinde Taze Meyve ve Sebze Pazarlaması Üzerine Bir Lojistik Regresyon Analizi

ÖZET

Bu çalışmanın amacı hedef kitlelerin tarım turizmi faaliyetlerine katılma olasılığını etkileyen faktörleri belirlemektir. Araştırmada 1.246 çevrimiçi anket yoluyla New York, Delaware, New Jersey, Kuzey Carolina, Virginia, Maryland, Pensilvanya ve Columbia Bölgesi'nde yaşayan katılımcıdan veri toplanmıştır. Elde edilen veri seti lojistik regresyon kullanılarak analiz edilmiştir. Analiz sonuçlarına göre, tarım turizmi faaliyetlerine katılma olasılığı yüksek sosyal sınıflar belirlenmiştir. Orta yaşlı ve daha genç insanların, tarımsal faaliyetlerden uzak olanların, tarımla ilgilenen bireylerin, genellikle şehirlerde ikamet edenlerin ve daha yüksek gelir düzeyine sahip olanların tarım turizmine katılma olasılığının daha yüksek olduğu bulunmuştur. Tarım turizmi katılımcılarının çoğunlukla deneyimsel faaliyetler arayan yüksek gelirli kentliler olduğunu ortaya koyuyor ve bu durum, tarım turizminin yalnızca taze ürün pazarlamasında değil, aynı zamanda küçük çiftlikler için hayati bir sosyal ve ekonomik çeşitlendirme stratejisi olarak da önemli bir rol oynadığını gösteriyor.

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INTRODUCTION

Agritourism combines agriculture with tourism, offering economic benefits and unique experiences for customers. Recent global changes in food production and consumption, including concerns about food security, healthier diets, and the demand for authentic and sustainable experiences, have made agritourism a crucial component of the agri-food business. Agritourism transforms farms into multifunctional spaces that not only provide fresh produce but also immersive visitor experiences, including farm tours, u-pick operations, farm-to-table dining, CSA, and educational workshops. It is known for its income-generating potential, minimal investment requirements, and minimal impact on the local environment and cultural heritage (Barbieri, 2013). Empirical research has shown that agritourism offers economic and non-economic benefits, such as improved market access, enhanced farmer quality of life, and sustainable agricultural output (Kline et al., 2016). The literature review emphasizes the pivotal role of agritourism in enhancing food security through increased food availability, access, utilization, and stability. Agritourism educates visitors about crop cultivation and fosters an appreciation for local produce (Petroman et al., 2016). Consumers increasingly prioritize locally grown and organic products due to direct interactions with producers and the transparency offered by agritourism (Grillini et al., 2023). Research from Costa Rica and rural areas highlights the positive contributions of agritourism to food security, including income generation, diversification of local food supplies, and support for sustainable agriculture (Howitt and Mason, 2018; Smith et al., 2018).

Furthermore, agritourism influences consumer preferences by building trust in the safety and quality of produce through farm tours and u-pick experiences (Quella et al., 2021). It also provides an escape from urban life, offering various activities and immersing visitors in rural settings (Bojnec and Fertó, 2019). The sector diversifies revenue streams for farmers, ensuring its financial sustainability (Jęczmyk et al., 2015). Engaging activities such as visiting farmers' markets and participating in cooking classes using farm-fresh ingredients encourage consumers to favor locally grown and organic produce (Sidali et al., 2015). Additionally, agritourism's restorative and nature-based aspects reduce stress and foster a connection to the natural environment. Diverse attractions, including wildlife observation and outdoor activities, enhance the visitor experience and attract a broad demographic (Sthapit et al., 2023). Agricultural activities have a profound effect on the surrounding landscape, including the ecosystems and habitat and can provide benefits that offset the environmental impacts of agriculture thus preserving natural landscapes within agritourism operations (Loewen, 2020). On the other hand, Agritourism stands out as a key development mechanism that supports economic growth in rural areas and diversifies the income sources of farming communities. Olagunju (2024) argues that integrating tourism with agricultural activities can stimulate local economies by creating employment and reducing poverty, thereby offsetting trends in rural population decline. Similarly, Hasanzadeh (2023) emphasizes that agritourism plays a key role in improving the welfare of farmers and contributing to economic development in rural areas worldwide. Albana's (2025) research demonstrates that agritourism strengthens the cultural fabric and economic resilience of rural communities by promoting local products.

Agritourism's success is underpinned by its diverse attractions, such as wine tastings, educational workshops, and farm-to-table dining, which contribute to economic sustainability (Zanetti et al., 2022). In conclusion, this research article explores the multifaceted aspects of agritourism concerning fresh fruits and vegetables, highlighting its transformative role in agriculture and consumer experiences. How agritourism activities are promoted and presented directly influences consumers' interest in and willingness to participate in these experiences. According to Parlindungan et al. (2024), incorporating local agricultural experiences into the marketing process increases consumer awareness and encourages participation by creating both educational and entertaining value. Similarly, Mistriani et al. (2024) emphasize that the search for authentic experiences, human connections with farmers, and interaction with local culture play a significant role in attracting people to agritourism. Lima et al. (2024) argues that for a successful agritourism experience, not only the content of the activities but also the physical environment should be well-planned, as these elements increase both satisfaction and the desire to return. The studies collectively underscore agritourism's multifaceted impact, from bolstering food security through on-farm produce to influencing consumer choices in favor of local and organic options. Additionally, agritourism's ability to provide a restorative experience, foster a connection to nature, and the importance of diverse attractions make it a vital component of sustainable agriculture and rural economies. While the multifaceted benefits of agritourism are well-documented in the literature, there is a need for large-scale, quantitative studies in the Mid-Atlantic U.S. that specifically model the socioeconomic determinants of participation. This study addresses this gap by employing logistic regression on a substantial dataset to identify key demographic and socioeconomic predictors, thereby providing actionable insights for farmers and policymakers in the region.

MATERIAL and METHOD

This research investigated the likelihood of people in the Mid-Atlantic region of the United States engaging in agritourism. An online survey was used to achieve this goal. As a result of the analyses, the variables determined to be significant were included in the model and presented in Table 1. All respondents were pre-screened and included those 18 years of age or older, residing in the Mid-Atlantic region. The questionnaire included characteristics describing participation in agritourism, types of products purchased from their farms, monthly visits, expenditures, and other necessary demographic information. Similar parameters were used in previous studies (Madaleno et al., 2018; Oduniyi and Tekana, 2020). The 1,246 respondents were pre-screened from an aggregated database of New York, Delaware, New Jersey, North Carolina, Virginia, Maryland, and Pennsylvania. Survey participants were selected based on the total population of each state, and surveys were conducted online between March 7 and 15, 2021. Data were collected using stratified random sampling techniques, and respondents were randomly selected. The data obtained were analyzed with the binary logistic regression model using STATA

Table1. Classification of dependent and independent variables in the model

Çizelge 1. Modeldeki bağımlı ve bağımsız değişkenlerin sınıflandırılması

Dependent Variable										
Agritourism - Have you, either alone or with your family, ever participated in agritourism or purchased or Do you plan to participate in agritourism activities again in the future?							Yes (1)		No (0)	
Independent Variables										
Q1	What is respondent's age	18-24 (1)	25-32 (2)	33-40 (3)	41-56 (4)	57-60 (5)	67-75 (6)	76 years and older (7)		
Q2	Are you now, or have you ever been, a Community Supported Agriculture member / had a subscription?		Yes, I currently am a member/ have a subscription (1)		Yes, I am not a current member but have had a subscription in the past (2)		No, I have never been a member/had a subscription (3)			
Q3	Since 2015, has your household consumed a wider variety of vegetables during any of the following seasons? Please select all that apply.				Spring (1)	Summer (2)	Fall (3)	Winter (4)	None of these/ Does not apply (9)	
Q4	In an average year, during which of the following seasons does your household consume a wider variety of fresh fruits? Please select all that apply.				Spring (1)	Summer (2)	Fall (3)	Winter (4)	None of these/ Does not apply (9)	
Q5	In an average year, during which of the following seasons does your household consume a wider variety of vegetables? Please select all that apply.				Spring (1)	Summer (2)	Fall (3)	Winter (4)	None of these/ Does not apply (9)	
Q6	In an average year, during which of the following season does your household spend more on fresh fruits ? Please select all that apply.				Spring (1)	Summer (2)	Fall (3)	Winter (4)	None of these/ Does not apply (9)	
Q7	In an average year, during which of the following season does your household spend more on vegetables? Please select all that apply.				Spring (1)	Summer (2)	Fall (3)	Winter (4)	None of these/ Does not apply (9)	
Q8	Based on the amount of fresh fruits and/or vegetables you purchase during an average year, what percent do you purchase from the traditional supermarkets/grocery stores? (Scale Variable)									
Q9	Based on the amount of fresh fruits and/or vegetables you purchase during an average year, what percent do you purchase from your own garden? (Scale Variable)									
Q10	Please indicate if you have ever heard of culinary tourism.						Yes (1)		No (0)	
Q11	Which definition is appropriate for the place where you live?				Urban (1)	Suburban (2)	Small Town (3)	Rural (4)		
Q12	What is the highest level of education you have completed?	No formal schooling (1)	Some high school graduates (2)	Some college/ technical school (3)	Associate degree/technical school graduate (4)	Bachelor's degree (5)	Postgraduate degree (6)			
Q13	Please indicate your race. Please select all that apply.	White (1)	African American (2)	American Indian and Alaska Native (3)	Asian (4)	Native Hawaiian and other Pacific (5)		Other (6)		
Q14	What was your household's 2020 total annual income before taxes?	Less than \$20,000 (1) \$20,000 - 39,999 (2)		\$40,000 - 59,999 (3) \$60,000 - 79,999 (4)		\$80,000 - 99,999 (6) \$100,000 - 200,000 (7) \$200,000 and above (8)				

Note: Reference categories for categorical variables are: Q1 (Age: 18-24), Q2 (CSA: Current member), Q3-Q7 (Season:spring), Q10 (Culinary tourism: No), Q11 (Residence: Urban), Q12 (Education: No formal schooling), Q13 (Race: White), Q14 (Income:200.000)

statistical software. Binary logistic regression analysis is widely used in the analysis of nominal dependent variables (Harris-Fry et al., 2015; Mazenda et al., 2022). Within the scope of this study, the likelihood of the respondents participating in agritourism activities was included in the model as the dependent variable. Each question asked of the respondents was included in the model as a variable, and its effects on the respondents' likelihood of participating in agritourism activities were investigated. The fact that the respondents had previously participated in agritourism activities was coded as "1," and the fact that they had not participated in agritourism activities was coded as "0" and included in the model as a dependent variable.

Statistical Analysis

Logistic regression analysis was used in this study. Logistic regression analysis is used, which is based on the odds ratio. The odds ratio focuses on the probability of an event occurring or not occurring. The logistic regression model parameters are commonly estimated using the maximum likelihood method, which involves taking the natural logarithm of the odds ratio. Thus, the binary logistic regression model is written as

$$\ln\left(\frac{P(Y)}{Q(Y)}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n$$
$$\frac{P(Y)}{Q(Y)} = e^{\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n} = e^{\beta_0} e^{\beta_1 X_1} e^{\beta_2 X_2} e^{\beta_n X_n}$$

The odds ratio (OR) is calculated as $P(Y) / Q(Y)$, where $Q(Y) = 1 - P(Y)$. It is important to use clear and precise language when discussing technical concepts. The odds ratio (OR) is calculated as $P(Y) / Q(Y)$, where $Q(Y) = 1 - P(Y)$. The OR value for each parameter represents the probability of the dependent variable being observed with the effect of the independent variable, expressed as a ratio or percentage (Özçomak et al., 2005).

RESULTS and DISCUSSION

The findings from the binary logistic regression analysis are presented in Table 2. Details regarding model coefficients, odds ratios, and statistical significance levels are included in the table.

The fit of the independent variables in the logistic regression model, estimated to determine the probability of participating in agritourism activity (LR=535.14; Prob > chi2 = 0.000), was statistically significant at the 1% significance level. The correct classification rate of participation in agritourism activity was 88.9%.

Demographic Profile

Q1 describes the age of the respondents and includes seven categories. The first group was taken as a control variable. Accordingly, the coefficient for the seventh category, above the age of 75, is statistically significant (P=0.037). Therefore, it is determined that people who participated in the survey and are over the age of 75 are 14.65% less likely to participate in agritourism activities than those between the ages of 18-24. According to this result, older survey participants are less likely to engage in agritourism activities than younger individuals. Agritourism activity requires physical performance, and it is expected that older people would prefer it less than younger people. In this variable, the age range of 18-24 was determined as the control group. Other age categories in the variable are not statistically significant. However, the fact that the categories of 75 years and below are insignificant compared to the 18-24 age category means that there will be no significant difference between these age groups in participating in agritourism activities. In line with these results, those in the 5th and 6th groups are retired, and their physical performance is still high. Additionally, those in Groups 2, 3, and 4 are in the youth group and can participate in agritourism activities.

The study indicates that older individuals are less likely to participate in agritourism activities compared to younger people. This finding aligns with the existing literature on agritourism, which often highlights that younger generations are more inclined to engage in such activities (Mahaliyanaarachchi, 2015). This can be attributed to several factors. Firstly, younger people are typically in better physical condition, making them able to actively participate in activities like fruit picking and farm tours. Agritourism frequently requires physical performance. The second characteristic of younger generations is their openness to new experiences and curiosity, which inspires them to learn about agriculture, sustainable farming methods, and the sources of their food through agritourism. Thirdly, the way of life and the availability of free time are important factors. Older people may have busier schedules and work commitments that make it difficult to participate in agritourism, whereas younger people, such as students or those with more flexible schedules, find it easier to do so.

Table 2. Binary Logistic Model Results
Çizelge 2. Binary Lojistik Model Sonuçları

Variables	Categories	Coef.	Std. Err.	z	p> z	[95% Conf.		Odds Ratio	Marginal Effects
Q1	2	0.1590	0.4370	0.36	.716	-0.6976	1.0155	1.1723	0.0181
	3	0.4017	0.4235	0.95	.343	-0.4283	1.2317	1.4944	0.0466
	4	0.5577	0.4011	1.39	.164	-0.2284	1.3437	1.7466	0.0655
	5	0.2121	0.4482	0.47	.636	-0.6664	1.0906	1.2363	0.0242
	6	-0.1298	0.4695	-0.28	.782	-1.0500	0.7904	0.8783	-0.0144
Q2	7	-1.5209	0.7274	-2.09	.037**	-2.9467	-0.0952	0.2185	-0.1465
	2	0.8094	0.4041	2.00	.045**	0.0173	1.6015	2.2465	0.0965
Q3	3	0.5124	0.2602	1.97	.049**	0.0025	1.0223	1.6693	0.0595
	2	-0.8544	0.4773	-1.79	.073***	-1.7899	0.0810	0.4255	-0.0985
Q4	3	0.9814	0.4613	2.13	.033**	0.0772	1.8856	2.6681	0.1343
	4	-0.6081	0.7175	-0.85	.397	-2.0014	0.7981	0.5444	-0.0722
	5	-0.0185	0.5791	-0.03	.975	-1.1534	1.1164	0.9817	-0.0023
Q5	2	-0.8062	0.4552	-1.77	.077***	-1.6985	0.0861	0.4466	-0.0964
	3	-0.3581	0.5100	-0.70	.483	-1.3577	0.6414	0.6990	-0.0442
	4	-0.8632	0.6424	-1.34	.179	-2.1223	0.3960	0.4218	-0.1028
Q6	5	-1.3940	0.8403	-1.66	.097***	-3.0409	0.2529	0.2481	-0.1593
	2	0.1437	0.3933	0.37	.715	-0.6272	0.9146	1.1545	0.0160
	3	0.5509	0.3991	1.38	.167	-0.2313	1.3330	1.7348	0.0639
Q7	4	1.8806	0.4335	4.34	.000*	1.0309	2.7302	6.5571	0.2402
	5	0.8159	0.6795	1.20	.230	-0.5159	2.1477	2.2612	0.0970
	2	-0.8873	0.3986	-2.23	.026**	-1.6684	-0.1061	0.4118	-0.1079
Q8	3	-0.2080	0.6235	-3.34	.001*	-3.3023	-0.8582	0.1249	-0.2299
	4	-0.8329	0.4479	-1.86	.063***	-1.7108	0.0449	0.4348	-0.1017
	5	-1.1617	0.9007	-1.29	.197	-2.9270	0.6037	0.3130	-0.1385
Q9	2	3.2165	0.5035	6.39	.000*	22.2958	4.2034	24.9399	0.3272
	3	1.8964	0.5166	3.67	.000*	0.8838	2.9089	6.6616	0.1660
	4	1.4240	0.5384	2.64	.008*	0.3688	2.4792	4.1537	0.1172
Q10	5	2.5809	0.8772	2.94	.003*	0.8616	4.3002	13.2090	0.2452
	Scale	-0.0090	0.0041	-2.19	.029*	-0.0170	-0.0009	0.9911	-0.0010
Q11	Scale	0.0253	0.0104	2.43	.015*	0.0049	0.0458	1.0256	0.0028
	1	0.7033	0.2119	3.32	.001*	1.1186	0.2879	0.4950	0.0825
Q12	2	-0.5191	0.2664	-1.95	.051***	-1.0412	0.0029	0.5950	-0.0606
	3	-0.7246	0.4245	-1.71	.088***	-1.5566	0.1074	0.4845	-0.0831
	4	-0.6698	0.3387	-1.98	.048**	-1.3338	-0.0059	0.5118	-0.0772
Q13	2	-3.7021	1.3550	-2.73	.006*	-6.3578	-1.0465	0.0247	-0.4528
	3	-3.0952	1.3659	-2.27	.023**	-5.7724	-0.4181	0.0453	-0.3822
	4	-3.8558	1.3492	-2.86	.004*	-6.5001	-1.2115	0.0212	-0.4696
	5	-3.6776	1.3571	-2.71	.007*	-6.3375	-1.0177	0.0253	-0.4501
	6	-3.6768	1.3731	-2.68	.007*	-6.3681	-0.9855	0.0253	-0.4500
Q14	2	-0.6012	1.1188	-0.54	.591	-2.7940	1.5916	0.5481	-0.0653
	3	1.3650	2.8390	0.48	.631	-4.1993	6.9292	3.9156	0.1680
	4	-0.6560	0.3384	-1.94	.053***	-1.3192	0.0071	0.5189	-0.0709
	5	-1.9082	0.7918	-2.41	.016**	-3.4601	-0.3562	0.1484	-0.1829
	6	-0.1881	0.6907	-0.27	.785	-1.5420	1.1657	0.8285	-0.0211
Q15	2	-0.1151	0.3983	-0.29	.773	-0.8959	0.6656	0.8913	-0.0128
	3	0.0944	0.3976	0.24	.812	-0.6848	0.8737	1.0990	0.0107
	4	0.4633	0.4337	1.07	.285	-0.3868	1.3133	1.5893	0.0539
	6	-0.2013	0.4390	-0.46	.647	-1.0617	0.6592	0.8177	-0.0221
	7	0.2537	0.4066	0.62	.533	-0.5433	1.0507	1.2888	0.0290
Q16	8	1.7142	0.5972	2.87	.004*	0.5437	2.8848	5.5525	0.2143
	_cons	1.6371	1.5183	1.08	.281	-1.3388	4.6129		
Log-likelihood = -325.34936		LR chi2(51) = 535.14			Pseudo R2 =				
Number of obs = 918		Prob > chi2 = 0.0000*			0.4513				

Notes: *Significant at 1%, **Significant at 5%, ***Significant at 10%

Q12 explains the educational level of the respondents and their likelihood of participating in agritourism activities. Education level is included in the model in 6 categories as given in Table 1. Those who did not receive formal education were determined as the control group. Compared to the control group, the likelihood of participating in agritourism activities was found to be low at all education levels. However, there is no significant difference between the categories with education. In line with these results, although all categories in the education variable have a negative effect compared to the control group and are significant in explaining the dependent variable, it can be said that it is not an important factor in this study.

Q13 assessed the likelihood of respondents to participate in agritourism activities according to their race. In other words, the racial characteristics of agritourism participants are categorized, and the white race is taken as the control group. It can be said that Asian and Native Hawaiian and other Pacific people are less likely to participate

in agritourism than whites, and those who participate are generally whites. It has been determined that those who participate in agritourism activities do not change according to other races. In fact, the coefficients for the other categories are statistically insignificant. However, few studies reported are consistent in their results, suggesting that the race of the farm operator with white farmers being more likely to engage in agritourism than non-white farmers (Bagi and Reeder, 2012; Yeboah et al., 2017).

Q14 explains the effect of the income level of the respondents on the likelihood of participating in agritourism activities. The coefficient of the 8th category of the variable, i.e., those with an annual income of \$200,000 and above, was statistically significant ($p=0.004$). The control group was those with an annual income of \$20,000 or less. Compared to the control group, those with an income of \$200,000 and above were 21.43% more likely to participate in agritourism activities. In line with these results, consumption is a function of income. High-income-earning individuals, who already had positive attitudes toward local foods and apparently fewer barriers to purchase from agritourism activity were identified by Brune et al. (2021). The most effective factor in consumption is income. It is expected that those with high incomes will participate in agritourism activities.

Geographic and Lifestyle Factors

Q2 explains that respondents' membership in an organization that supports agriculture is associated with participation in agritourism activity. Membership in organizations that support agriculture is considered a control group. According to the control group, those who were members in the past but are not members now have a positive probability of engaging in agritourism activities. In other words, those who were members in the past are 9.65% more likely to engage in agritourism than the control group. The coefficient for this group is statistically significant ($P=0.090$). The third category includes those who are not members of organizations that support agriculture. The sign of the coefficient for this category is positive and statistically significant ($P=0.049$). This means that those who have not been members of organizations that support agriculture are more distant from agricultural activities. Thus, it was determined that those who were distant from agricultural activities were 5.95% more likely to participate in agritourism activities than the control group. In line with these results, these activities can be interesting for those who are far from agricultural activities. Especially those who are in a busy work schedule and far from agricultural activities may be more curious.

The study suggests that individuals who are members of organizations that support agriculture are more likely to engage in agritourism activities (Johnson et al., 2020). This result is consistent with the idea that individuals with a pre-existing interest or connection to agriculture are more inclined to participate in agritourism. Interestingly, the study also suggests that individuals who were members of agriculture-supporting organizations in the past but are not members now have a positive probability of engaging in agritourism activities (Brown and Green, 2019). Several reasons support this finding. Due to shared values, participation in agritourism is correlated with membership in organizations that support agriculture. The educational and promotional elements of agritourism that support their agricultural interests are frequently valued by those in such organizations. Members gain access to more agritourism information through events and newsletters, which promotes participation and raises awareness. Participation in agritourism activities is also influenced by social ties and a sense of belonging to a community that values agriculture. The study also shows that former members of these organizations still have a good chance of partaking in agritourism, suggesting the industry has appeal that extends beyond ardent supporters. Even after memberships are ceased, exposure to these organizations maintains interest in agricultural experiences.

Q10 explains the effect of respondents' participation in culinary tourism on their likelihood of participating in agritourism activities. The variable is categorical, and the coefficient is negative and statistically significant ($P=0.001$). It is determined that those who participate in culinary tourism activities are 8.28% more likely to participate in agritourism activities than those who do not. It is high time to reinforce the culinary tourism resource and turn the supporting consumer involvement into the topmost tourist experience, enlightening the relationship between food and image. Recent studies have shown that people are proposing suggestions concerning strategies for developing local cuisines into tourist attractions (Fox, 2007; Du Rand et al., 2013). Various countries have initiated focusing on the attraction of food in terms of tourism, which can probe this issue in terms of the benefits brought by culinary tourism to the key stakeholders, including tourists, gastronomical providers, residents, community, and travel industry sectors (Kivela and Crotts, 2005).

Q11 explains the level of the regions where the respondents live. This variable is categorical and categorized as 1, urban; 2, suburban; 3, small town; and 4, rural. The urban category is set as the control variable. The coefficients of the categories are statistically significant. It is determined that those living in suburban, small town, and rural areas are more likely to participate in agritourism activities than those living in urban areas. In other words, those who participate in agritourism activities are generally those who live outside the city. In line with these results, it

is an expected situation that those living in urban areas are less likely to participate in agritourism activities.

Seasonal Preferences and Consumption Habits

Q3 explains the changes in respondents' vegetable consumption by season after 2015. The variable is included in the model in 5 categories. The spring category was determined as the control group. Accordingly, the probability of participating in agritourism activities of those who consume vegetables in summer and fall is statistically significant. The probability of participating in agritourism activities in the summer period is 9.85% less than in the spring period, while it is 13.85% more in the fall period. According to these results, it is seen that participating in agritourism activities is not preferred in the summer period. In line with these results, while it is hot in open lands in the summer period and may be the reason for not being preferred, there are many alternatives for vacation in the summer period. Therefore, it is expected that spring and fall, when climatic factors are more favorable for agritourism, would be preferred. Seasonal preferences significantly influence agritourism participation. The lower engagement in summer is likely due to adverse weather conditions, particularly excessive heat in open areas where agritourism activities occur, causing discomfort and discouraging outdoor agricultural experiences. Moreover, the summer season faces competition from alternative vacation options such as beach resorts and water parks, diverting attention away from agritourism. In contrast, spring and fall align with key agricultural activities, making them more attractive as visitors can witness and partake in essential farming practices. Climatic factors in regions with extreme heat or droughts may further decrease summer agritourism appeal. Effective marketing and promotion strategies tailored to seasonal preferences are crucial for agritourism businesses to attract visitors during the more favorable spring and fall seasons.

Q4 explains the effects of seasons on the likelihood of respondents to participate in agritourism activities. The variable consists of 5 categories and the first category is included in the model as a control variable. The coefficients of the third and fourth categories are statistically insignificant. The second category explains the summer period, and the fifth category explains that there is no change according to the periods. It was determined that the effect of the amount of fresh fruit consumption in the summer period on participation in agritourism activities was 9.64% less than the control group. The fifth control group is the category in which fresh fruit consumption does not change according to the seasons, and the probability of participating in agritourism activities is 15.93% lower than the control group. The control group is the spring period, and it can be said that the spring period is the period when agricultural activities are more suitable for tourism.

Q5 explains the effects of respondents' vegetable consumption by season on their likelihood to participate in agritourism activities. The spring period is determined as the control group, and only the coefficient for the winter period category is statistically significant ($p=.000$). It was determined that those whose vegetable consumption increased in the winter period were 24% more likely to participate in agricultural tourism compared to the control group.

Q6 explains the effects of respondents' fresh fruit consumption by season on their likelihood to participate in agritourism activities. The spring season was taken as the control group. The coefficients for the summer, fall, and winter categories are statistically significant. Compared to the control group, 10.79% in summer, 22.99% in fall, and 10.17% in winter were less likely to participate in agritourism. In connection to the current study, Bel et al. (2015), reported in their study that the summer season is indeed idyllic for outdoor activities and visits, whether tourist stays take place in a rural or urban area.

Q7 explains the effects of respondents' vegetable consumption by season on their likelihood to engage in agritourism activities. The spring season is taken as the control group. The coefficients for all categories are statistically significant. Compared to the control group, the probability of participating in agricultural tourism is 32.72% higher in the summer period, 16.66% higher in the fall period, 11.72% higher in the winter period, and 24.52% higher for those whose expenditures do not change according to the seasons.

In the estimated logistic regression model, Q4 and Q5 explain the changes in the amount of fresh fruit and vegetable consumption by seasons, while Q6 and Q7 explain the changes in expenditures by seasons. In line with these results, it is known that expenditures do not change at the same rate as consumption amounts. Especially in summer, the supply of fresh fruits and vegetables increases, and prices are lower. Demand may increase due to low prices. Moreover, summer is the natural growing period of fresh fruits and vegetables. It is normal for consumers to want to consume natural products in season.

However, the effects of seasonal consumption and expenditure variations in fresh fruits and vegetables on the possibility of participating in agritourism activities are not parallel. In line with these results, this is the result of the answers of the peers participating in the survey. However, it is usual for consumers' spending and consumption habits to change over the seasons. In line with these results, although regression analysis explains the effect of the independent variable on the same dependent variable, it also has a classification feature since it is a non-

parametric analysis. Due to this feature, it can discuss the effects of seasonal changes in expenditure and consumption amounts on the probability of participating in agritourism activities and provide information on the consumption and expenditure characteristics of those who want to participate in agritourism activities. According to these discussions, it is seen that the amount of fresh fruit consumption of those who want to participate in agricultural tourism activities is generally lower in the winter period compared to the control group in the spring period. In other words, it can be said that the fruit consumption and expenditures of those who want to participate in agritourism activities are higher in the spring period. In vegetable consumption, it was determined that the consumption amounts and expenditures of those who want to participate in agritourism activities are higher in other periods compared to the spring period category, which is the control group. According to the results of the study, it is understood that the respondents' fruit consumption in the spring period and vegetable consumption in the summer and fall periods are higher. In line with these results, although it varies according to regions, it can be said that fruit production areas in the spring period and vegetable production areas in the summer and fall periods are more suitable for tourism activities.

Q8 explains the effect of the respondents' average share of fresh fruits and vegetables purchased from traditional supermarkets and greengrocers in the last year on the likelihood of engaging in agritourism activities. The sign of the coefficient of the variable is negative and statistically significant ($p=.029$). It is determined that each proportional increase in the respondents' meeting their fresh fruit and vegetable needs in supermarkets or greengrocers decreases the rate of participation in agritourism activities by 0.1%. This effect is very low, in other words, it can be said that buying fresh fruits and vegetables from supermarkets or greengrocers is not a determining factor for respondents to participate in agritourism activities.

Q9 explains the effect of the respondents' average of meeting their fresh fruit and vegetable needs from their own garden in the last year on the likelihood of participating in agritourism activities. The coefficient of the variable is positive and statistically significant ($p=.015$). It is determined that those who meet their fresh fruit and vegetable needs from their own garden are more likely to participate in agritourism activities (0.28%). Findings by Brune et al. (2021) suggest that agritourism experiences effectively increase consumers' intentions to purchase local food.

CONCLUSION

Agritourism comprises various components, including agricultural production activities, social events, educational programs, and tourism-related activities. Typically, studies on agritourism underscore these facets. However, an often-overlooked aspect of agritourism is its function as a distinct marketing system. Agritourism can be conceptualized as a marketing system that integrates agricultural and tourism activities. In essence, agricultural products serve as the focal point, attracting all activities within the realm of agritourism.

The sale of these products, a key element of agritourism activities, involves marketing agricultural products and fulfills the marketing function within agricultural enterprises. Numerous marketing channels exist for agricultural products, especially fresh fruit and vegetable items, which are the primary focus of this study. The abundance and effectiveness of these marketing channels are closely linked to the success of agricultural production.

In agritourism activities, multiple objective functions, such as the success of agricultural production, participants enjoying social or educational activities, and the effective execution of the marketing function, should be evaluated collectively. This is because agritourism activities encompass all these aspects.

In the context of this study, to understand the multifaceted nature of agritourism, the probability of respondents participating in agritourism activities and the factors influencing this participation were investigated. Indeed, agritourism serves as a marketing strategy, underscoring the importance of understanding consumer preferences and characteristics. The findings reveal that those engaging in agritourism activities predominantly do so during the spring. However, the timing of agricultural production activities varies across regions and seasons. While respondents generally prefer spring months for fruit products, they lean towards fall months for vegetable products. Participants in agritourism activities are typically of high income and possess a high level of education. This aligns with expectations. Additionally, it can be observed that white Americans residing in urban areas exhibit a greater preference for agritourism activities. Considering the findings, policy recommendations can be listed as follows.

Policy Implications

Promotion and Incentives Targeting Target Groups

Findings reveal that young and middle-aged individuals, those in higher income groups, and urban residents are more interested in Agritourism. Therefore, promotional and marketing activities should be specifically focused on these segments; social media-based campaigns should be organized for young people, while family-oriented events

should be organized for middle-aged groups.

Seasonal Event Planning

Research indicates that spring and autumn are more attractive for agritourism. Based on these findings, activities such as farm visits, harvest festivals, and nature activities should be focused specifically on these periods. In the summer, participation can be increased through refreshing shaded areas, water activities, or alternative holiday concepts.

Strengthening the Connection Between Agriculture and Social Life

The results indicate that individuals living in rural areas exhibit a higher level of interest in agritourism. This suggests that a close connection to the natural environment and rural life experience may be determinants of tourism preferences.

Supporting Small Farms

Agritourism is a significant source of income for the sustainability of small farms. Therefore, public policies should offer tax incentives, low-interest loans, and infrastructure support to small-scale farmers, and facilitate farm investment in agritourism activities.

Integration of Gastronomy and Local Food Tourism

Findings indicate that individuals interested in gastronomy tourism also have a high participation rate in agritourism. Therefore, agritourism policies should be integrated to include local culinary experiences, farm-to-table practices, and local food festivals.

Education and Awareness Programs

The findings indicate that the tendency to participate in agritourism activities decreases with increasing education levels. However, the lack of statistical significance between education levels suggests that education alone cannot explain behavioral differences in this area. Even though the relationship is meaningless, this may indicate that interest in agritourism is shaped by experiential or environmental motivations rather than cognitive or sociocultural factors. The negative correlation between formal education levels and participation suggests that agritourism's appeal may be more experiential than intellectual. Therefore, awareness campaigns should focus on emotional and sensory appeals (e.g., 'reconnect with nature,' 'taste the freshness') rather than overly academic or technical messaging.

Pricing and Support Based on Income Groups

Higher-income groups have been observed to participate more in agritourism. However, different pricing models such as "subsidized tickets," "student discounts," or "family packages" can be implemented to include lower-income groups.

Integration into Rural Development Strategies

Agritourism should be viewed not only as a component of tourism but also as a component of rural development policies. Regional development agencies and local governments should prioritize projects supporting agritourism to increase economic diversification in rural areas.

Contribution Rate Statement Summary of Researchers

The authors declare that they have contributed equally to the article.

Conflict of Interest

The authors of the articles declare that they have no conflict of interest.

Ethic approval

This research was taken with the permission of the Selçuk University Faculty of Agriculture Scientific Ethics Evaluation Board dated 21.08.2025 and numbered E.1067286.

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