

ADDING AN AGRICULTURAL COMPONENT TO SUSTAINABLE TOURISM IN IDAHO, USA

ROBERT L. MAHLER, NAV GHIMIRE & ARIEL AGENBROAD

Department of Soil and Water Systems and Extension, University of Idaho, USA.

ABSTRACT

Over 20,000,000 tourists visit Idaho every year generating more than \$3,700,000,000 in income. Over the last decade, tourism revenue has increased at an annual rate of 7%. Tourism directly and indirectly provides 63,000 jobs. A large portion of Idaho's tourism is considered sustainable as non-consumptive outdoor recreational activities are the primary reason people visit the state. Many of the sustainable activities are associated with the 80+ mountain ranges in the state. Popular tourist activities include: camping/hiking/backpacking, white-water rafting, wildlife viewing, skiing, fishing, extreme sports and viewing natural wonders. Up to now, agriculture and associated food processing, the state's largest industry, has contributed very little to tourism. Idaho agriculture consists of 25,000 farms and ranches that cover 5,000,000 ha. Idaho produces over 185 different commodities and has a large food processing industry. The purpose of this paper is to explore the potential for agriculture to significantly contribute to sustainable tourism by: (1) using public surveys about the understanding and use of agriculture and its products to promote tourism, (2) understanding the potential and developing strategies to use agricultural commodities to enhance tourism in Idaho and (3) evaluating the agricultural sector's support for tourism. Surveys showed that a large majority of Idahoans currently believe that agriculture contributes less than 1% of the monetary value generated by tourism every year. This study showed that many leaders in the agricultural industry strongly back sustainable tourism. The most viable agricultural components that can contribute to sustainable tourism include: the state's vineyards and wineries (wine tasting and wine sales), the hops and barley commodities (breweries and micro-breweries), the dairy industries (cheese, cheese products and famous yogurts), specialty commodities, local farmers markets and the nationally famous Idaho potatoes (museums, signage and processing plants). These ideas have the potential for the agricultural sector to become a more important part of Idaho's sustainable tourist industry.

Keywords: agritourism, Idaho agricultural products, public opinion, sustainable tourism.

1 BACKGROUND

With an area of 216,443 km², Idaho is the fourteenth largest state; however, with a population density of only 8.33/km², Idaho ranks 38/50 in total population. Despite the small overall population, Idaho is currently one of the three fastest growing states in the USA. With 20,000,000 annual visitors and annual tourism revenue of \$3.7 billion, this industry is vital to the state's economy. Most of the tourist revenue is associated with natural resources even though Idaho's gross farm revenue is the third largest of the western states. Sustainable agriculture needs to become an important source of tourist revenue in Idaho.

2 INTRODUCTION

Tourism can be traditionally defined as people spending time away from home in the pursuit of relaxation, recreation and/or pleasure. Modern tourism began in the late 1600s. Approximately, 40 years ago tourism, both within countries and internationally, had become one of the most important economic activities in the world. Within the last 30 years, the term tourism had been modified into three different terms – modern tourism, sustainable tourism and ecotourism.

One of the most popular types of tourism is referred to as ecotourism [1]. Ecotourism was probably best defined in 1993 as travel that is responsible to areas where the environment is pristine and conserved while at the same time the well-being of local people is sustained [2]. If tourism were to contribute to sustainable development, it must be economically viable [3,4]. There are hundreds of examples of successful ecotourism operations in Africa and the Americas. A well-publicized successful example is ecotourism to view the mountain gorillas in Rwanda. The economic value achieved by protecting the gorilla's homes and resulting tourist dollars is much greater than the value of developing the land for other uses. A significant portion of Costa Rica's tourism industry is also based on the ecotourism concept. This is very successful because visitors come to Costa Rica to see the rainforests and wildlife, taking home only pictures and memories [5]. The Caribbean Island nation of Dominica is a rugged country that contains few sandy beaches to attract tourists. The government decided to promote ecotourism by developing an extensive national trail system across the entire island as a way to promote sustainable tourism and economic development in this relatively poor island nation.

The United Nations Environment Program defines sustainable tourism as the tourist enterprise that takes full account of current and future social, economic and environmental impacts while addressing the needs of the host community, the environment, industry and the visiting tourists [6]. An excellent sustainable tourism program takes into account both potential negative and positive impacts on a tourist destination. Positive impacts can include cultural heritage preservation, job creation, wildlife preservation, interpretation for visitors and landscape preservation and restoration. Conversely, potential negative impacts of sustainable tourism include damage to the environment, overcrowding resulting in land degradation and economic leakage. Well over 300 papers have been published on sustainable tourism. Framework approaches have improved the sustainability of this tourism [7]. The concept of sustainable tourism has continued to evolve over the last several decades making the actual definition dynamic [8].

Agritourism has an extensive history in Europe and this momentum has also recently developed in the USA [9]. Agritourism can not only offer sustainable recreational activities to tourists but can also relate to and display important parts of a region's agricultural heritage [10]. Agritourism can not only provide educational opportunities to 80% of non-farm residents of developed countries but can also help diversify the income of local farmers [11].

Over 20,000,000 tourists visit Idaho every year generating more than \$3,700,000,000 in income. Over the last decade, tourism revenue has increased at an annual rate of 7%. Tourism directly and indirectly provides 63,000 jobs. A large portion of Idaho's tourism is considered sustainable as non-consumptive outdoor recreational activities are the primary reason people visit the state. Many of the sustainable activities are associated with the 80+ mountain ranges in the state. Popular tourist activities include: camping/hiking, white-water rafting, wildlife viewing, skiing, fishing and viewing natural wonders. Up to now, agriculture and associated food processing, the state's largest industry, has contributed little to tourism. Idaho agriculture consists of 25,000 farms and ranches that cover 5,000,000 ha. Idaho produces over 185 different commodities and has a large food processing industry. The purpose of this paper is to explore the potential for agriculture to significantly contribute to sustainable tourism by: (1) using public surveys about the understanding and use of agriculture and its products to promote tourism, (2) understanding the potential and developing strategies to use agricultural commodities that are produced sustainably to enhance tourism in Idaho and (3) understanding the agricultural sector's support for tourism.

3 METHODOLOGY

The following two methodologies were used in this study:

Public surveys about the important aspects of tourism in Idaho. A survey instrument was developed to determine public views of the importance of tourism in Idaho and the place of agriculture in this industry. The six survey questions were as follows:

Q-1. What is the most important reason for tourists to visit Idaho? Choose one of the following: *White-water rafting, Hiking/biking/riding all-terrain vehicles (ATVs), Viewing spectacular scenery, Fishing/hunting, Shopping, Visiting relatives, Agriculture, Other*_____.

Q-2. What is the most important famous portion of the agricultural industry to market to tourists? Choose only one of the following: *Wine/wineries, Microbreweries, Potatoes, Cheese/cheese related products, Local farmers markets, Other*_____.

Q-3. What percentage of Idaho's tourism industry is the result of the states' agricultural industry? Choose one of the following: *Less than 10%, 10–20%, 20–30%, 30–40%, Greater than 40%*

Q-4. Is there a place for agriculture in Idaho's tourist industry? Choose either *YES* or *NO*.

Q-5. Do the following Idaho products/gatherings have the potential to be marketable to tourists? Choose all that have the potential to be tourist friendly: *Wine/wineries, Microbreweries, Dairy products, Potatoes, Farmers markets*.

Q-6. Which of the following industries associated with dairy is a potential tourist destination? Choose those that have the potential to be tourist friendly: *Milk, Meat, Cheese, Yogurt, Dairy-based protein drinks*.

The survey target audience was a representative sample of the 1,350,000 adult residents of Idaho. The target audience was divided into the following two groups of residents: (1) general adult residents of Idaho and (2) adult residents involved in the agricultural industry. In addition, demographic information, including gender, age and educational level, was also collected.

Both the 2016 and 2021 surveys were identical and developed using the Dillman methodology. The survey was delivered to clientele via the USA's Postal Service [12,13]. A sufficient number of completed surveys was the goal to result in a sampling error of 5%–6% [14]. The survey process was also designed to receive a completed survey return rate more than 50%. For the general public, addresses were obtained from a professional social sciences survey company (SSI, Norwich, CT). For people involved in the agricultural industry, addresses were obtained from commodity commissions and county extension offices. Over 1,400 surveys were sent out in each 2016 and 2021 – 50% to the general adult public and the other 50% to residents with ties to the agricultural industry. Four mailings were planned to achieve the 50% return rate. The mailing strategy used was identical to other surveys that had been routinely conducted in the region [15,16]. It took four mailings to achieve the target return rate of 50% in 2016 and 2021.

Survey answers were coded and entered into Microsoft Excel. Missing data were excluded from the analysis. The data were analyzed at two levels using SAS [14]. The first level of analysis generated frequencies, while the second level evaluated the impacts of demographic factors. Significance ($P < 0.05$) to demographic factors was tested using a chi-square distribution [13,14]. Data analysis procedures were identical for each sampling.

Making agriculture relevant in Idaho's tourist industry. The survey information provided baseline information about the potential for agriculture to become more involved in tourism. The agricultural industries that were identified as having important future potential were further studied. Interviews were conducted with commodity commission, grower groups and

individuals involved in relevant agricultural industries. Interviews were also conducted with cities, towns and extension agents that have dealt with farmers markets.

4 RESULTS AND DISCUSSION

The survey methodology was designed to compare resident responses over time so that useful information about attitudes toward agricultural tourism and the willingness to consider and/or take part in efforts to increase agricultural tourism in Idaho could be evaluated. Using the mail-based Dillman survey methodology, response rates of 50.8% and 52.1% were achieved for the surveys conducted on the general public in 2016 and 2021, respectively. Conversely, over 54% and 56% of residents that had agricultural ties responded to the 2016 and 2021 surveys, respectively. Thus, the goal of greater than a 50% response rate was achieved for both surveys, resulting in a sampling error of less than 6%. There were several instances in this survey study where the demographic factors of gender, age and education level impacted respondent answers.

4.1 Sustainability

Sustainable agriculture can be broadly defined as agriculture meeting human population needs for food and fiber without diminishing the ability of future generations to meet their own food needs. Good sustainable systems have incorporated five principles that include: (1) improving soil health, (2) efficiently using water, (3) reducing inputs from agrichemicals, (4) reducing pollution levels and (5) protecting the environment. For the purposes of this paper, agriculture has made significant progress addressing at least four of these five principles identified above. Each of the commodities described as being suitable as sustainable agriculture tourist destinations in Idaho has established mainstream practices that make the production of the evaluated commodities much more sustainable today compared to typical production practices of the 1970s. Soil water use, soil health and a reduction of agrichemical use have been difficult in Idaho because of the requirement of irrigation water in a desert ecosystem, low soil organic matter that contains few nutrients and the use of large farm equipment that can adversely impact soil health. However, for the commodities discussed in this paper, four of the five sustainable practices listed above are now widely used by growers and widely supported by commodity commissions. For instance, potatoes are considered to be a more sustainable product because: (1) scientific instruments monitor soil water potential and indicate when and how much irrigation water should be added to soils based on climate and plant growth stage, (2) integrated pest management (IPM) results in the application of fewer numbers and amounts of agrichemicals to control pests, (3) nutrients including nitrogen, phosphorus and potassium are applied to plants throughout the growing season based on plant tissue testing and (4) tillage operations are controlled to prevent soil erosion and protect soil health.

4.2 Why Do Tourists Visit Idaho?

Public responses about the most important reason for tourists to visit Idaho were, for the most part, similar in both the 2016 and 2021 surveys (Table 1). In 2016, the public ranked white-water rafting (18%), viewing spectacular scenery (16%), hiking/biking/riding ATVs (15%), fishing/hiking (12%), visiting relatives (10%) and shopping as the most important reasons to visit Idaho. By 2021, both viewing spectacular scenery (21%) and white-water rafting (20%)

Table 1: What is the most important reason for tourists to visit Idaho?.

Reason to visit Idaho	2016	2021	Significance
	%		
View spectacular scenery	16	21	NS
White water rafting	18	20	NS
Hiking/biking/ATVs	15	13	NS
Fishing/hunting	12	10	NS
Snow or water skiing	8	9	NS
Visiting relatives	10	12	NS
Shopping	6	8	NS
Agriculture	<1	<1	NS
Other	15	7	**
Significance	****	****	

NS = not significant; **, **** = significant at the 95% and 99.9% level of probability, respectively.

were more popular than the other tourist activities. In both surveys, agriculture was chosen as a reason for visiting Idaho by less than 1% of survey respondents.

The demographic factors of gender and age impacted survey choices; however, education level did not impact choices. Males were more likely to want to visit Idaho for white-water rafting and fishing/hunting than females. Conversely, females were more likely to partake in visiting relatives or go shopping than males. Older residents (over 50 years old) were more likely to view spectacular scenery, go fishing or hunting, visit relatives or go shopping than people less than 40 years old.

4.3 Agriculture's Current Impact on Tourism

When the survey answers from the general public were combined with residents that had a natural tie to the agricultural sector, over 60% of respondents identified potatoes as the most famous Idaho agricultural product that could be marketed to tourists (Table 2). Although identified much less frequently, wine/wineries and local farmers markets increased as being marketable items to tourists between 2016 and 2012 (Table 2). Microbreweries and cheeses as agricultural products to be marketed by tourism remained low and differences between 2016 and 2021 responses were not observed.

The demographic factor education level impacted resident responses about marketing Idaho's agricultural Idaho products. Residents with two or more years of college were more likely to indicate that wine/wineries and microbreweries were more marketable products to tourists than people with less formal education.

Survey respondents from the general population and those with agricultural backgrounds suggested that agriculture was a very small component of the Idaho tourism industry (Table 3). Over 80% of survey respondents from the general population in both 2016 and 2021 felt that agriculture contributed less than 10% of tourist income generated. Over two-thirds of the public associated with agriculture also felt that less than 10% of tourist-generated dollars could be tied to agricultural products. Differences between survey results in 2016 and

Table 2: Answer to the question ‘What is the most famous portion of agriculture to market to tourists?’.

Agricultural commodity	2016	2021	Significance
	%		
Potatoes	16	62	NS
Wine/wineries	11	17	***
Local farmers markets	8	14	***
Microbreweries	6	4	NS
Cheese	3	2	NS
Other	8	1	NS
Significance	****	****	NS

NS = not significant; ***, **** = significant at the 99% and 99.9% level of probability, respectively.

Table 3: Answer to the question: ‘What percent of Idaho’s tourism industry is the result of the states’ agricultural industry?’.

Proportion of tourism	2016		2021		Significance
	General	AG	General	AG	
	%				
< 10%	82	68	84	70	NS
10 – 20%	10	17	8	18	NS
20 – 30%	6	7	5	6	NS
30 to 40%	1	4	1	3	NS
> 40%	1	4	2	3	NS
Significance	***	***	***	***	

NS = not significant; *** = significant at the 99 level of probability, respectively.

2021 were not observed. Less than 10% of the surveyed public considered agriculture to be responsible for more than 30% of tourism-generated income (Table 3).

The demographic factors of age and education level impacted survey results. Residents older than 40 years old were more likely to say that agriculture contributed more to tourism income than residents less than 40 years of age. Likewise, residents with college degrees were more likely to say that agriculture contributed a larger share to tourism income than residents with less formal education.

4.4 Agriculture’s Place in Idaho Tourism

The percentage of the general Idaho population that said agriculture has a place in tourism was 12% and 31% in 2016 and 2021, respectively (Table 4). Even though the percentage

values were low, significantly more survey respondents thought that agriculture had a tourism role in 2021 than in 2016. Conversely, a larger and increasing percentage of the population with ties to agriculture thought that there was a place for agriculture in the tourism industry in 2021.

The demographic factors of gender and education level affected survey responses. Females were more likely to say that agriculture had a role than males. Also, respondents with a college education were more likely to view a role for agriculture in tourism than residents with less formal education.

Both surveyed groups were asked about the potential of five agricultural products as being marketable to tourists. Both the general Idaho population and respondents with an agricultural background were more receptive to the five agricultural products in 2021 than in 2016 (Table 5). Both surveyed groups were most interested in marketing Idaho potatoes for tourism than the other four commodities (Table 5). Nationally, Idaho is famous for the quality of its potatoes. For many years, the Idaho license plate on motor vehicles carried the slogan 'FAMOUS POTATOES'. Interest in marketing wines/wineries, microbreweries and dairy products also significantly increased in 2021 (Table 5). In addition, there was increased interest in marketing local farmers markets in cities and towns throughout the state.

Table 4: Answers to the question: 'Is there a place for agriculture in Idaho's tourist industry?'

Group surveyed	2016		2021		Significance
	Yes	No	Yes	No	
	%				
General population	12	65	31	50	****
Agricultural population	28	50	46	35	****
Significance	****		****		

*** and **** = significant at the 99 and 99.9% level of probability, respectively.

Table 5: Answers to the question: 'Do the following Idaho products/gatherings have the potential to be marketable to tourists?'

Agricultural product	2016		2021		Significance
	General pop.	Ag. population	General pop.	Ag. population	
	% Yes				
Wine/wineries	15	22	19	29	**
Microbreweries/products	18	17	21	24	**
Dairy products	12	18	24	30	**
Potatoes	36	40	42	44	**
Farmers markets	16	29	23	37	**
Significance	**	***	**	****	

, * and **** = significant at the 95%, 99% and 99.9% levels of probability, respectively.

Table 6: Answer to the question: ‘Which of the following industries associated with dairy is a potential tourist destination?’.

Dairy industry	2016		2021		Significance
	General pop.	Ag. population	General pop.	Ag. pop.	
	%				
Cheese	16	24	29	40	**
Dairy-based protein drinks	5	2	7	8	**
Yogurt	6	10	16	31	**
Milk	34	26	38	29	**
Meat	19	16	21	12	**
Significance	****	***	***	***	

NS = not significant; **, *** = significant at the 99 and 99.9% level of probability, respectively.

The demographic factors of age, gender and education level impacted survey results. Males thought that microbreweries and dairy products had more tourism potential than females. Conversely, females, college graduates and people younger than 40 years old felt that wineries and farmers markets had more tourism potential than microbreweries and potatoes.

The dairy category includes many different products including milk, meat, cheese, yogurt and dairy-based protein drinks. The surveyed public was asked to differentiate these products as potential targets for the tourist industry. Over the six-year survey period, the perceived tourist value of cheese, milk, yogurt and dairy-based protein drinks increased, while the value of meat as a tourist target decreased (Table 6). The general public that participated in the survey most liked the potential of milk and cheese as tourist products, while the surveyed public associated with agriculture thought that cheese, yogurt and milk had the most potential as products for tourists in 2021. Overall, the production of cheese, yogurt, dairy-based protein drinks and milk has greatly increased in Idaho over the last 20 years. Consequently, these products are even more associated with Idaho marketing. The demographic factors of gender and education level did not impact the answers to survey questions. However, survey respondent age did impact answers to questions. Residents younger than 30 years old were more likely to see the tourist marketing potential of dairy-based protein drinks than older survey respondents.

4.5 The Potential and Strategy for Inserting Agricultural Products into Tourism Efforts

Based on the public surveys and interviews with leaders in the agricultural industry, five different agricultural commodities were identified to make agriculture a more important part of sustainable tourism. These five commodities are discussed below.

Potatoes. Idaho leads the nation with more than 5.9 billion kg of potatoes produced annually on more than 1,20,000 ha. Idaho has nine major processing facilities, and several of the largest farms have their own processing and packaging centers. Idaho offers a bounty of agritourism possibilities. Built in 1912, the Idaho Potato Museum in Blackfoot is a great way for the public to learn about potatoes and see the largest potato chip ever made by Pringles (a major potato chip maker) and a timeline of potato production and consumption in Idaho

and the USA. The museum provides group tours, and there is good signage along the nearby interstate highway. A potato farm tour is a common feature in Idaho, often starting from Idaho Falls – a prime growing region for potatoes. This can be expanded so that locals and out-of-state visitors can watch the potato being harvested, taken to potato storage sheds and finally being boxed into baking potatoes or turned into French fries. McDonald's, the giant fast-food restaurant, only uses Idaho potatoes for its fries.

The ability exists to take tourists to the Teton Springs Lodge, where visitors could experience the culinary arts of cooking with potatoes. Agritourism for potatoes will require the partnering of processors, potato farmers, the Idaho Potato Commission, university extension, growers and Idaho Tourism Development. The marketing strategy could include inviting customers for farm visits, hosting group tours, educating youth in local schools, ensuring that local chambers of commerce have listed farms that provide tours and coordinating with travel agencies to attract foreign tourists traveling from Seattle and several of the major national parks adjacent to Idaho.

Wine/wineries. Idaho is home to a fast-growing wine industry. Idaho Wine Regions nurture grapes with a moderate climate, limited precipitation and a consistent growing season that adds complexity to the grapes. A combination of cold nights and hot days serves to balance acids and sugars in fruit. Idaho is known for growing and producing classic varieties, including Syrah, Merlot, Riesling and Chardonnay, along with more adventurous wines such as Tempranillo and Malbec. There are 550 ha of planted grapevines in Idaho ranging in elevation from 280 to 950 m. These vineyards harvest 1,900 mt of grapes annually and support 70 wineries producing 1,400,000 liters of wines, resulting in an economic impact of \$210,000,000.

Even though surrounded by much larger wineries in the states of Oregon and Washington, Idaho's family-owned wineries offer the ultimate tasting experience in an intimate family-owned restaurant environment with friendly staff who serve and devote time to their customers. Vineyard tours and social events of all sizes are available at many wineries. Since Idaho's wine industry is rapidly growing, it is likely that the number of tourist-friendly wine-tasting rooms will also expand, further increasing the value of related tourism.

Dairy. This is the major agricultural industry in Idaho – producing 59,000,000,000 kg of milk annually valued at \$2,200,000,000. Southcentral Idaho is the main milk-producing region as it is home to 60% of the dairies and 72% of the cows. The average dairy has 1,400 cows. A large portion of the milk is processed into 365,000,000 million kg of cheese. These cheese products include cheddar, Colby jack, mozzarella, Italian style cheeses, cream cheese, cottage cheese and pasteurized processed cheeses. A major tourism strategy is to encourage the cheesemakers to provide tours for the public.

Idaho is also home to the largest state-of-the-art yogurt plant in the world, as the USA's number one Greek yogurt brand is located here. This yogurt plant has a 6,500-m² facility that allows employees to produce this product, houses the company's global research and development team and can provide space for tourists to see this amazing facility at work. Several of the cheese and yogurt manufacturing facilities show both the transparency and focus of the industry. The yogurt center represents the future of food processing in the USA. The main strategy here should be to encourage these plants to let visitors see them in action and support agritourism.

Farmers Markets. Farmers markets create entrepreneurship opportunities for farmers, ranchers and small businesses, especially in rural areas. They can serve as unique and welcoming tourist destinations, offering both a literal and figurative taste of the best an agricultural

region has to offer, whether through fresh, in-season fruits and vegetables, cheese, honey, beer and wine, baked goods, preserved foods or the art and culture of a region. In 2021, 45 seasonal farmers markets operated across Idaho. In milder climates, Idaho markets operate from April to November, though most operate from May or June through September. Farmers markets stimulate local economies by directly supporting local farmers and reinvesting money back into communities. This could be greatly increased by welcoming more visitors. The Idaho Farmers Market Association reported that, in 2019, Idaho farmers markets generated \$7,340,118 in sales, attracting an estimated 53,603 visitors statewide. In 2014 and 2016, rapid market assessments conducted by the University of Idaho Extension found that of the nearly 15,000 weekly visitors to the largest market in the state, the Capital City Public Market in Boise, 18% identified as tourists.

Each year, the Idaho State Department of Agriculture publishes 20,000 print copies of the annual Idaho Farmers Markets Directory and promotes Idaho Farmers Markets during limited and localized media campaigns each August during Idaho Farmers Market Week. However, farmers markets and the unique experiences, foods, gifts and family-friendly entertainment they offer could be much more widely promoted to potential agritourists. Most Idaho farmers markets are centrally located, walking distance from city centers, hotels, museums, art galleries, shopping and other popular tourist destinations. The University of Idaho Extension, working with the Idaho State Department of Agriculture and the Idaho Farmers Market Association, could increase efforts to assist markets in collecting visitor data, evaluating consumer preferences, generating economic impact studies and advocating for chambers of commerce, local and state tourism offices, resorts, hotels and convention centers to promote Idaho Farmers Markets as vibrant attractions.

Microbreweries. According to the Idaho Department of Commerce and Tourism Development, Idaho boasts the title of being the number one barley producer in the country and second in hops, but its impressive craft beer scene is somewhat undiscovered. Idaho has one of the fastest-growing craft-beer industries in the USA, with many of these breweries utilizing Idaho-grown hops and barley, along with other agricultural products in their beers and hard ciders. Brewers Association for Small and Independent Craft Brewers, which published State Craft Beer Sales and Production Statistics in 2020, recorded 77 Idaho breweries, with an estimated economic impact of \$438,000,000. Idaho Brewers United, a non-profit 501(c)6 trade organization, was founded in 2012 and now lists 50 brewer members.

While there has been a significant effort to link Idaho craft breweries to tourism, there is still a great deal of opportunity. Idaho celebrates local brews and breweries during Idaho Craft Beer Month in April, but this may not be a time when significant tourist traffic is present. The organizations supporting the industry, including the Idaho Hops Growers Commission and the Idaho Barley Commission could increase visibility and agritourism by collaborating with various professional and amateur sporting events, recreational companies, tour operators, hotels and conference centers, concert venues, and other cultural and civic events at which alcohol is typically served and which are typically promoted by the tourism industry.

5 CONCLUSIONS AND RECOMMENDATIONS

The major findings of this study were:

- Based on surveys, the public felt that agriculture contributed less than 1% of the monetary value generated by tourism in a year.
- The percentage of the general Idaho population that said that agriculture has a place in tourism was 12% and 31% in 2016 and 2021, respectively.

- The public ranked potatoes (42%), dairy products (24%), farmers markets (23%), micro-breweries (21%) and wine/wineries (19%) as the most marketable products.
- The growing dairy industry in Idaho has been increasingly recognized by the Idaho public as being more than just milk. Compared to the 2016 survey, in 2021, significantly more residents noted that cheese, yogurt and dairy-based protein drinks could be marketed to tourists.
- Leaders in Idaho agriculture strongly support adding a visible agricultural component to sustainable tourism in Idaho.
- Potatoes are the agricultural product most famous to tourists. An emphasis should be placed on conducting tours of the many existing potato processing facilities.
- The wine industry in Idaho is rapidly expanding. Tours of wineries and tasting facilities should be encouraged. Many of the wineries are located close to identified areas of high tourist traffic.
- The growing dairy industry has many processing facilities that could provide visitor tours of cheese and yogurt processing and other products made out of milk. Many of these facilities are located near major interstate highways for easy tourist access.
- Farmers markets are already popular with Idaho residents. With improved marketing, these markets would be a draw for out-of-state tourists to purchase Idaho products.
- Idaho is already a major producer of hops and barley – important components of craft beers. With creative marketing, out-of-state tourists could be lured into Idaho’s growing list of microbreweries.
- Idaho agriculture already produces many of the raw products – potatoes, wine grapes, milk, hops, barley and 168 other commodities that can be marketed for agritourism. The agricultural community is excited to insert these sustainable agritourism products into Idaho’s successful tourism industry.

REFERENCES

- [1] Carter, E., Introduction, *Ecotourism: A Sustainable Option?*, eds. E. Carter and G. Lowman, Wiley: Chichester, UK, pp. 3–17, 1994.
- [2] Blangy, S. & Wood, M.E., Developing and implementing ecotourism guidelines for wildlands and neighboring communities, *Ecotourism: A Guide for Planners and Managers*, eds. K. Lindberg and D. E. Hawkins, The Ecotourism Society: North Bennington, VT, pp. 32–54, 1993.
- [3] Wall, G., Forum: Is ecotourism sustainable?. *Environmental Management*, **21(4)**, pp. 483–491, 1997.
- [4] Arowosafe, F.C., Wuleka, K. C-J. & Emma, E-M.M.R., Perceptions on benefits of ecotourism development by residents of fringe communities to two national parks in West Africa. *American Journal of Tourism Management*, **8(1)**, pp. 8–18, 2019.
- [5] Howitt, J. & Mason, C. W., Ecotourism and sustainable rural development in Perez Zeledon, Costa Rica. *The Journal of Rural and Community Development*, **13(1)**, pp. 67–84, 2018.
- [6] Global Sustainable Tourism Council, *What is Sustainable Tourism?*, available at gst-council.org, 2021. (accessed 11 November 2021).
- [7] Clarke, J., A framework of approaches to sustainable tourism. *Journal of Sustainable Tourism*, **5(3)**, pp. 224–233, 1997. DOI: 10.1080/09669589708667287.
- [8] Bramwell, B. & Lane, B., Sustainable tourism and evolving global approach. *Journal of Sustainable Tourism*, **1(1)**, pp. 1–5, 1993. DOI: 10.1080/09669589309450696.

- [9] Veeck, G., Che, D. & Veeck, A., America's changing farmscape: a study of agricultural tourism in Michigan. *The Professional Geographer*, **58(3)**, pp. 235–248, 2006. DOI: 10/1111/j.1467-9272.2006.00565.x.
- [10] Farsani, N.T., Ghotbabadi, S.S. & Altafi, M., Agricultural heritage as a creative tourism attraction. *Asia Pacific Journal of Tourism Research*, **24(6)**, pp. 541–549, 2019. DOI: 10.1080/10941665.2019.1593205.
- [11] Lee, M., Tourism and sustainable livelihoods: the case of Taiwan. *Third World Quarterly*, **29(5)**, pp. 961–978, 2008. DOI:10.1080/01436590802106148.
- [12] Salent, P. & Dillman, D., *How to Conduct Your Own Survey*, John Wiley and Sons, Inc.: New York, NY, 1994.
- [13] Dillman, D., *Mail and Internet Surveys: The Tailored Design Method*, John Wiley and Sons, Inc.: New York, NY, 2000.
- [14] SAS Institute Inc., SAS Online Document 9.1.3. SAS Institute Inc.: Cary, NC, 2004.
- [15] Mahler, R. L., Barber, M. E. & Shafii, B., Urban public satisfaction with drinking water since 2002 in the Pacific Northwest, USA. *International Journal of Sustainable Development and Planning*, **10(5)**, pp. 620–634, 2015.
- [16] Mahler, R.L., Barber, M.E. & Simmons, R., Public concerns about water pollution between 2002 and 2017 in the Pacific Northwest, USA. *International Journal of Environmental Impacts*, **2(1)**, pp. 17–26, 2019.