

USING AGRICULTURE TO IMPROVE AND INCREASE THE SUSTAINABLE TOURISM INDUSTRY IN IDAHO, USA

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ABSTRACT

Tourism is the third largest industry in Idaho, surpassed by only agriculture and technology, as it accounts for more than \$4.8 billion in annual income. Over 84% of this income is generated by out-of-state visitors. The tourism industry is healthy and growing at an annual rate of 6%–8%. Idaho is known for its outdoor beauty, as eight of its 14 top tourist attractions are water-related. Even though agriculture is Idaho's largest industry, it currently has little positive impact on tourism. The purpose of this paper is to determine the potential value of agriculture to Idaho's sustainable tourism industry and to recommend a list of sustainable programmes that need to be developed or improved upon to ensure that agriculture is much more important to Idaho's sustainable tourism future. Conversely, agriculture currently contributes little to tourism; however, its potential for the future is outstanding. A public survey developed for this study indicated that there is widespread support to develop sustainable agritourism in Idaho and that the public is receptive to the inclusion of wine/wineries, dairy products, farmers markets, potatoes/potato products and small farms in a sustainable tourism programme. Programmes are in the development phase to capitalise on unique Idaho commodities including farmer's markets, sustainable small farms, the growing wine industry, specialty crops, agricultural diversity and the development of a historical agricultural heritage trail. Many of these resources are within 1 hour's driving distance of over half of Idaho's population and the state capital, Boise. The potential to use unique and sustainable agricultural commodities should be the basis for the expansion of sustainable agritourism in Idaho over the next 20 years.

Keywords: agricultural tourism, wine industry, water canals, farmers markets, agricultural diversity.

1 INTRODUCTION

The current popular definition of sustainable tourism is the use of sustainable practices in and by the tourist industry. Sustainable tourism strives to acknowledge both positive and negative impacts of tourism, ideally by minimising the negative impacts and maximising the positive impacts on people, cultures and the environment. Going further, the United Nation's World Tourism Organization (UNWTO) and United Nations Environmental Program (UNEP) defines sustainable tourism as tourism that accounts for its current and future social, economic and environmental impacts, while addressing the needs of visitors, the environment, industry and the local community [1]. Typical positive impacts of sustainable tourism include wildlife preservation, landscape conservation, local job creation and cultural heritage preservation and interpretation. Negative impacts that should be minimised or eliminated with sustainable tourism include damage to the natural environment, loss of biodiversity, economic damage and economic leakage.

Over 1.4 billion people travel each year. Data shows that more and more people travel across planet Earth every year and much of this travel can be linked to tourism. This increase in tourism has an increasing impact on the environment, biodiversity, culture and economics. Tourism travel not only brings about positive economic benefits but can result in excess energy consumption and increasing negative environmental impacts on local, regional and



global environments including climate change [2]. There are many complex aspects of increasing tourism especially when trying to make international tourism more sustainable [3]. One of the major problems with tourism is that it is growing at a fast pace. This fast growth has shown to result in unsustainable consequences at some of the most popular tourist locations [4]. Scholars agree that current and future research about sustainable tourism should address the following four thematic areas: (1) community stakeholder perspectives; (2) business approaches to sustainability in tourism; (3) cultural responses; and (4) methodological challenges related to sustainability [5]. Another important challenge to sustainable tourism is the development and testing of sustainable tourism indicators that can be used to identify successes and failures under field conditions in this increasingly complex industry [6]. Sustainability-related initiatives have a 30-year tradition of being embedded in many aspects of tourism [7]. Also, there is increasing merit in considering connections between tourism and the sustainability of planet Earth [8].

Agritourism and sustainable agritourism have an extensive history in western Europe and this momentum has also recently developed in the USA and Canada [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 the 80% of non-farm residents of developed countries but can also help diversify the income of local farmers and thus make agriculture more economically viable [11].

Tourism is the third largest industry in Idaho, surpassed by only agriculture and technology, as it accounts for more than \$4.8 billion in annual income [12]. Over 84% of this income is generated by out-of-state visitors. A significant portion of this draw to tourists is the availability of many different types of outdoor water-related activities. Idaho is known for its: (1) 18 ski resorts; (2) 140 natural usable hot springs (#1 in USA); (3) 1.9 million ha of mountainous wilderness (#3 in USA); and (4) 8.2 million ha of National Forests (#3 in USA). Most famously, Idaho is known as the white-water state with more than 4,960 km of rough and challenging river water (#1 in USA). There are 11 international famous white-water rivers in the state that are used for rafting, kayaking, floating and fishing. Conversely, agriculture currently contributes little to tourism; however, its potential for the future is outstanding. Recent surveys in 2016 and 2021 have shown that the public is interested in the agriculture industry becoming an important part of Idaho's sustainable tourism industry [13]. Based on these surveys and recent interest by agricultural groups in the state a plan is in the development and implementation phase to incorporate several agriculture components into Idaho's sustainable tourism industry. The purpose of this study is to measure the enthusiasm of Idahoans to develop a sustainable agritourism programme.

2 MATERIALS AND METHODS

2.1 Public surveys about the importance of agriculture to tourism in Idaho

This survey instrument was developed as a follow-up to tourism surveys conducted in Idaho in 2016 and 2021. The four survey questions were:

Question 1 – Which of the following labels describes you best? (1) Resident of Idaho; (2) resident of Idaho involved in the agriculture industry; (3) resident of Idaho not directly involved in agriculture – but with some knowledge of the importance of agriculture; or (4) other.



Question 2 – Please select THREE of the following items associated with agriculture that would be good tourist destinations in Idaho: (1) cheese/cheese related products; (2) ethnic restaurants; (3) local farmers markets; (4) local produce stands; (5) locally grown honey; (6) microbreweries; (7) potatoes; or (8) wine/wineries.

Question 3 – If you had friends visiting you from out of state, which of the following TWO agricultural activities would you encourage your friends to visit or take part in? (1) The manufacture of cheese/cheese related products; (2) dine at ethnic restaurants; (3) shop at local farmers markets; (4) shop at local produce stands; (5) buy locally grown honey; (6) visit microbreweries; (7) visit potato processing plants; or (8) buy wine/visit local wineries.

Question 4 – After reading through this survey do you believe that the agriculture industry can have a significant impact on tourism? (1) Yes; (2) no; (3) unsure; or (4) no opinion.

The survey target audience was a representative sample of the 1,430,000 adult residents of Idaho. The target audience was divided into three groups of residents; (1) general adult residents of Idaho; (2) adult residents involved in the agricultural industry; and (3) adult residents not involved in the agricultural industry but with some knowledge of the importance of agriculture to the state. In addition, demographic information including gender, age, education level, community size, length of residency in Idaho and geographic location in the state were also collected.

The survey conducted in 2023 was developed using the Dillman methodology [14], [15]. The survey was delivered to clientele via the United States Postal Service [14], [15]. A sufficient number of completed surveys was the goal to result in a sampling error of less than 6% [16]. The survey process was also designed to receive a completed survey return rate in excess of 50%. For the general public, addresses were obtained from a professional social sciences survey company (SSI, Norwich, CT). To increase the response level from the general public with an agricultural background, addresses were also obtained from agricultural commodity commissions and county Extension offices. The goal was to raise the response rate from those with an agricultural background or agricultural knowledge to at least 20% of the residents surveyed.

In 2023 the four survey questions shown above were embedded into a 50-question survey that was sent to more than 1,600 adult residents in Idaho. The actual survey process and analysis including demographic questions was identical to surveys conducted in the region over the last 20 years [17]–[19].

Survey answers were coded and entered into Microsoft Excel. Missing data were excluded from the analysis. The data were analysed at two levels using SAS [16]. The first level of analysis generated frequencies. The second level evaluated how the respondents' demography influenced their responses. Significance ($P < 0.05$) to demographic factors was tested using a chi-squared distribution [14]–[16].

2.2 Wineries and wine production

To collect historical and recent data, members of the Idaho Wine Commission were interviewed to ascertain Idaho wine industry trends, challenges, and successes. The Commission also provided data on grape hectares, tasting rooms, and tourist visits to wineries. To collect the secondary data, literature was reviewed. The Idaho Wine Commission allowed us to review their literature to collect secondary information and Google Scholar was also used. The key concepts identified in the interview and secondary



data were grouped to develop categories for this report. The categories were assembled to identify the causal relationship among themes and understand the areas of interest as guided by the study objectives.

2.3 Farmers markets and small farms

The section relies on fact sheets and attendance data collected at farmers markets. First-hand knowledge of Airbnb's and Mary Jane's farm were used as examples.

2.4 Agricultural diversity in southwestern Idaho

The agricultural industry in southwestern Idaho is the largest and most diverse in the state and it is located within one hour's drive of over half the state's population. Data about the types of crops grown in the region, types of farms, size of farms and urban population were collected. Potential tourism attractions were identified.

2.5 Development of a historical agricultural heritage trail

Surface water irrigation data was collected for two rapidly urbanising counties in southwestern Idaho. The size of these surface water irrigation systems was determined as was the transition from agricultural service to urban service. The potential to establish signage about the history of irrigated agriculture in the state and the development of a historical trail to understand Idaho's agricultural heritage was evaluated.

3 RESULTS AND DISCUSSION

Most Americans know that Idaho is an agricultural state. In fact, most people know Idaho as the 'potato state'. One of the most famous license plates on motor vehicles has the moniker 'Famous Potatoes' that provides visibility for the state's most important crop. Not all the publicity about potatoes has been positive in the past. A famous American singer and writer famous for his parodies, Weird Al Yankovic, wrote a song called 'Addicted to Spuds'. Spuds is slang for potatoes. In this song he lampooned people with a boring life stating 'You planned a trip to Idaho just to watch potatoes grow...'

The Dillman Tailored Design Method (TDM) was conceived in the early 1970s as an approach to conduct valid surveys of the general public. This survey method has evolved over time and is one of the most widely used methods associated with agriculture. Four books have been published about this methodology.

The survey conducted in 2023 was designed to assess the level of public interest in the development and expansion of tourism related to agriculture in Idaho. The mail-based Dillman survey methodology received a response rate of 50.9%. The goal of a greater than 50% response rate was achieved, resulting in a sampling error of less than 6% for this study.

3.1 Tourism surveys

76% of the surveyed residents had no tie to agriculture, while 10% were actively involved in the agricultural industry. Another 12% of survey respondents were not involved in the agricultural industry but had some knowledge of the importance of agriculture to Idaho's economy. Based on the first survey question approximately 22% of the survey respondents considered agriculture important, while the other 78% had little or no knowledge of Idaho agriculture.



When asked to select three potential agriculture tourism items in Idaho from a list of nine, three items rose to the top of suggestions provided by survey respondents (Table 1). Wine and wineries were listed as potential Idaho tourism destinations by 56% of survey respondents. Cheese and cheese-related manufacturing and products were ranked as potential tourism destinations by 47% of Idahoans. Local farmers markets were also selected by 38% of those surveyed as being potential tourist destinations. Conversely, less than 20% of the public thought that locally produced honey (16%) and ethnic restaurants (14%) were a higher priority for tourist development.

Table 1: Public views of three items associated with agriculture that would be good tourist destinations in Idaho based on 2023 survey.

Agriculture tourism items	Answering yes, % ^a
Wine/wineries	56
Cheese/cheese-related products	47
Local farmers markets	38
Potatoes	31
Microbreweries	26
Sustainable agriculture farms	25
Local produce stands	24
Locally produced honey	16
Ethnic restaurants	14

^aThis column should add to 300% if all respondents selected three items; however not all respondents selected three items.

It is one thing for Idahoans to select agriculture items/commodities for targeted tourism, but much different to take advantage of these tourism opportunities. Consequently, a question asked what the top two tourism activities are that surveyed respondents would do with out-of-state visitors. Respondents selected wine tasting/wineries (50%) and local farmers markets (46%) as things that they would do with out-of-state visitors (Table 2). There was also significant interest in visiting microbreweries (27%) and in visiting cheese/yogurt manufacturing facilities (22%).

Table 2: Public views of the top two items associated with agriculture that would be good things to do with visitors from out of state based on 2023 survey.

Water resources tourism items	Top two items, % ^a
Wine tasting/wineries	50
Local farmers markets	46
Microbreweries	27
Cheese/yogurt/cheese related items	22
Local produce stands	16
Locally produced honey	12
Potatoes	10
Ethnic restaurants	7
Sustainable agriculture farms	4

^aThis column should add to 200% if all respondents selected three items; however, not all respondents selected three items.



The majority of survey respondents (57%) felt that the agricultural industry would not have a significant impact on Idaho tourism (Table 3). However, the 21% of the public with a positive attitude about the future sustainable agricultural tourism, may be a large enough base to make agricultural tourism positively impact on the tourism industry.

Table 3: Do you believe that the agricultural industry can make a significant impact on tourism in Idaho based on survey conducted in 2023?

Can agriculture have a significant impact on tourism?	%
Yes	21
No	57
Unsure	12
No opinion	10

Table 4: The impact of demographic factors on the choice of wine/wineries, cheese products, local farmers markets and potatoes as potentially important to tourism in Idaho based on the 2023 survey.

Tourism issue	Demographic factor	Best	Worst	Significance ^a
Wine/wineries	Gender	Female	Male	**
	Age	> 60 years	< 30 years	***
	Education	College degree	No college	***
	Com. size	> 100,000	< 1,000	NS
	Time in Idaho	< 5 years	Native	****
	Part of state	North	Southeast	**
Cheese products	Gender	Female	Male	**
	Age	30–40 years	> 60 years	***
	Education	College degree	No HS diploma	****
	Com. size	> 100,000	1,000–10,000	NS
	Time in Idaho	< 5 years	5–15 years	**
	Part of state	Southcentral	North	***
Local farmers markets	Gender	Female	Male	***
	Age	40–60 years	< 30 years	***
	Education	Some college	No college	***
	Com. size	1,000–10,000	> 100,000	NS
	Time in Idaho	Native	5–15 years	****
	Part of state	Southwest	Southeast	***
Potatoes	Gender	Male	Female	***
	Age	> 60 years	< 30 years	***
	Education	No college	College degree	**
	Com. size	1,000–10,000	> 100,000	NS
	Time in Idaho	Native	5–15 years	**
	Part of state	Southeast	North	***

^aNS = not significant; **, *** and **** = significant at the 95%, 99% and 99.9% levels of probability.



The demographic factors of gender, age, education level, length of time living in Idaho and state geography impacted respondent answers about wine/wineries, cheese manufacturing/products, local farmers markets and potatoes (Table 4). However, the demographic factor of community size did not impact respondent answers to tourism questions.

Survey respondents thought that wines/wineries would be an important component of sustainable agricultural tourism in Idaho. From a demographic standpoint, respondents that were (1) female; (2) greater than 60 years old; (3) had a college degree; (4) had lived in Idaho less than 5 years; and (5) were from the northern part of the state were most likely to support wines and wineries as part of a sustainable tourism effort.

Females with college degrees were most likely to support the development of a tourism industry around cheese/cheese products. In addition, residents between 30 and 40 years of age and Idaho newcomers were more likely to support cheese-related tourism. As expected, support for cheese tourism is greatest in southcentral Idaho where most of the dairy cows and cheese manufacturing plants are located.

There was widespread support to promote local farmers markets as part of sustainable agriculture in Idaho. In particular, females between the ages of 40 and 60 with some college were most likely to support the development of this industry for tourism. Idaho natives and residents of southwestern Idaho were more likely to support local farmers market as agricultural tourism.

As expected, the greatest support for developing the potato industry as sustainable agricultural tourism came from Idaho natives and residents of south-eastern Idaho. Older males (> 60 years old) were most likely to support the development of sustainable tourism based on potatoes – Idaho's biggest crop. In general, residents that had not been exposed to college were most likely to support tourism that takes advantage of potatoes.

3.2 Wine and wineries

Idaho is a growing wine region with the natural resources to sustain world-class vineyards and wineries statewide. The state's rich, volcanic soils, desert climate, and direct access to water make it an ideal location for fruit-forward wines with good structure. Planted elevations range from roughly 200 to 1,000 m above sea level. Historically, wines produced from grapes grown at high elevations attract people because of their unique taste and rich texture. This distinct flavour, coupled with better exposure, better drainage, and higher daily temperature swings, creates a conducive environment for grape cultivation that rivals, and in some cases surpasses, California, Oregon, and Washington. Idaho's warm days, cool nights, limited rainfall, and geographical location make it an ideal place for growing grapes.

In 1975, Idaho had a single winery. However, the latest USDA Fruit Tree Census for Idaho revealed a remarkable growth spurt between 1999 and 2006, with Idaho's wine grapes increasing from 265 to 500 ha [20]. Currently, 520 ha of planted vineyards are in Idaho, with 75 wineries and eight cideries [21]. This growth is a testament to the region's potential for wine production, making it an attractive prospect for wine enthusiasts and investors alike. In 2018, Idaho harvested 2,800 tons of grapes. Not all harvested grapes become wine; only 132,000 gallons were produced into wine, or 54,875 cases. That's roughly 658,500 bottles of wine in 2018 alone.

Idaho's wine industry is not just about wine. It's a powerhouse, significantly contributing to the state's economy and attracting both in-state and out-of-state tourists. The Agritourism industry, of which Idaho wineries are a vital part, not only brings in revenue but also fosters a sense of pride and community among local residents and businesses. It requires a united



voice from the wineries, local residents, businesses, universities, and state government agencies to continue its growth and achieve success. Hotels and restaurants usually serve as amplifiers of the wine industry, by including Idaho wine on their wine lists and raising awareness of Idaho wine among tourists, many of whom seek to sample local food and beverage products. According to the Idaho Wine Commission, Idaho's wine industry had direct revenues of \$46 million in 2017, including \$31.4 million in winery revenue [22].

Idaho's wine industry has excellent potential for sustainable agritourism. It offers unique experiences that connect visitors with the land, local culture, and wine making. The wineries engage the tourists by offering guided tours showcasing the vineyards, explaining grape varietals, and providing insights into the winemaking process. This concludes with tastings featuring a variety of wines paired with local cheeses, charcuterie, or other snacks. The harvest festivals host events during the harvest season, allowing visitors to participate in grape picking, learn about traditional techniques, and enjoy the festive atmosphere. Wine blending workshops provide interactive experiences where visitors can blend their wine, creating a personalised souvenir and gaining a deeper understanding of the art of winemaking. The Culinary experiences programme partners with local chefs to offer farm-to-table dinners featuring seasonal ingredients paired with the winery's wines. This creates a memorable connection between the land, food, and wine. The winery tourism activities include educational programmes that organise workshops or seminars on grape varietals, wine styles, food pairings, or the history of Idaho's wine industry. In addition, the wine industry promotes tours on the established wine trails, encouraging visitors to explore multiple wineries in a region, maximising their experience and supporting the entire industry.

Idaho's various wine growing regions offer something different for every taste. Outside of the urban corridor, there's Sunnyslope Wine Trail, which is a subregion of the Snake River Valley AVA, which features several vineyards and wineries. Tour packages are made available to visit various vineyards, said Moya Dolsby, executive director of the Idaho wine Commission. There are also the Lewiston and Moscow region, Coeur d'Alene and Sandpoint region and the South-Central region, all with various climates and vineyards suited to those environments. 'Idaho is great to visit for wine throughout the year', Dolsby said. 'It depends on the experience the visitor wants to have while here. Late spring through fall, and summer in particular, offer great weather that is perfect for picnicking at the wineries or enjoying a leisurely afternoon on a patio with great scenery and a glass of local wine, or witnessing the fall harvest'.

3.3 Farmers markets

Farmers markets offer the opportunity for customers to purchase fresh fruits and vegetables directly from the farmer. Markets also offer other products such as fresh flowers, baked goods, local cheese, local meat, prepared food, entertainment and booths hosted by non-profit organisations. Markets reduce economic leakage as dollars spent stay longer in the local economy. Given these various assets and opportunities for creating economic and social connections, farmers markets help strengthen economic and social capital overall in their neighbourhoods and communities [23].

According to the Idaho Department of Agriculture there are 52 farmers markets throughout the state. They range in size and are located in cities and small towns. The Capital City Public (CCP) Market in Boise attracts up to 15,000 people each Saturday [24], [25]. The Moscow Farmers Market hosts up to 10,000 visitors per Saturday [26]. Both markets have spun off additional farmers markets indicating the potential for expansion as the number of vendors and the customer base grows. Consequently, several vendors from the CCP Market



created a more ‘food-centric’ market called the ‘Boise Farmers Market’. Moscow is also home to a smaller mid-week ‘Tuesday Market’ that provides beginning farmers with an opportunity to learn various facets of selling at a farmers market such as how much product to bring, sales skills, product display, etc. Many visitors to any municipality find attending a farmers market a pleasurable activity. Attendance surges at farmers markets in college towns on weekends where families attend sporting events, or other college-based events such as Mom’s Weekends. Tourism is a factor that improves economic impact at farmers markets [23]. Simple brochures and websites offer the opportunity to expand and increase attendance at these local markets.

Other forms of direct sales besides farmers markets mainly include roadside stands and farm stores. Sales at these on-farm locations can be greatly increased with tours, and other on-farm events. The USDA Agricultural Census has documented 1,908 farms in Idaho that offer direct sales and other forms of agritourism [27]. Most of these operators are full owners (over 80%) indicating improved economic impact for the farmers when compared with other forms of grocery purchasing. Of these farms, 1,732 offer only direct sales with no agritourism indicating that there is a potential for growth for some farms to expand into additional agritourism activities. One way some small farm owners have expanded into agritourism is through the use of online platforms such as Airbnb and Vrbo that make it easy to arrange overnight on-farm visits. Even prior to these platforms, an example of agritourism was pioneered by a North Idaho farmer Mary Jane Butters who initiated ‘glamping’ on her farm (a combination of ‘glamorous’ and ‘camping’) where guests are provided a camping experience furnished with antiques and where they are fed a fresh farm breakfast. Butters has created a nationally distributed magazine called ‘Mary Jane’s Farm’ and product lines such as linens sold at Target indicating the potential for savvy farmers to create off-shoot brands and businesses from agritourism-based businesses.

Fifty-two farmers markets already exist in the state. The markets in Boise and Moscow show that some markets are capable of handling in excess of 10,000 people per day. A good marketing plan will allow these other 50 markets to greatly increase crowds, expand the number and types of commodities offered for sale, and increase resulting sales of sustainable products

3.4 Agricultural diversity

Southwest Idaho is comprised of a multitude of diverse landscapes and ecosystems prime for tourism opportunities. Landscapes include: desert shrubland, sagebrush steppe, rivers, reservoirs, mountains, livestock, agricultural operations and small to large rapidly expanding municipalities. Agriculture is the largest economic driver in southwest Idaho, compromising an estimated economic impact of more than \$1.3 billion dollars per year to the economy of Idaho, with 6,623 farms and compromising more than 0.93 million ha. Of the 6,623 farms, 4,818 (73%) of them are smaller farming operations, being less than 20.2 ha (small agricultural operations. Farming operations ranging from small acreage to very large multi-million-dollar industries lie very close in proximity to rapidly expanding and growing urban municipalities. Larger cities in southwestern include: Boise (population 235,000), Meridian (population 119,000), Nampa (population 100,000) and Caldwell (population 60,000). These cities abut the agricultural production areas.

In southwest Idaho agricultural operations are varied, with a multitude of commodities available grown and managed for the market. As an example, Canyon County alone compromises 156,000 total ha, with 111,000 ha being owned/operated by agricultural and livestock operations (71.1% of the total area). Over 140 different major and minor



agricultural commodities are produced in Canyon County, including crops such as alfalfa, pasture/hay, corn, grass, dry beans, herbs, sugar beets, onions, potatoes and various other specialty crops such as: grapes (wine), seeds (multiple crops), and orchards (apples, peaches, plums, nectarines, cherries, apricots, pears). Small to large livestock operations (cattle, lamb, sheep) also exist.

Agritourism is beginning to attract visitors to agricultural operations in this geographic area. This tourism educates, entertains, and generates additional income for the operation without degrading the environment. Given the growing population of southwest Idaho, travel routes, and proximity to urban metropolises both the large and small agricultural operations in southwest Idaho have an innovative opportunity to engage in this growing social and economic trend of agritourism more actively in the future. Innovative ideas, targeted marketing strategies and immersive agricultural tours could be a start in capturing this growing economic market, especially for smaller agricultural or livestock operations. Immersive and varied in-depth, hands-on, sensory-rich and memory-lasting tours have been initiated in this region on a few farms with success. These types of sustainable tours are poised for expansion to highlight this innovative and sustainable agritourism specialty market.

3.5 Agriculture heritage trail

Compared to other states, Idaho has the fifth largest agriculture economy as a percent of its gross domestic product. Idaho has over 4,800,000 ha of farmland. Only three states – California, Texas and Nebraska – have more irrigated farmland than Idaho. It's the irrigated farmland that accounts for a large majority of agricultural production in the state. More than 75% of Idaho's 1,525,000 ha of irrigated agricultural land is watered by surface water flowing from the Rocky Mountains into rivers that is delivered to fields via surface canals. Over 75,000 ha of this land is serviced by the Boise and Meridian and Nampa irrigation districts in Southwestern Idaho. One hundred years ago all 75,000 ha were used for growing food; however, by 2023 over 65% of this land was urban. The canals still deliver water to this land; however, a majority of water is now delivered to urban and suburban lots within these irrigation districts. In the next 30 years almost 100% of this land will be urban. Consequently, these two irrigation districts which helped establish agriculture in Idaho and develop the state's economy will no longer play an important role in Idaho's agricultural economy. Unlike other western states, Idaho has plenty of irrigation water for agriculture, the urban public, wildlife and recreation.

The existing canal network is completely working, delivers irrigation water to neighbourhoods, and is visible to urban residents of the region. Many of the canals deliver water near existing main highways. Sites along these canals could be used to tell the story of landscape transformation over the last 75 years. Scientists have proposed to develop a History of Agriculture Heritage Trail along a portion of these canals highlighting water sources (mountain snowpack), water storage reservoirs, the Boise River and the canal delivery system over time. In addition, famous Idaho crops produced in the region can be highlighted for locals and tourists in the area. Signage, kiosks, pamphlets and a website will be developed to provide relevant information about this heritage trail to the public. This would be an educational and historic trail for school children, the general public and tourists. The trail would provide people with information about their agricultural heritage and be sustainable because these important cultural sites will be preserved without degrading the existing environment. This agricultural heritage trail could impact upwards of 15,000 locals and 10,000 visitors on an annual basis. The canals can be used to tell a visual history of agriculture



and the development of the state using signage, kiosks and websites (Fig. 1). Over three quarters of the state's population lives within driving distance of this historic farmland. This would help educate local school children and out-of-state visitors about the uniqueness of this agriculture.



Figure 1: An example of a canal belonging to the Boise Irrigation District flowing through a newer neighbourhood near the Boise/Meridian city border.

4 CONCLUSIONS AND RECOMMENDATIONS

This study was important because, through the survey process, it identified public support for developing a sustainable agritourism industry in Idaho. The survey also identified the types of agricultural products/activities that could be developed as foundational tourist destinations within the state. The answers to survey questions were used to develop priority areas for agritourism expansion. After these priorities were set, discussion for the expansion of each priority area was strategised. The key findings of this study were:

- 76% of survey respondents had no ties to agriculture, while 22% were either involved in the agricultural industry or considered agriculture very important to Idaho.
- Wine and wineries were listed as potential agricultural tourism destinations by more than half of surveyed Idaho residents. Cheese and cheese-related manufacturing, local farmers markets, and potato production and processing were considered potential tourism destinations by 47, 38 and 31% of Idahoans, respectively.
- Surveyed Idahoans overwhelmingly selected wine tasting/wineries (50%) and local farmers markets (46%) as places where they would take out-of-state visitors.
- Demographic factors of gender, age, education level, length of time living in Idaho and state geography often impacted the agritourism topics chosen by survey respondents.
- Idaho's wine industry has grown from one winery in 1975 to over 75 wineries and eight cideries in 2024. Grapes, wine production and wine tasting rooms continue to expand, resulting in an excellent growth potential for agritourism in Idaho.
- There are currently 52 farmers markets in Idaho. The weekly markets in Boise and Moscow each attract over 10,000 visitors. Idahoans find that visiting these local markets is a pleasant experience and tourists buy many of the commodities offered at these events. In addition to farmers markets, roadside stands and farm stores also attract many tourists. The addition of brochures and websites hold the potential to further increase this form of agritourism.



- Over 140 different major agricultural commodities are grown/produced in southwestern Idaho. Agritourism is beginning to attract visitors to agricultural operations here. Immersive and varied in-depth, hands-on, sensory-rich and memory-lasting agricultural tours have been initiated on a few farms and are poised for expansion to highlight this innovative and sustainable agritourism specialty market.
- A historic agriculture heritage trail is proposed with sites located along canals in the Boise and Meridian and Nampa irrigation districts. Landscape transformation and the canals can be used to tell a visual history of agriculture and the development of the state using signage, kiosks and websites. Over three quarters of the state's population lives within driving distance of this historic farmland. This would help educate local school children, local adults and out-of-state visitors about the uniqueness of this agriculture.

The agricultural commodities currently exist to make sustainable agritourism a much bigger factor in sustainable tourism in Idaho. Both large and small farms, commodity commissions and people with a stake in agriculture are enthusiastic about expanding this promising form of tourism in Idaho.

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