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MAPPING THE WESTERN U.S. AGRITOURISM INDUSTRY: HOW DO TRAVEL PATTERNS VARY BY LOCATION?

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The evolution of the American farm landscape, with a persistent co-existence of large, scale-efficient farms being complemented by more numerous small and mid-sized farms that explore alternative business models to retain their farms, has led to some interesting business patterns in rural areas. Increasingly, small or medium sized farms seek diversification strategies, such as agritourism, to remain viable and leverage interesting aspects of their surrounding communities and rural areas. This has been particularly prevalent in amenity rich areas such as New England and the West. While adoption of agritourism as a farm enterprise is concentrated in some regions of the country, agritourism grew nationally at a rate of 64%, between 2002 and 2012. This steady growth comes from a diverse set of farms and ranches across the U.S.

Agritourism is of particular interest to those who are interested in the intersection of agriculture and rural development since it has potential benefits for both the individual farm or ranch itself, but also provides positive spillovers for their surrounding community like educating the public about agriculture and increased economic activity (Nickerson et al., 2001; Philip et al., 2010; Tew and Barbieri, 2012, Sullins et al., 2010).

The motivations for adopting agritourism and partnering with local communities may seem clear, but little is known about the spatial dimension of agritourism across the US. This fact sheet focuses on the place-based elements that may influence where we do (and do not) see agritourism activity throughout the US, with a particular focus on the Western region. Learning about why agritourism actively developing in certain parts of the U.S. may provide agricultural producers, economic development practitioners, and even policy makers with information as to how their community's assets may catalyze (or constrain) their opportunities for agritourism growth and economic development.

Differences Across Space

Figure 1 shows where the largest quantities of agritourism farms and ranches (that reported any revenues from agritourism enterprises) are located across the U.S. using data gathered from the USDA's Agricultural Census (2012). The map indicates high densities of agritourism farms and ranches along the West Coast, Rocky Mountain States, Texas, and the Northeast. Perhaps it is most interesting to note that there are

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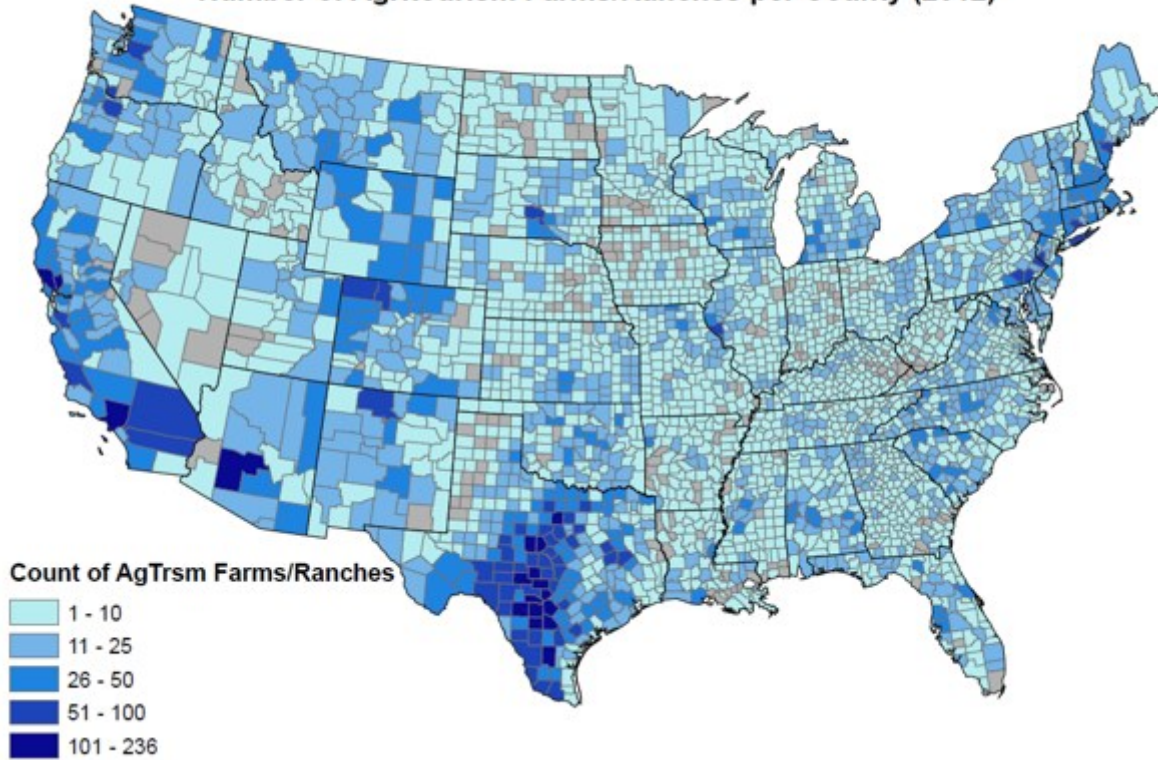
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“pockets” of higher agritourism activity throughout the US and it appears there may even be clusters of counties with high activity adjacent to each other. (It should be noted that the uncolored counties, with the lightest shading, could indicate no agritourism, but may also not have data available because of disclosure issues if there are too few operations reporting).

Table 1 presents similar information with a table of the farm and ranch numbers participating by state and county among the top areas in the West. California is not only a top state in the West, it is the location of the 2nd highest frequency of agritourism operations in the whole US after Texas. Plus, it has some important counties, including wine country, that have the highest frequency among Western counties.

Figure 1.

Number of Agritourism Farms/Ranches per County (2012)



**Table 1-Number of Farms and Ranches Reporting Agritourism Revenues, 2012
Top 10 States and Counties in the Western US**

Rank	State	Farms – 2012	State	County	Farms – 2012
---	United States	33,161	---	---	---
1	California	1,699	CA	Sonoma	135
2	Colorado	864	CA	Napa	119
3	Montana	726	CA	Maricopa	114
4	Washington	585	HI	Hawaii	106
5	Oregon	576	CA	Los Angeles	104
6	New Mexico	489	NM	Rio Arriba	88
7	Wyoming	450	CA	San Luis Obispo	76
8	Arizona	323	CA	Riverside	75
9	Hawaii	233	WA	Clark	72
10	Utah	229	CA	San Bernadino	63

But, there are a fairly notable number of enterprises across all the top ten states in the West, and there are top counties in four of those states. California and Hawaii may benefit from the overall high tourism to these states, and the unique food production systems and offerings that are available in their regions because of subtropical and tropical climates.

**Table 2- Agritourism Revenues Reported by Farms and Ranches, 2012
Top 10 States and Counties in the Western US**

Rank	State	2012 Revenues (\$1,000)	State	County	2012 Revenues (\$1,000)
---	United States	\$704,038	---	---	---
1	California	\$64,520	CA	Napa	\$23,723
2	Colorado	\$28,240	HI	Honolulu	\$6,449
3	Montana	\$20,310	HI	Maui	\$6,416
4	Hawaii	\$17,768	NM	Colfax	\$5,433
5	Washington	\$15,313	UT	Weber	\$5,239
6	Wyoming	\$14,228	AZ	Pima	\$5,217
7	New Mexico	\$13,373	HI	Kauai	\$3,874
8	Utah	\$10,695	CO	Larimer	\$3,548
9	Oregon	\$10,689	CO	Routt	\$3,401
10	Arizona	\$10,573	WA	Spokane	\$2,806

Table 2 shares another indicator of agritourism activity, the agritourism revenues reported by farms and ranches in various states and counties. Total reported revenues in the US were \$704 million, and California alone represents almost 10% of the total US revenues (even though it is home to only 5% of operations). Moreover, Napa County alone represents over one-third of California's revenues. It is a clear attraction for food and farm based tourists. Yet, there are other significant states and counties in the West, with top ten counties in seven different states of the West. These top ten states represent almost a third of US agritourism revenues even though they are home to less than twenty percent of operations, suggesting the dependence and activity surrounding agritourism in the West may be strong compared to the greater US.

Given this map and tables, and the variety of motivations to adopt, it is compelling to explore why these enterprises emerge and flourish across a heterogeneous landscape. This means that what makes agritourism successful in one county may not make it successful in another county. In order to maximize the potential gains that may accompany agritourism activities for farms and its positive spillovers for surrounding communities, these differences across places need to be more clearly understood.

Identifying Hot Spots of Agritourism in the US

It is becoming increasingly common to pay greater attention to place-based factors and patterns in economic development and other social sciences. One way to explore spatial relationships across data is through statistical analysis. In this case, we applied LISA analysis (Local Indicators of Spatial Autocorrelation) as a method to detect areas of high (low) activity surrounded by other areas of high (low) activity. Figure 2 was created by applying this tool to data from the 2012 Agricultural Census on the percent of farms and ranches with agritourism in each county, Van Sandt et al. (2016) generated a hotspot map of agritourism in the U.S.

The percent of farms and ranches was used as an indicator in this case as it may suggest how important agritourism options are to the viability of the agriculture sector in these areas. Counties shaded red, or hot spots (to contrast the blue, cold spots) represent counties with a relatively high (low) percent of agritourism surrounded by other counties with relatively high (low) percent of agritourism as well.

It is important to note here that even while the counties around the hotspots are not shaded, by definition they help define the hotspot and can therefore be interpreted as part of that hotspot.

While Figure 1 shows where the number of agritourism farms and ranches are most concentrated, Figure 2 starts to give some insight into which regions' agricultural industries (and perhaps communities) rely relatively more heavily on agritourism, and gives us some insights on whether the conditions to adopt may differ across regions. As one would expect from Tables 1 and 2, wine country in California (Sonoma County) still remains a prominent hotspot for agritourism. However, much of the rest of California (and generally the entire Pacific Coast) is otherwise not populated with many hot spots. Hot spots are more prominent and widespread in the Rocky Mountain States, and other notable regions in the US include Texas, and smaller geographic pockets in the Northeast. Possible reasons for these hot spots of agritourism activity may be due to regional differences in natural resources (Rocky Mountain States), larger acreages that can offer access to hunting and outdoor recreation (Texas), and proximity to large population centers that may seek farm getaways and direct food market experiences (Northeast).

What's Driving Agritourism Clusters?

Because the spatial analysis that created the hot spot map of agritourism in the U.S. showed some interesting patterns, Van Sandt et al. (2016) created another model to identify what factors contribute to any one county being an agritourism hot spot. Several significant factors were found to be important including:

- Scenic byways (+)
- Travel time to National parks, monuments and seashores (depending on region) (+/-)
- Natural amenities (+)
- Income (in that county) (+)
- Population (in that county) (-)

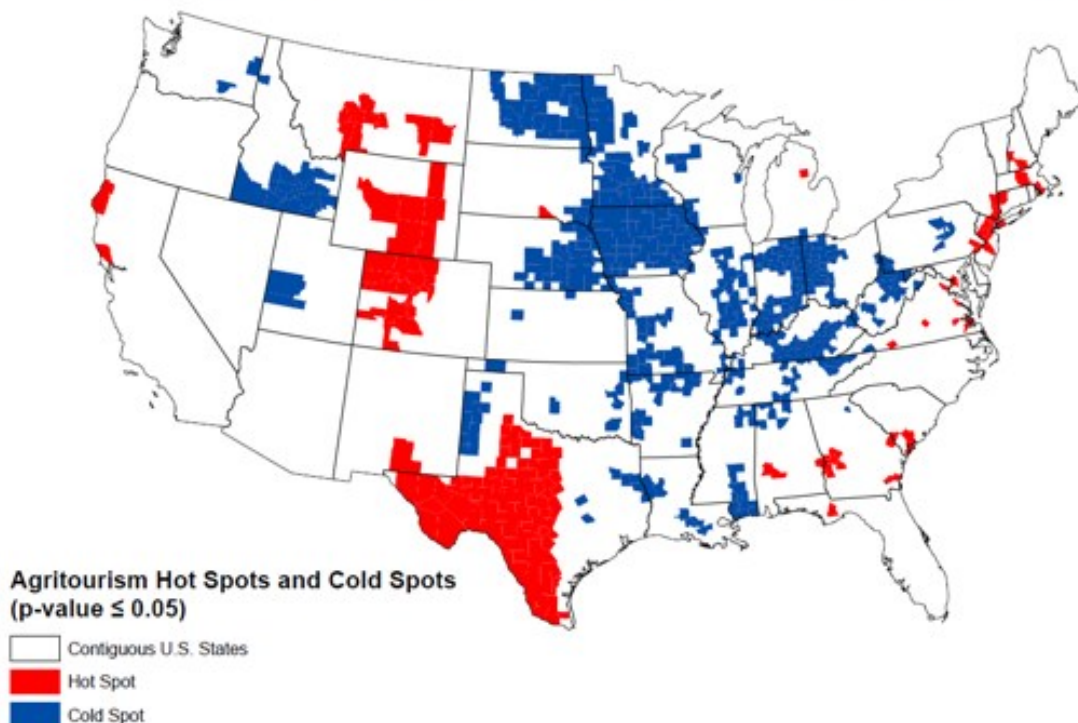
Of lesser importance

- Region (Northeast only) (+)
- Travel time to large city (of over 250,000) (+)
- Farm size (only in the Northeast) (-)

It would seem that the “get away” effect may be a significant driver for agritourism in the US. Miles of scenic byway were more important indicators of agritourism hotspots than access to interstate variables, suggesting a travel pattern that trades off speed for scenery. Moreover, the fact that high natural amenities and less dense populations within counties actually attract agritourists indicating that factors that

Figure 2.

Percent of Farms with Agritourism Revenue - LISA Analysis - 2012



may detract from more traditional economic development strategies are conducive to this sector's growth. The Scenic Byway Program started in 1991 (FHWA), and the bulk of agritourism growth (at least as measured by the USDA) occurred after 2007 (USDA (b)), so perhaps they have been complementary to one another in terms of tourism activity.

It is interesting to note that the travel time to National parks, monuments and seashores was significant but with some key regional differences. It was significant for both the South and Northeast regions, but in the Northeast region, a one hour decrease in travel time to a national park or monument increased the county's chances of being a hotspot relative to a Midwest county. But, in the South, an opposite effect is found. These contrasting results are important for agritourism operators to understand so they can adjust their expectations about the joint interest of travelers to visit both public (and free) national designation sites in the same trip as an agritourism visit. In essence, it may indicate that travelers in some regions see complementarities between farms and ranches and their visits to national sites, but in other regions, those sites have no effect or detract from farm visits.

In terms of pure regional effects, it seems agritourism hotspots more commonly exist in the Northeast perhaps due to the dense population centers adjacent to or within that region. And the effect is large: a given county in the Northeast is 89% more likely to be a hotspot than a given county in the Midwest, a finding that reinforces our visual patterns shown in Figures 1 and 2.

It appears average farm size (of all farms in a county) did not play a significant positive role in determining if a county was a hotspot for agritourism. Again, the Northeast is the one exception: compared to the Midwest, counties in the Northeast with a relatively high share of smaller farms were more conducive to being a hotspot than counties with primarily larger farms. This may be related to the type of agricultural enterprises in the Northeast. For example, if visitors are hoping to see diversified operations with several types of animals and crops, it may be that farming approaches used by smaller farms are more likely to be attractive to visitors.

There is increasing interest of how to promote more entrepreneurship in rural areas, and one would consider some of the challenges to operating a successful agritourism site as entrepreneurial in nature.

Responding to changing consumer interests and demands, and juggling the operational, logistical and partnership challenges of events and hosted programs take a different set of skills than production agriculture. So, we also explored the relationship between common entrepreneurial indicators and hotspots. Although a couple of entrepreneurial variables were included, they were not found to be a significant. But, perhaps more measurements capturing the entrepreneurial nature of an area should be considered and implemented in future studies to further explore the interdependence with agritourism hotspots.

Implications for Agritourism Operators

These spatial patterns are interesting to discuss, but more importantly, we must consider what it means for existing operators or those farms and communities who want to explore opportunities to expand in this sector. It appears the West has opportunities, but perhaps it can learn from the Northeast's successes. With respect to the Northeast result, urbanization may explain their hotspots as population centers represent many travel opportunities from within-region visitors who want weekend getaways from the traffic and congestion that are increasingly common in urbanized regions. Farm operators are then able to take advantage of the high in-region traffic of potential agritourists and/or that region's farms may have more well established support programs, encouraging them to take advantage of market opportunities including nearby national parks. No matter what is driving these regional differences, the varying coefficient signs allude to an interesting story of unique market pressures and operator motivations for adopting agritourism in the Northeast, which areas in the West with high growth may be able to emulate.

It may seem counterintuitive that agritourism hotspots are also more likely to exist in less populated areas. This result may fall more in line with the story of resiliency, where farms and ranches in less populated areas far away from large cities are more likely to adopt agritourism due to having few other economic development opportunities. Although there is little a county can do about its natural amenity endowment, understanding how competitiveness may be influenced by their locational attributes is important, but it is encouraging to see other factors matter as well. Hot spots are rural areas dependent on agriculture may seek to take advantage of their history, natural resources, or unique method/type of food production in order to employ

family members, mitigate financial pressures, or address some other type of concern unique to their business or community. And, given the draw of natural amenities, byways or national parks in their region, this is one case where remote areas may exploit opportunities to gain tourism business by diverting traffic from other draws that bring visitors to their area.

In short, the spatial patterns reported across US farms and ranches show an interesting patchwork that indicates there are a diverse set of factors that may contribute to successful regional agritourism development efforts. Understanding how different aspects have worked differently in different places allows one to consider which model may be most effective for an operator or community to emulate in their own development plans.

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