

Strengthening the Ecosystem Services Tool for Sustainable Decision-Making and Marketing Among Direct-to-Market Farmers in Wisconsin

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Abstract

Farmers markets are spaces that can be used to advance environmental, social, and economic goals. Direct-to-market farmers have a unique opportunity to improve consumer food literacy; farmers markets are one of the few places where vendors can directly communicate with consumers. This project takes advantage of this unique characteristic to analyze the effect of sustainability marketing on vendor-consumer interactions. Utilizing an assessment called the Ecosystem Services Tool (ESS Tool), direct-to-market farmers identified and measured their sustainability practices within six ecosystem service domains (soil health, biodiversity, livestock, infrastructure, alternative power, transport). After completing the ESS Tool, they used their data to create educational infographics. Aimed to instigate conversations between vendors and market visitors, the infographics contain educational information (of the vendor's choice) about a sustainable aspect of their agricultural production. This study interviewed participating vendors about their experience twice: before displaying their infographics at market, and after the market season closed. Most vendor participants considered the ESS Tool a valuable resource for qualitatively analyzing and reflecting on their sustainability within their agricultural practices. However, the infographics did not receive much interaction from market visitors. While there were few direct consumer responses to the infographic display, this study was very small in scale, comprising just five vendors that covered approximately five different farmers markets in Wisconsin. To more fully understand the effectiveness of infographics on vendor-consumer interactions, a wider-ranging study that includes a majority of vendors at several markets in Wisconsin must be conducted. In addition, the infographics themselves must be reworked to make them more eye-catching and legible at various distances.

Keywords: Farmers Market, Vendor, Farmer, Ecosystem Services, Sustainability, Direct-to-market, Central Wisconsin, Food Literacy, Infographics

This study is a Public Practice Project by Elizabeth Khomenkov for the Agroecology Master's Program at the University of Wisconsin - Madison

Contents

I. Introduction

- a. Why farmers markets matter
- b. Rural areas and food access
- c. Farmer and consumer communication
- d. The Ecosystem Services Tool (ESS Tool)
- e. Direct marketing of sustainability at farmers markets
- f. Educational impacts
- g. Study motivation and research objectives

II. Methodology

- a. Participant recruitment
- b. Data collection timeline
- c. Interviews

III. Analysis

- a. Interpretation of data

IV. Conclusion

- a. Ecosystem Services Tool responses
- b. Key findings
- c. Recommendations
- d. Limitations
- e. Implications
- f. Conclusion
- g. Future study recommendations

Introduction

Why farmers markets matter:

Public markets are more than transactional spaces, they are social-ecological institutions. Marketplaces and their vendors weave together social integration, ecological awareness, and economic inclusivity (Morales, 2021). They endure regulatory pressures, conflict, and competition from new retail formats yet they remain adaptable, relational, and embedded in human face-to-face interaction. This adaptability makes markets fertile ground for context-sensitive social problem-solving, capable of linking community needs with governance opportunities.

Markets are often a venue for civic engagement, where local champions—frequently volunteers—and non-traditional coalitions of public agencies and nonprofit organizations act to generate a range of impacts on their communities, whether it be fostering the development of vibrant public spaces, promoting healthy eating, or connecting food eaters with food producers (Morales, 2009; Project for Public Spaces, 2003). Farmers markets are “wicked opportunities” to advance environmental, social, and economic goals (Morales, 2021). Attendees report engaging in nonconsumer activities at farmers markets like socializing and learning, making them a community experience (Witzling et. al., 2025). Farmers markets function as crucial “hinge points” linking farmers, consumers, and policy makers; measuring on-farm ecosystem services empowers these actors to advance environmental sustainability and public purpose (DeMets, 2022). Sustainability refers to the practice of managing resources to meet current needs without compromising the ability of future generations to meet their own needs (United Nations, 1987). For this study, the term sustainability will reference the effect of agricultural practices and food production on environmental health, economic vitality, and social equity.

Rural areas and food access:

Urban policy historically disregards food systems because food is imagined as a rural concern rather than a component of urban planning (Pothukuchi & Kaufman, 1999). This policy dichotomization renders the work of direct-to-market farmers—particularly those serving low-income communities—largely invisible within urban governance structures. As a result, the sustainability practices of these farmers, as well as the ecosystem services they provide, receive little recognition or institutional support. In rural communities, limited food access influences factors like food insecurity, poverty, and obesity (Schmit, 2011). The Central WI area faces issues with food insecurity, with many farmers markets serving areas that have high usage of public assistance (see Fig. 1). Farmers markets can provide opportunities for local municipalities to address community objectives such as keeping dollars local; building social capital; and preserving small family farms and other rural landscapes (Schmit, 2011). In rural areas, food access can be improved through civic engagement. In communities where civic engagement is strong, local organizations can help to decrease barriers of food access by increasing access to

the normal and food safety net systems by creating informal alternatives, such as community gardens and farmers markets (Smith & Morton, 2009). Overall, changes in a community's food system infrastructure appear to affect access to food resources themselves (Smith & Morton, 2009). Farmers markets can be a direct way to affect these changes, especially in more rural areas like Central Wisconsin.

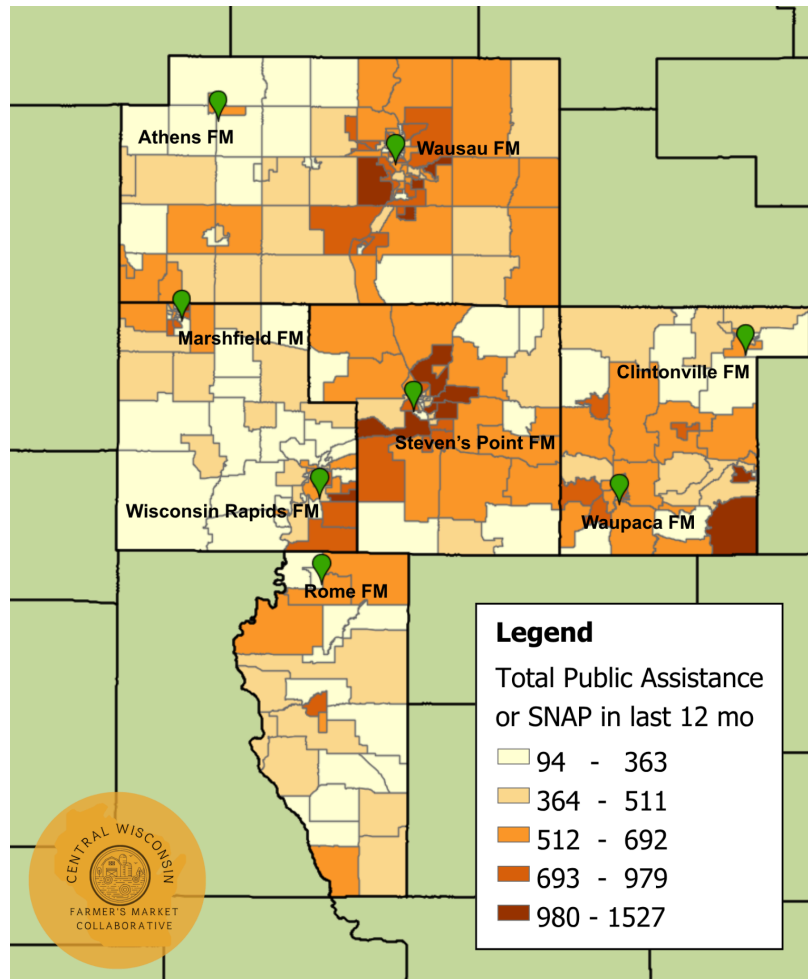


Fig. 1. Total Public Assistance and SNAP usage in the last 12 months, data taken from the 2024 Census.

Farmer and consumer communication:

Farmers markets, especially those that cater to low-income communities, are historically undervalued in the agricultural community (Warsaw, 2021; Pitts, 2014). Farmers that sell their goods at farmers markets are referred to as vendors. These vendors are the key to improving consumer food literacy; farmers markets are one of the few places where vendors can directly communicate with consumers. Due to their direct connection to both producers and end-users of food products, farmers markets contain multiple leverage points to improve health and ecological outcomes of the food system (Brown, 2008). Consumers interact with each other and vendors on

a social level at farmers markets, which influences spending decisions (Hunt, 2007). Farmers themselves indicate a willingness to alter their agricultural practices to meet customer demands, suggesting that vendor/customer interaction can influence decision making on both sides (Hunt, 2007). This study aims to investigate these social interactions, as they can support the economic and environmental sustainability of local markets.

The Ecosystem Services Tool (ESS Tool):

Ecosystem services, defined as “the direct and indirect benefits that ecosystems provide humans. Agroecosystems, rangelands, and forests provide suites of ecosystem services that support and sustain human livelihoods” (USDA, 2024). Agricultural ecosystems managed by farmers provide and receive multiple ecosystem services that are essential to sustain human well-being (Satama-Bermeo, 2024).

Farm2Facts toolkit¹ aims to help farmers markets collect data about their services. To identify and measure the sustainability benefits of direct-to-market farmers, the Farm2Facts team created an assessment that quantifies six ecosystem service domains: soil health, biodiversity, livestock, infrastructure, alternative power, and transport. This project utilizes this Ecosystem Services Tool (ESS Tool) to survey direct-to-market farmers and create infographics about an aspect of their sustainable production. Direct-market producers cite ecological benefits as a major factor in their choice to sell directly to consumers (Brown, 2002). Aimed to instigate conversations between vendors and market visitors, the infographics contain educational information about food production, contributing to improved food literacy.

The ESS Tool enables farmers to qualitatively calculate their ecosystem services contributions through their practices, and communicate these findings to consumers at farmers markets (Ledesma, 2021). The ESS Tool infographics can serve as pathways for connection between vendors and market visitors.

See Appendix A for examples of infographics displayed as part of this project.

Direct marketing of sustainability at farmers markets:

Research shows that growth in direct marketing is limited by consumer preference for convenience and value, and farmer perceptions of insufficient financial compensation (Tropp,

¹ In 2014, the University of Wisconsin-Madison’s Department of Planning and Landscape Architecture founded the Kaufman Lab for the Study and Design of Food Systems and Marketplaces. Within the Kaufman Lab, the Farm2Facts (F2F) toolkit was created. As a robust set of research services to individual markets, market organizations, and other stakeholders, F2F is used by market managers, market organizations, and other organizations, such as city governments, for the purpose of citizen-driven decision-making. Users implement the data collection tools on site at their markets and receive support from the F2F team of professionals and student researchers at the University of Wisconsin-Madison, who help make sense of the data. Farm2Facts’s suite of services is wide and evolving, and it includes data collection, analysis, reporting, and consulting. These tools are developed with sensitivity to user feedback, and they recognize the historically diverse needs and goals of markets (Ledesma, 2021).

2008). Direct-to-market farmers must compete against retailers that may have greater convenience to consumers in terms of accessibility and affordability. Those retailers are not always as focused on the sustainability of their products (food miles, production standards, organic and regenerative certifications) as farmers markets, information which consumers desire (MacDonald, 2018; Feenstra, 2003). However, farmers markets and farm stands are not open as often as big-box retailers or other local grocers, so consumers are forced to make decisions about where they will spend their money, and vendors must choose where to sell (and how to market) their products. These choices, from both consumers and producers, dictate how food is produced in terms of sustainability (Feenstra, 2003).

These barriers highlight the importance of strengthening the relational and educational dimensions of direct marketing. Consumers who are motivated by quality, food safety, or shared values are more likely to purchase from sustainable farmers—but only when sustainability information is visible, comprehensible, and trusted (Howard, 2006; Moroşan, 2025). Consumers want more food-related information, including clear signage that helps them easily identify local food (Howard, 2006; Conner et al., 2010). This is where ecosystem-services communication becomes crucial: it provides farmers with a narrative and evidentiary basis to differentiate their practices and connect with consumers who value environmental stewardship.

Educational impacts:

Ecosystem-service measurement helps farmers understand and articulate the environmental value of their production practices (DeMets, 2022). Clear, data-driven communication can strengthen farmers' ability to attract consumers who share similar sustainability values. This opens an opportunity for connection, thereby reinforcing and incentivizing ecologically beneficial practices for both producers and consumers.

Farmers markets amplify these benefits because they aggregate individual farm-level data into a market-level story of environmental stewardship. Metrics displayed publicly—such as those produced by the ESS Tool—transform the market into an educational space that supports informed purchasing decisions (DeMets, 2022). This not only supports sustainable farmers economically but also builds regional environmental resilience by informing planners, community partners, and consumers (Morales, 2021).

While some benefits of farmers markets (e.g., food security) are widely communicated, agricultural sustainability is rarely measured or made visible, creating an information gap that limits consumer support for ecological farming (Ledesma, 2021). Tools like the ESS tool directly address this gap by supplying farmers with accessible metrics and communication materials. Infographics effectively communicate by tapping into how our brains are hardwired to see, process, and remember visual information, making them more persuasive, memorable, and accessible than text-only formats (Hunt, 2007).

Farmers markets also have impacts on food literacy and healthy food consumption. Fruit and vegetable consumption was associated with farmers market shopping, so these markets may be a viable method to increase population-level produce consumption (Pitts, 2014).

Study motivation:

Consumer understanding and awareness of the environmental impacts of their food choices requires a deeper understanding of marketing practices (Niles, 2017). This project aims to do this via an investigation of a farmer's direct-marketing effect on consumer engagement, through the venue of the farmers market.

This study was funded by a grant from the Center for Integrated Agricultural Systems (CIAS). The grant provided funding for travel and direct compensation for farmer participants involved in this study. Each participant was compensated 150 USD for study participation.

The project team partnered with the Central Wisconsin Farmers Market Collaborative (CWPMC) to establish communication with trusted vendors at markets in the region. Through this partnership with CWPMC, this study aims to integrate equity and inclusion, focusing on food access in low-income communities and elevating voices of direct-to-market farmers often excluded from agricultural narratives. This partnership allows for direct-to-market farmers (vendors) to participate in this project. Through a series of interviews, participants communicated farmer needs for support at markets and evaluated the ESS Tool from a producer's perspective. These conversations guided the project team in crafting outreach materials for CWPMC farmer education and making edits to the ESS tool.

Farmers markets are uniquely positioned to support ecosystem-services communication, and methods such as the ESS Tool can build and strengthen community relationships, decision-making, and equity in local food systems. The infographics created by using the ESS Tool are meant to be an effective communication tool for farmers market visitors.

Research objectives:

- Provide technical assistance to farmers market vendors in collecting sustainability data
- Analyze the effectiveness of infographic display on vendor-consumer interactions
- Identify barriers to vendor-consumer communication at farmers markets
- Identify areas of need within the farmers market vendor community
- Develop evidence-based marketing strategies for sustainability produced goods at farmers markets
- Refine data collection toolkits (ESS Tool) and technical resources (agricultural references and maps)

This project is grounded in an interdisciplinary theoretical framework that integrates research on urban food systems, public market sociology, direct-to-consumer agricultural marketing, and environmental communication. The final version of the ESS Tool, after edits made based on farmer feedback, will be given to the participant farmers again at the start of the next season. The CWFMC will use this project to fulfill the farmer education portion of their mission.

Direct marketing channels like farmers markets, are inherently multifunctional, benefiting farmers and consumers simultaneously (Plakias, 2020; Diekmann et al., 2020). Consumers value the ability to engage directly with growers, while farmers retain a higher share of profit. Farmers markets provide opportunities to improve a community's food literacy by creating a space for people to learn about food, where it comes from, and how to prepare it. By providing a new approach to food and its role in our lives, farmers market patrons' shopping behavior at conventional grocery outlets may also change (Warsaw, 2021).

This project draws on previous research utilizing the Ecosystem Services Tool (DeMets, 2022), which shows that the ESS Tool strengthens communities by helping facilitate communication between direct-to-market farmers and consumers at farmers markets. This allows consumers to make educated purchasing decisions at the market, benefiting farmers that do conservation farming and improving marketing potential for climate-smart, direct-to-market products. Farmers markets (FMs) will be bolstered as valuable community hubs, deepening relationships between farmers and their communities by making farm-level sustainability practices visible. Infographics at market stalls could spark conversations that promote food literacy and engagement. Farmers markets support shared learning, as they are ideal spaces for these exchanges between vendors and market visitors. This project aims to understand the effects of displayed infographics on the communication between FM vendors and FM visitors; it poses the question: are infographics a viable avenue to educate visitors on sustainability metrics of local farms, and stimulate improved food literacy in those populations?

Methodology

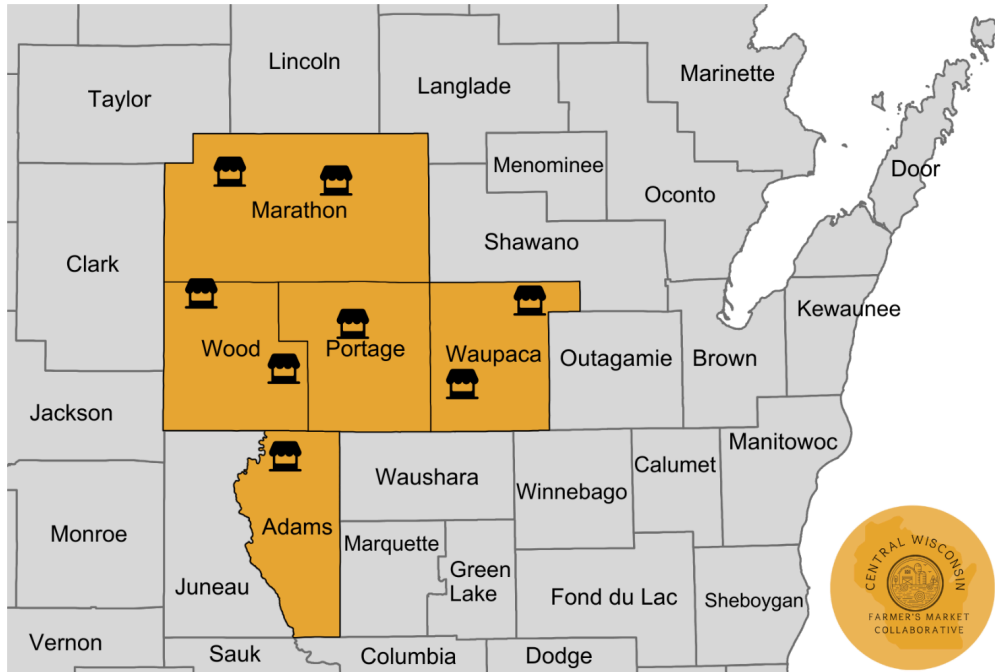
The ESS Tool was utilized by DeMets and Morales (2022) in several case studies of direct-to-market farmers. The authors show that ecosystem-service measurement strengthens farmers' ability to understand, improve, and communicate the environmental value of their production practices. (Pages 6–7, case study intros)

- Measurement tools give farmers concrete benchmarks that reveal where their current practices stand and how they can improve them over time. (Page 5, lines 10–18)
- The tool legitimizes farmers' work by grounding their environmental commitments in scientific, accessible evidence. (Page 7, lines 4–13)
- Clear, data-driven communication helps farmers attract consumers who share sustainability values, thereby reinforcing environmentally beneficial practices. (Page 6, lines 2–9)

Participant recruitment:

The Central Wisconsin Farmers Market Collaborative, directed by Meliss Haack, was central in recruiting vendors for this project. The Coalition includes eight member markets, with vendors often participating in multiple markets over the course of the season. Meliss compiled a list for the project lead to contact; these vendors were growers and producers that were consistent vendors at various farmers markets. Craft and prepared-food vendors were not included, since measuring and communicating the ecological impacts of direct growing/grazing methods was key for the project. Meliss Haack's role in the project extended past recruitment efforts. She was instrumental in guiding the project team and communicating the needs of the Collaborative. This guidance allowed better and more trusted communication between the project team and the project participants.

The project lead reached out to a total of 10 vendors, with 6 choosing to participate in the study (*See Appendix C for examples of emails sent to recruit participants*). Midway through the summer of 2025, one of the participants had to stop vending at markets, so they were unable to continue participating in the project. Their responses to the ESS Tool and first qualitative interview were still considered a valuable glimpse into vendor needs, so that data was used for analysis. For the whole duration of the project (May-Oct 2025), data was collected from five participants.



Central Wisconsin Farmers Market Collaborative: Member Markets

Marathon County:

-  Farmers Market of Wausau
-  Athens Farmers Market

Wood County:

-  Marshfield Farmers Market
-  Wisconsin Rapids Farmers Market

Adams County:

-  Rome Farmers Market

Waupaca County:

-  Clintonville Farmers Market
-  Waupaca Farmers Market

Portage County:

-  Stevens Point Farmers Market



Fig. 2. Map of the Central Wisconsin Farmers Market Collaborative Target Area and Member Markets

Data collection timeline:

May-June 2025: Participants completed ESS Tool, first interview, and first Google form

May-Sept 2025: Participants displayed their infographics at their market stands

Aug-Sept 2025: Participants completed second interview and second Google form

Oct 2025: Sales data for each vendor was collected (2024 sales compared to 2025 sales)

In conjunction with the project team, direct-to-market farmer participants used the ESS Tool to create infographics about their agricultural practices (see *Appendix A: Ecosystem Services Tool Infographics, Examples*). The participants filled out the ESS Tool while on Zoom with the project team, who guided them through the questionnaire and recorded any issues for future recommendations. These infographics were displayed at their market stand during the summer season. The infographic was meant to communicate an agricultural practice that the participant is proud of, or that they think is crucial to their agroecological methodology. With these graphics displayed, visitors to the market are encouraged to read them and ask questions to the vendor. Through these conversations, stronger relationships and communities can be established through the setting of farmers markets.

Project participants were interviewed twice over the course of the project. The Zoom interviews ranged from 35 minutes to one hour. During the first meeting where participants filled out the ESS Tool, they were interviewed about their interactions with market visitors and their thoughts on food literacy.

At the end of the market season, participants were interviewed again about the impact of the infographic display on consumer interactions (and sales). This interview was meant to gauge the effectiveness of the ESS Tool on farmer methodology and the effectiveness of the infographics on sparking conversations with market visitors. Altogether, the reflections on the ESS Tool and market experiences will help direct-to-market farmers make informed decisions about their future agricultural and marketing practices. Insights from this project will also be shared with market managers, governmental organizations, and other stakeholders that play crucial roles in the local food system.

Alongside each Zoom interview, the participants were given two Google forms (one paired with the pre-season interview, and one paired with the post-season interview) where participants filled out demographic questions and could numerically score their feelings about the project goals (food production, interaction with customers, experience with the ESS Tool and displaying the infographic, and conservation decision-making). This was meant to gather secondary data to assist the project team in correctly capturing the feelings of the interviewees.

Interviews:

The interviews consisted of open-ended questions about food production; interaction with customers; experience using the ESS Tool and displaying the infographic; and final thoughts about conservation decision-making. These verbal answers were coded for further use in this project.

Pre-infographic display interview: Pre-season interviews focused on existing farmers market experiences: conversations with market consumers; and the vendor's perceptions of how educated farmers market visitors are about agriculture and the food system.

- What kinds of things do you sell at farmers markets?
- How would you describe your experiences with customers at farmers markets? Do they seem to understand how growing food works?
- Do you talk with farmers market visitors about how you make food? What topics do you touch on?
- Do you think that customers should understand more about the food system? Do you think that a lack of food literacy is a problem?

Post-Infographic display interview: Post-season interviews focused on changes to participants' conversations with market visitors: did the infographics spark conversations about agricultural sustainability?

- How was the experience of displaying the infographic at your market stand?
- Did people ask about it/mention it? How much did people ask about your agricultural practices as opposed to past market seasons?
- Do you feel that the ESS Tool has helped you understand the environmental impacts of your farming practices? Did filling out the tool help you reflect on your practices?
- How could the ESS Tool be more beneficial/what additions to the tool would make you more likely to use it? How could these changes benefit your farm?

Analysis

Interpretation of data:

The ESS Tool summary descriptive statistics were calculated, showcasing each participant's acreage, production type, growing/grazing practices, and sales data.

The interviews were recorded and transcribed, with quotes taken for each interview question. Due to the nature of Zoom calls and spotty reception on farms, the transcription is not always reliable. The project lead also took diligent notes during responses, recording key words and phrases from each interviewee. After the final interview, the responses were qualitatively coded, identifying themes and phrases throughout the interviews.

Qualitative coding of interview content:

The interviews were semi-structured with intelligent transcription: transcribing every word, but making an interpretation to exclude pauses, status, and filler words and cleaning up the grammar when needed for sake of clarity. During the coding process, in vivo coding was used. This is when an excerpt is coded based on a participant's own words, and not any interpretation from the researcher (Saldana, 2009). This method is meant to utilize the participant's own spoken

language and stay as close to their intent and meaning as possible (The Essential Guide to Coding Qualitative Data, 2024).

Inductive coding was used as a first-pass of the transcription. This is a ground-up approach where the codes are derived from the data (The Essential Guide to Coding Qualitative Data, 2024). There were no preconceived notions of what the codes should be, rather allowing the narrative or theory to emerge from the raw data itself. After the first-pass coding, structural coding was used to categorize sections of text. The text was categorized according to a specific structure with the intent to continue analyzing within these structures (Saldana, 2009). A question-based code was utilized, classifying the answers to the specific question. For example, the question “do you talk with farmers market visitors about how you make food? What topics do you touch on?,” the code consists of specific key words (topics) that answer that specific question.

Conclusion

Ecosystem Services Tool responses:

See *Appendix B: Ecosystem Services Tool Responses* for a detailed analysis of all the ESS Tool responses for this project.

Key Takeaways:

- Farmers owned an average of 43 acres of land.
- Farmers leased an average of 7 acres of land.
- Farmers cultivated an average of 3 acres of land
- 3 farmers raised livestock, which were grazed over a sum of 27 acres with an average of 9 acres.
- The most common types of product sold were fruits and vegetables (67%), value added (50%), and plants and flowers (33%).
- 67% (n = 4) of farmers followed organic practices, although this metric did not require them to be certified organic or to be transitioning to organic practices.

Metric	n =	Total	%	Mean	Median
Land owned by farmers (acres)	6	262	—	44	32.5
Land leased by farmers (acres)	6	21	—	7	
Land cultivated by farmers (acres)	6	13	—	3.25	
Land grazed by farmers (acres) ¹	6	27	—	9	
Farmers raising livestock/seafood	6	4	67	—	—

Farmers selling eggs ²	6	4	67	—	—
Farmers selling dairy products	6	0	—	—	—
Farmers selling fruits/vegetables	6	4	67	—	—
Farmers selling plants/flowers	6	2	33	—	—
Farmers selling nuts/legumes	6	0	—	—	—
Farmers selling value added products	6	3	50	—	—
Farmers selling grains	6	0	—	—	—
Farmers selling annual hay/forage	6	0	—	—	—
Farmers selling perennial hay/forage	6	0	—	—	—
Farmers that use agroforestry practices	6	2	33	—	—
Farmers that use biodynamic practices	6	0	—	—	—
Farmers that use organic practices	6	3	50	—	—
Farmers that use permaculture practices	6	2	33	—	—
Farmers that use silviculture practices	6	1	17	—	—
Farmers using other agricultural practices	6	1	17	—	—

Participant Demographics:

All six participants were white, with 3 identifying as men and 3 as women. The years of farming experience ranged from 5 years to 22 years. Three participants had no prior farming experience, while the other three participants had generational/family farming experience.

Key Findings:

- Most vendor participants considered the ESS Tool a valuable resource for qualitatively analyzing and reflecting on their sustainability within their agricultural practices
- Vendors believe that farmers market consumers are more food-literate than the average consumer
- Vendors already have meaningful conversations with consumers about various aspects of food production
- It is difficult for vendors to communicate specific sustainability practices to market visitors.
- The participants did not experience any difficulties with displaying the infographics, but reported minimal customer engagement with the signage

- Summer markets may be too busy for text-heavy infographics to be displayed at market stands
- The Farm2Facts toolkit lacks a farmer-to-farmer connection aspect; individual data analysis is already available, but farmers would like to use the tool to view trends on a community scale.

Themes from open-ended interview questions:

The interviews with participants uncovered a need for investigation into conversations between farmers market vendors and market visitors. These conversations can uncover valuable information about community structures, food literacy, and sustainability marketing potential at the market level.

Education, food literacy	Farmer-to-Farmer	Reflect on sustainability	Conversation Topics
Higher than average food literacy of market visitors	Fellow vendors displaying ESS Tool infographics	Vendors are able to understand their agricultural processes while using the ESS Tool	Conversations occurred regardless of infographic presence
People are still not understanding of the challenges of food production	Opportunity to connect with each other	Tool can be a checklist for possible methods	Potential information oversaturation at summer markets for text-based displays
	Learn about each other's sustainability practices	Covered topics they already understood	

1) Education level and food literacy at farmers markets:

One prevalent theme throughout the interviews was the varying levels of food education and food literacy among farmers market visitors. Some participants talked about the higher than average food literacy of market visitors, while others remarked that people are still not understanding of the challenges of food production.

Pre-season: "Good understanding, People at farmers markets on the whole have a good understanding. Some are deeper than others, more educated than the average people."

Pre-season: "I wish that people were more understanding about the practical challenges of farming."

Pre-season: “I wish [market visitors] knew more, people are just starting to realize anything. Farmers markets are becoming competitive with large commercial stores. Becoming certified organic is a whole thing too...seed origins, GMO, etc.”

2) Farmer-to-Farmer Comparison:

Several participants noted that a benefit from this project would be to better connect with their peers. The participants saw their fellow vendors that were also displaying ESS Tool infographics at the farmers market, and this gave them an opportunity to connect with each other and learn about each other’s sustainability practices.

Post-season: A participant “found community with another farmer that did it,” and indicated that they would be interested in connecting with other vendors about their agricultural practices as well.

3) Reflection on sustainability:

Most of the participants found that the ESS Tool helped them think about their farming practices in a critical way, allowing them to understand their agricultural processes on a deeper level. The tool was utilized by some as a checklist for possible methods they could incorporate. On the other hand, one participant felt that the ESS Tool was not useful to their understanding of their agricultural practices, and covered topics they already knew about and understood the impacts of. This feedback helped the project team develop ideas for useful additions to the Farm2Facts toolkit that can better serve more farmers.

Post-season: “Yes definitely! [The ESS Tool] [h]elped me think about [my farming practices]. We rank ourselves highly as a well rounded, diverse sustainable farm, on a small scale.. So it was good to go over it, it was a good reality check.”

4) Conversation Topics:

Through this project, the team gained a lot of insight about communication between vendors and consumers. This information is crucial for understanding how interactions at markets shape the food choices that consumers make. These interactions also impact food literacy among market visitors, giving them the opportunity to learn about food production and nutrition from the growers themselves. Topics included food production, animal feed, animal treatment and production, native vegetation, perennial growing, pollination, ecosystem health, and more.

Pre-season: “I talk to them about how I produce food.”

Pre-season: “[Visitors are] asking lots of questions about ingredients and feed of animals...deeper conversations come from freedom of asking questions.”

Pre-season: “Anything they want to talk about, even native stuff. Benefits of native, benefits of pollination, benefits of healthy ecosystem- the greater biota beyond just humans. Anywhere the customer wants to go! I am an educator at heart, regenerative perennial farming fits into that.”

These conversations happened regardless of infographic presence. Participants reported the same level of consumer engagement at their market stand before infographic implementation and after. A participant mentioned that the summer market season is already very saturated with information, so the addition of more signage at market stands can go unnoticed. Another participant talked about their infographic being up next to their information about perennial farming, so they are communicating their agricultural practices at their market stands in more than one way.

Post-season: “A couple people noticed [the infographic], but the information on the poster seemed pretty obvious. People at market aren't paying attention that well, things are moving so fast.”

“Fine, disappointing because not many people care about it. I might have too much information at my stand, since I have my perennial pamphlets as well.”

5) On-farm interconnection factors:

Participants noted that the ESS Tool did not have metrics to connect different sections to each other. The ESS Tool consists of six major sections: soil health, biodiversity, livestock, infrastructure, alternative power, transport. While information about all of these factors comes together at the end for a cumulative score, each section is scored by itself and suggestions are isolated by section topic. This feedback gave the project team ideas for metrics to connect different sections to each other. A farm is an interconnected network, and each section impacts the others.

Post-season: “The tool was fine, it did go through a lot of the categories that we think about already when we think about the sustainability of our farm. Not sure that it captured one thing: when we think about how connected different aspects of our farm are. We think about connection. [Things] [w]ork together to create an impact on the greater ecosystem. The ESS Tool didn't consider how those things integrate with each other, since everything is in its own different category.”

Recommendations:

Proposed changes to the toolkit and data analysis functions are based on participant feedback and project team input. Changes include infographic design improvement, ecosystem services toolkit fixes, organic practice communication, water production capabilities, on-farm interconnection

factors, farmer-to-farmer connection factors, and notes on improved infographic integration. The chart below illustrates the flow of information between farmers, the ESS Tool, and the project team.

Infographic design improvement	Larger text Alternative statement options based on education levels and complexity of topic
Farmer-to-Farmer Connections	Opportunity for vendor participants to compare themselves to their peers that are Farm2Facts members Farmer2Farmer, a visualization for Farm2Facts users
Organic practices	Assess barriers to organic certification Comment box
Water-based production	Aquaponics and lake production are not integrated into the tool Disadvantages producers that utilize aquaponics, fish, or harvest wild rice Users should be able to answer questions for both aquaponic and land-grown production
On-farm interconnection factor	Credits farmer's efforts to incorporate natural relationships into their agricultural practices New section comprising an interconnectedness score based on questions from all sections

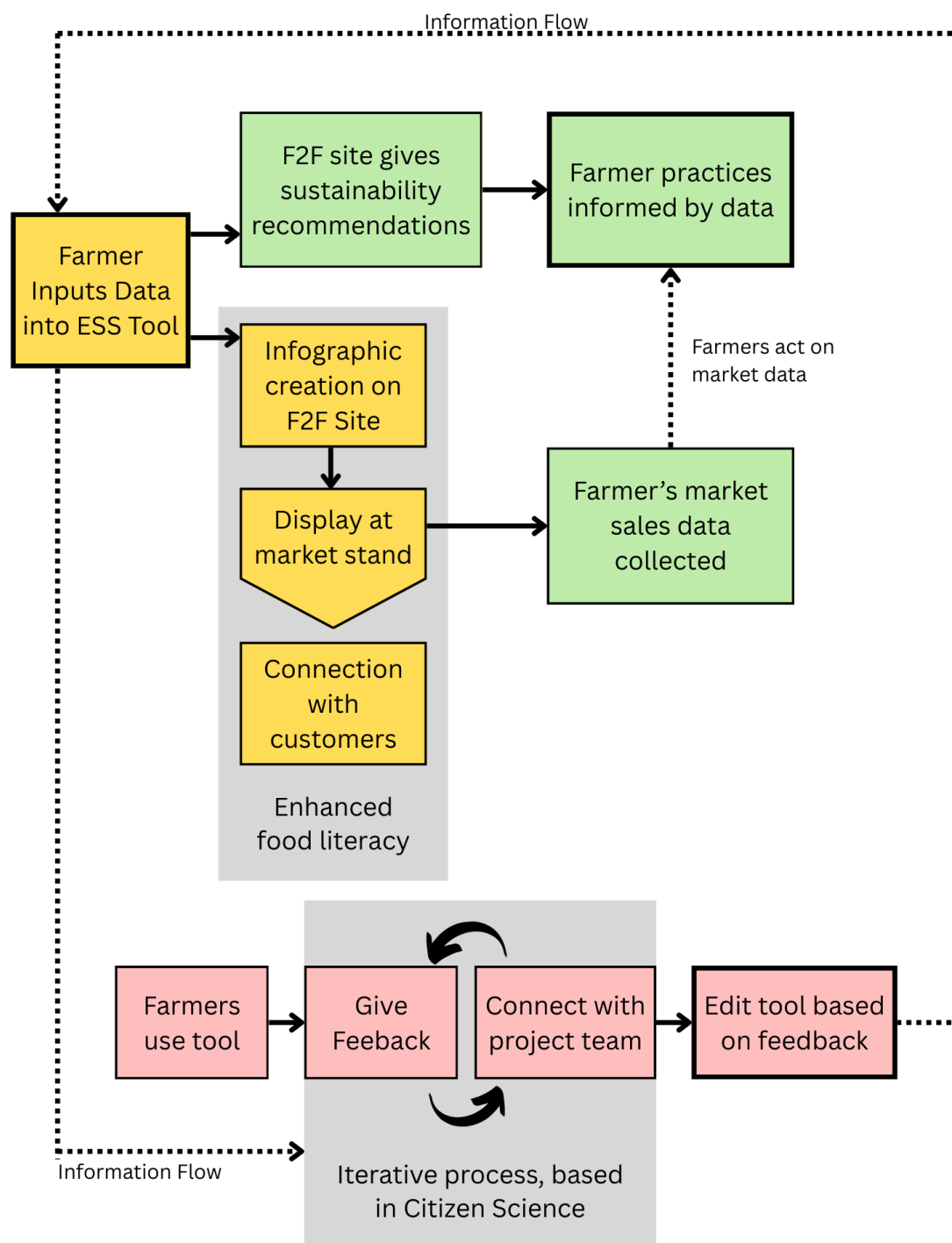


Fig 3. Ecosystem Services Information Flow

Infographic design improvement:

There is room for improvement in the design of the infographics themselves. Participants noted that they were plain and not eye-catching enough for people to take more than a cursory glance.

All the participants noticed visitors looking at the infographics, but few initiated conversations directly based on the graphic. Bolder text is necessary as well, as the text may have been too small for market visitors to properly read the interpretive statements.

In terms of the statements, alternative statement options should also be available, and able to be customized based on education levels and age levels of market participants. Market visitors in different areas will have different levels of agricultural knowledge, so tailoring these statements is crucial for best communication and understanding. The interpretive statements could also be put through an age accessibility model that helps the user utilize proper wording for the target group.

For accessibility, the infographics must be evaluated for proper color-contrast and font choices that are legible by those with colorblindness, dyslexia, or visual impairments.

See Fig. 4 for a visual of the recommended edits to the infographics.

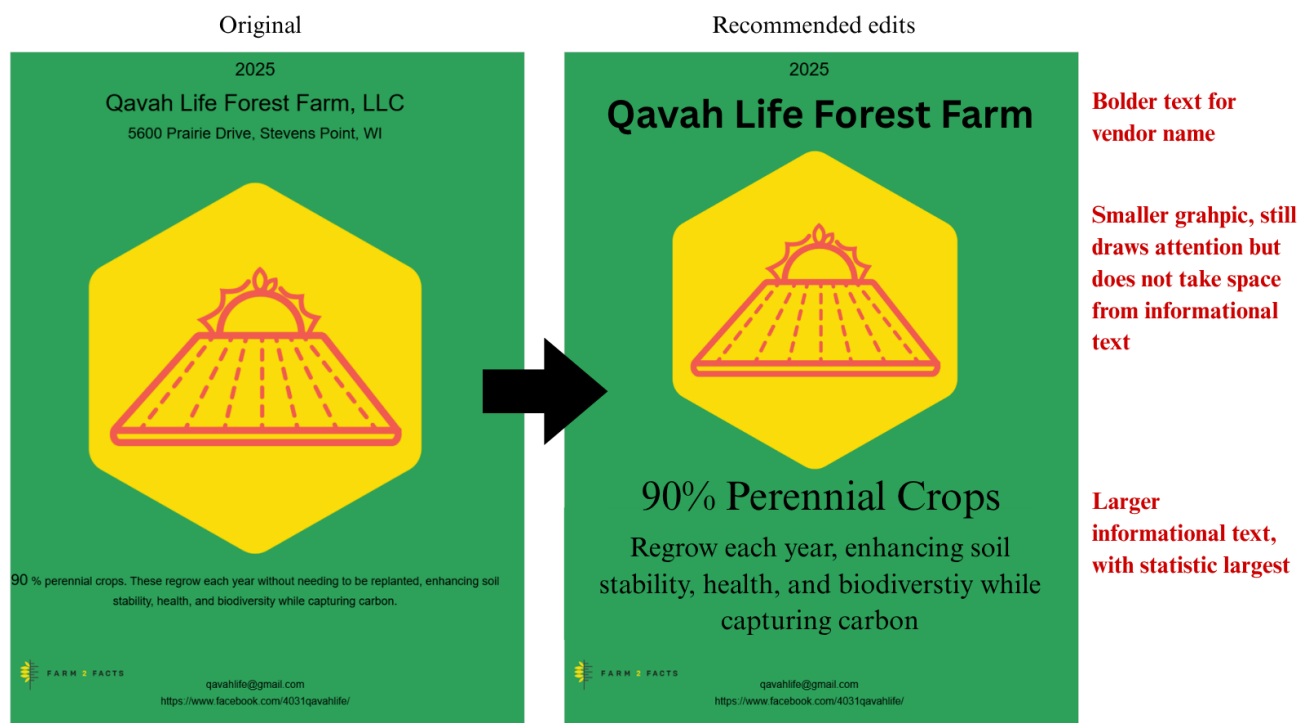


Fig. 4. Infographic Edit Recommendations

Organic practices:

The ESS Tool questionnaire asks if the farmer incorporates organic practices, but does not require an organic certification. There is room here for investigation into users that implement organic practices but choose not to obtain a certification, which can help assess barriers to organic certification. In the Farm2Facts toolkit, this integration can be a comment box for these specific users to share why they do not have an organic certification.

Water-based production:

Aquaponics and lake production are not integrated into the tool. Right now, almost all the questions focus on food production on land, and are formatted in a way that water production is excluded. This disadvantages producers that utilize aquaponics, fish, or harvest wild rice from lakes. Users should be able to answer questions about both aquaponics and land-grown production. In the Farm2Facts toolkit, a question could be added at the beginning of the ESS Tool questionnaire where the user indicates what set of questions (land-oriented or water-oriented, or both) they would like to use for their analysis.

On-farm interconnection factor:

Based on feedback from the participants, the F2F Toolkit lacks a metric that showcases a farmer's efforts to incorporate natural relationships into their agricultural practices. While the ESS Tool consists of six major sections: soil health, biodiversity, livestock, infrastructure, alternative power, transport, each section is scored by itself and suggestions are isolated to each topic. This study suggests that a new section comprising an interconnectedness score be added to the ESS Tool results. This section will take metrics from throughout the questionnaire, compiling them into a score that reflects factors such as wildlife integration, intercropping, pollinator habitat, pesticide/herbicide/fungicide usage, and purposeful animal/plant relationships. Most of these factors are already included in existing questions. The suggested section will incorporate all the relevant factors into the new scoring system.

Farmer-to-farmer connections:

Participants shared a desire to connect with their fellow vendors about their agricultural practices. The F2F Toolkit does not yet have a farmer-to-farmer connection aspect; all content is individualized, and only market managers can see the content of vendors at their markets. This study proposes the addition of a connection aspect to the Farm2Facts website. Shared information within markets generates positive peer pressure and collaboration among farmers, encouraging wider adoption of regenerative practices. (DeMets and Morales 2022, Page 8, lines 11–18) Vendor participants highlight the opportunity for them to compare themselves to their peers that also displayed infographics at the same markets.

One proposed method involves a visualization of Farm2Facts users. The site could have a map of all users (anonymized to a certain extent) available, with data that show the type of production, the size of the farm, certifications, and other ESS statistics. The user would be able to sort through and choose metrics that narrow down what users are shown on the map. This would be an opt-out feature, so users can choose to not have their farm or farm location shown on the website map. There are many other ways to promote farmer-to-farmer connection between Farm2Facts users as well, such as featuring vendors in newsletters and hosting vendor workshops.

Difficulties with infographic integration:

When asked how their experience was with displaying the infographic at their market stand, one participant reported “Fine, disappointing because not many people care about it. I might have too much information at my stand, since I have my perennial pamphlets as well.” This case, along with similar anecdotes from other participants, may point to a case of information oversaturation at farmers markets. One participant reported that they would imagine more success for an infographic display at winter markets, where there are less people and more opportunities for vendor/consumer interaction.

Limitations:

This project lacked a structure for market managers to be involved in the ESS Tool data collection or have input into the interviewing process. It would also have been interesting to interview the market managers at each Central WI market to see their perspective on vendor-consumer relations. This would also have been a good avenue to create a market-wide sustainability practices report. This report, or infographics made using information from such a report, could be displayed at more prominent areas within the market (e.g. the information stand).

The text on the infographics, when printed at 8.5x11, was too small for most people to read from across a table/market stand. This could have detracted from the infographics ability to catch market visitors’ attention. Future infographic iterations are recommended to have a larger font size.

This project was introduced via the Central Wisconsin Farmers Market Collaborative, so the participant pool was already reduced to farmers that were involved in the collaborative. Furthermore, the way that participants were selected for this project created a bias towards already sustainably-minded farmers market vendors. The project was described as a way to analyze the direct-marketing efforts of sustainable production, so vendors that were already doing some level of direct-marketing or interested in furthering their already-existing sustainability goals were much more likely to be interested. However, this project does rely on vendors having some sustainable production to highlight, so having some ecologically-minded production was a necessity.

Implications:

Benefits to markets: vendors and consumers.

Even if the infographics didn't get much engagement, simply filling out the ESS Tool and creating the infographics helped vendor participants see where they are doing well in terms of sustainable growing practices and what options they have to improve their production strategies.

The interactions between farmers market vendors and shoppers are an opportunity for engagement. While farmers market shoppers prioritize fresh, high quality produce, they also come to markets for social interaction (Diekmann et al., 2020). Engagement in the food system is the reason that vendors and consumers alike flock to farmers markets; when compared to shopping experiences at grocery stores, exchanges at farmers markets are steeped in familiarity, social ties, and mutual appreciation (Hinrichs, 2000; Diekmann et. al., 2020). Thus, farmers markets are not only spaces for economic exchange; they are social spaces that bring communities together and allow for shared learning.

Market attendees *are aware* of the socio-ecological benefits of farmers markets. Their motivations for attending farmers markets are varied, but supporting local farmers was the second highest after buying fresh food. 49% of market attendees reported connecting with others in the community at markets (Witzling et. al., 2025).

Table 4. Perceptions of Farmers Market Impacts

Perception	N	Not at all (%)	Very little (%)	Somewhat (%)	Quite a bit (%)	A great deal (%)
Have eaten healthier	4,112	8.78	16.15	45.89	20.89	8.29
Looked at locally grown products at the grocery store based on experience at farmers markets	4,093	13.58	19.79	41.90	19.08	5.64
Saved money by shopping at the farmers market	4,091	21.12	30.41	33.02	10.36	5.08
Connected with others in the community	4,108	25.15	26.75	32.04	11.73	4.33
Gotten information from organizations in the community	4,105	27.87	26.92	29.72	11.62	3.87
Shopped or visited nearby retail stores on market day	4,087	21.16	29.88	35.28	10.74	2.94
Have eaten at a nearby restaurant on market day	4,080	28.75	28.92	30.86	8.87	2.60

Note: The proportions displayed reflect only the responses from farmers market attendees.

Table 5. Motivations for Attending Farmers Markets

Motivation	N	Not at all (%)	Very little (%)	Somewhat (%)	Quite a bit(%)	A great deal (%)
To buy fresh food	4,112	1.95	4.38	21.26	34.87	37.55
To support local farmers	4,117	3.04	6.22	27.88	31.67	31.19
To get high-quality food	4,102	3.24	5.39	26.55	35.96	28.86
To do something fun	4,094	3.98	8.06	34.78	31.39	21.79
To eat healthier	4,100	5.88	10.93	35.17	27.15	20.88
To find products that are hard to find elsewhere	4,099	10.17	18.10	34.72	21.59	15.42
To buy environmentally sustainable food	4,090	15.45	14.40	36.87	22.18	11.10
To reduce your use of food packaging	4,083	23.34	18.44	31.79	16.63	9.80
To save money	4,086	26.55	25.40	28.76	10.99	8.30
To talk to people who grow or make your food	4,091	21.41	22.12	33.12	15.57	7.77
To feel like you're part of the community	4,093	20.67	19.11	35.99	16.57	7.67
To learn new things about food	4,089	23.70	22.94	32.80	13.65	6.92
To shop in a way that feels traditional	4,097	24.73	21.63	35.34	12.06	6.25

Note: The proportions displayed reflect only the responses from farmers market attendees.

Fig. 5 and 6. Tables taken from Witzling et al., 2025

Farmers markets amplify these individual farm-level benefits by aggregating environmental data and transforming markets into educational and community-building institutions. (DeMets, 2022, Page 9, lines 1–7) Markets are a learning arena: educating consumers about agricultural sustainability practices around them, and also providing opportunities to make educated purchasing decisions. 70.15% of farmers market attendee respondents said they attend farmers markets to buy environmentally sustainable food (Somewhat 26.87%, Quite a bit 22.18%, A great deal 11.10%) (Witzling et al., 2025). Research confirms that market visitors often engage in nonconsumer activities such as socializing and learning, and many report healthier diets because of their market participation (Witzling et al., 2025). The education that takes place in community spaces can be a precursor to greater food advocacy (Diekmann et. al., 2020). This underscores that markets can serve as shared community institutions that extend beyond economic exchange. The ESS Tool leverages this institutional character by transforming the farmers market into an explicit venue for ecological education, sustainability communication, and community engagement.

Consumer behavior goals point to sustainability communication.

Achieving sustainable consumption requires behavior change, a key aim of the UN Sustainable Development Goals (UN General Assembly, 2015). Research indicates that consumer awareness of environmental impacts can shape purchasing patterns, but only when effective communication

systems exist (Niles et al., 2017). Greater regulation of marketing practices and more empirical research are needed to ensure consumers receive accurate sustainability information.

Farmers markets—because they foster face-to-face interaction, learning, and community belonging—offer a uniquely effective platform for this kind of behavior-oriented sustainability communication. Infographics generated through the ESS Tool insert empirically grounded sustainability information into real-time consumer–vendor interactions, supporting awareness-building and behavior change.

Conclusion:

This study aimed to investigate the impacts of two interventions with farmers market vendors and visitors. By utilizing the ESS Tool, farmers market vendors were able to analyze the agricultural practices of their food production systems and reflect on these practices. By creating infographics, the vendors chose to communicate a specific sustainability practice to market visitors. The participants, by sharing these infographics at their market stands, opened a door to communication about ecological topics. While the infographics could not be directly linked to any increased communication between vendors and consumers, the interviews did yield valuable information about their topics of conversation and perceived food literacy. This study also allowed the project team to get direct feedback from Farm2Facts toolkit users about the viability of the ESS Tool.

Future study recommendations:

- Integrate farmers market managers, as they have the capacity to employ infographics over an entire market for all vendors. This would create a bigger sample group and a more cohesive project to test the effectiveness of infographics.
- Investigate different markets that might be better suited for infographic display, such as winter markets, speciality markets, or sustainability-gearred markets.
- A similar study, analyzing the effects of food marketing at farmers markets, but with a traditional agriculture control group. This would provide insights about marketing differences between ‘climate smart’ agriculture and traditional agriculture.

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Appendix A: Ecosystem Services Tool Infographics, Examples

2025

Farm Time Out Aquaponics

Junction City, WI



Integrating crops and livestock improves nutrient cycling and soil health, reduces off-farm inputs, and provides a host of other ecological benefits. [Learn more.](#)



5079 County Road M
Farmtimeout@gmail.com
Farm Time Out Aquaponics on Facebook

2025

Qavah Life Forest Farm, LLC

5600 Prairie Drive, Stevens Point, WI



90 % perennial crops. These regrow each year without needing to be replanted, enhancing soil stability, health, and biodiversity while capturing carbon.



FARM 2 FACTS

qavahlife@gmail.com

<https://www.facebook.com/4031qavahlife/>

2025
Cox Hill Farm
Brooklyn, WI



Regenerative agriculture strengthens drought resiliency—every 1% increase in soil organic matter allows the soil to hold an additional 20,000 gallons of water per acre.



FARM 2 FACTS

Center for Integrated Agricultural Systems

N9094 Legler Rd, Brooklyn, WI 53521

coxhillfarmllc@gmail.com

Website: CoxHillFarm.com, Facebook: [@CoxHillFarmLLC](https://www.facebook.com/CoxHillFarmLLC), Instagram: [@CoxHillFarm](https://www.instagram.com/CoxHillFarm)

2025

Liberation Farmers

Almond, Wisconsin



Rotational type grazing, or grazing livestock in just one portion of pasture at a time to allow the remainder of pasture to rest and regrow, improves animal, plant, and soil health.



8762 3rd Street, Almond WI 54909
liberationfarmers@gmail.com
@liberationfarmers

2025

Roche-A-Cri Farm

Friendship, WI



25 % of farm receives cover crops to improve soil health and nutrient holding capacity for plant growth, capture carbon, and boost biodiversity.



roche.a.cri.farm@gmail.com
Roche-A-Cri Farm on Facebook

Appendix B: Ecosystem Services Tool Responses

Farmer Data

Key Takeaways

- Farmers owned an average of 43 acres of land.
- Farmers leased an average of 7 acres of land.
- Farmers cultivated an average of 3 acres of land
- 3 farmers raised livestock, which were grazed over a sum of 27 acres with an average of 9 acres.
- The most common types of product sold were fruits and vegetables (67%), value added (50%), and plants and flowers (33%).
- 67% (n = 4) of farmers followed organic practices, although this metric did not require them to be certified organic or to be transitioning to organic practices.

Metric	n =	Total	%	Mean	Median
Land owned by farmers (acres)	6	262	—	44	32.5
Land leased by farmers (acres)	6	21	—	7	
Land cultivated by farmers (acres)	6	13	—	3.25	
Land grazed by farmers (acres)	6	27	—	9	
Farmers raising livestock/seafood	6	4	67	—	—
Farmers selling eggs	6	4	67	—	—
Farmers selling dairy products	6	0	—	—	—
Farmers selling fruits/vegetables	6	4	67	—	—
Farmers selling plants/flowers	6	2	33	—	—
Farmers selling nuts/legumes	6	0	—	—	—
Farmers selling value added products	6	3	50	—	—
Farmers selling grains	6	0	—	—	—
Farmers selling annual hay/forage	6	0	—	—	—
Farmers selling perennial hay/forage	6	0	—	—	—
Farmers that use agroforestry practices	6	2	33	—	—
Farmers that use biodynamic practices	6	0	—	—	—
Farmers that use organic practices	6	3	50	—	—
Farmers that use permaculture practices	6	2	33	—	—

Farmers that use silviculture practices	6	1	17	—	—
Farmers using other agricultural practices	6	1	17	—	—

Soil Health

Key Takeaways

- Nonflowering cover crops were grown more frequently than flowering cover crops, and nonflowering cover crops were grown over a larger percentage of the farmland than flowering cover crops.
- Hand hoeing, black plastic, and straw mulching were the most frequently used methods of weed control.
- Only one of the farms used fertilizer, insecticide, and fungicide.

Metric	<i>n</i> =	Total	%	Average	Median
Percent of land covered in perennials	5	—	—	53.06	70
Farmers growing flowering cover crops	5	1	20	—	—
Percent of land growing flowering cover crops	5	50	—	50	50
Farmers growing nonflowering cover crops	5	2	40	—	—
Percent of land growing nonflowering cover crops	5	75	—	33	—
Farmers who apply organic amendments	5	5	100	—	—
Farmers who use rototilling to weed	6	3	60	—	—
Farmers using black plastic	6	4	80	—	—
Farmers using flame weeding	6	1	20	—	—
Farmers using hand hoeing	6	2	80	—	—
Farmers who use straw mulch	6	4	80	—	—
Farmers who use other weed control methods	6	0	0	—	—
Farmers using fertilizer	6	1	20	—	—
Area of fertilizer use (acres)	6	7	—	7	7
Farmers using herbicide	6	0	—	—	—
Farmers using insecticide	6	1	16	—	—
Area of insecticide use (acres)	6	3	—	3	3
Farmers using fungicide	6	1	16	—	—
Area of fungicide use (acres)	6	2	—	2	2

Alternative Power

Key Takeaways

- Two of the farms used solar power, and one other participant indicated that they wanted to start using renewable energy on their farm.

Metric	<i>n</i> =	Total	%	Mean	Median
Farms using solar power	6	2	33	2	2
Farms using wind power	6	0	0	—	—
Farms using biodigester power	6	0	0	—	—
Farms using hydroelectric power	6	0	0	—	—
Farms using other alternative power supplies	6	0	0	—	—
Percent of power supplied by alternative power	6	—	—	92.5	0

¹ One farmer said that solar power supplied 75% of their farm, and the other farmer said solar power supplied 90% of their farm.

Livestock

Key Takeaways

- 5 of the 6 participants kept wildlife on their farm. One participant raised fish in tanks, which was labeled as “other livestock” in the survey.
- Of the farmers that had livestock, 4 raised poultry, 1 raised sheep or lamb, 2 raised goats, and 2 raised pigs. No one raised cattle.
- 3 participants feed their livestock with feed grown on their farm.

Metric	<i>n</i> =	Total	%	Mean	Median
Farms that raise livestock	6	5	83	—	—
Number of cattle	6	0	—	0	0
Number of hogs/pigs	6	26	—	13	—
Hogs/Pigs grazing acreage	6	8	—	4	—
Number of sheep/lambs	6	8	—	8	8
Sheep/Lamb grazing acreage	6	1	—	1	1
Number of goats	6	49	—	24.5	—
Goats grazing acreage	6	27	—	13.5	—
Number of poultry	6	3660	—	915	—
Poultry grazing acreage	6	42	—	10.5	—
Farms that raise other livestock	6	1	16	—	—
Number of other livestock	6	800	—	—	—

Other livestock grazing acreage	6	0	—	0.000	0
Farms that use on-farm feed	6	3	50	—	—

Hauling to Market

Key Takeaways

- On average, farmers travelled 132 miles per week to bring their products to different markets.
- Farmers markets were the most common market, with every farmer attending at least one farmers market. The majority of farmers went to 2+ farmers markets per week, with one farmer attending 5 farmers markets per week.
- Three farmers had direct-to-consumer services, totaling 307 members. One farmer had three different CSAs.
- 50% of farmers used gas-powered vehicles to bring their products to markets.
- One participant used an electric vehicle to transport items to market, while two participants used a hybrid vehicle to transport items to market.

Metric	<i>n</i> =	Total	%	Mean	Median
Miles to markets traveled weekly	6	660	—	132	110
Farmers selling to hospitals	6	0	—	—	—
Farmers selling to institutions	6	0	—	—	—
Farmer selling to direct-consumer/CSA	6	3	50	—	—
Number of direct-consumer/CSA	6	5	—	1.6	1
Farmers selling at farmers markets	6	6	100	—	—
Number of farmers markets (FMs)	6	13	—	2.17	2
Farmers going to 2 or more FMs	6	3	50	—	—
Farmers selling to restaurants	6	4	66	—	—
Number of restaurants	6	21	—	5.25	—
Farmers giving to food shelves	6	1	16	—	—
Number of food shelves	6	2	—	—	—
Farmers selling to wholesale distributors	6	2	33	—	—
Number of wholesale distributors	6	9	—	4.5	—
Farmers selling to other markets	6	0	—	—	—
CSA Members ¹	6	307	—	76.75	45
Hybrid Primary Hauling Vehicle	6	2	33	—	—
Electric Primary Hauling Vehicle	6	1	16	—	—
Gas Primary Hauling Vehicle	6	3	50	—	—
Diesel Primary Hauling Vehicle	6	1	16	—	—

Biofuel Primary Hauling Vehicle	6	0	0	—	—
Other Primary Hauling Vehicle	6	0	0	—	—

¹ One participant had three separate CSAs; that participant is responsible for 212 of the total 307 CSA members.

Farm Infrastructure and Machinery

Key Takeaways

- An average of 118 gallons of fossil diesel was used annually, although no biodiesel was used.
- An average of 157 gallons of gas was used annually.
- 0 kWh were used for irrigation, although 6 farmers reported being unsure if they used any kWh on irrigation.
- The most commonly used forms of irrigation were sprinkler irrigation (50%), drip irrigation (44%), and manual irrigation (38%).

Metric	<i>n</i> =	Total	%	Mean	Median
kWh for temp-control/illumination ¹	1	144660	—	—	—
Farmers unsure of kWh	6	5	83	—	—
Annual fossil diesel usage	6	760	—	380	—
Annual biodiesel usage	6	0	—	—	—
Annual fossil gas usage	6	75	—	25	25
Annual Ethanol Usage	6	0	—	—	—
Annual LPG usage	6	0	—	—	—
Farmers that use irrigation	6	16	64	—	—
kWh used for irrigation	6	—	—	—	—
Farmers using surface irrigation	6	0	0	—	—
Farmers using drip irrigation	6	4	66	—	—
Farmers using center-pivot irrigation	6	0	—	—	—
Farmers using sub-irrigation	6	0	—	—	—
Farmers using localized irrigation	6	0	—	—	—
Farmers using sprinkler irrigation	6	2	33	—	—
Farmers using lateral-move irrigation	6	0	—	—	—
Farmers using manual irrigation	6	1	16	—	—

Biodiversity

Key Insights

- 83% of farmers used some acres of their land for conservation, either intentionally or not intentionally. Of these farms, they devoted a total of 58.1 acres to conservation.
- 50% of farmers devoted some of their land to supporting wildlife. In total, these 3 farmers devoted 37.1 acres to supporting wildlife.
- The most common conservation strategies among farmers were active management (83%), habitat protection or creation (67%), and set asides (67%).

Metric	<i>n</i> =	Total	%	Mean	Median
Farmers that use land for conservation	6	5	83	—	—
Acres of farm used for conservation	6	58.1	—	11.62	—
Farmers that use land to support wildlife	6	3	50	—	—
Acres of farm used to support wildlife	6	37.1	—	12.37	5
Farmers that use prairie/pollinator strips	6	3	50	—	—
Farmers that follow NRCS programs	6	3	50	—	—
Farmers that use riparian buffers	6	0	—	—	—
Farmers that use hedgerows	6	3	50	—	—
Farmers that use set asides	6	4	67	—	—
Farmers practicing habitat protection/creation	6	4	67	—	—
Farmers practicing active management	6	5	83	—	—
Farmers practicing conservation easement	6	0	—	—	—
Farmers using other conservation practices	6	0	0	—	—

Future Goals

- Three farmers chose to add future goals during the ESS Tool questionnaire.
 - One participant wants to add a “pond for aquatic habitat and as a water source for wildlife.”
 - One participant wants to “continue to add native perennials that produce mast for wildlife and humans and to build a commercial kitchen.”
 - One participant would like to “continue to work with NRCS on conservation programs. Increase bird habitat.”

Appendix C: Emails sent to recruit participants in study

Hello [Name],

My name is Liz Khomenkov and I am a graduate student at UW-Madison studying Agroecology. As part of my studies, I am researching the connections between agricultural sustainability and farmers markets. I am passionate about farmer's market vendors being fairly compensated for their ecological practices, which is why I am hoping to get your input.

I am partnering with the Central WI Farmers' Market Collaborative, working directly with Meliss to assist in the Collaborative's mission of continuing farmer education. Participants will be compensated up to \$150 for doing all portions of the project.

Meliss recommended [Name of Vendor/Farm] because she thought you would be a perfect fit, as you incorporate sustainable practices. This project advances a holistic model of agriculture that is climate-smart, community-rooted, and economically viable. Direct-to-market farmers, especially those that cater to low-income communities, are chronically underserved members of the agricultural community. The Ecosystem Services Tool (ESS Tool) enables farmers to qualitatively calculate their ecosystem services contributions through their practices and communicate these findings to consumers at farmers markets.

Your participation would include:

An early-season interview and completion of the ESS Tool, which is an online ecological assessment (~1 hour total)

Displaying an infographic about your farming practices at your market stand for the duration of the 2025 market season

A post-season interview in late August (~30 min)

I am available anytime to chat about your participation in this project. If you are interested, please respond to this email and we can get started! Your participation can be remote or in-person.

I look forward to hearing from you!

Hi [Name]!

Great to hear you are interested in the project! What market(s) do you vend at? I will be visiting several Central WI markets in the coming week or two, and could meet with you while I am in town.

Our first meeting will include a short interview/survey, completion of the Ecosystem Services Tool (ESS Tool), and creation of the infographic. This will all take approximately an hour. Once we are finished, you will have the infographic that you can print (let me know if you need printing assistance) and can start displaying that at your markets!

Looking forward to meeting you and getting started on this project!