

FEDERAL-STATE MARKETING IMPROVEMENT PROGRAM (FSMIP) FINAL PERFORMANCE REPORT

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Project Contact: Kathy Schmitt, 608-224-5048, Kathy.Schmitt@wisconsin.gov

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BACKGROUND

Institutional markets like K-12 schools, universities and colleges, hospitals, and correctional facilities offer opportunities for the increased sale of local food. These cafeteria settings consume a large volume of food, provide a stable market with consistent demand, and may serve as an educational setting to promote healthier eating habits and community growth (Yoder et al. 2014; Turner et al. 2010; Keener et al. 2010).

Across Wisconsin and the nation, consumer demand for local food continues to grow. Direct sales channels such as farmers' markets and Community Supported Agriculture (CSA) farms continue to increase in number, but are coupled with a lack of growth in sales (Low et al. 2015). Selling to institutional markets presents an opportunity for mid-scale farms who often have trouble competing in both the direct and commodity markets, yet play such a vital role in United States agriculture. The institutional market also provides diversification strategies for both smaller and larger farmers, though there often needs to be coordinated aggregation of supply in the case of smaller farms (Becot et al. 2014).

The institutional interest in purchasing local foods is evidenced by the 49% of school food authorities (SFAs) in WI who self-identify as engaging in farm to school activities (USDA Food and Nutrition Service 2015). Farm to School (F2S) programs combine agriculture education with local food purchasing and nutrition education to promote children's dietary health, while also strengthening local economies by expanding markets for WI agricultural producers. SFAs report spending \$9.2 million on Wisconsin-grown foods in the 2014-2015 school year. Further institutional interest has been shown from Wisconsin's hospitals, which developed a Farm to Hospital Community of Practice in 2016 and have been purchasing local foods in growing numbers (Wisconsin Comprehensive Cancer Control Program 2017).

Many of the available tools and resources that assist the institutional market in buying local food encourage direct relationships between the institutions and local farmers (UW-Madison Center for Integrated Agricultural Systems 2014; Institute for Agriculture and Trade Policy 2013a). According to the USDA Farm to School Census, 59% of WI schools want to buy local foods, but report the lack of stable and affordable local supply through traditional distribution channels as the primary barrier to bringing more local foods into school meal programs (USDA Food and Nutrition Service 2015). In a 2013 WI Department of Public Instruction survey of the state's school nutrition service directors, 64% of respondents who currently purchase local food, and 69% of respondents who do not currently purchase local food, stated that they would prefer to purchase local products from a prime vendor.

Foodservice purchasers' inability to order source-identified, locally grown foods through their primary distribution channels remains a persistent barrier to change (Zajfen 2008; Berkenkamp 2014). Institutions rely on the streamlined logistics of dealing with just one prime vendor (or broadline) distributor and generally only one or two supplementary produce distributors. Moreover, their existing distribution contracts often limit the volume of purchases that foodservice buyers can make outside of these companies. Without involvement from the intermediaries responsible for supplying school

districts, hospitals, and colleges, farm to institution sales can only remain marginal to most foodservice expenditures.

Not only do barriers exist for food service directors, but producers also find the process of directly selling to schools and other cafeterias difficult. A 2013 survey of Wisconsin producers by the UW-Madison Center for Integrated Agricultural Systems showed that while they would like to sell to schools, common barriers include that it takes too much time and effort (34%), and the delivery requirements and logistics are too cumbersome (29%).

In professional literature and survey results, price is often mentioned as a top barrier to purchasing local foods (Institute for Agriculture and Trade Policy 2013b). Indeed, institutions, especially K-12 schools, have tight budgets. A recent study found the average food cost per school meal to be between \$1.17 and \$1.30, which must cover one serving each of protein, grain, milk, fruit, and vegetable (Newman 2012). Locally-grown and raised foods must be competitive in price if institutional purchasers are to shift their purchasing toward these local options.

There is a great incentive to capture the institutional demand for local foods. In Wisconsin alone, K-12 public and private schools purchased more than \$211 million in food for the school breakfast and lunch programs during the 2016 school year (WI Department of Public Instruction 2017). Together, the two main institutional partners for this project, CESA Purchasing Nutrition Cooperative and Madison Metropolitan School District, serve more than 36,000 meals per day. This market has the potential to be a steady and reliable outlet for Wisconsin's growers, and give schools (and other institutional settings) a chance to provide access to nutritious foods and encourage healthier eating habits.

PROJECT METHODS

Funded by a 2015 grant from the USDA Agricultural Marketing Service's Federal State Market Improvement Program (FSMIP), *Implementing a Statewide Farm to Institution Procurement Strategy* proposed aligning the supply and institutional demand for five specific Wisconsin-produced products: applesauce, frozen broccoli florets, fresh-cut carrot coins, potato wedges, and low-fat, low-sodium mozzarella. The project's ultimate objective was to reliably provide Wisconsin food products to institutional buyers through their traditional distribution methods. The five target products were chosen based on their volume of production in Wisconsin, frequency of use in school meals, and crossover use in other institutional settings. In addition, each target product was chosen to reflect different types of supply chain pathways: shelf-stable (applesauce), frozen (broccoli), fresh-cut (carrots and broccoli), and dairy. For the dairy target product, the project team shifted focus from mozzarella to yogurt after further conversations with foodservice directors and producers showed this product to potentially have more impact.

Creating streamlined pathways for Wisconsin foods to travel through conventional supply chains required a multi-pronged strategy. To achieve the desired project objectives, the project team pursued a variety of activities including grower and buyer education; purchasing data analysis; survey research; supply chain networking events; direct technical assistance; and pilot purchasing arrangements. Each

proposed activity is outlined below under its associated objectives and goals, with a table reporting on the summary of actual activities and outcomes.

The project was carried out by a team of partners led by the Farm to School Grants Manager at the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP), who managed the project’s budget and coordinated all grant activities. Project partners included Kymm Mutch (Mutch Better Food, LLC) who served as liaison among school districts and supply chain partners, and Natasha Smith (Farm to School Program Manager, REAP Food Group) who served as a liaison to Madison Metropolitan School District’s foodservice. In addition, a representative of Wisconsin’s nutrition purchasing cooperative also served on the project team to coordinate and inform co-op members¹. UW-Madison’s Center for Integrated Agricultural Systems (CIAS) provided project evaluation, in addition to providing interim leadership during a six-month vacancy in DATCP’s Farm to School Grants Manager position.

PROJECT GOALS & OBJECTIVES

Objective 1: Use peer-to-peer networks of food service professionals to influence institutional purchasers to reframe their purchasing strategy to include the purchase of target items, and to provide advice and assistance on overcoming barriers in the use of the local products.

As the ‘demand drivers’ in the local food supply chain, institutional foodservice are critical actors to collaborate with in developing pathways for local products. The *Procurement Strategy* sought to further develop buy-in and interest from school, hospital, and university foodservice directors through educational webinars, literature dissemination, in-person networking events, and training opportunities. Project partners not only sought to connect institutional foodservice members to each other, but also other stakeholders from all segments of the supply chain, as further covered by Objective 3. Below is a table outlining Objective 1, including goals, proposed activities, and actual outcomes.

Objective 1: Use peer-to-peer networks of food service professionals to influence institutional purchasers to reframe their purchasing strategy to include the purchase of target items, and to provide advice and assistance on overcoming barriers in the use of the local products.	
<i>Goal 1: A minimum of 100 institutional purchasers participate in the WI Farm to Institution Procurement Strategy.</i>	
Proposed Activities	Actual Activities & Outcomes

¹ During the grant program period, there were unexpected staffing and organizational changes for cooperative nutrition purchasing programs in Wisconsin. However, there was continuous representation from this category of partner throughout. The changes are detailed in the “Contributions” section below.

<p>1) Host a kickoff press conference with food service directors from CESA Purchasing, Madison Metropolitan School District, and the WI School Nutrition Association, announcing the <i>Procurement Strategy</i> and identifying the target products.</p>	<p>Completed. A special kickoff meeting at the 2016 Midwest Foodservice Expo united partners from the entire supply chain to announce the project, outline target projects, and begin networking opportunities. The strategy was changed to include all supply chain partners in this kickoff meeting as a long-term strategy to align various stakeholders from project outset.</p>
<p>2a) Educate School Food Authorities (SFAs) in Wisconsin on the <i>Procurement Strategy</i> and target products via an email from the WI Department of Public Instruction (DPI).</p>	<p>Completed. Significant outreach to SFAs and other institutional purchasers was conducted throughout the project with DPI, WI Farm to School Newsletter, Wisconsin Local Food Network, School Nutrition Association of WI, and CESA listservs.</p>
<p>2b) Connect the <i>Procurement Strategy</i> to both the Department of Defense (DOD) FRESH program and the USDA AMS Pilot for Unprocessed Fruits and Vegetables.</p>	<p>The project team worked to connect target products to commodity programs with mixed success. While the DATCP Farm to School Grants Manager was able to work with partners at Gordon Food Service (GFS) and USDA AMS to bring a Wisconsin sliced apple product back into the Pilot for Unprocessed Fruits and Vegetables list, attempts to bring the Wisconsin carrot and broccoli items into the same program were met with resistance from the distributor, since GFS did not want to re-submit paperwork for all their vendors covered by the Pilot, as is required by the USDA every time there is an update.</p>
<p>3) Host a webinar, with guest panel from DATCP, DPI, UW Grainger, CESA & Madison and open to SFAs and other institutional food service providers such as hospitals and universities, explaining the <i>Procurement Strategy</i> and how institutional food purchasers can participate.</p>	<p>Completed. 14 foodservice representatives registered for the webinar, which was recorded on September 14, 2017 and archived for future viewing.</p>
<p>4) Register participating SFAs via an electronic registry hosted by DATCP.</p>	<p><i>Strategy Change:</i> An electronic registry of school food authorities and institutional buyers was not</p>

	<p>established by DATCP. It became clear at the outset of the project that direct work with MMSD and CESA districts through their grant-participating liaison was a more meaningful way to engage with buyers. Although a registry was not created, continual outreach to SFAs and institutional buyers was enacted throughout the project.</p>
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Objective 2. Meet the demand for locally-grown products at a price point which fits within the budgetary constraints of institutional buyers.

The *Procurement Strategy's* second objective involved research and data analysis in order to create channels for Wisconsin-grown products to successfully and sustainably enter the institutional market through broadline distributors. However, as the project and data collection progressed, the lens and scope of analysis expanded. Instead of isolating price/cost as the primary levers (or barriers) to entering the supply chain, it became clear that more varied needs of growers, processors, distributors, and buyers must be carefully aligned in order to make supply chains operable. The bulk of Objective 2 became about uncovering, and then aligning, these needs, so that project partners could better facilitate dialogue with partners to develop appropriate products and pull them through the supply chain.

To that end, additional activities were included under the umbrella of Objective 2 to functionally pilot the five products through the supply chain. This included developing specifications for target products (with survey feedback from food service buyers) and extensive facilitation to keep all supply chain partners working together and communicating through the process. Further, an unexpected but significant barrier to the process was the broadline distributors themselves, who ultimately had the power to decide to warehouse and carry a product on their trucks. If broadline distributors chose not to work with a local vendor or carry a Wisconsin product, it effectively blocked this product from reaching the school market. Much time was dedicated to better understanding the needs, requirements, and processes of broadline distributors to best engage them in the process.

To better understand the volume, pricing, and product specifications of existing institutional purchases, the project partnered with REAP Food Group, a nonprofit that works with Madison Metropolitan School District (MMSD), and CESA Purchasing, a cooperative of 67 school districts around southern Wisconsin.²

² CESA Purchasing dissolved in May 2017. The Wisconsin School Nutrition Purchasing Cooperative (WiSNP) formed with 52 of the same school districts who were previously members of CESA Purchasing, and continued to partner with the *Procurement Strategy* from September to December 2017.

Liaisons with both organizations shared purchasing data on the target foods from their shared broadline distributor, Gordon Food Service, as well as from their produce distributors.

By analyzing velocity reports from partner school districts, the project sought to learn more about the volume, price points, and product specifications related to each target item. With this information, *Procurement Strategy* project leaders could then make more informed decisions about developing local products that better fit the needs of foodservice purchasers, and how those products could be introduced and/or be competitive within conventional supply chains and distribution partners.

Objective 2: Meet the demand for locally-grown products at a price point which fits within the budgetary constraints of institutional buyers.	
<i>Goal 2: Identify the necessary volume and seasonality of identified products to bring the price of locally-grown products in-line with the price of similar products offered through broadline distributors.</i>	
Proposed Activities	Actual Activities & Outcomes
1) University of Wisconsin Grainger School of Business will do a formative assessment of current pricing structure and volume for the five identified products for CESA Purchasing Cooperative, Madison Metropolitan School District, and institutional purchasers across the state.	Completed. Three teams of Wisconsin School of Business graduate students assessed MMSD and CESA purchasing data for yogurt, potatoes, apples, carrots, and broccoli. Analysis included: pricing, volumes, and product specifications (ie, fresh, frozen, blends, mini-carrots, yogurt sizes etc).
2) Leverage existing CESA partnerships with United Fresh Produce Association, the Produce Alliance, and Axis Purchasing, obtain additional aggregated data on the volume and price of target products.	CESA Purchasing was unable to obtain additional aggregated data on the volume and price of the target products from produce industry associations and other purchasing groups. Project partners had also attempted to facilitate a meeting at the United Fresh annual conference, but representatives were unresponsive to communication attempts.
3) Conduct research to identify: a) average cost of production for target products; b) distribution costs for WI grown target products; c) an acceptable range of prices for target products for institutional purchasers; and d) the volume needed to bring the price of WI grown products	Wisconsin School of Business graduate students researched the current production costs of target products and visited processors and distributors to learn more about each supply chain pathway. In addition, DATCP administered a survey to over 400 producers to learn more about their volume,

<p>in line with products available through traditional distribution systems, typically grown in California.</p>	<p>market channels and pricing, and interest in expanding sales to institutional markets. DATCP also administered an online survey for institutional buyers to collect information about their price sensitivity and product preferences regarding local products.</p>
<p>4) Produce a final report detailing this information.</p>	<p>Reports were shared with stakeholders in December 2016, May 2017, and December 2017 (see Timeline of Grant Activities). UW-Madison Center for Integrated Agricultural Systems will also be publishing a series of research briefs in 2018.</p>

Objective 3. Increase the purchase of Wisconsin-grown food products by institutional markets 10% by December 2017, representing approximately \$1,000,000 in additional local food purchases.

The *Procurement Strategy* team recognized that targeted, direct technical assistance was needed for both growers and buyers to knowledgeably access institutional supply chains. The activities associated with achieving Objective 3 were designed to support and engage growers and buyers to become better educated about the Wisconsin supply chain and connect with each other to further develop farm to institution pathways.

Wisconsin farmers were a key target audience of the project. In order to best serve and benefit farmers of all sizes, Objective 3 was designed to include direct education and technical assistance to growers. Project partners acknowledged that entering these types of supply chains was new to many growers in the state, and additional support in the areas of business readiness, food safety, and the benefits of wholesale/institutional markets was required to develop successful grower participation.

For example, project partners worked with farmers (and smaller processors) to help them complete all the paperwork needed to become a new vendor with distributors. This process often took several months to coordinate, especially if the distributor required certain paperwork that the vendor had not previously dealt with for their other market channels. Project representatives facilitated conference calls between farmers, processors, and distributors to ensure that all stakeholders were aware of these requirements. In several cases, project consultants also reviewed vendor paperwork prior to its submission to distributors.

To support foodservice buyers, project partners focused their attention on assisting them in pilot orders of the target products: alerting them to when Wisconsin target items were available through their

distributors, collecting pre-orders to ensure the appropriate volume would be available, and surveying foodservice after the delivery to learn about their experience using the product. A broader emphasis was also placed on educating buyers about the importance of buying local, and increasing skills to receive, store, menu and prepare these locally grown items. Foodservice directors and staff emphasized a need to expand these skillsets in order to be ‘vocal for local’ and demonstrate a meaningful demand to distributors.

To serve both producers and buyers with targeted, in-depth assistance, the project team organized several events with just one stakeholder group present. For example, the project gathered growers in December 2016 and October 2017 to discuss third-party food safety certifications and hear from other producers who had experience selling to schools, hospitals, and colleges. To reach foodservice personnel, the project organized webinars, gave presentations at the School Nutrition Association of Wisconsin’s annual conferences, and organized a culinary workshop in November 2017 that specifically focused on how to use the target products in school nutrition programs.

In addition to this targeted technical assistance, the project team found that it was equally important to bring stakeholders across the supply chain together for in-person meetings as well. Introducing farmers, aggregators, processors, distributors, and institutional buyers for shared conversation about the *Procurement Strategy’s* objectives and strategies cultivated new relationships and built further buy-in for local food purchasing. These in-person meetings, like the Midwest Foodservice Expo meetings in March 2016 and March 2017, provided stakeholders an opportunity to learn from other perspectives in the supply chain and discuss their business or operation’s role in benefiting both Wisconsin growers and cafeteria consumers. Additional networking events and project meetings with participants across the supply chain are included in the *Timeline of Grant Project Activities* on Page 13.

Objective 3A: Enable small, medium, and large farms within WI to diversify market opportunities by accessing the institutional market.	
<i>Goal Three: Increase the purchase of Wisconsin-grown food products by institutional markets 10% by December 2017, representing approximately \$1,000,000 in additional local food purchases.</i>	
Proposed Activities	Actual Activities & Outcomes
1) Identify Tier 1 farms who currently produce at the volume needed or would be able to supply the institutional market with limited training support.	Completed. Through outreach to the WI Potato and Vegetable Growers Association, the WI Apple Growers Association, and the Fresh Fruit and Vegetable Association of WI, project partners identified Tier 1 farms and invited them to participate in project meetings and pathway development.

<p>2) Host an educational meeting in a pre-competitive setting to educate Tier 1 farms about potential market opportunities, along with qualifications and best practices (GAP certification, required packaging, etc.) to serve the institutional market.</p>	<p>Initial outreach indicated that the groups identified as “Tier 1” and “Tier 2” farms in the proposal could be combined into one target group. This meeting was conducted on December 2, 2016. Growers were also included at the Midwest Foodservice Expo meetings (March ‘16 and ‘17) and in the Know Your Buyer, Know Your Supplier Trainings (August ‘17).</p>
<p>3) Identify Tier 2 Farms, mid-size farms needing additional technical assistance, who with training, technical assistance, and aggregation could serve the institutional market.</p>	<p>Completed. DATCP identified farms interested in expanding sales to intermediary markets through an online and mail-in survey administered to Wisconsin produce growers in May 2017. 87 Wisconsin producers responded to the survey. See Appendix C for a summary of survey results.</p>
<p>4) Conduct an educational meeting in a pre-competitive setting to educate Tier 2 farms on the institutional market potential and requirement.</p>	<p>Initial outreach indicated that the groups identified as “Tier 1” and “Tier 2” farms in the proposal could be combined into one target group. This meeting was conducted on December 2, 2016. Growers were also included at the Midwest Foodservice Expo meetings (March ‘16 and ‘17) and in the Know Your Buyer, Know Your Supplier Trainings (August ‘17).</p>
<p>5) Connect a minimum of 20 WI agricultural producers to traditional distribution systems, a minimum of one producer per product category.</p>	<p>The project directly engaged with over 60 producers as part of the project, though they were only successfully able to connect five growers to traditional distribution systems. In addition to those five specific growers, the <i>Procurement Strategy</i> also successfully connected a local food aggregator representing over 20 growers, Parrfection Produce, to the conventional distribution pathway. See <i>Project Beneficiaries</i> section for more details.</p>
<p>6) Develop marketing materials for the distributors to market available local foods to institutional buyers.</p>	<p>Completed. DATCP developed “sell sheets” and cafeteria promotional materials to alert foodservice directors about the local products</p>

	and encourage them to purchase (See Appendix A).
Objective 3B: Increase the desire (through culture change) and the capacity (through training) for WI institutional purchasers to purchase and use the target WI products.	
<i>Goal Three: Increase the purchase of Wisconsin-grown food products by institutional markets 10% by December 2017, representing approximately \$1,000,000 in additional local food purchases.</i>	
Proposed Activities	Actual Outcomes
1) Use the peer-to-peer network to continue to motivate WI institutional food service providers to use WI products. This may be done through additional webinars, newsletters, and/or a <i>Procurement Strategy</i> listserv.	Completed. Project team members attended small group meetings of food service buyers to discuss pilot products, purchasing, and the importance of local foods. Representatives also presented at industry and sector conferences and annual meetings to share the value of local purchasing and the <i>Procurement Strategy</i> , and made foodservice purchasers aware of local products when they were available.
2) Leverage existing WI Farm to School resources such as the Chop! Chop! culinary skills training videos to educate and train institutional food purchasers on target WI grown products.	Completed. Resources were provided to foodservice buyers at all project meetings and events.
3) Conduct a minimum of one in-person training (also available via webinar) to educate food service directors and staff on how to incorporate WI-grown products into their meal programs. This may include recipe analysis, culinary skills, and updating Standard Operating Procedures (SOPs).	Completed. The Farm to School Culinary Bootcamp took place on November 6, 2017, with 22 school foodservice directors and staff training with a culinary professional in the institutional food service setting at Blackhawk Technical College in Janesville, WI.
4) Develop marketing and educational materials for target products for participating SFAs.	Completed. DATCP developed “sell sheets” and cafeteria promotional materials to alert foodservice directors about the local products and encourage them to purchase. See Appendix.

Timeline of Grant Project Activities

Date	Event	Audience/ Participants
March 8, 2016	Midwest Foodservice Expo (Project Kick-Off Meeting)	23 Project partners, foodservice directors, processors, and producers
March 9, 2016	Meeting / Tour at GFS Distribution Headquarters	Grainger Center researchers, GFS representatives, project partners
May-August 2016	Potato and Yogurt Survey	42 Foodservice directors, CESA Districts, and WI-SNA members
May 13, 2016	Grainger Student End-of-Semester Presentation (#1, Yogurt)	Grainger Center researchers, project partners
June 29, 2016	School Nutrition Association of Wisconsin Annual Conference (Tabling)	Foodservice directors
September 14, 2016	Procurement Strategy Webinar for Foodservice	14 Foodservice directors
November 16, 2016	Tour McCain Potato Processing Facility (Plover, WI)	Grainger Center researchers, project partners
December 2, 2016	Procurement Strategy Producer's Meeting	6 Farmers/producers
December 19, 2016	Grainger Student End-of-Semester Presentation (#2, Potatoes)	Grainger Center researchers, project partners
February 3, 2017	Organic Vegetable Production Conference	Farmers/producers

March 14, 2017	Midwest Foodservice Expo, Procurement Strategy Meeting	24 Foodservice directors, processors, food hubs, distributors, farmers, project partners
April-August 2017	Pricing Survey to Foodservice Buyers (online)	48 school, hospital, and university foodservice purchasers responded
May - July 2017	Pricing Survey to Growers (online and mailed)	87 farmers/producers responded
May 5, 2017	CESA Nutrition Purchasing Meeting; Grainger End-of-Semester Presentation (#3, Carrots & Broccoli)	Grainger Center researchers, foodservice directors
May 2017	Carrot Pilot Test Run	12 school districts, GFS, Maglio, Parrfection Produce
June 27 2017	School Nutrition Association of Wisconsin Annual Conference (Tabling)	Foodservice directors
August 6, 14, 15, 17, & 22, 2017	<i>Know Your Buyer, Know Your Supplier</i> Trainings	111 Foodservice directors, 37 farmers/producers, 10 local food aggregators, 5 food distributors
August 11, 2017	Gordon Food Service Back to School Event (Tabling)	Foodservice directors, distributors
September 26, 2017	WI School Nutrition Purchasing Co-op (WISNP) Gathering	Foodservice directors
October 18 & 31, 2017	Wisconsin Farmers' Union Food Safety Information Sessions	25 farmers/producers
November 6, 2017	Farm to School Culinary Bootcamp	22 school foodservice directors and staff

November 2017	Broccoli Pilot Test Run	Amazing Grace Family Farm, Maglio Companies, GFS, and 24 school districts
December 8, 2017	Grainger Student End-of-Semester Presentation (#4, Apples)	Grainger researchers, Richland Hills, Wisconsin Innovation Kitchen, project partners

CONTRIBUTION FROM PROJECT PARTNERS

The *Procurement Strategy* was a collaborative, multi-sectoral project relying on strong stakeholder partnership in the public and private spheres to move project objectives forward. There were three tiers of participation and contributions to work performed. The following outlines the work of the 1) Project Team, 2) the supply chain project partners, and 3) associated support organizations.

PROJECT TEAM

DATCP Farm to School Grants Manager—Project Coordinator

The DATCP Farm to School Grants Manager served as the lead coordinator for the *Procurement Strategy*, keeping track of all project activities throughout the grant’s duration, and ensuring that the project team was making progress towards the grant’s objectives. This role included organizing all internal project team communications, planning stakeholder meetings and workshops, managing the project’s budget, and contributing to the project’s outreach efforts, supply chain development, and final deliverables. As lead agency of the grant, DATCP also developed quarterly reports to the USDA Agricultural Marketing Service and communicated with USDA AMS representatives as needed.

Mutch Better Food, LLC—Lead Project Consultant

To engage stakeholders and develop the supply chain, the *Procurement Strategy* consulted with Kymm Mutch, of Mutch Better Food, LLC. Mutch played a key role in connecting Wisconsin farmers, processors, distributors, and foodservice buyers through both in-person meetings and conference calls. In addition, Mutch organized one-on-one conversations with farmers and processors to coach them through the complicated onboarding process involved in selling to institutional distributors. Her former experiences as Milwaukee Public Schools’ school nutrition authority and facilitator of School Food Focus’s Midwest Learning Lab made her particularly effective for serving in this capacity.

REAP Food Group—Project Liaison

REAP Food Group is a nonprofit that works with Madison Metropolitan School District (MMSD) on their farm to school initiatives. REAP staff served as a liaison between the *Procurement Strategy*’s Project Team and the school district, providing the capacity for MMSD to meaningfully contribute to, and benefit from, the *Procurement Strategy* project. REAP staff obtained and shared MMSD purchasing data, shared input on what product specifications would be most desirable, and helped shape the project’s direction as grant activities evolved. REAP also played a strong role in helping the project stay aligned

with Wisconsin Farm to School values and goals. Because of REAP's involvement, the Grainger School for Supply Chain Management was able to analyze MMSD's purchasing data and learn more about the most appropriate products to develop for the school district.

Cooperative Educational Services Agency Nutrition Purchasing (CESA Purchasing) and Wisconsin School Nutrition Purchasing Cooperative (WiSNP)--Project Liaisons

CESA Purchasing, a cooperative of 67 school districts around southern Wisconsin, played a liaison role similar to that of REAP Food Group for most of the grant project's duration. A CESA representative collected information about purchasing data, school district demand, and desired product specifications, while also communicating project goals and information with CESA member districts.

During CESA's involvement in the project, the original point-person to the project left the organization and a new liaison assumed her role, which caused minor disruptions in project communication and engagement from school districts. However, the organization continued to experience other internal issues, and in May 2017, the majority of the school district members of CESA Purchasing left the group to form a new purchasing cooperative, the Wisconsin School Nutrition Purchasing Cooperative (WiSNP). This transition proved to be highly disruptive to grant activities and led to a 2-3 month break in communication between the project team and school districts that had previously been CESA members. However, the two foodservice directors who assumed interim leadership of WiSNP were invested in continuing to participate in the *Procurement Strategy*, and had resumed regular communication with the Project Team by August 2017.

The roles of CESA and WiSNP were important for providing a direct connection to a subset of food service directors who the project could then engage in peer-to-peer learning and pilot purchasing arrangements. CESA/WiSNP effectively allowed the voice of a diversity of school nutrition purchasing staff to be well-represented at the table, and allowed for easier education and information dissemination to school districts in the state. Because of the purchasing cooperative's participation, 32 schools accessed Wisconsin-grown carrots and/or broccoli through their broadline distributor in 2017, and 22 foodservice directors learned more about how to use the target products in their cafeteria meals at the *Procurement Strategy's* Culinary Bootcamp.

Wisconsin School of Business's Center for Supply Chain Management—Purchasing Data and Supply Chain Analysis

The Wisconsin School of Business's Grainger Center for Supply Chain Management, including staff and graduate students, played a significant role in the project. The *Procurement Strategy* was an excellent opportunity to grow a new relationship with the Wisconsin School of Business, and engage graduate students in food system and supply chain work. Over the course of the project, three teams of two graduate students analyzed partner school district data for a different target product's purchasing data. The Grainger researchers also interviewed stakeholders across each supply chain to help inform their research. At the end of each semester, the researchers gave a public presentation of their purchasing analysis with their recommendations for how to best build a successful Wisconsin supply chain pathway for the target product. Information illuminated through this data analysis proved critical to decision making and education in this project.

**University of Wisconsin-Madison’s Center for Integrated Agricultural Systems (CIAS)—
Project Evaluator**

Throughout the duration of the project, UW-Madison’s Center for Integrated Agricultural Systems (CIAS) worked with *Procurement Strategy* partners to evaluate their efforts, attending project team conference calls, developing meeting evaluation instruments, and interviewing stakeholders about the impact of the project on their Farm to Institution efforts. In addition, CIAS provided interim leadership for the project during a six-month vacancy in DATCP’s Farm to School Program Manager position.

SUPPLY CHAIN PARTNERS

The project team worked directly with the following supply chain partners to carry out the *Procurement Strategy* and to test the pilot products through the supply chain. Each entity below contributed to the project by participating in supply chain research or engaging directly in the pilot for one of the five products. A unique aspect to this project was engaging with private businesses, and requesting a level of proprietary information or collaboration that is not normally requested. These businesses and organizations were pivotal to establishing new supply chains for locally grown products.

Supply Chain Role	Name of Company	Associated target products	Attended Procurement Strategy meeting(s)	Participated in target product pilot purchase
Broadline Distributor	Gordon Food Service (GFS) (Kenosha, WI)	Broccoli florets (fresh), carrot coins (fresh)	X	X
Broadline Distributor	US Foods (Waukesha, WI)	Broccoli (frozen)		X
Broadline Distributor	Sysco (Baraboo, WI)	Applesauce	X	
Broadline Distributor	Reinhart Food Service (La Crosse, WI)	Broccoli florets (fresh)	X	X
Produce Distributor	V. Marchese (Milwaukee, WI)	Broccoli (fresh)	X	X

Produce Distributor	Loffredo (Madison, WI)	Carrot coins (fresh), broccoli florets (fresh), potatoes	X	
Food Processor	Sharing Spaces, Inc (Prairie du Chien, WI)	Broccoli florets (frozen)	X	X
Food Processor	Wisconsin Innovation Kitchen (Mineral Point, WI)	Applesauce	X	X
Food Processor	Maglio Companies (Milwaukee, WI)	Broccoli florets (fresh), carrot coins (fresh)	X	X
Food Processor; Farmer	Richland Hills/ Sunset Orchard (Richland Center, WI)	Apple slices (fresh)	X	X
Food Processor	McCain Foods (Plover, WI)	Potatoes	X	
Food Aggregator; Producer	Parrfection Produce (aka Driftless Fresh) (Cashton, WI)	Carrot coins	X	X
Food Aggregator	Fifth Season Cooperative (Viroqua, WI)	Broccoli	X	X
Food Aggregator	WI Food Hub Co-op (Madison, WI)	Apples, broccoli, carrots, potatoes	X	
Food Aggregator	FoodLink (of Feeding Eastern Wisconsin)	N/A	X	

Food Processor; Producer	Westby Cooperative Creamery (Westby, WI)	Yogurt	X	
Food Processor; Producer	Klondike Cheese Company / Odyssey Greek Yogurt (Monroe, WI)	Yogurt	X	
Producer	Sunrise Orchard (Gays Mills, WI)	Apples	X	X
Producer	Sunset Orchard (Richland Center, WI)	Apples	X	
Producer	Amazing Grace Family Farm (Footville, WI)	Broccoli	X	X
Producer	Ezra Bieler (Fennimore, WI)	Carrots		X
Producer	Sassy Cow Creamery (Columbus, WI)	Yogurt	X	
Buyer	Madison Metropolitan School District (Madison, WI)	Applesauce, broccoli florets, carrot coins, potatoes, yogurt	X	X
Buyer	CESA Purchasing/ WiSNP (Southern WI)	Applesauce, broccoli florets, carrot coins, potatoes, yogurt	X	X
Buyer	UW Health (Madison, WI)	Applesauce	X	X
Buyer	Epic Systems, Inc (Verona, WI)	Applesauce		X

Buyer	Milwaukee Public Schools (Milwaukee, WI)	Broccoli florets (frozen)	X	X
Buyer	Willy Street Co-op Grocers (Madison, WI)	Applesauce		X
Buyer	Upland Hills Health (Dodgeville, WI)	General Interest	X	
Buyer; Processor	Milwaukee Center for Independence (Milwaukee, WI)	General Interest	X	

SUPPORT ORGANIZATIONS

Additional contributions were provided by non-profit organizations, state agencies, and other partners who supported information dissemination, network development, technical assistance or other aspects of the project. For example, FairShare CSA coalition shared project information and invitations to the December 2016 Grower Meeting with their member farms. The Wisconsin Farmers Union also helped to educate farmers about wholesale and institutional market opportunities, and included the project in two field days where farmers presented about selling to intermediary markets. With respect to buyer outreach, the School Nutrition Association of Wisconsin invited the *Procurement Strategy* to table and present information at their annual conferences, and the Wisconsin Department of Instruction was also instrumental in sharing the *Procurement Strategy's* survey on price sensitivity with foodservice directors.

RESULTS

Implementing a Statewide Farm to Institution Procurement Strategy was an insightful project for understanding and developing local food supply chains for Wisconsin's institutions. Many of the most interesting conclusions and lessons learned were not specifically articulated in the original grant narrative, but were rather learned through the experience of working with supply chain partners on the ground. The following results include overall project outcomes as well as a brief review of the supply chain progress made on each of the five WI-grown target products. Each target product section begins with a brief summary of the purchasing data analyzed by Grainger Center graduate researchers.

Through stakeholder engagement, purchasing data analysis, and product demand alignment, the *Procurement Strategy* directly facilitated approximately \$48,000 in sales of the Wisconsin-grown target

products. The project team estimates that at least \$80,000 in additional sales have taken place between Wisconsin producers and institutional settings based on pathways and relationships that the *Procurement Strategy* team helped to develop. Moreover, the project team gained valuable new insights into the opportunities and barriers that exist for incorporating local food into conventional distribution systems.

APPLES/APPLESAUCE

Until recently, there have not been any processors in Wisconsin who puree apples into applesauce at a volume or price point appropriate for wholesale institutional markets. However, after consulting with *Procurement Strategy* partners, Wisconsin Innovation Kitchen (WInK), a small, nonprofit food processor in Mineral Point, WI, acquired the equipment for large-scale applesauce processing in 2015. Applesauce is not only shelf-stable for year-round school sales, but also provides a potential market opportunity for orchards to sell their blemished or bruised U.S. Grade No. 2 apples.

The Grainger Center’s purchasing data analysis revealed that MMSD and CESA Purchasing school districts spent \$177,521 on applesauce products during the 2016-2017 school year. Most applesauce came from Cherry Central (Traverse City, MI), and Knouse Foods (Peach Glen, PA) and averaged \$0.28 per 4.5oz serving. Unfortunately, the price point for WInK’s applesauce, at an average \$0.34 per 4.5oz serving, fell out of range for most school districts.



FIGURE 1. SALES (LEFT) AND VOLUME (RIGHT) OF APPLE PRODUCTS PURCHASED BY MADISON METROPOLITAN SCHOOL DISTRICT (MMSD) AND CESA PURCHASING/WI SCHOOL NUTRITION PURCHASING CO-OP (WISNP). SOURCE: GRAINGER CENTER FOR SUPPLY CHAIN MANAGEMENT.

However, the cost was not out of price range for other types of institutions like hospitals and business campuses. UW Health purchased its first shipment of Wisconsin-produced applesauce from WInK in April 2017, specialized with a private “UW-Health” label. Epic Systems, which employs over 10,000 people in Verona, WI, has also purchased the product for its campus cafeteria under a more generic “Good Local Food” label. Sufficient volumes purchased by other institutional cafeterias may bring the cost of production down to the point where school districts will also be able to purchase regularly.

While researching applesauce as a target product, the *Procurement Strategy* team also identified a substantial market for fresh apple slices, with \$306,650 purchased by the partner districts during the 2016-2017 school year. In creating networks with apple supply chain participants, potential new

strategies for incorporating more WI-grown apples in the supply chain emerged. A Wisconsin processor, Richland Hills, has already been selling apple slices to the school market and is an active vendor with districts' broadline distributors. This company is also connected to a farm, Sunset Orchard, and about 20% of the apples they use currently come from their own operation. While the company purchases from a handful of other Wisconsin orchards, most of the other apples come from out of state. The *Procurement Strategy* consulted with the company to strategize on how Richland Hills could better identify when their slices were Wisconsin-grown and to increase the volume coming from other orchards in-state. While there was no progress advanced during the grant period, the company is expanding their orchard and plans to supply 50% of the product from their own apples by 2022, with the potential to be sourcing more of their supplemental apples from other Wisconsin growers. The *Procurement Strategy's* relationship-building with Richland Hills is a prime example of how data analysis and supply chain discovery can help supply chain coordinators more clearly focus on growers, processors, and products that are primed to enter and grow the institutional foodservice market.

BROCCOLI

During the 2015-2016 school year, the Grainger Center's analysis revealed that MMSD and CESA Purchasing's school districts spent \$85,270 on broccoli products, amounting to over 100,000 pounds. Almost all broccoli was purchased in florets (93% of spend), both fresh (47% of floret sales) and frozen (57% of floret sales). The average price for a 30# case of frozen florets fell at \$22.82, or about \$0.07 per ½ cup serving. While cafeterias could access whole heads of fresh Wisconsin broccoli through their produce distributors, there were no locally grown, pre-processed florets available to them prior to the project. The *Procurement Strategy* team first focused their attention on frozen broccoli florets for MMSD and CESA, though this avenue was abandoned after complications with the broadline distributor.

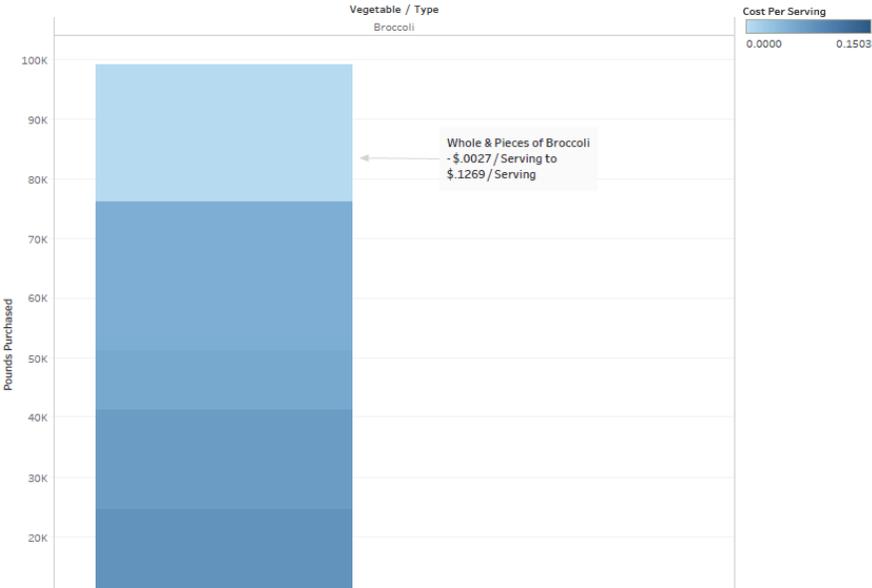


FIGURE 2. BROCCOLI VOLUMES PURCHASED BY PRODUCT TYPE AND COST PER 4OZ SERVING. SOURCE: GRAINGER CENTER FOR SUPPLY CHAIN MANAGEMENT.

However, Milwaukee Public Schools (MPS) was also interested in purchasing the product for their school cafeterias, and success was found working through this supply chain.

To develop an individually quick-frozen (IQF) Wisconsin broccoli floret, the *Procurement Strategy* team reached out to several Wisconsin companies who had the equipment and capacity to freeze vegetables, but there were few processors who both had the right machinery and were willing to maintain transparency and source-identification throughout their process. Sharing Spaces, Inc., a small processing facility that employs disabled adults in Prairie du Chien, WI, was an exception. The company was interested in serving school districts and other institutions with locally grown foods, and a Sharing Spaces representative attended several of the *Procurement Strategy's* networking meetings. Project consultant Mutch Better Food connected the company with Amazing Grace Family Farm, a CSA farm in Janesville, WI that is GAP certified for broccoli. Amazing Grace had already started selling whole broccoli to produce distributors and had been scaling up their operation over the past five years to serve more school markets.

Unfortunately, Gordon Food Service was resistant to onboarding Sharing Spaces as an approved vendor, which meant that MMSD and CESA Purchasing schools could not access the frozen broccoli through their traditional broadline channels. However, the *Procurement Strategy* team did succeed in connecting the processor with US Foods, the broadline distributor supplying MPS. The vendor-onboarding process took longer than Sharing Spaces expected: they started processing Amazing Grace broccoli in June 2017, but it took another four months before US Foods would approve them as a vendor. This meant Sharing Spaces needed to pay a third-party frozen storage company to hold all of the broccoli they were processing while they waited for the paperwork to go through. The unforeseen expense for storage raised the cost of production above Sharing Space's initial calculations, which resulted in the processor cutting off production after 30,000 pounds. Even though Amazing Grace had more broccoli they wanted

to sell, and the school district had more demand for the product, Sharing Spaces could not continue processing broccoli.

US Foods still delivered over 19,000 pounds of finished frozen broccoli florets to MPS at \$67.50 per 30-pound case, which was enough product to satisfy the district's broccoli needs for 20% of the 2017-2018 school year. Amazing Grace had originally anticipated selling 80,000 pounds to Sharing Spaces, so they had to find another outlet for the excess volume. The *Procurement Strategy* connected the farm to Maglio Companies, a fresh-cut



FIGURE 3. FARMER CHRIS BLAKENEY TRANSPLANTS BROCCOLI AT AMAZING GRACE FAMILY FARM. SOURCE: AMAZING GRACE FAMILY FARM

processor in Milwaukee, WI. Maglio had an existing relationship with Gordon Food Service, meaning that they could more easily sell a fresh-cut broccoli floret to MMSD and CESA Purchasing districts. Maglio developed a 2-3# case of broccoli florets, and Gordon Food Service cooperated in supplying it to 23 school districts in November 2017, for \$19.05 per case. A total of \$3,600 of broccoli florets were sold to schools, amounting to 1,134 pounds over two weeks. The rest of Amazing Grace’s extra broccoli went to Fifth Season Cooperative, whose relationship with Reinhart Food Service allowed school districts in Western Wisconsin to purchase the broccoli in whole heads.

Maglio plans to grow their relationship with Amazing Grace Family Farm for the 2018 growing season, possibly sourcing other fresh produce, like peppers, cucumbers, and kohlrabi, from them as well. Amazing Grace is also looking into building a relationship with a frozen processor in Minnesota, Sno Pac, which has a larger capacity to freeze and store product than Sharing Spaces Kitchen, so that institutions could still potentially access frozen florets in the future.

As of November 2017, Amazing Grace was one of the only farms in Wisconsin that was GAP certified for broccoli. Because distributors like US Foods and GFS will only handle GAP certified products, and many processors have the same preferences, the limited number of specialty crop growers with a GAP audit in Wisconsin is a severely limiting factor to establishing this supply chain in the state. Additional technical assistance and help with financial planning is needed to foster more Wisconsin broccoli suppliers for this market.

CARROTS

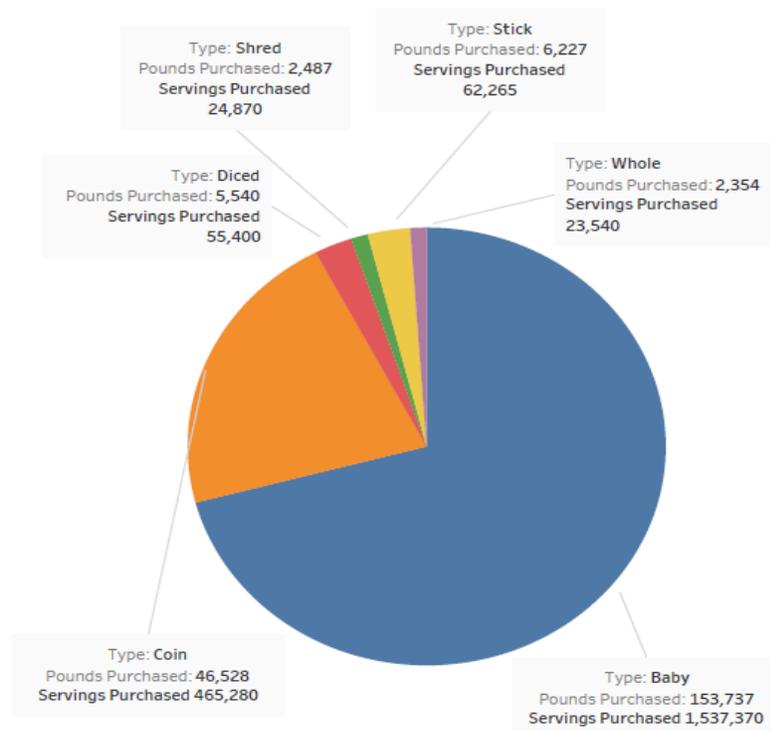


FIGURE 4. CESA PURCHASING CARROT SALES BY NUMBER OF POUNDS PURCHASED.
SOURCE: UW-MADISON GRAINGER CENTER FOR SUPPLY CHAIN MANAGEMENT.

Procurement Strategy partner school districts purchased over \$155,000 in carrots from distributors in the 2015-2016 school year, mostly shaped into fresh baby carrots (71% of purchases) or carrot coins (21% of purchases).

While foodservice buyers purchase the majority of carrots as baby carrots, the *Procurement Strategy* team focused on increasing purchases of carrot coins instead. This is partially due to the capacity of Wisconsin processors, who do not have equipment to shape carrots into baby carrot form, but do have the ability to process them into coins. In addition, project partners chose to focus on coins to reduce the food waste associated with baby carrot production and for educational purposes to provide a product that more closely resembles an actual carrot (Ferdman 2016). The *Procurement Strategy* team deliberately focused on developing a pathway for Wisconsin carrot coins with the intention of providing a product that was more in line with farm to school's educational values.

Maglio Companies already had the processing equipment for fresh-cut carrot coins and was interested in using source-identified local product on their line. Because Maglio was an existing approved vendor with Gordon Food Service, this expedited the time it took for the *Procurement Strategy* to develop a pathway for Wisconsin carrots to reach school districts. At a *Procurement Strategy* stakeholder meeting held at the Midwest Foodservice Expo in March 2017, Maglio representatives connected with an



FIGURE 5. PARRFECTION PRODUCE'S CARROTS ARE PROCESSED AT MAGLIO COMPANIES' FACILITY IN MILWAUKEE. SOURCE: RON TANKO, MAGLIO COMPANIES.

interested carrot grower as well as Parrfection Produce, a local food aggregator. Both the farmer and the aggregator had storage carrots ready to be used for processing that spring.

To test the new supply chain pathway, the *Procurement Strategy* team set up a pilot purchase in May 2017. Between Parrfection Produce and the other grower, Maglio estimated they would have 1,300 pounds of finished product for distribution, for \$13.39 per 2-5# case. The *Procurement Strategy* team created a pre-order announcement for MMSD and the CESA districts, and 12 school districts pre-ordered a total of 68, 2-5# cases of carrot coins for delivery by Gordon Food Service.

While Parrfection Produce was able to comply with Maglio's paperwork, unfortunately the other grower was confused about Maglio's requirement that the carrots had to be GAP certified. Because he did not have the food safety audit, he was unable to supply carrots for the pilot. This reduced the amount available to 430 pounds and meant that the *Procurement Strategy* team had to cancel MMSD's pre-

order. Aside from this unfortunate setback, however, the rest of the pilot supply was successfully delivered.

Since this pilot, the relationship between Maglio Companies and Parrfection Produce has continued to grow and evolve. By September 2017, the processor was sourcing kale, squash, potatoes, beans, tomatoes, cucumbers, and more from Wisconsin farmers through Parrfection Produce.

POTATOES

Wisconsin ranks third in the U.S. for potato production, with 64,500 acres planted in 2016 (DATCP 2017). MMSD and CESA Purchasing also spend a significant amount on potato products, amounting to over \$394,200 during the 2015-2016 school year. For CESA, the top brands for potato products were Lamb Weston (28% of spend), Basic American (24% of spend), and McCain Foods (22% of spend). For MMSD, the majority of their products came from McCain Foods (79% of spend), followed by Lamb Weston (18%). Only 3% of the CESA districts’ potato purchases were for fresh, non-fried potato products, while none of MMSD’s reported potato data was non-fried. 70% of the cases purchased by CESA, and 100% of the cases purchased by MMSD, were for pre-fried or pre-formed products like tater tots and french fries. The *Procurement Strategy* goal was to establish a healthier, non-fried Wisconsin potato product to the school market, more in line with farm to school’s mission to promote healthy eating in schools.

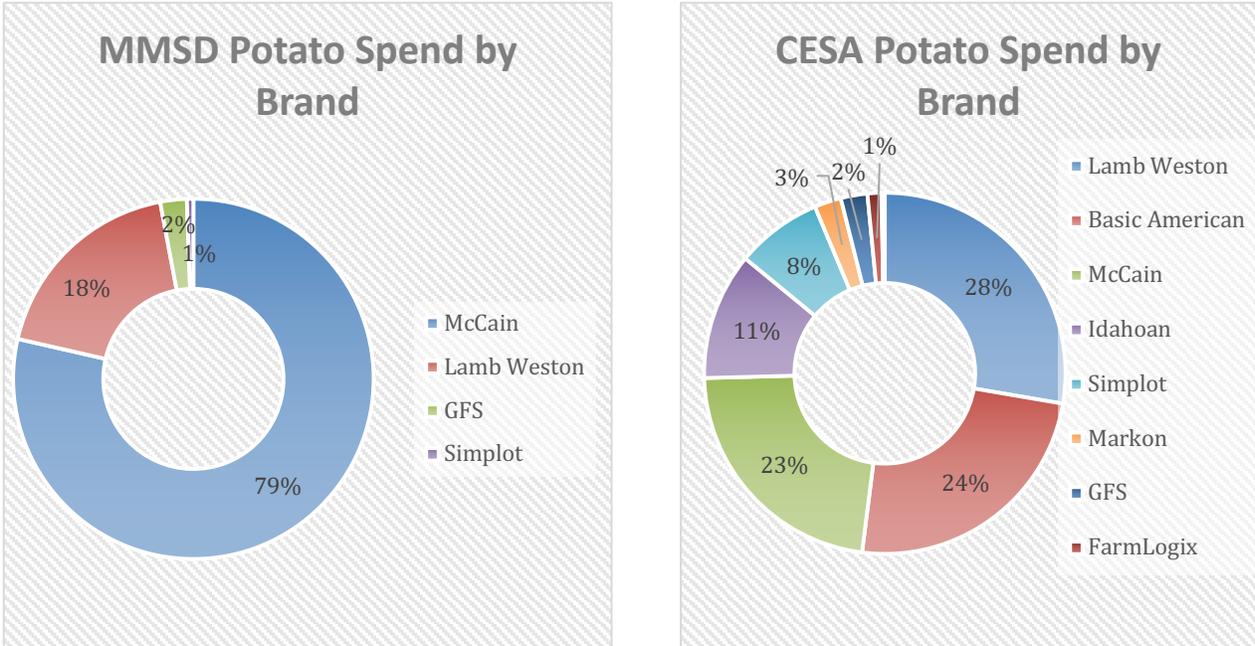


FIGURE 6. POTATO SPEND BY BRAND FOR MMSD (LEFT) AND CESA PURCHASING (RIGHT). SOURCE: GRAINGER CENTER FOR SUPPLY CHAIN MANAGEMENT.

McCain Foods, one of the major suppliers of potato products to the partner districts, operates a potato processing facility in Plover, WI. In October 2016, the *Procurement Strategy* team inquired into whether the company might be willing to source-identify their potato products and develop a non-fried potato wedge for school districts. After touring the facility and meeting with plant managers, the team learned that approximately 90% of McCain’s potatoes were purchased from Wisconsin potato growers.

However, McCain did not have the capacity to identify which potatoes were from Wisconsin, and developing a non-fried product was not a high priority for them. As the world’s largest company processing frozen potato products, neither request fell in line with McCain’s current marketing strategy.

Ultimately, the *Procurement Strategy* team made the decision that it was not within the project goals to



FIGURE 7. PROCUREMENT STRATEGY TEAMMEMBERS STAND OUTSIDE THE MCCAIN PROCESSING PLANT IN PLOVER, WI. SOURCE: MARLIE WILSON.

promote a fried McCain product, even though it would likely be Wisconsin-grown, because it fell outside the project’s goals of developing a healthier product, expanding market opportunities for growers, and increasing transparency in the supply chain. What’s more, from the team’s research, it was uncertain that food scientists had even yet to perfect an allergen-free coating for a par-cooked potato wedge.

Having hit significant barriers in finding a processor to produce a healthier potato wedge, the *Procurement Strategy* team turned to whole potatoes. This was a viable option to pipeline Wisconsin potatoes to Wisconsin institutions because Gordon Food Service already procured this product from Wisconsin and was willing to source-identify for school districts. The project’s culinary bootcamp in November 2017 featured a simple buttermilk mashed potato dish to encourage more districts to

use whole potatoes. However, cooking a whole potato product is still more challenging for many school districts and other cafeteria settings, and does not stand to significantly replace the high volume of pre-fried french fries or tater tots that schools currently purchase and serve.

YOGURT

Through the Grainger researchers’ purchasing data analysis, *Procurement Strategy* partners discovered that 70% of MMSD and CESA yogurt procurement came from Upstate Farms in New York, supplemented by 26% of sales from Yoplait. School districts purchased a wide variety of different flavored yogurt products, in both individual 4oz cups as well as 5lb bulk tubs.

The Grainger researchers found that while school districts purchase most of their yogurt in individual cups, that demand was spread across many flavors, with no one flavor capturing a significant share of the market. Rather, the yogurt product with the highest overall demand was a bulk, 5-pound fat-free vanilla yogurt from Upstate Farms, which sold for an average \$20.29 per 4-count case. Because they had

more of an opportunity to align demand across multiple school districts, the *Procurement Strategy* team focused their efforts on replacing the fat-free vanilla bulk yogurt with a Wisconsin-produced alternative.

Through outreach to yogurt producers, the *Procurement Strategy* team made contact with multiple creameries. Initial conversations with Klondike Cheese, the parent company to Odyssey Greek Yogurt, were promising, but did not move forward when it became clear that the price point for the greek-style yogurt was not in line with school food budgets. The project team then connected with Westby Cooperative Creamery, which produces a 5lb, low-fat vanilla yogurt product, available in four-count cases. Before distribution fees, the product appeared to be cost-competitive with non-local brands that the districts were currently buying from (sales representatives for Westby quoted the yogurt at \$1.05 per pound).

The *Procurement Strategy* conducted taste tests of Westby’s yogurt at a CESA Purchasing meeting in March 2017, where 22 districts committed to participating in a pilot purchase of the yogurt cases for September 2017. While there were several reservations about the product’s shorter shelf life (60 days versus Upstate Farms brand’s 90 days) and the use of carrageenan³ in the yogurt’s formula, foodservice directors were still interested in piloting with their students.

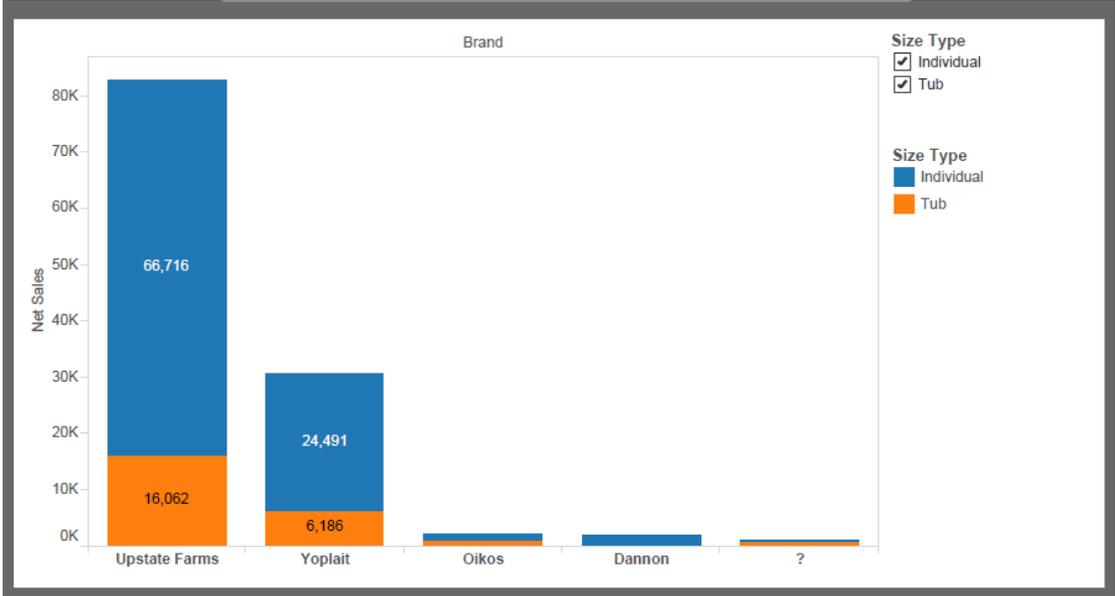


FIGURE 8. YOGURT SALES FROM CESA PURCHASING AND MADISON METROPOLITAN SCHOOL DISTRICT. WHILE PURCHASERS BOUGHT MORE INDIVIDUAL YOGURT, THE SINGLE MOST DEMANDED YOGURT PRODUCT WAS FOR A 5-LB VANILLA TUB. SOURCE: UW-MADISON GRAINGER CENTER FOR SUPPLY CHAIN MANAGEMENT.

³ Carrageenan is listed as a “Watch” item in the School Food Focus “Ingredient Guide for Better School Food Purchasing”. The guide can be accessed from <http://www.schoolfoodfocus.org/ingredientwatch/>.

Despite a commitment to purchase from multiple districts, Gordon Food Service was reluctant to carry the Westby vanilla yogurt for districts, and evaded requests from the *Procurement Strategy* to carry the product for almost a year. Finally, in October 2017, Gordon Food Service quoted that with freight fees, the price per 4-count case of 5lb yogurt would come to \$30.54, about \$10.00 more expensive than the Upstate Farms 5lb case. This price would be cost prohibitive for districts to regularly purchase. Instead, the distributor suggested districts buy a yogurt product from Schreiber Foods, which is based in Wisconsin, but does not consistently use milk from the state, and did not respond to a request to meet by *Procurement Strategy* partners.

LESSONS LEARNED

The *Procurement Strategy* set out with an ambitious goal to increase local food sales by \$1,000,000 and open institutional market opportunities to over 100 growers over a two-year timespan. Although the project fell short of these quantitative goals, the *Procurement Strategy's* experience developing local food supply chains provides instructive insights for practitioners who are focused on scaling up farm to institution efforts. The following opportunities and ongoing challenges regarding supply, demand, and coordination are shared below.

1. Data collection and analysis yield valuable insights for supply chain development.

Analyzing existing purchasing data and surveying foodservice about price sensitivity helped the *Procurement Strategy* team identify opportunities to align demand and develop local products that fit food service buyers' needs. The data yielded by the Grainger Center's team challenged assumptions about food service demand and helped narrow the focus on specific products with the highest potential impact. For example, prior to the purchasing data analysis, *Procurement Strategy* partners were focused on developing a Wisconsin-produced individual Greek yogurt cup for food service to utilize. The purchasing data analysis of yogurt shifted the *Procurement Strategy's* focus to a 5-pound vanilla yogurt tub (non-Greek), after researchers found that there was the most shared purchasing demand for that product across all school districts. Analyzing the data ensured that the locally-grown products made available were versatile and most easily incorporated into a variety of different cafeteria settings.

In addition, there is currently little data available to the public regarding the price points and products being purchased by institutional cafeterias. Demystifying this information for producers and supply chain intermediaries is an important benefit of the *Procurement Strategy* project. Understanding the volume, product specifications, and price points for products on the institutional market provides growers and local processors valuable information to make educated decisions about whether it is feasible for them to compete in this market channel, and how they can position themselves to maximize sales.

2. Demonstrating demand can help create new supply chain pathways.

Integral to the *Procurement Strategy's* objectives was leveraging untapped opportunities where demand could be aligned for a specific Wisconsin-grown product across multiple institutions and institutional types. One of the major reasons for this demand alignment is due to distributors' hesitation about creating new product stock-keeping units (SKUs) at low volumes, which adds complexity to their

warehouses and decreases their efficiency. They are much more willing and likely to pull a product through their system if there is a larger volume of demand for one SKU. Demand alignment also ultimately drives the cost down for foodservice purchasers as the volume grows. Coordinators can play an integral role in identifying products that are in high demand across institutional settings, and then arranging for buyers to align their purchasing around a locally produced alternative.

Another area of opportunity that the *Procurement Strategy* explored was implementing purchasing strategies that leverage the buying power of private businesses, universities or hospitals—institutions with the ability to pay a slightly higher price point than that of school districts. The potential strategy was for these institutions to pay a higher price per unit at the outset of product development, to help processors with up-front production costs and provide sufficient sales to get a new product ‘off the ground’. Once the local product is established, and sales volume increases, the price could drop to a range more accessible by school districts.

A secondary strategy considered was for products to be established with tiered pricing, with private institutions paying more than school districts. The project coordinators explored this option with processors in the case of both applesauce and frozen broccoli florets. With more cooperation from distributors, this tactic may prove implementable to increase future access to local foods in schools.

3. Food system coordinators are critical to advancing local supply chains.

Analyzing product opportunities, aggregating demand for local products, and connecting new producers and processors to broadline distributors cannot occur without a dedicated coordinator serving as a “relationship broker” and technical support provider (Day-Farnsworth and Morales, 2011). The capacity of a supply chain facilitator—a third party with an objective bird’s eye view of the supply chain—proved to be pivotal to the progress made by the *Procurement Strategy*.

For example, the project team coordinators were able to bring multiple distribution companies and processors into “pre-competitive” meetings to meet interested growers and discuss the project objectives. Without a vested commercial interest, the project team could communicate with both food service directors and farmers about buying or selling Wisconsin source-identified products. Project partners additionally guided small processors like Sharing Spaces, Inc. and Wisconsin Innovation Kitchen through the vendor onboarding process with distributors.

Project partners also played an important role in connecting this project and local food supply chain opportunities to federal nutrition programs, as outlined in Objective 1 of the grant proposal. This included the placement of Wisconsin-grown products onto the USDA’s Unprocessed Fruit and Vegetable Pilot Program eligible product list, so that school districts could use their commodity entitlement dollars for purchasing the local items. Although they hold robust opportunities to connect local growers and supply chain partners with schools, oftentimes federal nutrition programs become siloed in state agencies without expertise in local food supply chains. Dedicated capacity to connect these programs with local supply chains is valuable in leveraging federal dollars for local foods and child nutrition.

The *Procurement Strategy* also demonstrated how the role of a coordinator is not just critical for connecting actors across the supply chain—it can also be important for communicating the value

proposition of local food to end-users. To encourage sales of the WI-grown target products, project members developed professional informational materials to help make foodservice directors aware of the product's specifications and give them examples of how the item might be incorporated into nutritious cafeteria meals. When foodservice directors purchased the target products, the project team worked with processors to provide promotional signage that helped foodservice staff share with students and other cafeteria users where their food was produced. These materials helped reinforce the value of farm to institution supply chains, allowing foodservice directors to more easily differentiate those products on the lunch line and cultivate buy-in from their school or hospital communities.

While several of the processors were willing to pack these promotional materials inside the cases of the target products, the logistics of designing materials, printing materials, and pre-packing them in plastic sleeves required significant time by the project coordinators—work that producers and processors did not have time nor financing to cover. Some processors were even reluctant to help disseminate the materials, due to the added logistics and packing requirements. It was critical to have a project coordinator in place, working on behalf of local producers and processors, to help celebrate the Wisconsin products accessible to institutional markets.

4. Farmers need more technical assistance on scaling up and/or adapting to institutional markets.

Farmers of all sizes voiced hesitation about selling to intermediaries like processors and distributors. For small and mid-sized farmers, the major issue was Good Agricultural Practices (GAP) auditing, which most intermediaries require of all their suppliers. Many farms perceive that the time and resources required to maintain food safety records and submit to a farm audit are too difficult for smaller farms, or farms that do not have the adequate administrative support staff. Farms were wary that they may be required to adopt new practices or purchase new equipment to meet GAP requirements, resulting in additional costs. The audit itself can be expensive, too, with auditors charging \$40.00/hour for their time. While a 75% cost share is available through the Wisconsin Department of Agriculture, this subsidy is only available while limited resources last. Between the perceptions of increased cost and administrative burdens, many growers opt out of becoming GAP certified. This is especially true if they feel confident in their current (non-wholesale) markets, and do not feel the wholesale or institutional market provides enough robust financial opportunity. With further peer-to-peer networking opportunities and technical assistance from GAP advisors, however, farmers may become more comfortable with the process and willing to undergo an audit. In addition, much of these perceived barriers may shift as Food Safety Modernization Act (FSMA) regulations roll out and are adopted in Wisconsin.

Further, not only is there a limited pool of GAP certified farms in the state and hesitation to establish certification, but the process of understanding food safety requirements and compliance paperwork required by processors and distributors can also be challenging. This was apparent as one of the interested carrot growers was not able to participate in the program because his farm, even after extensive communications with the processor and project team staff, did not meet the food safety requirements of upstream supply chain partners.

Beyond the third-party food safety certification, small and medium-sized farmers were also concerned about selling to intermediaries for financial reasons. With direct to consumer markets, farmers can often take advantage of a price premium and retain a larger proportion of sales. For many of these farmers, the concept of selling their product at a wholesale price to a processor or distributor does not factor into their marketing strategy. While it may be unwise for some farms, for others the institutional market may actually be an excellent complement to their direct-to-customer business. Providing these farms with access to financial consultations would allow them to better understand the opportunities and risks involved with expanding their market channels. Such technical assistance may involve learning from other farms who have sold to both direct and intermediary channels, or speaking with a farm finance specialist about their expected return on investment in scaling up their operation.

Another unexpected barrier in the outreach to growers of target products was that many of the large farms contacted by the *Procurement Strategy* were already locked into restrictive contracts with larger food processing companies. These pre-existing contracts made it difficult for larger farms to sell to new or different markets. However, some of these farms saw the value of participating in farm to institution sales because of the potential to capture a higher price premium through more transparency between the links in the supply chain. For these larger farms, more targeted networking opportunities are needed to bring producers together and learn about how farm to institution might fit into their business plans for future growing seasons.

5. Aligning with operations of large distributors is a major hurdle.

Perhaps the *Procurement Strategy's* largest barrier to developing sustainable supply chain pathways were the broadline and produce distributors that supply schools and other institutions. Because only a handful of distributors operate in Wisconsin's institutional supply chain, they are the final arbiters regarding the institutional fate of a Wisconsin-grown product. Ultimately, the product inventory decisions of a broadline or produce distributor dictate what is, and is not, available to foodservice buyers through their existing channels and contracts. Not only does this include a distributor's decision to stock an item, but also the price point and additional fees they choose to associate with each item. For example, GFS was, in theory, willing to source and sell the Westby low-fat vanilla yogurt product, but the final price to the buyer was above that of school districts, limiting potential purchase volumes.

The major broadline distributors operate at a scale where working with smaller farms and mid-scale processors does not easily integrate into their current practices. There is a preference to limit SKUs, and any complexity that comes with adding vendors, or any practice that may leave excess inventory in the warehouse, is strongly discouraged by upper-level management. An area for future research is an investigation into financial, educational, or other incentives that would encourage broadline distributors (especially larger regional and national companies) to include more locally grown products at final price points appropriate for institutional buyers. Continuing these conversations with broadline and produce distributors is a future opportunity for supply chain coordinators.

Products and SKUs are not the only way that broadliners are a 'pinch point' that limit access to Wisconsin-grown products within the institutional supply chain. The process of onboarding new processors, vendors and products for approval with distributors proved to be an arduous and lengthy

undertaking. Success required engaged facilitation from *Procurement Strategy* partners, but also a great financial risk from farmers and processors. Coordinators can be instrumental in helping farmers and processors navigate the paperwork and policies involved in vendor onboarding, but there are other financial support mechanisms that need to be established to help small farms and processors cover their upfront investments in production.

6. Considering values and needs is a balancing act in local food system development.

While foodservice directors generally want to purchase more Wisconsin-grown products, they have a long list of other factors to weigh when considering their food purchases. Concerns like price, shelf-life, ease of purchase, packaging size, ingredients, nutritional content, and ability to meet school meal pattern requirements are all critical. While foodservice directors are amenable to some product differences between local and non-local items, the fact that a product is local does not necessarily supersede other needs. For example, some foodservice directors stated their primary resistance to purchasing Westby's low-fat vanilla yogurt was the 60-day shelf life, which was 30 days shorter than the non-local yogurt product they were using. For local foods to compete in institutional markets, producers and processors may need to adapt to some specific needs and priorities of buyers, or otherwise focus on selling the 'values' of their local products. Moreover, supply chain coordinators are needed to educate buyers about the merits of buying local, and the reasons behind why these products might differ from the specifications of products they have become accustomed to in their conventional food purchasing practices.

In addition to balancing the needs of foodservice directors, *Procurement Strategy* team coordinators were also balancing the goal of geographic proximity with the other goals of farm to institution: increasing access to nutritious food, educating eaters about healthy eating habits, and creating a more sustainable value-chain with the ultimate objective of more equitably distributing benefits amongst stakeholders (Born and Purcell 2006). The potato target product tested the balance between the myriad needs and values of all supply chain partners. *Procurement Strategy* team members had to clarify the potato product goals after touring the McCain potato processing facility in November 2016. Although McCain uses a majority of Wisconsin-grown potatoes and sells a high volume to local institutions, they were not able to provide supply chain transparency or label a Wisconsin-grown product. Further, their products were pre-fried and pre-formed, which did not fall in line with Wisconsin Farm to School nutritional and educational values. The project team had to reconsider the multiple goals and values of farm to institution, which ultimately led the coordinators to abandon a potato wedge pathway through McCain Foods.

7. Broadening geographic expectations may be needed based on system limitations.

After failing to find a potato processor in Wisconsin who was amenable to working with frozen, source-identified and non-fried products, *Procurement Strategy* partners considered working with the Minnesota company SnoPac to develop the desired potato wedge. However, this avenue was not pursued because SnoPac is outside the geographic boundaries of the state and the project. A longer term research question includes where we draw the lines for "local" to meet long term needs and values.

CURRENT OR FUTURE BENEFITS FROM PROJECT

1. New relationships between local producers, aggregators, processors, distributors, and foodservice directors

Through stakeholder engagement and technical assistance, the *Procurement Strategy* facilitated new relationships across the supply chain that led to increased institutional access to local target products. By connecting Wisconsin food aggregator Parrfection Produce to Maglio Companies, for example, school districts gained access to Wisconsin-grown carrot coins through Gordon Food Service, their broadline distributor. Maglio has continued to work with Parrfection Produce to process other Wisconsin-grown items, as well, opening an opportunity for institutional purchasers to buy fresh herbs, peppers, cabbage, root crops, and more.

Introducing broccoli producer Amazing Grace Family Farm to the foodservice director of Milwaukee Public Schools led to processor Sharing Spaces becoming an approved vendor of US Foods and a subsequent pathway for 16,000 pounds of frozen broccoli florets to reach students across the state's largest district. In addition, the relationship between Amazing Grace and Maglio led to another 1,200 pounds of fresh florets enjoyed by students in 22 school districts across Southern Wisconsin. The farmer and processor have already engaged in preliminary discussions about processing broccoli for the 2018 season. These successful ventures not only help specific Wisconsin growers, but serve as positive examples to other specialty crop growers that institutional markets can be of value for their business.

With applesauce, Wisconsin Innovation Kitchens' investment in applesauce cupping equipment after discussions with *Procurement Strategy* staff led to sales with UW Health and Epic Systems, and future sales are expected to school districts in the 2018-2019 school year.

At the macro level, this project increased awareness across the supply chain about the value of and capacity for Wisconsin-grown items entering the institutional supply chain. It fostered promising discussions amongst producers, aggregators, processors, distributors, and institutional food purchasers that may lead to future pathways for Wisconsin foods.

2. More foodservice staff who are better prepared to use whole or minimally processed local products

The *Procurement Strategy* conducted ongoing outreach to foodservice directors and staff to educate them about the project and how they could best utilize target products in their meal programs. Project partners also provided school districts with educational materials for the cafeteria to support and encourage their local food purchasing practices. Through presentations at School Nutrition Association of Wisconsin conferences (June 2016; June 2017), CESA Purchasing/ WiSNP gatherings (May 2017; October 2017), and the *Know Your Buyer, Know Your Supplier* local food procurement workshop series around Wisconsin (August 2017), *Procurement Strategy* partners presented in front of over 100 school district foodservice professionals about the project and its goals. In addition, 22 foodservice professionals attended the project's Culinary Bootcamp in November 2017 for hands-on guidance on incorporating the target items into their school meal programs.

3. Wisconsin farmers received valuable information on selling to institutional markets

By organizing a *Procurement Strategy* Producer's Meeting (December 2016), tabling at the Organic Vegetable Production Conference (February 2017), presenting at the *Know Your Buyer, Know Your Supplier* workshop series (August 2017), and giving two informational sessions with the Wisconsin Farmers Union (October 2017), the *Procurement Strategy* reached over 60 farmers in-person with information about the project and strategies for successfully supplying institutional markets. An additional 65 producers received a copy of FamilyFarmed's *Wholesale Success: A Farmer's Guide to Food Safety, Selling, Postharvest Handling, and Packing Produce* after filling out a mail-in/online survey for the project staff about their interest in selling to intermediary markets.

4. Foodservice purchasers shared information about their price sensitivity regarding local products.

To investigate foodservice buyers' interest in buying the target Wisconsin-grown products, the *Procurement Strategy* developed an online survey that asked institutional purchasers how much they would be willing to pay for a source-identified product. There were 48 respondents to the survey, though only 77% finished the full questionnaire. Of those responses, 76% were school foodservice directors, 11% were hospital foodservice purchasers, and 8% were college/university foodservice buyers, with 5% identifying as "Other."

Based on the van Westendorp Price Sensitivity Method, respondents were asked at what price per case (or per serving, if the respondent was a school district) they would find a source-identified product: too expensive, that they would not consider purchasing; starting to get expensive, but not out of the question; and a bargain--a great buy for the money. For each question, the respondent chose a number on an appropriate sliding scale. Then, based on their answer for what price was starting to get expensive, but not out of the question, the survey asked how many cases they would consider purchasing of the product in a fiscal year. The responses shared by foodservice buyers augmented the insights from the purchasing data that was shared by school districts in that it highlighted the potential price elasticity for a Wisconsin-grown product compared to what buyers were paying for conventional products. Producers, aggregators, and processors may find these price points useful for understanding the feasibility of selling local products to the institutional supply chain. See Appendix E for a summary of survey results.

RECOMMENDATIONS FOR FUTURE RESEARCH

- **Extend purchasing data analysis to other institutional types**

The *Procurement Strategy* found it incredibly valuable to collect purchasing data from school districts and better understand the volume, price points, and product specifications of the target foods. Finding willing partners in healthcare, higher education, and other institutions to share their purchasing data would enrich the analysis and help coordinators better understand which Wisconsin-produced items would have widespread traction across more cafeteria settings. Engaging hospitals, universities, and

other institutions through data collection would also hopefully strengthen their commitment and investment in purchasing more products from Wisconsin growers, especially if it can provide meaningful insights into the health and economics impacts of their current procurement practices.

- **Develop strategies to engage and incentivize distributors**

As private, for-profit businesses, distributors have full control over their operations, values and product lists. In some cases this limits interest or ability to supply locally sourced products. Further research into how to increase distributors' interest in participating in the local food supply chain is imperative. Potential strategies may include providing more pre-competitive opportunities for distributors to learn and dialogue about local food warehousing and distribution, developing case studies to demonstrate the economic benefits for distributors supplying local foods, and working with foodservice to more strongly articulate preference for local products, including the inclusion of specific language in procurement request for proposals and contracts.

- **Conduct research on processing capacity of Wisconsin foods**

DATCP issued over 7,400 food processing licenses in 2015, but little data has been systematically collected from these businesses to learn about their interest in using source-identified Wisconsin foods, nor whether they have adequate capacity to serve institutional markets. While the *Procurement Strategy* was successful in finding processors interested in working with local farmers, there are potentially more companies around the state who may want to participate in the local food supply chain. Engaging Wisconsin's processors through a statewide survey on processing source-identified foods would illuminate to coordinators how much untapped interest exists. Once more processors have been identified, coordinators can better engage them in supply chain networking opportunities and other technical assistance with working with local farmers.

- **Provide more supply chain networking opportunities**

Much of the *Procurement Strategy's* successful supply chain connections emerged out of in-person networking opportunities, where producers, food hubs, processors, distributors, and foodservice buyers were convened to meet each other and discuss growing farm to institution efforts. Coordinators need to continue to organize these spaces where face-to-face relationships can further develop between stakeholders.

- **Build on understanding of foodservice price sensitivity**

The *Procurement Strategy's* survey for foodservice buyers on their willingness to pay for the target Wisconsin products provided interesting insights that helped to inform supply chain development. Extending this kind of research to more local products, and investing in further outreach to more foodservice buyers, would help coordinators understand which Wisconsin products are most in-demand from buyers, and which they're most willing to pay a local price premium for.

- **Measure value of institutional supply chain development for Wisconsin farmers**

Further research should explore how the development of an institutional local food supply chain financially supports farm operations in Wisconsin. Accounting for the investments made to scale up farming operations, are farmers in Wisconsin being fairly compensated for their participation in this

wholesale market? Does developing a source-identified product distribute the economic benefits more fairly across the supply chain? In addition to more quantitative analysis of the economic effects of institutional supply chain development, qualitative research is also needed to explore how farmers perceive the institutional market has benefitted their operations.

PROJECT BENEFICIARIES

The primary beneficiaries outlined in the grant's proposal were supply chain partners including Wisconsin's growers, food processors, produce distributors, and broadline distributors. Although the work of the project directly impacts these supply chain partners, the long-term goal is also to benefit Wisconsin's students, children, hospital patients and anyone eating in an institutional food setting by providing healthy, minimally processed Wisconsin-grown foods.

- **Institutional Food Purchasers**

There were two goals for impacting institutional food purchasers, targeting both the number of buyers purchasing the target products and those receiving direct technical assistance through the grant. The goal was to reach 100 institutional food purchasers (including at least 50 school districts from the CESA Purchasing Nutrition Cooperative, and MMSD) directly purchasing the five target products, and reaching 75 purchasers with technical assistance (TA).

Through this project, 36 institutional buyers directly gained increased access to minimally-processed WI grown products by purchasing pilot broccoli, carrots and applesauce through the project. This includes 32 school districts from CESA/WISNP, Madison Metropolitan School District, Milwaukee Public Schools, as well as one hospital and one business campus. Further, at least 167 institutional buyers accessed technical assistance, attended meetings, viewed webinars, and participated in product specification and pricing surveys.

- **Traditional Distribution Partners**

The project met the goal of working with 4 traditional distribution partners (Gordon Food Service, US Foods, Sysco, and Reinhart). In addition, the *Procurement Strategy* also engaged 2 produce distributors, 4 foods hubs/ local food aggregators, and 4 food processors. These supply chain partners either attended meetings, completed project surveys, joined pertinent target product conversations, and/or participated directly in processing or distributing the target products. These supply chain partners benefited by increasing their access to Wisconsin-grown products to meet increasing customer demand.

- **Wisconsin's Agricultural Producers**

Over 60 Wisconsin agricultural producers or cooperatives directly engaged in this project either by selling the target products in pilot arrangements (5) or participating in meetings or direct technical assistance (55+). Beyond the five producers directly involved in entering traditional supply chains, the Procurement Strategy also connected a local food aggregator, Parrfection Produce, to institutional processors and distributors—representing an additional 20+ farmers. Producers directly involved in the

project benefited by developing new markets for their products, learning about the benefits and process of selling to wholesale markets, and developing new relationships with potential future buyers.

Lastly, the members of the project team benefited tremendously by better understanding how these supply chains work, and how outside partners can best leverage their skills and capacities to support distributors, processors, and farmers in establishing new supply chains, increasing markets for Wisconsin growers, and increasing access to local foods for institutional eaters.

Project Outcomes	Proposed	Actual
Institutional Food Purchasers	75 TA / 100 buying	167 TA/ 36 buying
Broadline distributors	4	4
Produce distributors	N/A	2
Processors	N/A	4
Aggregators and Food Hubs	N/A	4
WI Agricultural Producers	20	5 direct pilot participants /55 TA

CONCLUSION

The *Procurement Strategy's* initial goals were to pilot the ability to create transparent, Wisconsin-based supply chains for institutional cafeterias through existing distributor channels, with the durability to sustain themselves beyond the grant's duration. While the grant project achieved mixed success in creating pathways for Wisconsin-grown products to travel through produce and broadline distributors, the barriers and challenges encountered in the process have been equally valuable. By piloting these new pathways, the project team was informed with new, detailed information about the specific operations of the current supply chain that allows for development of more advanced and specific research questions and more clearly defined strategies that may be most effective in the future.

It takes time to build connections and trust, especially with organizations who are not necessarily accustomed to transparency or collaboration. To that end, this work requires sustained, long-term leadership with someone in the position to connect stakeholders across the supply chain, collect and

analyze data, align demand, and promote use of developed products. Without this facilitation, it is unlikely that large-scale farm to institution initiatives can currently sustain themselves.

As supply chain coordinators continue to develop local food supply chains, they must establish a reflexive practice and remind themselves of their goals. Does the new supply chain ensure farmers receive a fair price for their goods? Do foodservice purchasers have access to a reliable, diverse, and healthy food supply? Is the system supporting more sustainable production and transportation practices? Such questions cannot be lost in the process, or farm to institution efforts may be in jeopardy of losing their intended benefits.

PROJECT PUBLICATIONS AND PRESENTATIONS

- [Archived Procurement Strategy Webinar](#)
- Promotional Materials: Included in **Appendix A**
- Target Item Research Briefs (forthcoming, UW-Center for Integrated Agricultural Systems)

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APPENDIX A. PROMOTIONAL MATERIALS

WISCONSIN GROWN
CARROT COINS



FIG.A1 WISCONSIN GROWN CARROT SNEEZEGUARD DESIGN I



WISCONSIN GROWN
CARROT COINS

Local / Fresh / Flavorful

FIG.A2 WISCONSIN GROWN CARROT SNEEZEGUARD DESIGN II

WISCONSIN GROWN
BROCCOLI FLORETS



FIG.A4 WISCONSIN GROWN BROCCOLI SNEEZEGUARD DESIGN I



WISCONSIN GROWN
BROCCOLI FLORETS

Local / Fresh / Flavorful

FIG.A3 WISCONSIN GROWN BROCCOLI SNEEZEGUARD DESIGN II

NOW SERVING



FIG.A5 WISCONSIN GROWN POTATOES SNEEZEGUARD

NOW SERVING

YOGURT
FROM A COW
NEAR YOU

Wisconsin: The Dairy State

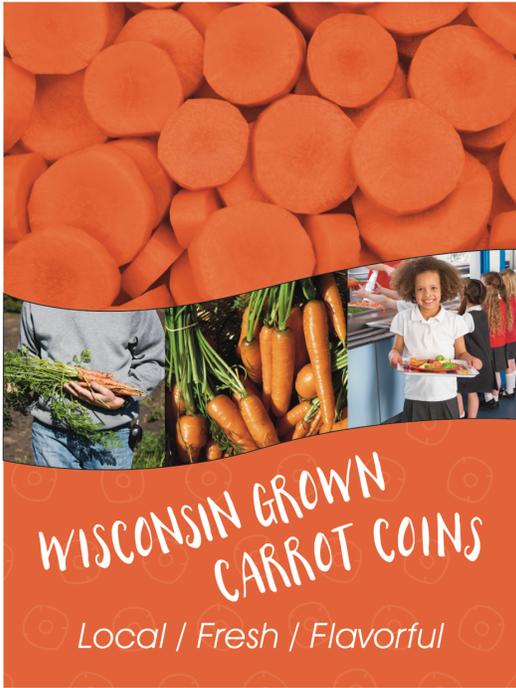
FIG.A6 WISCONSIN YOGURT SNEEZEGUARD

NOW SERVING



From an Orchard Near You!

FIG.A7 WISCONSIN GROWN APPLES SNEEZEGUARD



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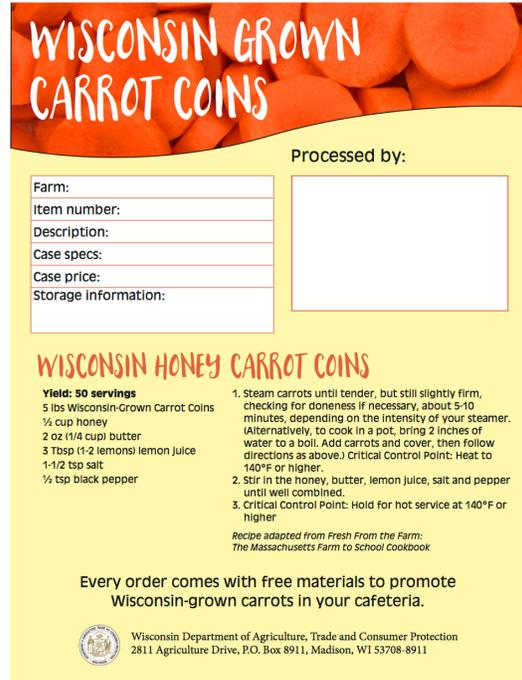
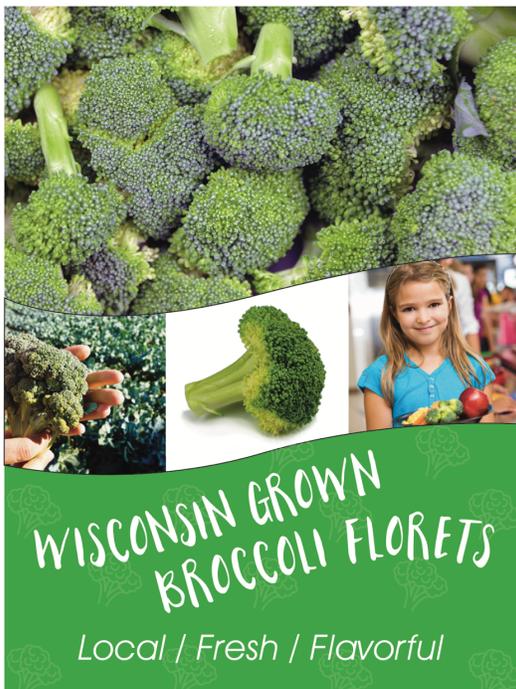


FIG. A8 WISCONSIN GROWN CARROT SELL SHEET, FRONT (LEFT) AND BACK (RIGHT)



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FIG. A9 WISCONSIN GROWN BROCCOLI SELL SHEET, FRONT (LEFT) AND BACK (RIGHT)

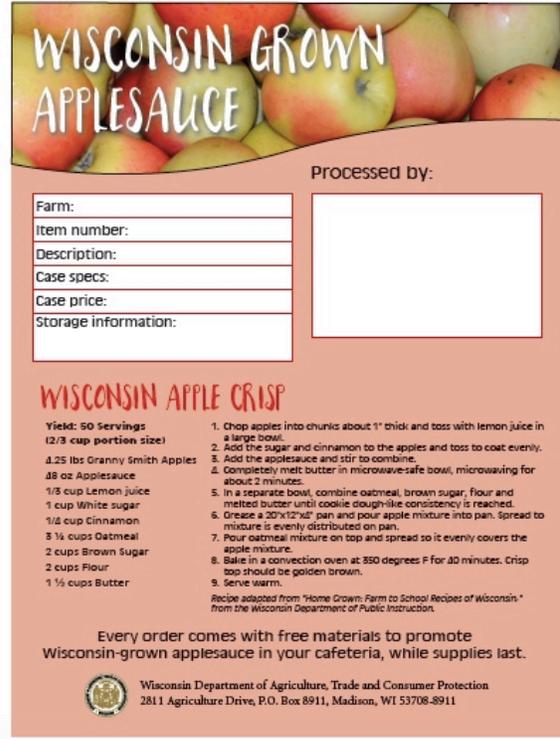
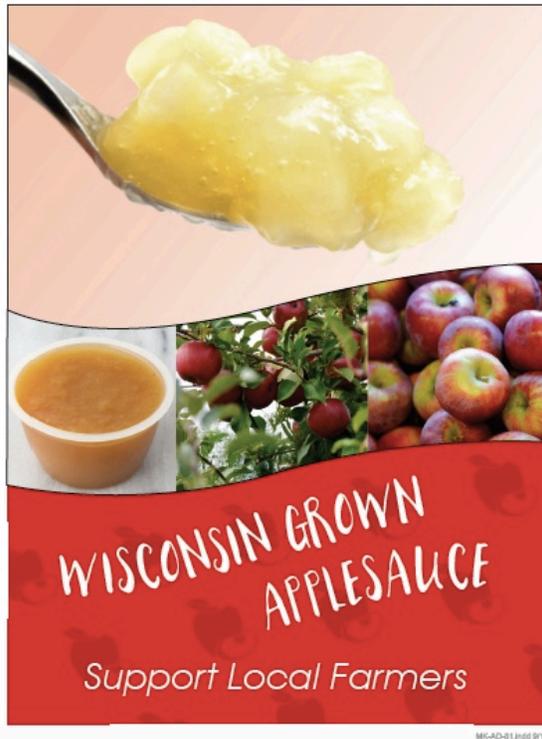


FIG. A10 WISCONSIN GROWN APPLESAUCE SELL SHEET, FRONT (LEFT) AND BACK (RIGHT)



FIG. A11 WISCONSIN GROWN POTATOES SELL SHEET, FRONT (LEFT) AND BACK (RIGHT)

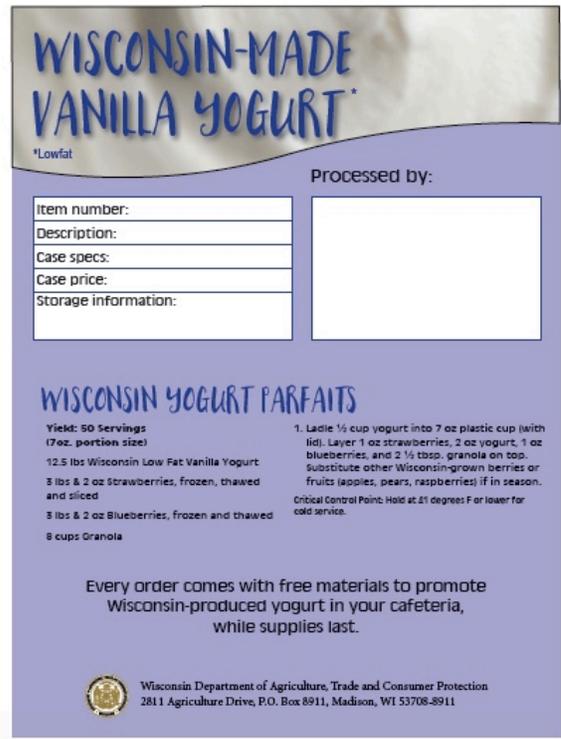
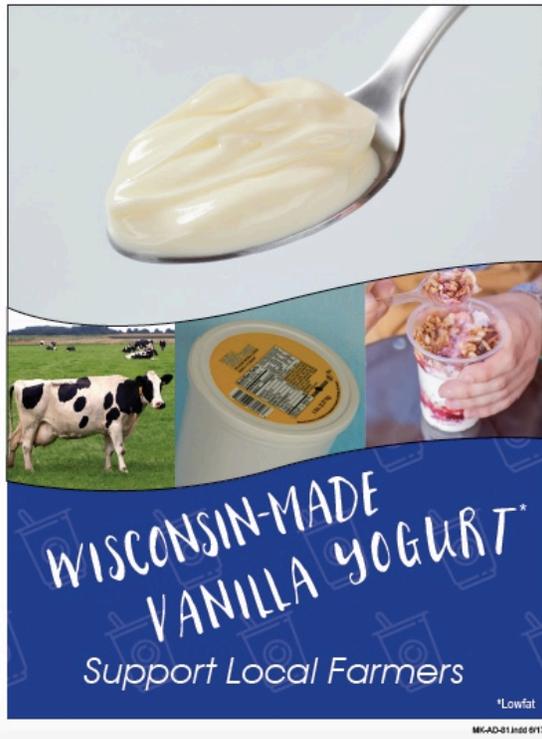


FIG. A12 WISCONSIN YOGURT SELL SHEET, FRONT (LEFT) AND BACK (RIGHT)



Grow for Wisconsin's Cafeterias

Coordinated by the WI Department of Agriculture, Trade and Consumer Protection, the Wisconsin Farm to Institution Project is working to connect Wisconsin's farmers to intermediary markets that serve schools, colleges, and hospitals. **"Intermediary markets" are sales to aggregators, processors, and distributors that serve Wisconsin's cafeterias.** The project is currently focused on creating market opportunities for Wisconsin-grown apples, broccoli, carrots, and potatoes.

Please share information about your interest in selling products to intermediary markets to help us align the supply with demand. *Information about your operation will NOT be made public or shared with any aggregators, processors, or distributors unless further consent is granted.*

1. Enter your contact information:

First & Last Name:

Farm or Company Name:

Email Address:

Phone Number:

Town/City:

County:

2. What size operation was your farm in 2016?

- Less than \$25,000 in sales in 2016
- \$25,000-\$49,999 in sales in 2016
- \$50,000-\$99,999 in sales in 2016
- \$100,000-\$249,999 in sales in 2016
- Over \$250,000 in sales in 2016

3. Which of the following items have you produced in the past 5 years?

Please share an estimate of the average pounds harvested per season over the last 5 years.

	Product	Average pounds harvested per season
<input type="checkbox"/>	Apples	
<input type="checkbox"/>	Broccoli	
<input type="checkbox"/>	Carrots	
<input type="checkbox"/>	Potatoes	

4. Which marketing channels do you currently sell your products through?

Check all that apply.

	On-Farm Stand	CSA	Farmers Market	Direct to Restaurant/ Grocer	Direct to School/ Hospital	Processors and/or Distributors	Local Food Hub/ Broker	N/A
Apples	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Broccoli	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Carrots	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Potatoes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. INTERMEDIARY MARKETS: Use the boxes below to estimate your volume, price, and interest in increasing sales to aggregators, processors, and distributors.*

If you do not currently sell to these markets, use the last column to share how much you are interested in starting to sell to intermediaries.

	Currently selling to aggregators/processors/distributors			Interest in starting to sell to intermediaries
Product	Average # pounds sold to intermediaries per season	Average intermediary price per pound	By how many pounds do you want to <u>increase</u> intermediary sales?	Estimated # pounds you want to <u>start</u> selling to intermediaries
U.S. No. 2 Apples (for applesauce)				
Broccoli				
Carrots				
Potatoes				
<i>Share up to 3 other products you <u>currently</u> sell to aggregators/processors/distributors, or <u>want to start</u> selling to these markets (If applicable):</i>				

*"Intermediary markets" refers to sales to AGGREGATORS, PROCESSORS, and DISTRIBUTORS that serve Wisconsin's schools, colleges, hospitals, and other cafeteria settings.

AGGREGATORS, like food hubs or local brokers, create a single sales outlet through which buyers can purchase products from multiple local farmers.

PROCESSORS manufacture or prepare food for sale through the process of cutting, packaging, freezing, or through any other treatment or preservation process. Processors will often sell their finished product to a foodservice distributor.

Foodservice DISTRIBUTORS are companies that provide both food and non-food products to restaurants, cafeterias, industrial caterers, hospitals, and nursing homes.

6. Do you have product liability insurance of at least \$1,000,000?

Yes

No

7. Check the box if you have Good Agricultural Practices (GAP) certification for the corresponding item.

If you have additional third-party certifications, please share them in the third column.

Product	GAP Certification	Other Certifications (Organic, Healthy Grown, Certified Naturally Grown, etc.)
Apples	<input type="checkbox"/>	
Broccoli	<input type="checkbox"/>	
Carrots	<input type="checkbox"/>	
Potatoes	<input type="checkbox"/>	
<i>Share certifications for the additional products listed in Question 5 (If applicable):</i>		
	<input type="checkbox"/>	
	<input type="checkbox"/>	
	<input type="checkbox"/>	

What are Good Agricultural Practices?

The USDA's Good Agricultural Practices (GAP) and Good Handling Practices (GHP) are voluntary food safety audits that verify that fruits and vegetables are produced, packed, handled, and stored as safely as possible to minimize risk of foodborne illness.

While GAP auditing is not required by federal or state law, many wholesale processors and distributors require GAP certification before they will purchase products. The Wisconsin Department of Agriculture, Trade and Consumer Protection offers a 75% cost share for producers to become GAP certified.

8. Which services would help improve your access to intermediary markets?

Check all that apply.

- On-farm technical assistance from a GAP certification specialist
- Farmer-to-farmer networking opportunities to learn more from farmers who are selling to aggregators, processors, and distributors
- One-on-one guidance for filling out paperwork and record-keeping
- In-person training opportunities about selling to intermediaries
- Support calculating the financial cost or benefit in selling to intermediary markets for my operation
- I do not need any additional support
- Other service or resource:

9. Please share any questions or comments you have about selling products to aggregators, processors, and distributors:

10. Check the box below to receive a free copy of FamilyFarmed's *Wholesale Success: A Farmer's Guide to Food Safety, Selling, Postharvest Handling, and Packing Produce.*

Yes, send me a free copy. **Shipping address:**

Address Line 1: _____

Address Line 2: _____

Town/City: _____

Zip Code: _____

Thank you for providing your feedback. For more information, please contact Marlie Wilson, Farm to Institution Procurement Project Manager, WI Department of Agriculture, Trade and Consumer Protection: marlie.wilson@wisconsin.gov.



CENTER for INTEGRATED
AGRICULTURAL SYSTEMS



WISCONSIN
SCHOOL OF BUSINESS
UNIVERSITY OF WISCONSIN-MADISON
TOGETHER FORWARD®

GRAINGER CENTER for
SUPPLY CHAIN MANAGEMENT

Mutch Better Food, LLC

CESA
purchasing.org



APPENDIX C. PRODUCER SURVEY RESULTS

Producer Responses by Product Grown

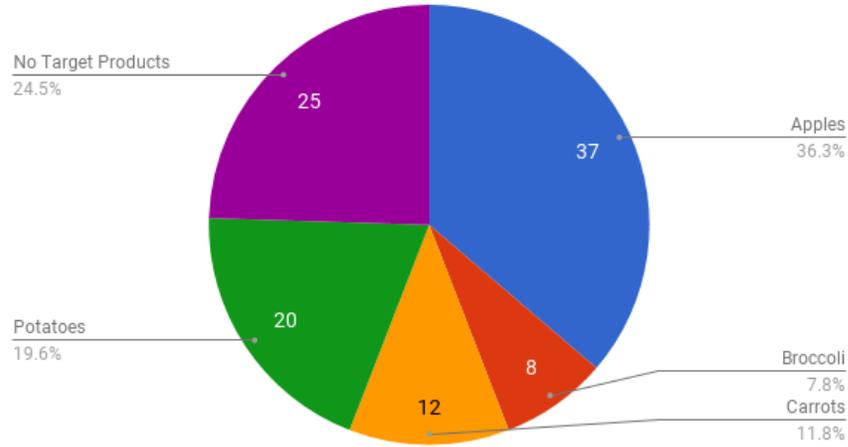


FIG.C1 PRODUCER SURVEY RESPONSES BY PRODUCT

Average Number of Pounds by Producing Farms

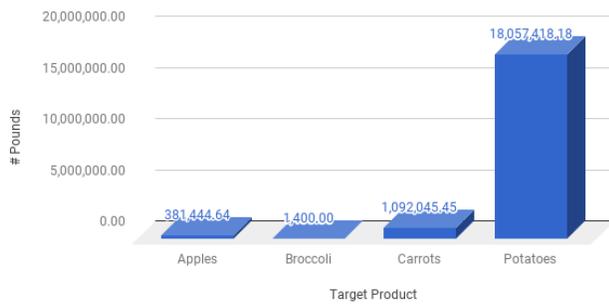


FIG.C2 AVERAGE NUMBER OF POUNDS PRODUCED OF EACH PRODUCT BY PRODUCING FARMS

GAP Certified Products

Number of survey respondents reporting a GAP certification, by product

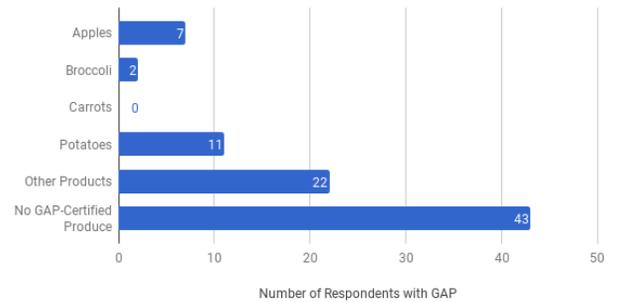


FIG.C3 NUMBER OF FARMS REPORTING GOOD AGRICULTURAL PRACTICES (GAP) CERTIFICATION, BY PRODUCT GROWN

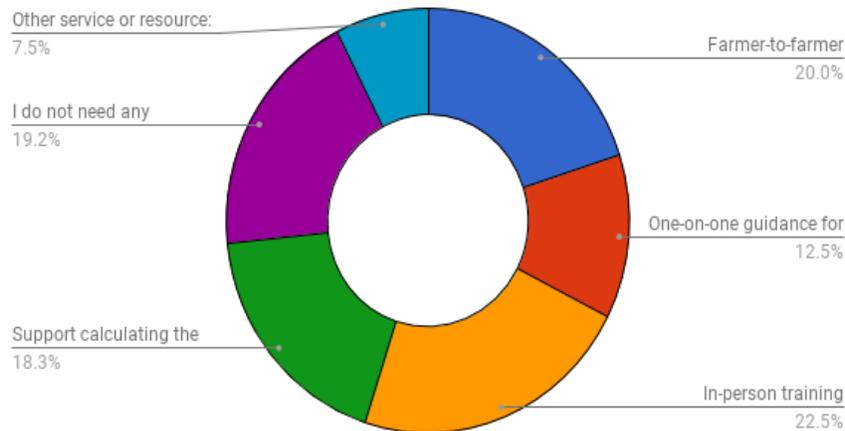


FIG.C4 RESPONDENT ANSWERS TO "WHICH SERVICES WOULD HELP IMPROVE YOUR ACCESS TO INSTITUTIONAL MARKETS?"

APPENDIX D. PRICE SENSITIVITY SURVEY

Making Wisconsin-Grown the Easy Choice:

The Wisconsin Farm to Institution Procurement Project

Are you a food service purchaser of **applesauce, broccoli florets, carrot coins, potato cubes, and/or yogurt** for your cafeteria meals?

The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) is working to connect these five Wisconsin-grown products to local processors and distributors that serve schools, hospitals, and colleges.

Help us align the supply of Wisconsin products with your needs: share your interest in purchasing these five locally grown products below. All responses will remain confidential and are for information purposes only. In appreciation of your time, the first 150 survey respondents can sign up for a free year's subscription to ChopChop Magazine!

1. What type of institutional organization do you work for?

- School District
 - University/College
 - Hospital/Health Care Facility
 - Senior Living Facility
 - Correctional Facility
 - Other: _____
-

2. When does your meal program operate?

Check all that apply

Spring

Summer

Fall

Winter

3. Average number of daily meals served:

0-500 meals

500-1,000 meals

1,000-1,500 meals

1,500+ meals

4. Do you currently purchase products (other than fluid milk) that are identified as Wisconsin-grown?

Yes

No

I don't know

5. How much do you estimate that you spend on local, Wisconsin-grown products per year (excluding fluid milk)?

- N/A
- \$0-5,000
- \$5,000-10,000
- \$10,000-15,000
- \$15,000-20,000
- \$20,000-50,000
- \$50,000+

6. Which products would you be interested in purchasing from your produce or broadline distributor?
Assume no difference in price between conventional and local products.

- WI-grown applesauce
- WI-grown broccoli florets
- WI-grown carrot coins
- WI-grown potato cubes
- WI-produced yogurt

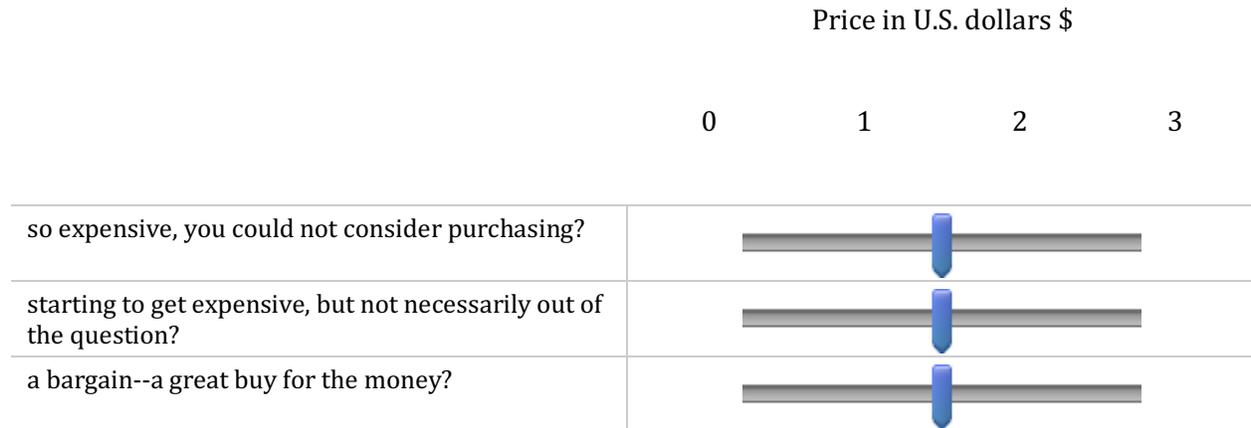
Start of Block: Applesauce

Question 7a is displayed if...

Q6 "Which products would you be interested in purchasing from your produce or broadline distributor?" = WI-grown applesauce

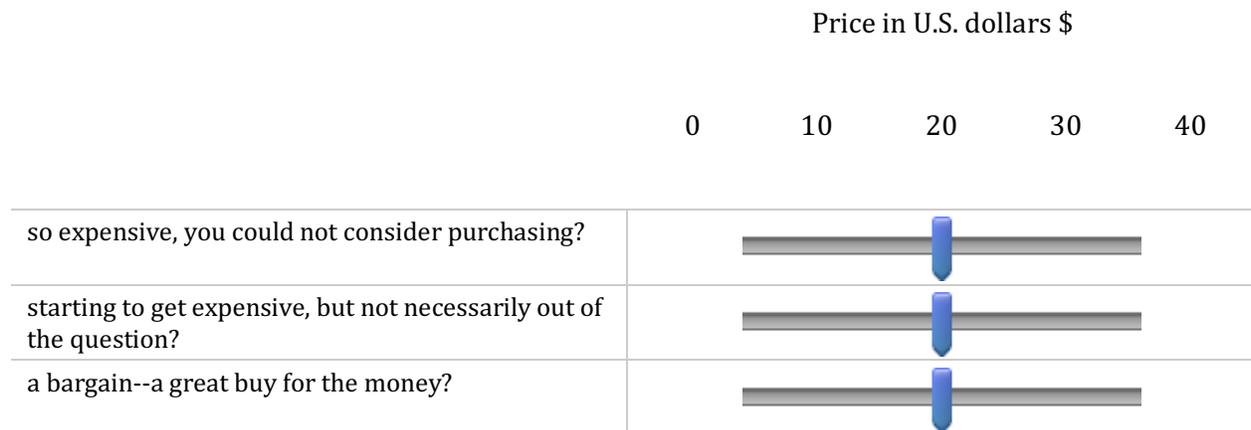
And Q1 "What type of institutional organization do you work for?" = School District

7a. At what **price per serving** would you consider **Wisconsin-grown applesauce**:



Question 7b is displayed if...
 Q6 "Which products would you be interested in purchasing from your produce or broadline distributor?" = WI-grown applesauce
 And Q1 "What type of institutional organization do you work for?" = Non-School Institution

7b. At what **price per 72-4.5oz case** would you consider **Wisconsin-grown applesauce**:



8. How many **72-4.5oz cases** you would consider purchasing in a fiscal year if Wisconsin-grown applesauce came at a price equivalent to your "expensive, but not out of the question" answer?

9. Please share any additional product considerations or feedback.

End of Block: Applesauce

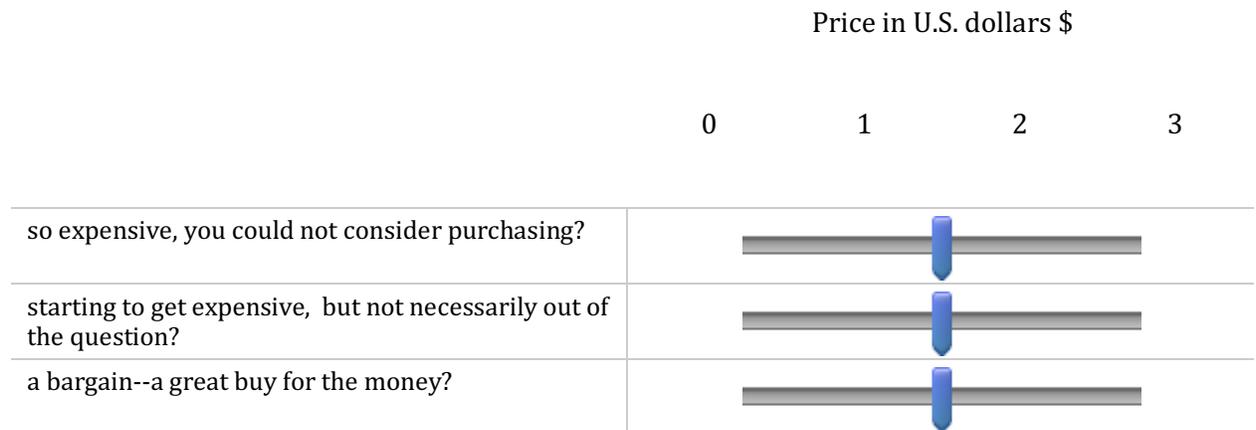
Start of Block: Broccoli

Question 10a is displayed if...

Q6 "Which products would you be interested in purchasing from your produce or broadline distributor?" = WI-grown broccoli florets

And Q1 "What type of institutional organization do you work for?" = School District

10a. At what **price per serving** would you consider **Wisconsin-grown fresh broccoli florets**:



Question 10b is displayed if...

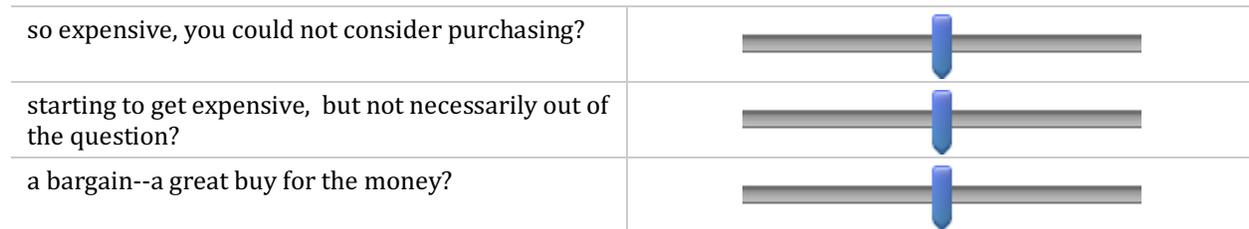
Q6 "Which products would you be interested in purchasing from your produce or broadline distributor?" = WI-grown broccoli florets

And Q1 "What type of institutional organization do you work for?" = Non-School Institution

10b. At what price per 20# case would you consider Wisconsin-grown fresh broccoli florets:

Price in U.S. dollars \$

0 10 20 30 40



11. How many 20# cases you would consider purchasing in a fiscal year if Wisconsin-grown fresh broccoli florets came at a price equivalent to your "expensive, but not out of the question" answer?

12. Please share any additional product considerations or feedback.

End of Block: Broccoli

Start of Block: Carrots

Question 13a is displayed if...

Q6 "Which products would you be interested in purchasing from your produce or broadline distributor?" = WI-grown carrot coins

And Q1 "What type of institutional organization do you work for?" = School District

13a. At what **price per serving** would you consider **Wisconsin-grown carrot coins**:

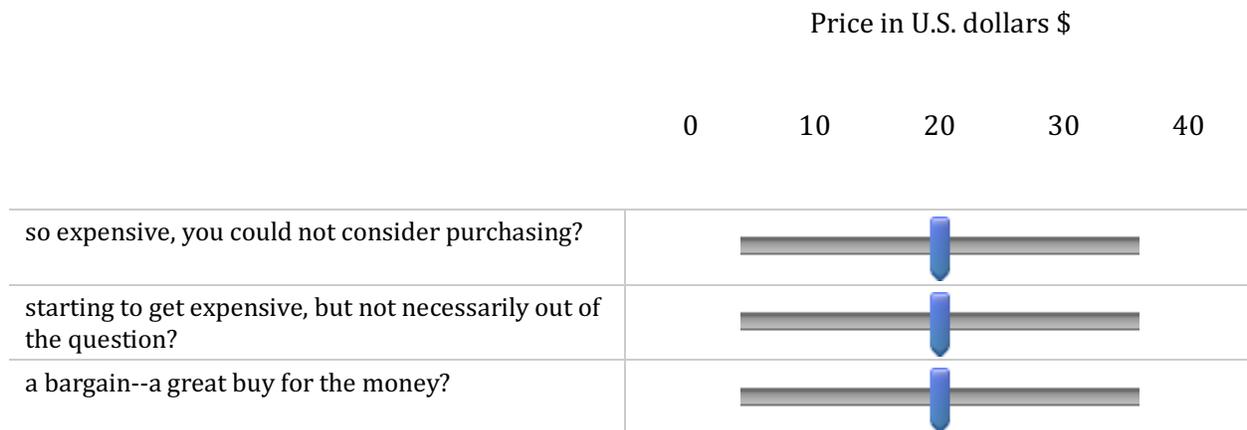


Question 13b is displayed if...

Q6 "Which products would you be interested in purchasing from your produce or broadline distributor?" = WI-grown carrot coins

And Q1 "What type of institutional organization do you work for?" = Non-School Institution

13b. At what **price per 20# case** would you consider **Wisconsin-grown carrot coins**:



14. **How many 20# cases** you would consider purchasing in a fiscal year if Wisconsin-grown fresh carrot coins came at a price equivalent to your "expensive, but not out of the question" answer?

15. Please share any additional product considerations or feedback.

End of Block: Carrots

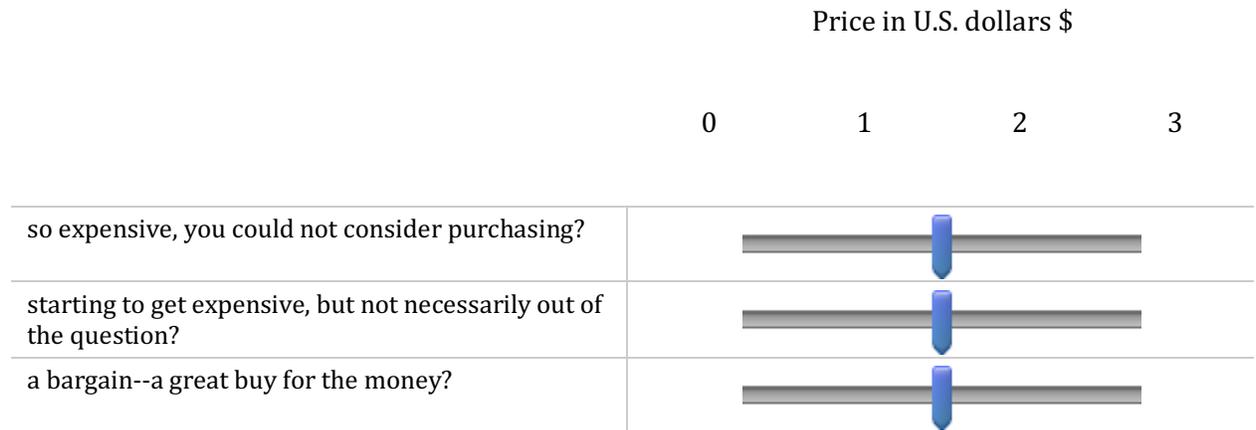
Start of Block: Potato wedges

Question 16a is displayed if...

Q6 "Which products would you be interested in purchasing from your produce or broadline distributor?" = WI-grown potato cubes

And Q1 "What type of institutional organization do you work for?" = School District

16a. At what **price per serving** would you consider **Wisconsin-grown potato cubes**:

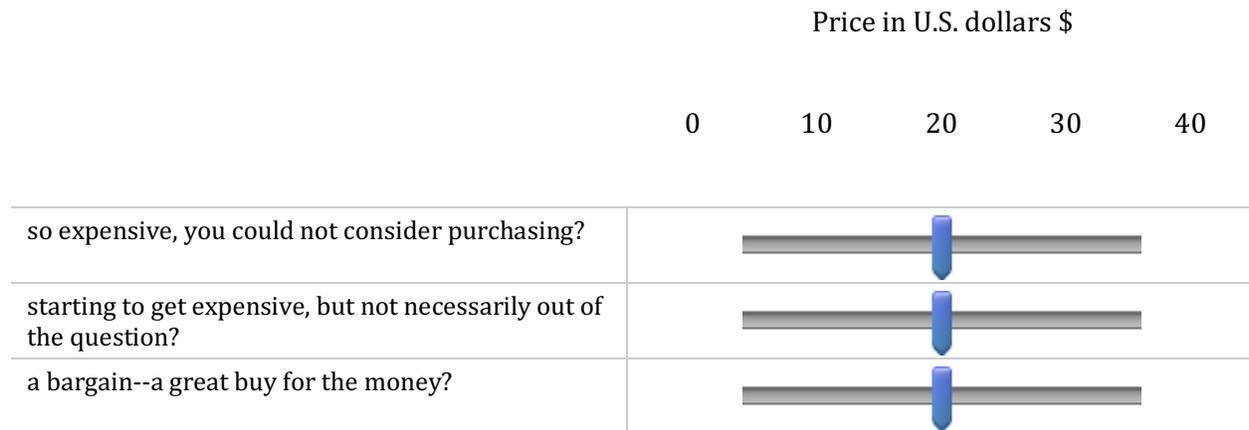


Question 16b is displayed if...

Q6 "Which products would you be interested in purchasing from your produce or broadline distributor?" = WI-grown potato cubes

And Q1 "What type of institutional organization do you work for?" = Non-School Institution

16b. At what price per 20# case would you consider Wisconsin-grown potato cubes:



17. How many 20# cases you would consider purchasing in a fiscal year if Wisconsin-grown potato cubes came at a price equivalent to your "expensive, but not out of the question" answer?

18. Please share any additional product considerations or feedback.

End of Block: Potato wedges

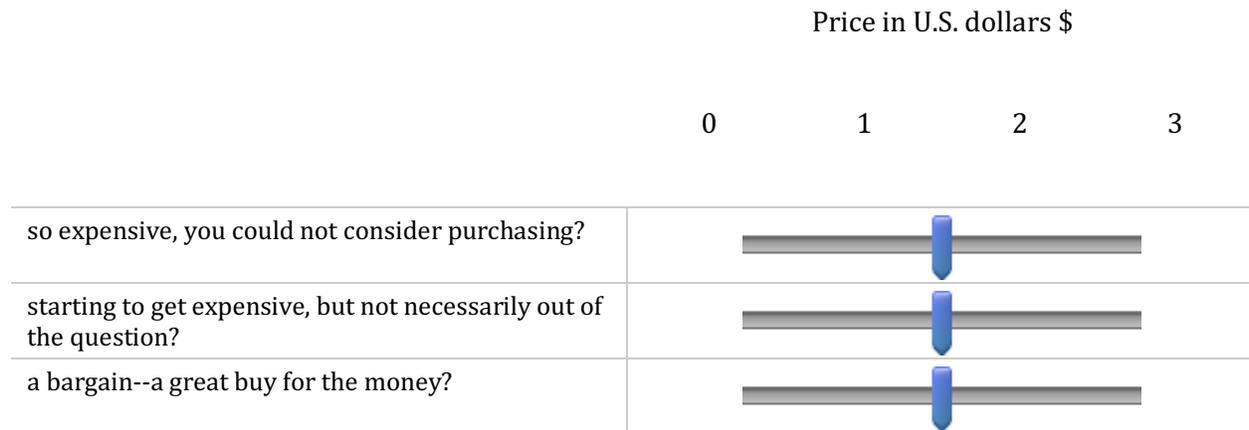
Start of Block: Yogurt

Question 19a is displayed if...

Q6 "Which products would you be interested in purchasing from your produce or broadline distributor" = WI-produced yogurt

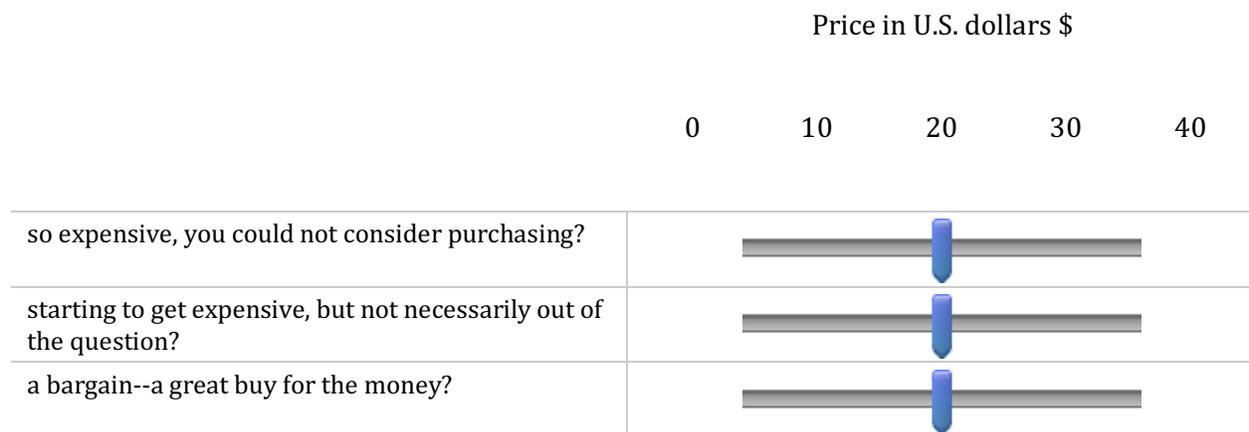
And Q1 "What type of institutional organization do you work for?" = School District

19a. At what **price per serving** would you consider **Wisconsin-produced yogurt**:



Question 19b is displayed if...
 Q6 "Which products would you be interested in purchasing from your produce or broadline distributor?" = WI-produced yogurt
 And Q1 "What type of institutional organization do you work for?" = Non-School Institution

19b. At what **price per 4-5# case** would you consider **Wisconsin-produced yogurt**:



20. **How many 4-5# cases** you would consider purchasing in a fiscal year if Wisconsin-produced yogurt tubs came at a price equivalent to your "expensive, but not out of the question" answer?

21. Please share any additional feedback.

End of Block: Yogurt

Start of Block: Technical Assistance Needs

22. Which of the following services would help you purchase more Wisconsin-grown foods?

Click all that apply.

- The ability to purchase through my produce/broadline distributor
- More training for my staff to incorporate local food into meals
- Additional recipes and menu plans that use local food
- Joining a listserv to connect with other foodservice using local foods
- "Grown in Wisconsin" promotional materials for the cafeteria
- Guidance on sources for additional funding to purchase local foods
- Other: _____

End of Block: Technical Assistance Needs

Start of Block: Contact

23. Your Contact Information

All responses will be kept confidential and will NOT be shared without your consent. A project

representative may contact you if a Wisconsin-grown product becomes available through your distribution channels.

Your Name _____

Job Title _____

Institution Name _____

Broadline Distributor _____

Email Address _____

Phone Number _____

City/Town _____

24. Thank you for taking the time to share your interest in Wisconsin-grown products. In appreciation, would you like your institution to receive a year's subscription to ChopChop Magazine?

Sign me up for a year's subscription to ChopChop Magazine

No thank you.

25. Please enter the mailing address where you would like your free subscription to be sent:

Recipient Name _____

Address Line 1 _____

Address Line 2 _____

City _____

State _____

Zip Code _____

For more information about the Farm to Institution Procurement Project, please contact Marlie Wilson, Farm to Institution Procurement Project Coordinator, WI Department of Agriculture, Trade and Consumer Protection: marlie.wilson@wisconsin.gov. Thank you!



GRANGER CENTER for SUPPLY CHAIN MANAGEMENT

Mutch Better Food, LLC



APPENDIX E. PRICE SENSITIVITY SURVEY RESULTS

Respondents by Institution

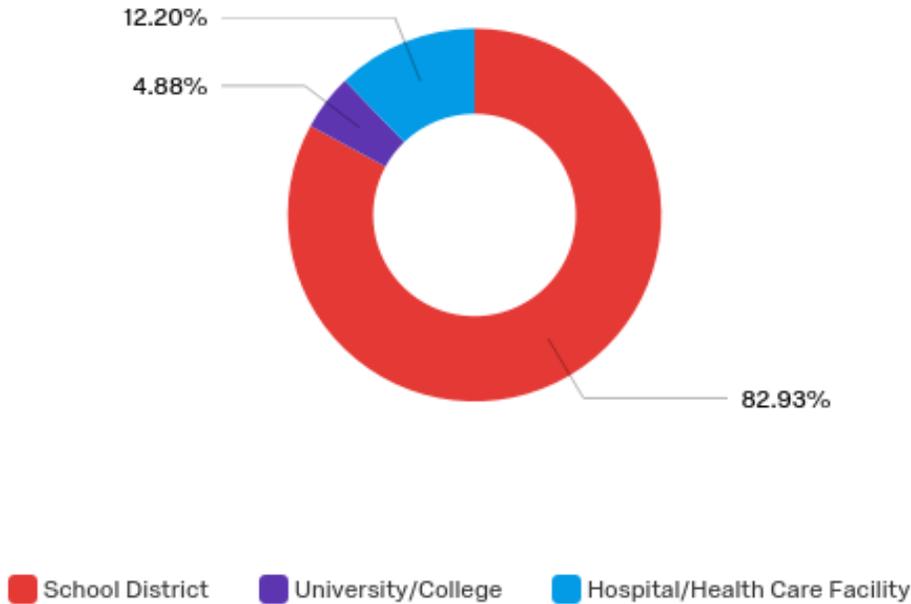


FIG.E1 SURVEY RESPONDENTS BY INSTITUTIONAL TYPE

Average Number of Daily Meals Served

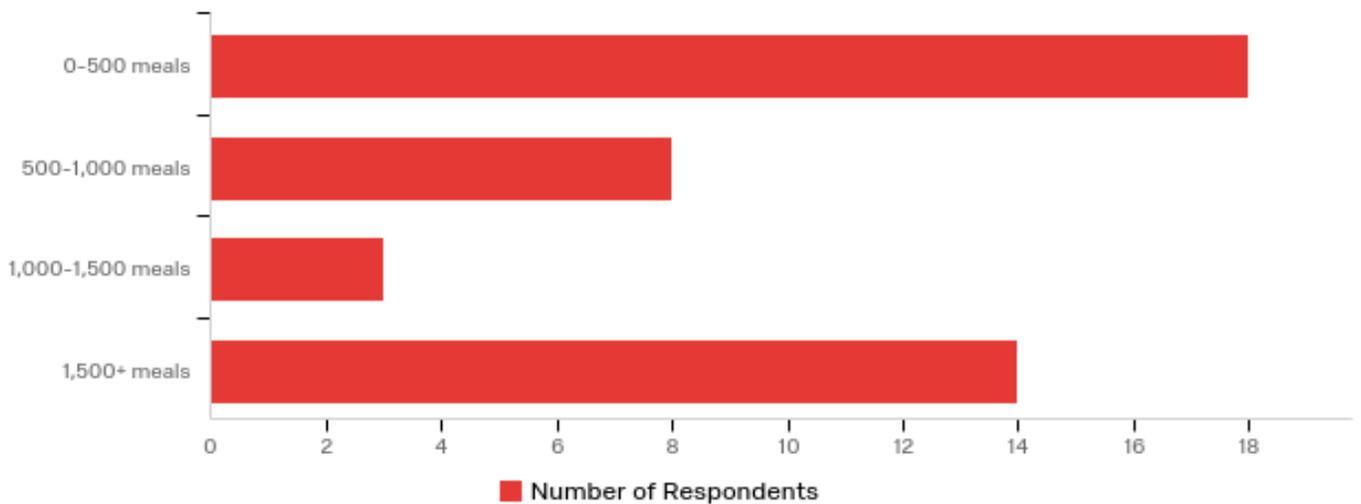


FIG.E2 AVERAGE NUMBER OF DAILY MEALS SERVED BY EACH INSTITUTIONAL RESPONDENT

Do you currently purchase products (other than fluid milk) that are identified as Wisconsin-grown?

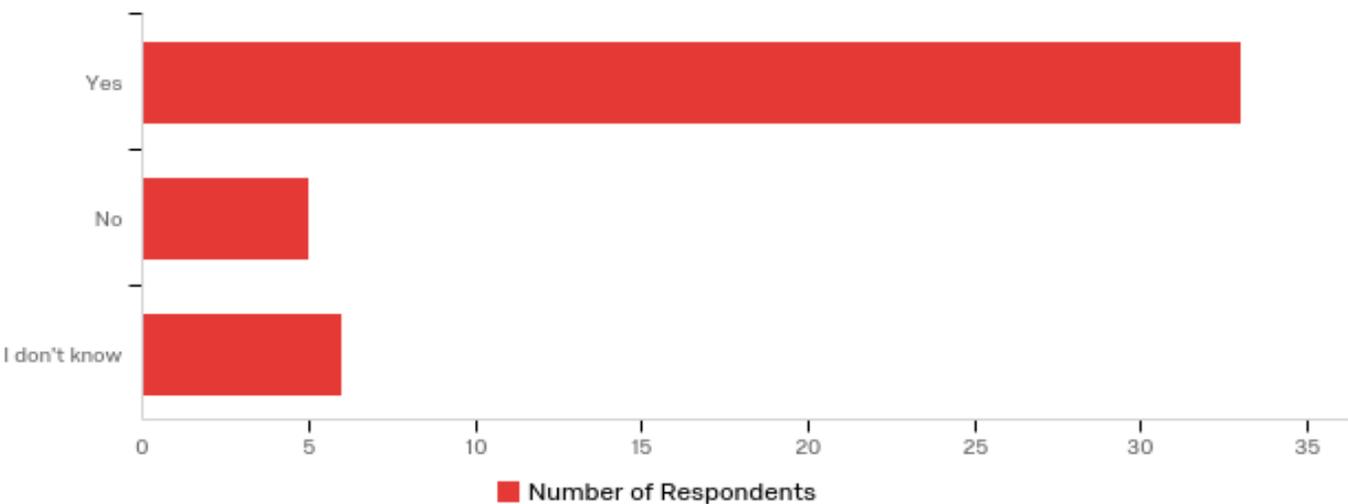


FIG.E3 NUMBER OF RESPONDENTS ALREADY PURCHASING WISCONSIN GROWN PRODUCTS

How much do you estimate that you spend on local, Wisconsin-grown products per year (excluding fluid milk)?

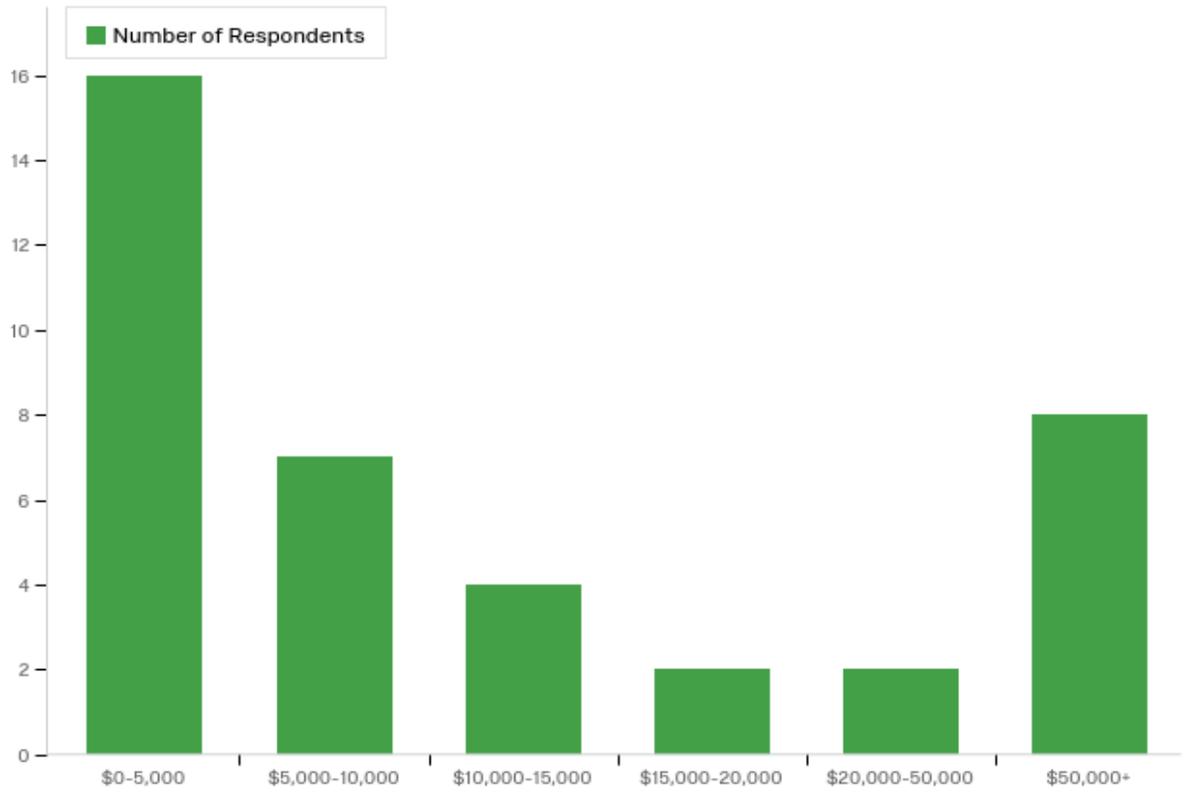


FIG.E4 AMOUNT SPENT ON LOCAL PRODUCTS BY RESPONDENTS ALREADY PURCHASING WISCONSIN-GROWN PRODUCTS

Percentage of respondents interested in purchasing each target product from their produce or broadline distributor:

(Assuming no difference in price between conventional and local products)

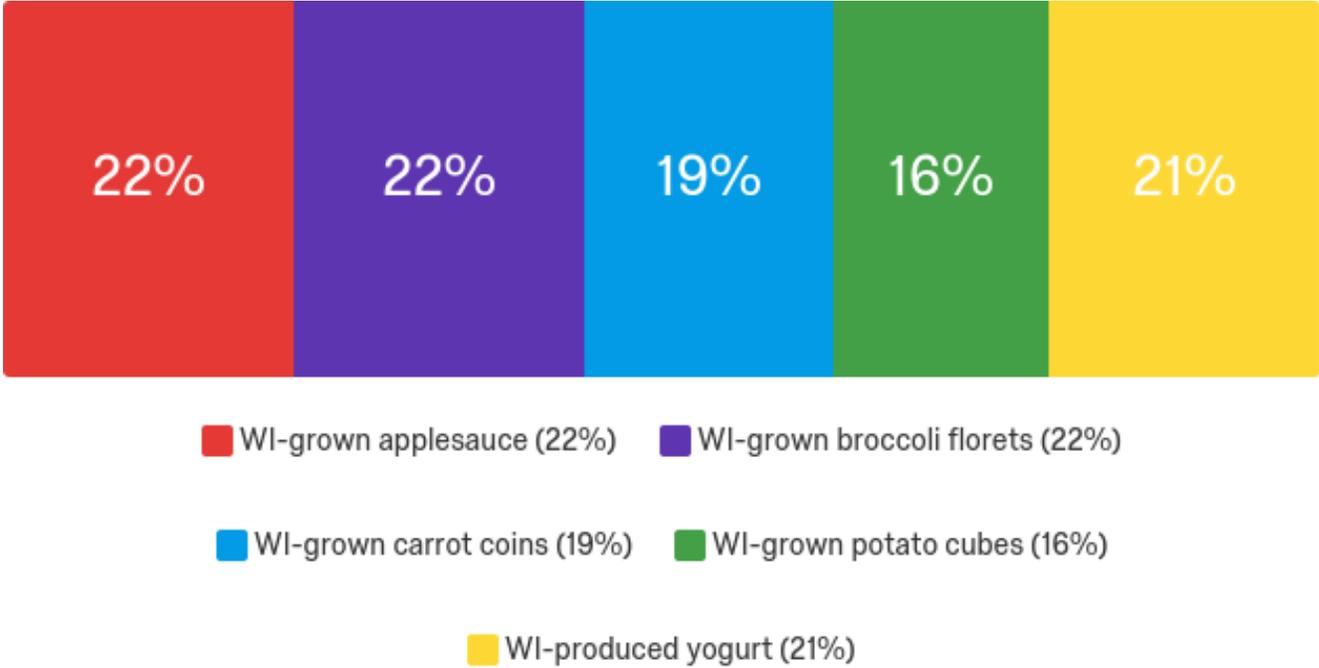


FIG.E5 PERCENTAGE OF SURVEY RESPONDENTS INTERESTED IN EACH PROCUREMENT STRATEGY TARGET PRODUCT

Price Sensitivity: Applesauce

TABLE E1. AVERAGE WILLINGNESS TO PAY PER 4.5 OZ SERVING OF WISCONSIN APPLESAUCE BY SCHOOL FOODSERVICE RESPONDENTS

Schools: At what price per serving would you consider Wisconsin-grown applesauce...	Mean	Std Deviation
so expensive, you could not consider purchasing?	\$1.00	1.05
starting to get expensive, but not necessarily out of the question?	\$0.78	0.75
a bargain--a great buy for the money?	\$0.52	0.77

TABLE E2. AVERAGE WILLINGNESS TO PAY PER STANDARD CASE OF WISCONSIN APPLESAUCE BY OTHER INSTITUTIONAL FOODSERVICE RESPONDENTS

Hospitals & Colleges: At what price per 72-4.5oz case would you consider Wisconsin-grown applesauce...	Mean	Std Deviation
so expensive, you could not consider purchasing?	\$32.71	6.36
starting to get expensive, but not necessarily out of the question?	\$26.23	10.41
a bargain--a great buy for the money?	\$16.09	4.51

Price Sensitivity: Broccoli Florets

TABLE E3. AVERAGE WILLINGNESS TO PAY PER 8OZ SERVING OF WISCONSIN BROCCOLI BY SCHOOL FOODSERVICE RESPONDENTS

Schools: At what price per serving would you consider Wisconsin-grown fresh broccoli florets...	Mean	Std Deviation
so expensive, you could not consider purchasing?	\$0.85	0.95
starting to get expensive, but not necessarily out of the question?	\$0.70	0.75
a bargain--a great buy for the money?	\$0.53	0.72

TABLE E4. AVERAGE WILLINGNESS TO PAY PER STANDARD CASE OF WISCONSIN BROCCOLI BY OTHER INSTITUTIONAL FOODSERVICE RESPONDENTS

Hospitals & Colleges: At what price per 20# case would you consider Wisconsin-grown fresh broccoli florets...	Mean	Std Deviation
so expensive, you could not consider purchasing?	\$36.35	4.02
starting to get expensive, but not necessarily out of the question?	\$30.76	2.60
a bargain--a great buy for the money?	\$26.26	7.89

Price Sensitivity: Carrot Coins

TABLE E5. AVERAGE WILLINGNESS TO PAY PER 8OZ SERVING OF WISCONSIN CARROT COINS BY SCHOOL FOODSERVICE RESPONDENTS

Schools: At what price per serving would you consider Wisconsin-grown carrot coins...	Mean	Std Deviation
starting to get expensive, but not necessarily out of the question?	\$0.61	0.75
so expensive, you could not consider purchasing?	\$0.90	1.05
a bargain--a great buy for the money?	\$0.38	0.49

TABLE E6. AVERAGE WILLINGNESS TO PAY PER STANDARD CASE OF WISCONSIN CARROT COINS BY OTHER INSTITUTIONAL FOODSERVICE RESPONDENTS

Hospitals & Colleges: At what price per 20# case would you consider Wisconsin-grown carrot coins...	Mean	Std Deviation
so expensive, you could not consider purchasing?	\$37.97	2.87
starting to get expensive, but not necessarily out of the question?	\$32.41	4.86
a bargain--a great buy for the money?	\$22.63	3.74

Price Sensitivity: Potato Cubes

TABLE E7. AVERAGE WILLINGNESS TO PAY PER 8OZ SERVING OF WISCONSIN POTATO CUBES BY SCHOOL FOODSERVICE RESPONDENTS

Schools: At what price per serving would you consider Wisconsin-grown potato cubes...	Mean	Std Deviation
so expensive, you could not consider purchasing?	\$1.14	1.08
starting to get expensive, but not necessarily out of the question?	\$0.62	0.42
a bargain--a great buy for the money?	\$0.35	0.25

TABLE E8. AVERAGE WILLINGNESS TO PAY PER STANDARD CASE OF WISCONSIN POTATO CUBES BY OTHER INSTITUTIONAL FOODSERVICE RESPONDENTS

Hospitals & Colleges: At what price per 20# case would you consider Wisconsin-grown potato cubes...	Mean	Std Deviation
starting to get expensive, but not necessarily out of the question?	\$25.43	2.09
so expensive, you could not consider purchasing?	\$30.73	0.62
a bargain--a great buy for the money?	\$18.56	2.60

Price Sensitivity: Yogurt

TABLE E9. AVERAGE WILLINGNESS TO PAY PER 4.5OZ SERVING OF WISCONSIN YOGURT BY SCHOOL FOODSERVICE RESPONDENTS

Schools: At what price per serving would you consider Wisconsin-produced yogurt...	Mean	Std Deviation
so expensive, you could not consider purchasing?	\$1.16	1.08
starting to get expensive, but not necessarily out of the question?	\$0.76	0.69
a bargain--a great buy for the money?	\$0.57	0.67

TABLE E10. AVERAGE WILLINGNESS TO PAY PER STANDARD CASE OF WISCONSIN YOGURT BY OTHER INSTITUTIONAL FOODSERVICE RESPONDENTS

Hospitals & Colleges: At what price per 4-5# case would you consider Wisconsin-produced yogurt...	Mean	Std Deviation
starting to get expensive, but not necessarily out of the question?	\$33.27	3.75
so expensive, you could not consider purchasing?	\$36.72	4.52
a bargain--a great buy for the money?	\$25.35	3.99

Which of the following services would help you purchase more Wisconsin-grown foods?



- The ability to purchase through my produce/broadline distributor (28%)
- More training for my staff to incorporate local food into meals (7%)
- Additional recipes and menu plans that use local food (12%)
- Joining a listserv to connect with other foodservice using local foods (8%)
- "Grown in Wisconsin" promotional materials for the cafeteria (26%)
- Guidance on sources for additional funding to purchase local foods (16%) ■ Other: (3%)

FIG.E6 PERCENTAGE OF RESPONDENTS REQUESTING TECHNICAL ASSISTANCE TYPE