Value Chain Strategies for Source-Identified Minimally Processed Produce for the School Market

Washington State Department of Agriculture
Commodity Inspection Division
Regional Markets Program

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Study Results

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Washington State Department of Agriculture
Commodity Inspection Division
Regional Markets Program
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I. Summary
From 2016 - 2017, WSDA analyzed minimally processed fruits & vegetable supply chains in Washington State in order to identify strategies for developing the “value chain” infrastructure and relationships that might help local farms meet the demand for those products from K-12 schools and other institutional buyers. A value chain model considers how value is added to a product or service at each step along the chain, recognizing and seeking to maximize the business benefit of engaging stakeholders from initial supplier through end customer. Value chains are often characterized by transparency and collaboration between suppliers, distributors, processors, sellers, and buyers. Many value chains feature relationships built on shared values, reflected in business operations and products. In Washington, several different groups of farmers have formed cooperatives and food hubs in order to develop value chain relationships as suppliers and distributors with processors, other food businesses, and their final customers. Throughout this study, they are referred to as “value chain businesses.”

WSDA studied food hubs and small farmer co-ops in the state to understand what barriers they encounter when developing source-identified, minimally processed products for school and institutional markets, such as fresh cut fruits and vegetables, dried fruit, or Individually Quick Frozen (IQF) vegetables and berries. Food hubs and farmer co-ops were identified as a key mechanism for value chain development to meet market demand for Washington grown, source-identified, minimally processed produce. WSDA investigated which strategies had been attempted and which might successfully meet institutional buyer demand for source-identified minimally processed produce. WSDA sought to understand barriers and opportunities for source-identified product development and to pilot some collaborations between potential value chain partners. WSDA also engaged processors to better understand their barriers for providing co-packing services, and their role in the value chain.

Study Goals and Objectives
WSDA examined the current state of need, availability, and desirability of minimal processing, storage, and distribution services for minimally-processed, source-identified produce in Washington. WSDA focused on multiple frozen or fresh cut products that school districts identified they are most interested in sourcing locally and that could be sold or processed through food hubs or small farmer co-ops. Through this study, WSDA answered the following questions:

- What are the existing and emerging supply chain models in Washington State for providing minimally-processed fruits and vegetables to schools and other higher-volume markets?
- What can we learn from current operations about the availability of affordable opportunities for growers to access processing, storage and distribution for these products and markets? What might traditional and alternative supply chain operators learn from each other?
- Do shared social or environmental values underlying some value chain efforts constitute a barrier to collaboration with potential partners in the traditional supply chain? Can those barriers be bridged?
- Is new physical infrastructure required, or can needs might be overcome developing by new relationships and integrating new participants in the value chain?

WSDA Regional Markets supported value chain development by:

- Testing and confirming assumptions about the lack of available processing, and barriers that food hubs and farmer co-ops face in Washington State to develop and sell source-identified, minimally processed products
- Understanding processor needs, capacity, and limitations for working with smaller growers
- Facilitating peer to peer learning about different food hub models across the state, and hubs’ attempts at processing products for the school market
- Identifying new opportunities to fill the processing infrastructure gap between direct market farms, food hubs, and school buyers
- Developing and supporting opportunities to fill infrastructure gaps
- Providing a basis for future business development, investment, and projects to help fill infrastructure gaps

Methodology
WSDA conducted applied qualitative and quantitative research to learn about traditional wholesale supply chains as well as values-based supply chains and value chain strategies. Project activities included surveying and interviewing farmers, food hubs, small farmer co-ops, and processors throughout the state. Throughout the project period, participants worked to become better networked to work towards the goal of increasing availability of local,
source-identified, and minimally-processed fruit and vegetable products for schools and other higher-volume markets. WSDA convened an advisory group of currently operating and in-development food hubs and small farmer marketing cooperatives to help WSDA understand their challenges and opportunities.

WSDA conducted interviews and surveys with food hubs, processors, and school districts to better understand perceptions and barriers that cause only 20% of existing processing businesses to provide for processing, co-packing, storage, and distribution services to small and mid-sized growers. WSDA surveyed over 100 processors in Washington State through a biennial survey. A follow-up survey was sent to a subset of 40 processors that indicated interest in pursuing new relationships with school buyers or small farm suppliers. WSDA also conducted interviews with a variety of small to medium sized processors to learn more about the barriers to direct sourcing from farms and food hubs, their ability to rent out their facilities, volume requirements, and limitations to offering their services on a contract basis to farms and food hubs.

**Key Findings Overview**

WSDA compiled findings related to several key areas through the study:

**Access to Processing**

The experiences of current food hub and farm businesses attempting to access affordable processing, storage and distribution were investigated. WSDA found that the availability of appropriate, minimal processing infrastructure (such as fresh cut, frozen, and dehydration) varies widely depending on the region and the crop. Most food hubs interviewed struggled to find scale-appropriate equipment, especially for mechanized slicing, dicing, and shredding, and blast freezers or other Individually Quick Frozen (IQF) equipment at an affordable price. Contracting with external businesses to provide processing services is challenging due to a mismatch in scale; most frozen processors in Washington are too large and require product minimums that food hubs & co-ops can’t yet meet, even through aggregation of product from multiple smaller farms. Many frozen & dried processors have consolidated and are vertically integrated, and are only able to process product for farm(s) directly connected to the business.

Fresh cut processing services in particular are available for some regions and products through co-packers or other creative processing partnerships, though these opportunities may not have been fully utilized by value chain businesses due to lack of information or food hubs’ coordinating capacity. Most farms, food hubs, and co-ops find a lack of specialized processing facilities for specific products (such as dried or IQF) in their region. Those facilities may exist in some regions, but often cannot provide new or small batch production services.

**Existing and Emerging Supply Chain Models**

WSDA worked to understand what the existing and emerging supply chain models in Washington State are for providing source-identified, minimally processed fruits and vegetables to schools and other higher-volume markets. WSDA found that food hubs are currently poised to meet the demand for minimally processed produce in three primary ways, each with their own opportunities and challenges:

- **Food hubs or co-ops as processors:** Some food hubs have developed internal infrastructure to process their own members’ produce into specific products. They are still working refine their operations, marketing, or suppliers to achieve a financially and operationally viable business model.

- **Food hub sales of farmer-processed products:** Some food hubs do not have their own processing infrastructure, but may have the opportunity to increase sales and marketing information about individual farmer members who already produce their own processed product that is sold through the food hub. Many of these products already fulfill wholesale buyers’ needs, and may just need additional marketing to wholesale buyers or adjustments to pack sizes and pricing.

- **Processor, farmer, and food hub partnerships:** Four out of five food hubs interviewed already sell to a small or medium sized processor. With additional time, resources, or information, food hubs and farmer co-ops could launch or develop source-identified products with a processor to better serve K-12 school buyer needs. At the time of this study, they may also need a relationship with a new scale-matched processor that has capacity for source-identified sourcing, product development, and marketing to K-12 school buyers.

These models are described in more detail in the “Recommendations & Opportunities” section.
Learning from Businesses Building New Relationships

Through interviews and surveys, WSDA compiled learnings about traditional supply chain operators, such as conventional processors, and emerging alternatives like food hubs and farmer cooperatives. Both sectors can learn from their respective strengths and challenges to inform value chain development. Conventional and traditional agricultural minimal processing infrastructure either no longer exists or has consolidated to run only with vertically integrated, high-volume product inputs from larger-scale farms. This leaves little capacity for custom processing runs for smaller-scale farms or purchasing raw product from new, smaller-scale suppliers. Traditional processors have developed flexible, competitively priced products that meet some school buyer needs, but face challenges sourcing from local farms, and building value chain partnerships such as co-packing with farmers, food hubs, or schools.

Food hubs see a high market demand from their buyers for source-identified, local processed product, but lack the capacity or infrastructure to respond. Some could aggregate the large volumes needed for processing internally, or through a co-packer. But these value chain businesses still have limited staffing or resources to develop and launch new products, especially when faced with very little access to processors who offer the right service, processing, expertise, and efficiency they need in close proximity.

Negotiating Values, Relationships, and New Participants

Throughout the project, WSDA worked to understand whether new physical infrastructure would be required to fill the supply chain gap, or whether needs could be overcome by developing new relationships and integrating new participants in the value chain. Overall, there is high need and demand for specialized, mechanized facilities and equipment for processing, product storage, and transportation at small and medium scales and oriented to local regional markets. Until further investment in infrastructure is made, or capacity for new processing is built within current staffing or facilities, food hubs and small to mid-sized farms will have very limited access to the processing services they need within their region. These farms have very few resources to invest in specialized, mechanized, efficient equipment needed to launch value-added, minimally processed products for a high-volume market such as schools and institutions at a price those institutions can afford. This points to potential opportunities for product development and investment through collaboration and partnership up and down the value chain.

To assist participating food hubs and small farmer co-ops with these issues, WSDA developed a toolkit for product development and future potential supply chain partnerships and a Salesforce database to provide better networking and referral services to support regional links in produce value chains. Together, these resources have led to improved WSDA services to support value chain networks and their increased success distributing locally produced, source-identified products.

II. Background

Purpose of the Study

WSDA initiated this project along with various partners in Washington State to:

- Better understand processor needs, capacity, and limitations for working with smaller growers
- Facilitate peer to peer learning about different food hub models across the state, and their attempts to create minimally processed products for the school market, such as fresh cut, dried, or frozen produce
- Identify new opportunities to fill the processing infrastructure gap between food hubs, direct market farms, and school buyers
- Develop and support opportunities to fill infrastructure gaps

WSDA’s study analyzed the relationships between food hubs, small farmer co-ops, farmers, processors, and school nutrition services. Through surveys, interviews, and other data sources, WSDA identified barriers hindering value chain relationships to supply source-identified processed products to schools, and identify or support the development of new value chain strategies. Food hubs and farmer co-ops were focused on as a key mechanism for value chain development. These value chain businesses facilitate the supply chain by working directly with their farmer members to provide source-identified products to customers and other supply chain partners. To meet market demand for source-identified, minimally processed produce, they play an important role.

This study intended to facilitate new connections between participants and resources in order to support future business relationships and value chain development to serve local institutional markets. This report aims to identify new models, tactics, and strategies that value chain actors can employ in developing business initiatives or source-
identified products. The study may also provide a basis for future business development, investment, and projects to provide sustainable solutions to help fill infrastructure gaps in creating source-identified products for the K-12 school market.

Assumptions and Previous Research
This study sought to confirm some assumptions and previous research about the lack of available minimal processing and the barriers that food hubs and farmer co-ops in Washington State face to create processed, source-identified products. Some studies have described a demand from both school buyers and farmers for ways to make processed or shelf-stable produce products and the need for greater connections with processing businesses.1 2 Yet, the relationships and supply chains necessary to create those products have not been developed. Previous research has suggested some possible explanations for this. WSDA investigated those explanations and suggest possible solutions.

Sales of fresh, unprocessed produce present a viable opportunity for some farmers and schools in Washington State to serve more local, source-identified, fresh foods to students. However, most schools need a majority of their produce to arrive at the kitchen prepared or “minimally processed” due to lack of proper scratch cooking equipment, skills, or staff time. Shelf-stable products, such as frozen or dehydrated produce allows schools to use local produce out of season. Processing "presents both [the] largest challenge & opportunity for institutions to purchase more local foods."3 Processing farm products for preservation – through freezing, drying, or canning – could be a viable solution to seasonality for both farmers and institutional buyers. Fresh-cut, bagged products would reduce buyer preparation time and labor costs, and can increase shelf life.

Small to mid-sized farms, co-ops, and food hubs face significant challenges to accessing processing services. The challenges vary depending on the product, type of processing needed, and region of the state. These challenges limit the viability and growth opportunities for the 5,300 direct marketing farms in Washington State4 to diversify their products, access new markets, and better serve their customers. Access to equipment and facilities to produce value-added products can “support additional farm-related businesses” and support rural economies.5 “Increased institutional purchasing will be difficult without investment in new facilities to allow for fresh product to be cut, frozen, processed, or packaged in a way that institutions can handle”6.

Lack of Scale-Appropriate Processing: Learning From Current Operations
Previous studies have analyzed the continued lack of available, affordable opportunities for growers to access minimal processing, storage and distribution.7 8 Many found that the produce processing facilities and businesses currently operating in Washington are often very large scale,9 lack the capacity or interest, or are burdened by regulations or business models that aren’t flexible enough to buy from small farmers or co-pack products.10 Many processors maintain efficiency with full processing schedules and little or no downtime and so can't find slots in their schedule to work with smaller producers.11 Many processors also have contracts for all their product inputs for a year or season and do not buy “on the spot,” making it difficult for direct marketing farms to sell directly to processors even if they have appropriate product and volumes.12

1 Cascade Harvest Coalition and Slow Money NW, Farm-to-Institution Strategies. 2014.
3 Cascade Harvest Coalition, 2014
5 Urban Food Link, 2012
6 Urban Food Link, 2012
8 Urban Food Link, 2012
11 Cascade Harvest Coalition, 2014
12 WSDA, 2008
In the Puget Sound region, many processing businesses are only licensed to process their own food products and are not interested in opening their facility to other producers or product lines due to cost and time restraints. Producers throughout the Puget Sound region, including both farms and food businesses, send their products long distances or out of state to other specialty food co-packers. This is especially true once a niche or start-up food product reaches a certain scale and volume and needs to access more efficient processing.

Farms that may want to build their own processing and become more vertically integrated also have challenges finding scale-appropriate, affordable, and efficient equipment. Some producers have to look broadly to find equipment that fits their scale, or even have it custom fabricated. Regulations also cause significant slowdowns or barriers for farms to integrate their own processing, or to form new relationships and supply chains with existing processors and their regulatory framework.

**Increasing Knowledge: Supporting Existing and Emerging Supply Chain Models**

Previous studies have found that there is a significant lack of information available for small farmers about types of minimal processing needed, and available processing businesses. The data that farms, food hubs, and co-ops would need in order to understand the steps between production, processing crops and distribution “is essentially nonexistent”. Through this study, WSDA worked to support relationship-building to foster more farm-to-processor connections, and provide other tools and strategies for developing solutions in addition to relationship-building and business inventories. Specific data on individual processing businesses has been identified as necessary to support strategies for direct marketing farms and smaller food business to access food service, retail, and other markets, including:

- Number of facilities, products they process, equipment available, and current markets
- Health department regulations and requirements for launching new processed products
- Identification of available community commercial kitchens or rental equipment
- Centralized support for food & farm business development
- Distribution and transportation options

This study set out to gather and provide some of that data on facilities, processing available, commercial kitchens and equipment, and strategies for building relationships between producers and processors. Farms and small food processors also need more business management and organizational development resources for producers and producer cooperatives to develop and launch new, successful products.

**Methodology**

WSDA conducted surveys and interviews to better understand the barriers processing businesses face in providing services for growers, needs and barriers food hubs and small farmer co-ops face when pursuing processing services, current processing capacity, and potential opportunities for source-identified, processed product partnerships. The project was designed with an applied, action research approach. WSDA engaged directly with project participants to pilot case studies, formulate value chain strategies, and support ongoing work towards source-identified product sales to schools.

**Advisory Group & Community of Practice**

The food hub and supporting agencies involved in the original project proposal formed an Advisory Group for the project. They were encouraged to participate in the Advisory Group since many represented well-established, wholesale marketing food hubs and small farmer co-ops operating in Washington State. Advisory Group Members included:

- 21 Acres
- Cloud Mountain Farm Center
- Deep Roots Foods
- LINC Foods

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13 Cascade Harvest Coalition and Northwest Agriculture Business Center, 2008
14 Ibid
16 Getts, 2014
17 Urban Food Link, 2012
18 Getts, 2014
19 Urban Food Link, 2012
20 Cascade Harvest Coalition and Northwest Agriculture Business Center, 2008
The Advisory Group met in April 2016 to advise on research goals, questions to study, and ideal outcomes for the project. It met again in November 2016 to review interview results, plan for processor surveys and interviews, give feedback on a project toolkit, and plan for a processor networking call in February 2017. Most Advisory Group members then joined a networking call with five processors in March 2017. Slides from Advisory Group meetings can be found in the appendix.

Engagement in Test Case Studies
WSDA also supported four case studies for specific product opportunities that arose during the project (outlined below), and provided ongoing technical support to food hubs on products, processing models, institutional sales, and business referrals based on contacts and potential relationships gleaned from research. WSDA became aware of four potential products from different food hubs in the state, all at varying levels of development and institutional sales. WSDA provided some limited technical assistance and facilitation to the value chain businesses involved in processing and selling a specific product. WSDA then used these cases to further explore the challenges and barriers emerging from surveys and interviews, test assumptions and experiences documented in previous analysis, explore efficacy of some possible collaborative supply chain models to overcome challenges, and gain more nuanced insight into different supply chain actors’ experiences.

WSDA Food Processor License Analysis
WSDA conducted a quantitative analysis of WSDA Food Processor Licenses for specific processing types in some regions of Washington State. The WSDA Food Processor License is required for businesses creating food products for resale or sale across multiple jurisdictions. It includes a wide variety of processed products, not limited to produce. WSDA staff analyzed the keywords listed on the “Foods Processed” section of the permit, to identify licensed processors that work with fresh produce in a way that might be relevant for the types of minimally processed products schools desire, such as Individually Quick Frozen berries. For example, WSDA compiled a list of all processors by location that were listed as processing “frozen” and “fruit”, “vegetables”, or “produce”. This information was then sorted by location to provide a general summary of available processing infrastructure, and helped identify gaps or opportunities in specific area where there is a lack of some processing types.

Surveys
WSDA Farm to School Schools Survey 2016
WSDA conducted a broad quantitative statewide farm to school survey of school districts in Washington State in June 2016 as a part of its biennial survey schedule. The voluntary survey was distributed to all 295 school districts in Washington State and received 174 responses.

WSDA Farm to School Processor Survey 2016
WSDA conducted a quantitative Farm to School Processor Survey from October-December 2016. This voluntary survey was distributed to all 2,033 businesses with an active WSDA Food Processor License. It received 186 responses. WSDA’s Small Farm Direct Marketing and Farm to School programs have conducted this Processor Survey biennially since 2012. To support the goals of this project, WSDA integrated new questions into this standing survey pertaining to processors’ specific needs and challenges for sourcing Washington grown product and/or offering services on a co-packing basis. Survey questions are provided in the Appendix.

WSDA Small Farmer Survey 2016
WSDA conducted a broad quantitative statewide survey of farmers in Washington State in June 2016, with particular focus on farm to school sales and access. The survey was voluntary and disseminated to farmers across Washington State receiving 219 responses.
WSDA Processor Focus Group Survey 2016
From the broad biennial WSDA Farm to School Processor Survey, a “Focus Group” of 48 processing businesses self-selected to participate in this project. These businesses were sent a follow-up survey in January 2017 and 15 responded. The Focus Group Processor Survey included more specific questions about processing types, capacity, Washington grown sourcing opportunities and challenges, fee structures, equipment, co-packing possibilities and barriers, and more. Survey questions are provided in the Appendix.

WSDA School District Local Processed Product Survey 2016
Through this project, WSDA sent a short questionnaire about local product and price preferences to school districts active with farm to school sourcing in different regions of Washington State. The survey was sent to 31 school districts with 9 responses.

WSDA Emerging Food Hub Survey
WSDA also distributed a qualitative questionnaire in January 2017 to 15 contacts from new, emerging food hubs, small farmer co-ops, and local agencies involved with food hub development. The majority of businesses surveyed have a primarily direct market strategy, and were asked what their interests and barriers were to increasing sales to schools and institutions. They were selected by WSDA staff based on knowledge of the sector, stakeholder referrals, online and farm guide research. This survey received 5 responses.

Interviews

Food Hub Advisory Group Interviews
In qualitative interviews conducted July through October 2017, seven individuals representing four food hubs shared their challenges selling to schools, accessing processing and co-packing services or operating their own processing facilities, along with general goals of their organizations and the support they provide to food producers. Interview questions are provided in the appendix.

Processor Interviews
WSDA conducted follow-up qualitative phone interviews in February through March 2017 with seven fresh cut, frozen, or value-added processors that opted in to participate in the project through previous surveys or were asked by WSDA to participate since they minimally process products that schools have requested. Fifteen total processors were invited to participate. These interviews illustrated processor barriers to direct sourcing from farms and food hubs, ability to rent out their facilities, volume requirements, and limitations to offering their services on a contract basis to farms and food hubs.

Review of National Models and Best Practices
WSDA did a brief national scan of best practices, models, products, and companies featuring source-identified produce sold to school markets.

III. Key Findings
WSDA compiled findings in several key areas regarding existing and emerging supply chain models, small farmer and food hub access to minimal processing, and traits of processors and food hubs that affect development of value chain relationships.

Access to Processing
The availability of appropriate processing infrastructure, including equipment, staffing, and product expertise, can vary widely depending on the region and the crop. Most food hubs interviewed struggled to find scale-appropriate equipment, especially for mechanized fresh cut and Individually Quick Frozen (IQF) products. Food hubs and farmers reported a need for specialized, mechanized facilities and equipment for processing, product storage, and transportation at small and medium scales and oriented to local regional markets. Equipment demand includes fresh cutting machinery and blast or shock freezers. WSDA set out to learn more from current operations about the lack of available, affordable opportunities for growers to access processing infrastructure.

Processor Availability by Region and Type
There may be a lack of access to processing services that farmers or food hubs need to respond to customer demand for source-identified, minimally processed produce. Analysis of WSDA Food Processor Licenses indicates
a low number of accessible minimal processing businesses and equipment. The regions below were selected based on proximity to major K-12 school buyers and value chain businesses:

<table>
<thead>
<tr>
<th>Region</th>
<th>Fresh Cut</th>
<th>Frozen Bulk Fruit</th>
<th>Frozen IQF</th>
<th>Frozen Bulk Vegetables</th>
<th>Dried</th>
</tr>
</thead>
<tbody>
<tr>
<td>N. Central WA</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>King</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Snohomish</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pierce</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Whatcom/Skagit</td>
<td>2</td>
<td>14</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Spokane/Stevens</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Yakima</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Thurston/Lewis</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Sources: WSDA Food Processor Licenses 2016, WSDA Biennial Farm to School Processor Survey 2016.

This also reflects WSDA’s findings from value chain business interviews. Most food hubs that have looked for a business partner to provide contract processing services have found that the service they needed was not available in their area.

**Processor Scale and Size**

Growers and food hubs appear to have some challenges accessing minimal processing due to the scale of processing businesses. Processors’ minimum purchase amounts is an indicator of scale and ability to purchase from small farms or food hubs, or provide small batch processing services for hire.

**Minimum Purchase Volumes**

Not all processors require large minimum purchase volumes in order to process a product. 78 out of 102 processors that responded to the WSDA Biennial Farm to School Processor Survey indicated they had minimum purchase amounts below 500lb of product. Yet of those 78 processors, few provide minimal produce processing services: 17% dry or dehydrate produce, 2% individually quick freeze produce, and 8% do fresh cut produce.

Of the processor survey respondents doing minimal processing, very few provide frozen or drying services. Processors that are available and provide minimal produce processing, may be too large and require product minimums that small farms, food hubs and co-ops can’t yet meet, even through aggregation of product from multiple smaller farms. By contrast, all 8 fresh cut processors and most dehydrating processors had product purchase minimums less than 3,000lb which may indicate greater access for small farmers or food hubs and co-ops.

<table>
<thead>
<tr>
<th>Minimum purchase amount</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 499 lbs</td>
<td>79%</td>
</tr>
<tr>
<td>500 - 2,999 lbs</td>
<td>11%</td>
</tr>
<tr>
<td>3,000 - 9,999 lbs</td>
<td>2%</td>
</tr>
<tr>
<td>10,000 - 24,999 lbs</td>
<td>1%</td>
</tr>
<tr>
<td>25,000 - 99,999 lbs</td>
<td>3%</td>
</tr>
<tr>
<td>Over 100,000 lbs</td>
<td>4%</td>
</tr>
</tbody>
</table>

Source: WSDA Biennial Farm to School Processor Survey 2016, n = 102
Capacity and Scale by Processing Type

Many frozen processors are also at capacity with current demand for their processing services. Of those responding to a question in WSDA’s 2016 Biennial Farm to School Processor Survey about their business model, only one provides contract processing services for other businesses. Three out of four frozen processors that responded to a question about why they don’t provide those services for hire indicate they are currently at maximum operational capacity with staffing.

Fresh cut processing is available and accessible at appropriate scales in the Puget Sound, Whatcom/Skagit, and Spokane regions. Many fresh cut processors interviewed for this project comingle product and are not set up to identify the various growers raw ingredients are sourced from. This is especially true for fresh produce distributors who also sell processed products to their end customers, and depend on undifferentiated produce from many global suppliers to fill orders. Their systems do not appear to be set up to identify single or various farm sources for specific products.

Crops Purchased and Processed by Businesses

Farmer and value chain business’ access to processing services is affected by the types of crops current businesses have the equipment to process. This may limit the opportunities to develop viable products using value chain strategies if local processors don’t have the expertise or equipment for products farmers or food hubs are pursuing. Focus Group processors indicated they process the following crops and/or currently purchase them for their own products, indicating more infrastructure is available for processing certain types of crops:

Crops Purchased by Processors

Source: WSDA Processor Focus Group Survey 2016, n = 15
Processing Types
Processing businesses participating in this project had a variety of processing types available, listed below. The processing types highlighted below are those that school buyers identify as their highest demand when sourcing locally. These processing types are among the least available from the processors Focus Group, though there is some interest in developing IQF freezing capacity. The “opt-in” group of processors below was self-selected through WSDA’s 2016 Biennial Farm to School Processor Survey. They indicating some willingness and interest to develop value chain relationships with farmers and schools in their region.

![Current Processeses and Interest](image)

Source: WSDA Biennial Farm to School Processor Survey 2016, project opt-in, n = 48

Scale-Appropriate Equipment Availability
Scale-appropriate equipment, especially for mechanized fresh cut and frozen IQF products, are not readily available at an affordable price if farmers or value chain businesses are interested in developing their own processing infrastructure. One producer reported having equipment custom-fabricated in order to get equipment that fits the size of their operation to run efficiently at a price point they can afford. One food hub acquired higher-capacity processing equipment that was expensive to operate without maximizing operational and staffing efficiency with consistent use from high volume, consistent product orders.

Food hubs and farmer co-ops also face a lack of long-term product storage. In interviews, many food hubs indicated they lack enough long-term storage capacity for processed products. This was especially true for on-site frozen storage, but applicable to large fresh cut or other high-volume orders for processed products that would require more refrigerated storage.
Existing and Emerging Value Chain Models

Small farmers, food hubs, farmer co-ops, and processors are attempting to serve school and institutional buyer demand for source-identified, minimally processed produce using “value chain” strategies. Some products, such as cut butternut squash and frozen berries, are available to a limited number of Washington schools from some farms, processors and distributors.

Food Hubs and Farmer Co-ops as Processors

Despite seeing market demand for processed products with current and future buyers, such as fresh cut and frozen vegetables, dried and frozen fruits, or value-added products, food hubs in Washington State have had challenges responding to that demand. Those challenges are described in more detail in later sections. Emerging value chain models and businesses are also responding to small farmer demand for scale-matched processing services for their raw crops or increased access to institutional markets that demand additional minimal processing, serving both the supplier and buyer steps in the value chain. This model includes food hubs developing their own in-house processing infrastructure to process farmer members’ raw products for end customers, and utilizing “co-packing” processing services from external businesses.

Farmer Demand for Regional Processing

Food hubs and small farmer co-ops are attempting to develop processing infrastructure that responds to both farmer interest in processing and sales to institutions, and processed product demand from institutions. Direct marketing farms that these value chain businesses serve in Washington State are continuing to pursue school markets, despite pricing and logistical challenges. 52% of the direct market farms responding to WSDA’s Biennial Farm to School Farmer Survey are “Somewhat interested” or “Very interested” in developing or expanding their sales directly to schools. 57% are interested in developing or expanding sales to other institutions. 71% are interested in selling directly to grocery or retail stores. Schools, institutions, and retail chains are all high-volume buyers of processed, prepared, or shelf-stable products with few source-identified local options available. Many direct marketing farms are also looking for opportunities to expand their sales to new or higher-volume buyers at a fair price, with “Direct to restaurant” and “Direct to retail” ranking behind only “On-farm sales” as the market farmers are most interested in expanding and developing.

When interviewed, value chain businesses participating in this project (representing over 115 producers) often mentioned the same processing types needed by their farmer members. Food hubs and small farmer co-ops also frequently mentioned specific processed products they see market opportunities for, listed below.

<table>
<thead>
<tr>
<th>Often Cited Processing Types</th>
<th>Often Cited Processed Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Quick Frozen Berries</td>
<td>Carrots coins or sticks, fresh cut</td>
</tr>
<tr>
<td>Individual Quick Frozen Vegetables</td>
<td>Strawberries, Individual Quick Frozen (IQF)</td>
</tr>
<tr>
<td>Mechanized slicing</td>
<td>Fruit, fresh cut</td>
</tr>
<tr>
<td>Mechanized dicing</td>
<td>Lettuce, fresh cut</td>
</tr>
<tr>
<td>Drying &amp; dehydration</td>
<td>Potatoes, fresh cut</td>
</tr>
<tr>
<td>Bagging &amp; vacuum sealing</td>
<td>Potatoes, frozen</td>
</tr>
<tr>
<td>Juicing or cider</td>
<td>Broccoli/cauliflower florets, fresh cut</td>
</tr>
<tr>
<td></td>
<td>Broccoli/cauliflower florets, IQF</td>
</tr>
<tr>
<td></td>
<td>Cabbage &amp; Slaw Mix, fresh cut</td>
</tr>
<tr>
<td></td>
<td>Root &amp; storage crops, IQF</td>
</tr>
</tbody>
</table>

Source: WSDA Food Hub Focus Group Interviews 2016
Barriers to Co-packing

One value chain partnership that food hubs and small farmer co-ops report attempting to pursue is a “co-packer” to provide processing services for source-identified products, that food hubs could then sell to interested school buyers. “Co-packing” is a partnership where a business processes a product for an external client using their inputs, recipe, label, branding, and specifications for the client to sell through their own channels. Many direct market farms, co-ops, and food hubs do not have the time, equipment, or food science expertise to invest in processing infrastructure. Sending their product to a co-packer for processing may be the most efficient, or only, option to create a processed product. This is also an opportunity for a processor to offer their services and participate in a value chain partnership.

While processing business do still exist in many regions of Washington, most do not have the ability to offer their services to external clients. In 2014, only 26% of processors responding to WSDA’s processor survey indicated they were currently offering co-packing. An additional 16% expressed interest. In 2016, only 17% of processors indicated they currently offered co-packing and an additional 13% were interested.

WSDA surveyed processors about the barriers they face in offering their services “for hire.” The primary barriers fall into two categories: capacity and administrative costs. These were cited twice as often as other barriers to explain why a processor may not be available for local, source-identified processing despite demand from farmers and buyers.

### Staffing and Equipment Capacity

At least 40 processors reported not having the staffing available to run their processing facility beyond current operations. Or, they may have the staff available, but don’t have equipment that can handle additional processing jobs. When asked what they would need in order offer more co-packing services for farms or food hubs, WSDA Processor Focus Group Survey Respondents indicated they would most need:

- Additional equipment to handle co-pack projects
- Templates or business planning tools for managing co-pack business process to save time
- Information about specific products needed for development and processing in order to invest

### Financing and Managing a Co-packing Model

Making services available to other farms or businesses can increase a processor’s costs. Marketing their services, managing clients and additional jobs, and continuously adapting, cleaning, or changing over equipment for new jobs can increase costs and decrease efficiency. Even with demand for their services, many processors indicated...
they don’t have the time to set up or manage a business model to contract out their services. Many indicated that grant financing for business expansion would help them offer more co-packing services.

**Processor, Farmer, and Food Hub Partnerships**

Processors are also attempting to respond to K-12 school buyer demand for source-identified, minimally processed produce. Emerging value chain models WSDA observed through this study include processors sourcing from Washington producers directly or from food hubs and small farmer co-ops, and co-operative product development with other value chain partners. WSDA received 186 processor responses in the 2016 WSDA Biennial Farm to School Processor Survey. Of those, a “Focus Group” of 48 processors (26%) opted to participate in this study, and 15 Focus Group processors (10% of total respondents) filled out a follow-up survey about their business.

Processors report consistent demand for Washington grown ingredients from their end customers. 27% of processors in the 2016 WSDA Biennial Farm to School Processor Survey report that their customers are asking for more Washington grown ingredients. A total of 77% of processors sell to customers that demand some level of Washington grown ingredients in the products they buy.

Similar to farms, food hubs, and small farmer co-ops in Washington State, most processors surveyed do not sell directly to K-12 school or other institutional markets. Some do indicate selling to broadline distributors, most of which serve the institutional market, or to specialty food distributors, but most sell directly to consumers, grocery retail, or restaurants.

![Washington Processors' Primary Markets](source: WSDA Biennial Farm to School Processor Survey 2016, n = 160)
**Sourcing from Washington producers**

Extrapolating from trends reflected in year to year comparisons between processors’ responses to WSDA’s Biennial Farm to School Processor Survey, direct sourcing of product from Washington farmers has fluctuated and may have decreased in recent years. This voluntary survey has been circulated to all WSDA Food Processor License holders, with response rates the past three years have declined from 203 to 114 of over 2,000 businesses, so is not be representative of all processors in the state. Regardless of trends, interest in increasing direct sourcing from Washington farmers and food hubs remains high at 70% of responding processors. Many of the 186 processors that responded in 2016 (57%) are also sourcing product directly from their own farm, usually engaged in washing, bagging, and packing activities.

<table>
<thead>
<tr>
<th>Do you currently or are you interested in sourcing product directly from Washington producers?</th>
<th>2012</th>
<th>2014</th>
<th>2016</th>
<th>% change 2012-2016*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currently sourcing product directly from producers</td>
<td>88%</td>
<td>58%</td>
<td>53%</td>
<td>-39%</td>
</tr>
<tr>
<td>Interested in increasing sourcing directly from producers</td>
<td>83%</td>
<td>59%</td>
<td>70%</td>
<td>-15%</td>
</tr>
<tr>
<td>Processors interested in sourcing product from a food hub or co-op</td>
<td>n/a</td>
<td>n/a</td>
<td>47%</td>
<td>n/a</td>
</tr>
</tbody>
</table>

*Source: WSDA Biennial Farm to School Processor Survey*

**Opportunities to Increase Local Sourcing**

Processors that are motivated to purchase more from Washington growers and increase sales to schools identified some key challenges. Value chain businesses are actively attempting to address many of these challenges.

Focus group processors indicated interest in acquiring better bulk pricing and better connections to food hubs or farms near them. They reported that access to “seconds” grade products would help them purchase more from Washington growers.

**What do you need to purchase more ingredients for your own products from Washington farms or food hubs?**

- Support utilizing more local ingredients, 11%
- Better pricing by buying "seconds", 44%
- Connections to farms in my area, 33%
- Connections to food hubs in my area, 55%
- Greater volumes in the products I need from food hubs or...

**Better bulk pricing, 77%**

*Source: WSDA Processor Focus Group Survey 2016. n = 9*

**Learning from Businesses Building New Value Chain Relationships**

Both food hubs and traditional processors are responding to market and demand from their buyers for source-identified, local processed product. Findings related to school district, processor, farmer and food hub needs or challenges in building new value chain relationships to respond to buyer demand are described below, to inform future value chain partnerships. Strategies with new participants or relationships may include integrating processor
needs and strengths as value chain participants, engaging farmers as value chain participants, and working directly with schools to meet their product needs to increase the value chain’s competitive advantage.

School Buyer Needs
Demand for source-identified, locally produced foods from school districts and other large volume buyers continues to increase. This customer serves as forms the basis for the value chain strategies explored in this report that farmers, food hubs, small farmer co-ops, and processors are using to respond to that demand.

According to WSDA’s 2016 Farm to School survey, 24% of schools are “Very interested” and 24% are “Somewhat interested” in purchasing food directly from farms, a 31% increase in school buyer interest from WSDA’s 2014 Farm to School survey.

However, school districts are limited in their ability to order foods directly from small scale farmers. Ordering and preparation staffing capacity, equipment, seasonality, and scratch cooking skills are factors that require 83% of school districts to get “Most” or “Some” of their foods minimally processed. Many institutions are accustomed or required to follow a sourcing model and acquire products from broadline, produce, and specialty distributors which limits the sales potential for raw, unprocessed fruits and vegetables directly from small or medium sized farms.

WSDA conducted a School District Local Processed Product Survey in 2016 which received 9 responses. The survey asked school districts about their interest in certain locally sourced, minimally processed products. The results were combined with a University of Washington analysis of WSDA’s 2012 Biennial Farm to School Survey of schools about preferences for specific product, and additional analysis of survey results that University of Washington provided in 2012. Combined results from all sources show there is consistency in the products that remain in high demand:

<table>
<thead>
<tr>
<th>Local product</th>
<th>Schools interested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shredded lettuce</td>
<td>68%</td>
</tr>
<tr>
<td>Broccoli florets</td>
<td>52%</td>
</tr>
<tr>
<td>Carrots sticks</td>
<td>51%</td>
</tr>
<tr>
<td>Salad mix</td>
<td>44%</td>
</tr>
<tr>
<td>Sliced apples</td>
<td>35%</td>
</tr>
<tr>
<td>Corn kernels</td>
<td>33%</td>
</tr>
<tr>
<td>Frozen strawberries</td>
<td>34%</td>
</tr>
<tr>
<td>Frozen peas</td>
<td>28%</td>
</tr>
<tr>
<td>Cauliflower florets</td>
<td>28%</td>
</tr>
<tr>
<td>Frozen blueberries</td>
<td>27%</td>
</tr>
</tbody>
</table>

Sources: WSDA Biennial Farm to School Processor Survey 2016, n = 88  
WSDA School District Local Processed Product Survey 2016, n = 9  
WSDA Farm to School Survey Findings – University of Washington NUTR 531, March 2012
School District Price Points and Values

The WSDA School District Local Processed Product Survey in 2016 also asked about pricing preferences. Many indicated they had very little flexibility in pricing for a locally sourced product when compared to a similar conventional product, and many conventional processors are currently filling this need. But some school districts would pay slightly more for some specific items if local and source-identified.

Since minimal processing adds value for schools and reduces other costs associated with local, fresh product, schools are willing to pay more for a minimally processed product than they would for same fruit or vegetable in an unprocessed form.

Learning From Traditional Processors in Value Chains

Currently operating conventional processors provide a critical piece of an institutional food supply chain. WSDA interviewed seven processors providing a variety of minimally processed products, and researched the business models of other processing businesses operating in the region. The observations below about their operational strengths may be useful to small farmers, food hubs, small farmer co-operatives, schools and processors themselves in developing value chain strategies for source-identified products.

- **Flexibility**: Some small and medium sized processors, especially fresh cut processors who deal with perishable items, indicate they have fairly flexible processing operations in order to respond to customer needs and custom order processing on a day to day basis.
- **Pricing**: Many processor businesses serving school buyers deliver fresh products for a low price. This requires high volumes of product, low and efficient processing costs, and lower-priced inputs. Some processors in the Puget Sound area are considering source-identified, local processed product lines, which may be able to be marketed to schools and other instructions at a price that allows farms of various sizes to supply raw product at a price they can afford.
- **Promote product lines**: Companies offering minimally processed products have successfully differentiated some product lines from other companies’ offerings by highlighting attributes such as freshness, local sourcing, or other customer needs. Companies also promote new, unique, or source-identified products to buyers to differentiate these products from their own full offering.
- **Freshness & quality**: All processors interviewed pride themselves on high-quality product and premium freshness. Many do buy produce from Washington growers in season, in order to get the freshest product possible. Food hubs and small farmers can provide product to meet this need, often within 48 hours of harvest, where many mainstream distributors can’t.
- **Vertical integration**: Some amount of vertical integration is a common approach in the industry. Most regional produce distributors also operate their own processing facilities. Many regional processors, who also often sell to K-12 schools through broadline distributors, also make their own sales and deliveries. Though many frozen IQF berry processors exist in some areas of Washington, they primarily process only their own harvest or that of closely affiliated growers, with little capacity for working with new farmers.

Small farmers, food hubs, co-ops, or schools seeking to hire processing services or develop new products and partnerships with traditional processors may need to address some of the following barriers:

- **Scheduling**: Most processors, while nimble and responsive to customer orders and needs, run on very tight weekly schedules and turnaround times in order to stay efficient and maximize throughput. Their weekly schedules for new or co-packed product from farms and food hubs would be limited to narrow windows of time. Seasonally, they are available during winter and fall months outside of the height of harvest season. Of the processors that participated in the study, 78% of their availability for co-packing is November through May, and only 33% indicated they had availability for co-packing during peak harvest time of June-October.
- **Marketing and information sharing**: Processors who are interested in sourcing more product locally indicate they struggle to find farms near them, don’t know current product availability, struggle with the seasonality from a single farm, can’t source directly from farms due to distribution challenges, or don’t find farms to have the product consistency they need.
- **Size, scale, and regulations**: Some food hubs and individual farms have attempted to work with more conventional processors in the past, with little success. In some cases, where processors have
demonstrated enthusiasm and interest in farm-direct sourcing, the processors’ own policies on food safety, packing, grading, or other logistics have been a barrier for direct marketing farms.

Learning From Farmer Co-ops and Food Hubs in Value Chains

Even with internal processing equipment, or by working with external processors, food hubs and small scale farmer co-ops found creating processed products to be challenging. Some observations about their operational strengths may be useful to small farmers, schools, processors, and food hubs themselves in developing value chain strategies for source-identified products.

The strategies and challenges described below are based on interviews and surveys of the six food hubs selling into wholesale markets in Washington State that participated in this study. Emerging value chain models observed include attempting to develop processing capacity internally, or utilizing external partnerships with other businesses that can provide processing services to capitalize on market opportunities while filling farmer. Food hubs and farmer co-ops were viewed as a key value chain partner in this study, as their supplier transparency plays an important role in meeting market demand for source-identified, minimally processed produce.

Processing Challenges

Food hubs and farmer co-ops are faced with very little access to processors who offer the right service, product, and efficiency they need in close proximity. They have attempted to develop processing infrastructure internally, such as product development, product formulation, operating the equipment, locating raw ingredient supply, and packaging. Food hubs, processors, schools, or other institutions, may see opportunities to develop value chain strategies with new participants to overcome these barriers:

- **Lack of staffing capacity & expertise:** Labor costs, staff time and skills were the most-cited barriers for food hubs looking to create processed products. Similar to processors themselves attempting to offer co-packing, food hubs and farmer co-ops have very little labor or expertise with current staff to develop a processed product, market it to buyers, and to do the processing of the product.
- **Funding and economies of scale:** Food hubs found it difficult to access funding to invest in equipment, and then the consistent or pre-committed orders to create economies of scale to justify the purchase of specialized, mechanized equipment. When potential or actual processing capacity for a specific product became available, many food hubs lacked funding for market and buyer development and sales to generate purchases and reach an economy of scale quickly for a niche product.
- **History:** Some food hubs observed that older generations of farmers in some regions aren’t motivated to develop processed products with food hubs or co-ops. Historically, many farmers simply sold raw product (sometimes even having the processor come harvest the crop) to a processor without any further involvement.
- **Quality issues:** Without product development and food science expertise, quality of some locally processed product initiatives did not meet customer expectations.
- **Raw product supply:** Some food hubs found that they had interest and demand for certain processed products, but would not have consistent supply of raw product from their farms to regularly fill orders and reach economies of scale.

Schools and Institutional Sales Challenges

All the food hubs interviewed expressed interest in selling more processed and fresh, whole local produce to K-12 schools, and institutions such as colleges and hospitals. Schools, other food hubs, distributors, or processors, may see opportunities to develop value chain strategies to overcome the barriers that limit these sales:

- **Ordering & delivery logistics:** The small scale distribution of food hubs and farmer co-ops make it difficult to access K-12 schools very narrow order and delivery windows.
- **Procurement & regulations:** Most food hubs in Washington State are fairly new to school and institutional sales. Many identified procurement regulations schools require as a challenge for food hubs to participate and compete as a vendor. Some food hubs can’t yet meet vendor requirements, insurance requirements, or food safety requirements (such as Good Handling Practices for the food

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21 See “Participating Food Hubs & Farmer Co-ops in Washington State” section of this report for an overview
hub and Good Agriculture Practices for participating farms) to become approved vendors for a district, or for purchasing programs like the USDA Pilot Project for Unprocessed Fruits and Vegetables.

- **Pricing & competition:** Food hubs’ scale and size of supplying farms makes it hard to compete with prices offered by more mainstream produce suppliers. They also find it challenging to compete with the level of ordering and delivery logistics that broadline distributors can offer.

- **Inconsistent orders:** Even when food hubs make relationships with school buyers, they found that orders could be sporadic and difficult to increase, indicating a lack of integration of the vendor into K-12 school food service operations.

**Farmer Engagement Strategies**

Many food hubs in Washington State are cooperatively owned by small farmers, and work intensively with farmers to develop the food hub, including new initiatives like processing or high volume school, university, or hospital sales. Food hubs and co-ops are taking a “value chain” approach by involving farmers as members and participants in a product supply chain, providing a competitive advantage for their business. Other value chain participants may be able to learn from food hubs about involving farmers in processing, product development, and school sales:

- **Simplicity for farmers:** As one co-owner of LINC Foods observed of their processing initiatives, “farmers want us to buy raw product and take it from there”. As food hubs develop products or processing operations, they have observed that making it simple for farms to supply raw produce for processed products can increase success in building value chains.

- **Communicating to farms that schools & processing are a viable market:** Many food hubs and co-ops involve farmers in decision-making about new markets to pursue, or initiatives such as value-added or expanding the food hub products mix. This engagement helps the food hub meet customer needs, but also increases farms’ and food hubs’ competitive advantage in the market. Some food hubs are developing a proposal for their farmer members and suppliers about the benefits and sales potential in order to successfully take on higher-volume institutional buyers or processed products.

- **Institutional market differs from restaurants:** Many food hubs have built up a viable buyer base with restaurants, retail stores, Community Supported Agriculture programs, universities and corporate cafeterias, and food banks. K-12 schools, with budget restraints, meal price limitations, and regulations, are a different and more challenging market for food hubs serving small and medium sized farms. Some food hubs have begun to engage and training with farmers to meet school price points or target certain products at prices that may already be competitive.

**Negotiating Values, Relationships, and New Participants**

There remains some misalignment with the goals and priorities of some potential value chain participants. Though conventional processors and distributors seek to meet their customers’ demands for “local” products, definitions of local vary. Not all processors and distributors are equally committed to farmer branding and source transparency, prices set by their farmer members that food hubs charge, Certified Organic or environmental values, and other food hub and farmer co-op goals. Using a “value chain” approach, food hubs, processors, and farmers can work cooperatively to meet the needs of buyers, such as K-12 schools, who are seeking products with values such as sustainability, source transparency, and convenience. Many buyers are willing to pay more or purchase higher volumes of products that meet those values.

**Food Hub Missions & Goals**

WSDA asked food hubs and small farmer co-ops about their goals, mission, and values. Common themes emerged, along with some values unique to only one or two of the organizations interviewed. These goals help maintain supply by building farmer membership through a strong value proposition. Food hubs and farmer co-ops are able to use clear farmer source identification to add value to their products for the end customer, increasing the food hub’s competitive advantage in the marketplace.

Of the food hubs interviewed, most are working to:

- Provide access for small farmers to new and higher volume wholesale markets
- Make it easier for farmers to access the markets that food hubs and farmer co-ops serve
- Support small farm economic viability
All the food hubs interviewed measure their success by increased farm revenue and sales, and increased participation from local producers. Most are striving to become sustainable, stand-alone businesses, and have a greater amount of farmer control over the co-op and management.

<table>
<thead>
<tr>
<th>Goal</th>
<th>Food Hub Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to new markets</td>
<td>5</td>
</tr>
<tr>
<td>Access to wholesale markets</td>
<td>3</td>
</tr>
<tr>
<td>Support small farmers</td>
<td>3</td>
</tr>
<tr>
<td>Support farm economic viability</td>
<td>2</td>
</tr>
<tr>
<td>Support new farmers</td>
<td>2</td>
</tr>
<tr>
<td>Product aggregation</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: WSDA Food Hub Focus Group Interviews 2016

Value Proposition for Farmers

Food hubs and co-ops cited specific problems they are working to solve for small farmers:
- Making sales to new and higher-volume markets easier
- Guaranteed sales
- Fairer prices
- Reducing transportation and marketing costs

They offer a high volume sales opportunity different from most conventional wholesale distributors with a better sale price for farms, technical assistance to producers entering new markets, price and source transparency to retain farm branding, and lower sales volume for entry into the wholesale market.

Participating Food Hubs & Co-ops in Washington State

Food hubs and co-ops in Washington State have formed over the past 10 years in response to wholesale buyer demand for source-identified products from local farmers, and small farmer demand for easier access to new or wholesale markets. Their history, level of development, and structures vary, but all have considered or pursued K-12 Schools sales and minimally processed products. They play a key role in value chain development and facilitating the supply chain to meet market demands for source-identified, minimally processed products. Their success with processed products, including fresh cut vegetables, has been varied and limited.

Below is a snapshot of the food hubs and small farmer co-ops that participated in this study. Longer profiles, along with brief summaries of other merging food hubs in Washington State, can be found in the Appendix.
IV. Learning from Alternative Supply Chains: Case Studies

All the Washington State food hubs participating in this study explored development and sale of various minimally processed produce items during the course of this project. Many were building off of previous years of piloting, product development, and related efforts. Others were small opportunities pursued by WSDA staff as a part of this study. Results from all of those experiences were considered in this project. The case studies are illustrations of existing and emerging supply chain models for providing minimally-processed fruits and vegetables to schools and other higher-volume markets.

OPMA Dried Peaches

In summer, OPMA’s Marketing Coordinator contacted WSDA’s Project Coordinator about a surplus of thousands of pounds of apricots and peaches available from two member farmers. The surplus fruit was fresh and perishable, so a sale was urgent but the cooperative did not have a ready buyer.

Approach

WSDA and OPMA took a two-pronged approach to find processing buyer(s) for the product:

a. **Contract processing for an institutional purchaser:**

   WSDA sent out a notice to potential school and summer meal program buyers who might be interested in buying a local dried or frozen peach product. One childcare center responded and was willing to work out details for purchasing a local dried peach product. WSDA and OPMA were then tasked with locating a company to process the fresh peaches into a dried or frozen product.

b. **Direct sales to a local processor:**

   WSDA also reached out to small batch processors that source local apricots or peaches for their products, including ice cream makers, dried fruit companies, and commercial ingredient processors. Of those that responded, most were artisan processors who were interested in a small amount of fruit for current production and to test out new products, though only a portion of the surplus available.

Product Demand

WSDA worked to coordinate dried peach volumes and pricing between OPMA and the childcare center. Key decision-makers were unavailable at critical times, making this a challenge. The childcare center expressed interest in purchasing both dried and frozen peaches. At the time the center was purchasing fruit from Food Services of America to serve 120 children per day. They were interested in shifting their purchasing to get a better quality product and support local farmers. They had been planning to buy vegetables from a local farmer in their area during the summer. The childcare center had limited dry and frozen storage capacity and was interested in purchasing more total product than they could receive at one time.

Processing Gap

WSDA simultaneously worked to locate a small batch processor that could process 400 pounds of dried peaches and 50 or more pounds of frozen peaches. WSDA contacted local fruit processors near OPMA, and small processors along an OPMA distribution route to the buyer. The four dried fruit processors contacted either:

1. Does not process product for others
2. Had moved processing to a co-packer in California
3. Had retired and closed the business
4. Did not return calls

A fifth fruit processor and distributor near OPMA only processes fresh cut hard fruits, and doesn’t do any drying.

WSDA could not identify many companies that could process a small batch of frozen peaches. One processed only treefruit grown on their own farm, with no capacity to process for other farmers.

Outcome

A small batch co-packer did express interest in freezing small amounts of frozen peaches at a commercial kitchen as a pureed product. WSDA worked with the co-packer to get a cost quote for processing the volume of frozen
OPMA peaches needed in order to generate a firm price for the childcare center. Without raw product for a test run and limited staffing to do the freezing, the processor didn’t see an opportunity for a return in order to justify committing extra staff time to take the job on.

While WSDA and OPMA coordinated regularly on product availability, they continued to seek other fresh market buyers for the peaches and apricots. Ultimately, by the time the co-packer was available to receive product for a test run, OPMA had found enough other buyers to purchase the fresh product.

Through the process, OPMA and WSDA discovered an OPMA member farm, Apple Cart Fruits, had acquired dried fruit processing equipment from a retired small fruit processor and had some of their own dried apple product. They were also willing to dry fruit for other farms and custom orders with enough demand. OPMA sent samples of Apple Cart Fruit dried apples to the childcare center to gauge interest in a different fruit product for their food service.

**Challenges for Producers**

- **Timing:** This project began in early summer and went through peak season for the fruit varieties OPMA markets. Larger school districts were already off for summer break, reducing buyer options, and delays locating a processor led OPMA to find other fresh market buyers.
- **School needs:** While dried fruit was something the childcare center would purchase, they would have preferred a sliced, IQF peach product. An available processor to make the preferred product could not be located.
- **Storage capacity:** Both the childcare center and OPMA lacked the frozen storage capacity to store a frozen product even if a processor was identified.
- **Staffing capacity:** Most frozen or dried processors contacted lacked staffing capacity to do the processing or coordinate development of a new, small batch product in a short window of time, including the participating small batch processor.
- **Calculating processing costs:** The small batch processor had challenges calculating an accurate fee to process OPMA’s fruit in order for OPMA to then generate an end price for the buyer.

**Key Takeaways**

- Small batch tree fruit processors, especially for medium-sized single batch of product, mostly do not exist in Washington State.
- School districts and food service were used to product specifications that small processors may not be equipped to meet.
- There was interest in higher quality, source-identified processed tree fruit from some institutions.
- When surveyed, school districts did not rank dried tree fruit as a product they were interested in.

**Opportunities**

OPMA and member farmers are currently pursuing a build-out of additional dried fruit capacity. OPMA may be able to find a future market with grocery, retail, and other large volume buyers for source-identified dried fruit products, but it may not be a product most school districts are interested in.

**Viva Farms Organic IQF Strawberries**

Many of the farmers participating in Viva Farms incubator specialize in fresh strawberries. Though the fresh strawberry market is still very strong for their farmers, they are looking to diversify their market by creating a Certified Organic IQF strawberry product in order to have an option to preserve product when there is a surplus and extend the opportunity for sales into other parts of the year.

**Approach**

Viva Farms conducted a feasibility study for a Certified Organic IQF strawberry processing facility before the launch of this project. Their results indicated a high market demand and good price from retail buyers for the product as well as some demand from school buyers. Viva Farms’ study included pricing for two different frozen berry setups, both requiring a fairly large capital investment.

Until funding for a new facility could be mobilized, Viva Farms reached out to WSDA about pursuing a berry co-packer in Whatcom or Skagit Counties that they could use in the interim.
**Product Demand**
Viva Farms was mostly seeking processing infrastructure to respond to the need from their farmers to preserve and store surplus produce. School districts also indicate very high demand for a source-identified, IQF strawberry product. Viva Farms feasibility study found that schools alone, with their lower price point, may not provide a valuable enough market to make a new processing center, or even the effort to find a co-packer, viable. But paired with higher-value retail buyers and other institutions, interested K-12 school buyers could provide significant and dependable sales volume.

**Processing Gap**
Both Viva Farms staff and WSDA reached out to a variety of berry farms and processors with potential capability to offer custom freezing on a contract basis. At least seven farms in Whatcom and Skagit Counties have IQF berry freezing equipment, but were unable to fill the processing gap because they:

- Process only their own product
- Don’t process strawberries
- Don’t do Certified Organic production
- Lack the staffing or equipment to do contract processing

Most companies with IQF facilities were vertically integrated to freeze berries produced on their own farms or have established ongoing processing relationships with neighboring producers and were unable to take on new processing business from external producers.

**Outcome**
After attempting to contact and develop relationships with many of the berry processing companies identified by Viva Farms and WSDA, the primary viable strategy was to partner with Cascadian Home Farm. Now a part of General Mills, the Cascadian Home Farm in Rockport, Washington is a small farm. The small, on-farm food processing facility had some small berry washing equipment and does bulk freezing of Certified Organic berries grown on-site for ice cream products at their farm stand. Though not a full IQF line, Viva Farms would benefit from use of the equipment to do mechanized washing and create a higher quality bulk frozen product. Cascadian Home Farm would gain a strong community partnership with tangible benefits for new, socially disadvantaged farmers. Viva Farms is assessing the viability of transporting berries out to use Cascadian Home Farm’s berry washing equipment and bulk freezing capacity.

**Challenges**
- Some berry freezing equipment and businesses exist in the region but lack the ability to take on new processing jobs.
- The primary challenge for Viva Farms was the lack of Certified Organic IQF berry processing in small batches. This was a critical requirement to align with Viva Farm’s values, fair prices, and their customers’ demands.

**Key Takeaways**
- There was demand and interest for a small batch, Certified Organic IQF berry freezing facility from Viva Farms strawberry growers. Such a facility would likely be in demand for other Certified Organic growers in the region, especially if able to create frozen vegetable products.
- There was demand from K-12 schools statewide for a source-identified, IQF berry product. Certified Organic is not a major requirement for K-12 school buyers.
- There was significant demand from large, non-school buyers for a source-identified, Certified Organic IQF berry product.
- Increased processing capacity would allow Viva Farms’ new farm businesses to continue scaling up and also support other regional producers.

**Opportunities**
Future investment and development of regional processing facilities that are flexible with scheduling, batch size, and staffing to take on small and medium batch frozen, IQF fruit and vegetable products, including Certified Organic, would be in high demand from local producers.
Creative collaboration between partners that have aligned values, but haven’t yet pursued supply chain partnerships, has potential. Even though Cascadian Home Farm doesn’t provide full IQF, Certified Organic processing, they can provide some extra processing capacity and mechanization to help temporarily fill the infrastructure gap, and may spur ongoing partnerships.

**LINC Foods Carrots**

LINC Foods had been regularly supplying Spokane School District in Eastern Washington with fresh, locally grown whole produce for their school lunch program, especially for a "Harvest of the Month" promotion. LINC Foods was interested in supplying more local foods for standard items used weekly, beyond the Harvest of the Month promotion.

**Approach**

Spokane School District and LINC Foods met during the winter to determine which products LINC Foods could supply outside the occasional Harvest of the Month purchase. Both were interested in identifying regularly used ingredients that could be purchased from LINC Foods as a primary supplier throughout the school year.

**Product Demand**

Because the school year didn’t align with the main growing season in Spokane County, LINC Foods determined early on that the products in demand by the district that they could feasibly supply would be limited to storage crops. Primarily, potatoes, carrots, cabbage, and beets, all items that can be grown and stored throughout the winter months. Initially, LINC Foods farms supplied small potatoes that could be roasted whole, without any chopping. This worked well for the supplying farms, as these potatoes don’t meet grading standards but fit a useful, time-saving niche for the schools.

During the school year, LINC Foods and Spokane School District identified rainbow carrots as a possible product when processed into sticks, coins, or baby carrots. LINC Foods had to build capacity to purchase raw crops and create a fresh cut carrot product regularly at relatively high volumes. Their individual farm suppliers were not interested in developing a processed product on their own. They preferred LINC Foods purchase and aggregate the raw product from them before making the processed product.

**Processing Gap**

Initially, LINC Foods wasn’t able to find a processor available to co-pack a fresh cut carrot product for them. Though some capacity exists in Spokane, the values and volumes were not aligned with available processing businesses and they lacked information about smaller processing companies. Previous piloted fresh cut products were sent to Mission Mountain Food Enterprise Center in Montana for processing but that was unsustainable for a fresh product. LINC Foods turned to processing products in-house by investing in their own processing equipment. They acquired a Robot Coupe CL-55, a mechanized processor able to slice, shred, and cube produce in small quantities.

**Outcome**

LINC Foods quickly realized they didn’t have the staffing available to run processing of weekly orders with their current set-up. They hired Pantry Fuel, a fresh meal service and catering company, and LINC Foods customer, to run the processing equipment and charge LINC Foods an hourly rate. With prep, set up, and cleanup costs, they needed to process at least 600 pounds of raw carrots at one time to keep the price reasonable for their buyers.

In the fall, Spokane School District was ordering cut carrot coins for their salad bars. Initially, the product was different than students and nutrition staff were used to which caused challenges. LINC Foods has continued to refine the product with schools and other institutional buyers. Most recently, LINC Foods and Pantry Fuel have already outgrown the storage capacity for raw and finished product in their current facilities. LINC Foods is seeking a larger processor to handle the volume of custom processing they need to serve their customers.
Challenges
- LINC Foods’ ability to create a processed product cost effectively depended on maintaining an order volume that uses their internal and external processing infrastructure efficiently.
- Information about product specifications, such as cutting dimensions and pack size, was difficult for small scale processors to find.
- Small-scale processors had limited access to food science resources and ability to test run product to refine product formulations to meet customer expectations.
- Lack of mechanized, scale-appropriate equipment and storage space for raw and finished product created bottlenecks for launching new processed products.

Key takeaways
- Even with intensive planning with schools and buyers for a source-identified, minimally processed products, customers may still expect conventional product specifications.
- Farmers preferred that food hubs and co-ops to take on the creation of processed products by purchasing the raw crops from farmers and coordinating the processing and sales.
- Even with creative partnerships with small processors, other variables like product specification and economies of scale made locally sourced, processed products for school markets a challenge.

Opportunities
- There is still demand for a variety of salad bar items and other frequently used products like cubed, frozen squash. Increasing processing infrastructure, including the ability to cube and freeze winter squash, is something LINC Foods is working towards.
- LINC Foods can build off their success planning ahead for school years and growing seasons with buyers for specific, unique products.
- Harvest of the Month is a model that works well for small farmer co-ops to sell to schools and other institutions. Institutions make commitments to a Harvest of the Month crop, some of those items could be processed for the buyer to add value, efficiency, and since there’s a sales commitment.

Cloud Mountain Farm Center Salad Mix through Puget Sound Food Hub
Cloud Mountain Farm Center is a farm member, supplier, aggregation site and distribution partner for the Puget Sound Food Hub Co-op. Cloud Mountain Farm Center launched a pilot project with Whatcom Foundation and Northwest Agriculture Business Center to develop a viable, processed crop for school and other institutional buyers and assess the feasibility of a processing facility.22

Approach
Cloud Mountain Farm Center is a nonprofit community farm center providing education, mixed fruits and vegetables, a nursery, community events and classes, while also providing aggregation and distribution for the Puget Sound Food Hub. NABC and Cloud Mountain Farm Center assessed the costs, volume, and price points for a variety of products, and did test processing runs. Salad mix was determined to be the most feasible based on costs of production, processing, and price points from potential buyers, including a local university.

Product Demand
School buyers did not indicate major demand for a spring, “mesclun” style salad mix, though they frequently use some form of prepared lettuce and salad mix. The price point required by the farms and food hub was also too high for K-12 School buyers. Despite some interest from school buyers once the product was available, order volumes were very low and less frequent than expected. Cloud Mountain Farm Center discovered that significant demand exists for salad mix from buyers other than K-12 food service, including hospital and private food service.

22 Some of this case study is based on findings in the pilot project’s final report titled “A Collaborative Request for Funds to Test and Document the Actual Production and Operating Costs for Processing Fresh Vegetables for Local School Districts”. Prepared by Mardi Solomon & Holly O’Neil, Whatcom Farm-to-School Support Team; Tom & Cheryl Thornton and Michael Deitering, Cloud Mountain Farm Center; and Jeff Voltz, Northwest Agriculture Business Center
**Processing Gap**

Cloud Mountain Farm Center and project partners built out a processing facility in the farm’s packing building, primarily focusing on a greens washing system. No co-packers existed to do fresh-cut processing in Whatcom County, so equipping the farm to efficiently process their own fresh cut product was the only option. Cloud Mountain Farm Center also had the opportunity to vertically integrate the processing facility with their own salad mix production systems and with other producers in the general area.

**Outcome**

Despite regular sales of washed, bagged salad mix during the growing season to some buyers through the Puget Sound Food Hub, the processing facility is operating below capacity. Order volumes for Cloud Mountain Farm Center’s own salad mix are not high enough to reach maximum efficiency and other farms have not taken advantage of the facility’s ability to process their products in enough volume for Cloud Mountain Farm Center to staff the facility efficiently.

**Challenges**

- Though K-12 schools and public food service were target buyers for a potential local, source-identified processed product, schools’ price points alone were still too low for a viable product. Most schools were only willing to pay a price for local, processed salad mix that was still 20% below cost of production.
- K-12 schools usually required deliveries early in the morning. Puget Sound Food Hub’s order and delivery schedule did not align well with those requirements. Puget Sound Food Hub’s ordering system had technical limitations to make the salad mix available for school buyers to purchase online.
- Since order volumes for salad mix and other processed products were below capacity, finding part-time, seasonal labor for processing jobs was difficult and not cost effective.
- Occasionally the salad mix product didn’t meet customer expectations for quality, appearance, or specifications, partially due to the trials of scaling up a new product and due to differences from conventional products on the market.

**Key takeaways**

- School priorities, budgets, and capacity may have changed since the project started. Schools may now be willing to pay slightly more for locally produced and processed product.
- Farmers show less demand than expected to rent a facility themselves, pay for co-packing, or may not be aware of the opportunity.
- With small-scale processing, it’s difficult to plan when orders are inconsistent and change week to week.

**Opportunities**

- Standing orders of processed product from buyers would allow small processors to coordinate staffing, operations, raw product, and distribution for greater efficiency.
- There is some interest from farms to sell raw produce to a small, regional processing facility to use as ingredients in an end product that the processor sells and distributes.
V. Analysis

WSDA analyzed the study findings from the surveys, interviews, and case studies to draw some conclusions about barriers and opportunities for small farmer and food hub access to processing, existing and emerging supply chain models, and institutional sales. Some conclusions include limitations to farmer and food hub access to external processors, trends in value chain model strategy and development for minimally processed products, and how institutional sales may be affected by value chain strategies.

Access to Processing

External processors
Processors open to new small and medium size batches of product, especially for tree fruit and frozen berries and vegetables, are very rare. Demand from small growers for businesses to provide minimal produce processing services remains high, especially for Certified Organic products. The processors that do exist may be too large and require product minimums that food hubs & co-ops can’t meet.

Developing Value Chain Models

Ordering & Delivery Logistics
Food hubs and small scale processors face challenges with small-scale processing, it’s difficult to plan for efficiencies when orders are inconsistent or change week to week. School operations are often streamlined with broadline distributor ordering schedules and processes, making new food hub ordering systems extra work. Some schools that are interested in purchasing from food hubs are too far from usual food hub delivery routes for delivery to be feasible and cost-effective.

Farmer Engagement
Some small scale food hubs and farmer co-ops faced challenges engaging their farm suppliers in product development or processing initiatives. A simplified model includes the food hub buying raw product from multiple member farms for consistent or pre-planned orders, processing it, and then selling the end product under a co-branded food hub with farm sources labeled. Expecting farmers to develop and sell their own products, and do the processing themselves, may have limited success. Farmers may prefer to sell the product to another entity, such as a food hub, for further processing rather than rent a facility or do the processing themselves, especially for higher volume (and potentially more efficient) products.

Food hubs and farmer co-ops also see a need to effectively communicate to farms and food hubs the market and sales opportunities for schools and processing. They can then engage their farmer members in developing buyers and products cooperatively. As food hubs develop infrastructure for processing or have equipment for rent, they would benefit from developing a structure that is easy for farmers to access, and communicating clearly about the opportunity.

Aligning values
Some processors indicate they can’t afford to buy directly from small farms due to price constraints of their end product for their buyers. But since food hubs and farmer co-ops provide value other than price, they may be able to partner with processors to provide products that meet environmental, social justice, source-identified, convenience, varietal, or other needs. In addition, many food hubs could still hire processors with a low-cost model to process products for sales through the food hub’s own channels.

Rural economic development
Developing value chains may be a significant opportunity for rural economic development. Where many rural economies in Washington are dependent on agriculture as a core industry, secondary processing services for food producers increases rural economic activity, has the potential to increase local purchasing, and supports small farm viability. Some counties in Washington State are recruiting processing companies for their region to increase economic activity.\(^\text{23}\)

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Institutional Sales

Pricing
Food hubs have an opportunity to coordinate supply and negotiate pricing with schools in order to increase sales with the right products. Depending on processing costs, this may make a local source-identified, minimally processed product more comparable in price to a minimally processed conventional product for school buyers.

Many processing businesses already serving school buyers deliver a fresh, quality product for an affordable price. This may limit the opportunities for small scale farmers, food hubs, and co-ops to partner with processors for sales to schools if their prices for raw ingredients are higher than the processor used to, and is unwilling to pass that cost along to the end buyer. Yet some schools are willing to pay slightly more for local, source-identified processed produce, and would pay more for prepared local produce than the unprepared, raw product. Some food hub or co-op prices may also be comparable to some fresh commodity prices for ingredients process are using currently, depending on the product.

Procurement
There is interest in higher quality, source-identified minimally processed produce from schools and other institutions. Examples include Individually Quick Frozen berries, broccoli florets, lettuce mixes and carrot sticks or coins. But school priorities, budget, and capacity for purchasing those products can decrease over time, jeopardizing the planning and investment that goes into launching new products. Alternatively, schools’ ability to pay more for source-identified products may also increase. K-12 schools may not always have the staff time available to navigate their procurement process and purchase from food hubs, who often use a model with multiple prices and product inconsistency from individual farms.

Competition
Broadline distributors have a highly refined and formulated mix of products to serve the food service industry that many food hubs lack information about, or the expertise and resources to develop. School districts are often accustomed to the broadline distributor processing specifications, which small processors may not be equipped to meet.

Institutional market differs from restaurants
Food hubs accessing K-12 schools, and other institutional buyers, may have to take a more active role coordinating buyer commitments and crop planning, pricing, and even food service packing standards. Many food hubs observed that institutional markets are less flexible than the lower volume “bulk” buyers, such as restaurants, that food hubs offer farms increased access to.

VI. Value Chain Strategies & Practices
There are a few models, practices, and strategies that food hubs and small farmer co-ops in Washington State could pursue, or are already pursuing, to provide more source-identified, minimally processed products for the school market. WSDA’s findings illustrate the potential for these strategies in some key areas.

Access to Processing
Capacity building: Processors that are interested in working with food hubs and farmers to develop products for the K-12 school market lack management, staffing, or equipment capacity to form new partnerships. Schools, universities, hospitals, and other institutional buyers along with food hubs could work with processors to build capacity, such as developing product specifications, shared investment/financing business expansion or equipment purchases, or sharing equipment or staff time. Resource providers could develop templates or business planning tools for managing co-pack business model to save processors’ time.

Processing labor and product consultation: All food hubs report needing more trained internal processing staff and/or contract processing options in order to create more processed products. Consultation on developing specific products, formulation, and specifications for the food service market from experts would be something most food hubs would benefit from to develop the right high quality products for schools.

Existing and Emerging Value Chain Models
Farm-to-Processor-to-School: Some processors reported having participated in farm to school pilot projects or already deliver their products directly to schools. These existing supply chain relationships could be opportunities to increase the availability of locally sourced, minimally processed produce for school buyers. Farms and schools
Value Chain Strategies for Source-Identified Minimally Processed Produce for the School Market

need these services could approach current processors about purchasing from farms or improving source-identification. Processors interested in meeting school demand for more source-identified products can establish buying relationships with farmers directly or with food hubs that are able to aggregate and deliver products. Food hub prices may be higher than processors’ current suppliers, in order to support the small farmers they work with. Farms, food hubs, and processors could add value to the end product for school buyers through local sourcing and farm source identification, providing a higher value and differentiated product.

**Leveraging current products:** Some food hubs, such as OPMA and Puget Sound Food Hub, already have farmer members that create their own processed products. Some of these products have been identified as in high demand by food service buyers, and could be marketed through the food hub more deliberately to buyers with wholesale and food service needs. The products may need to be packaged differently to meet food service packing standards and volumes. These product lines that already meet food service buyers’ needs for a source-identified, minimally processed products could be highlighted and featured in marketing and promotion focused on food service buyers.

**Align with wholesale requirements:** School districts and institutional food service buyers would be able to buy more effectively if they can compare pack sizes and product specifications between traditional vendors and food hubs. Food hubs such as Puget Sound Food Hub and LINC Foods are working to align their packing and processed product specifications to match what institutional food buyers expect.

**Leverage commitments to local purchasing:** Many school districts have developed Harvest of the Month programs to feature a local product every month, and other institutions may have commitments to source a certain percentage of local products. Food hubs and small farmer co-ops can help institutions meet those commitments by providing some products minimally processed as needed, or increase purchases of minimally processed products since institutions save on preparation and labor costs. Food hubs such as LINC Foods and Cloud Mountain Farm Center have worked to increase volumes for seasonal product rotations with school buyers, including those that could or should be processed.

**Farmer engagement:** Many of the food hubs in Washington State excel at engaging their farmer members in many parts of the sales, marketing, and distribution operations. This increases buy-in from farms and the ability for value chain businesses to better negotiate in good faith with farmers and institutional buyers where there may be disagreement on price to find viable opportunities. New initiatives would benefit from continuing the practice of engaging and educating farmers on the market potential and ramifications of processed product initiatives.

**Building New Value Chain Relationships**

**Branding and farm source promotion:** Some minimally processed products that schools are currently purchasing from their broadline distributors already use Washington or locally grown products, including sliced apples and some frozen berry products. Both the processor and distributor could improve source identification, information, and promotion of suppliers for their Washington grown ingredients, so school and institutional buyers are aware of the locally grown products they are already using.

**Pre-planning sales and supply chain coordination:** Most food hubs in Washington are doing some level of brokering or negotiating of prices between customers and farms based on shared value, to find a fair price for a product and volume that works for both farmer and buyer. But it’s often ad hoc and not approached formally as a differentiating or strategic advantage. Some food hubs and farmer co-ops, such as LINC Foods, have recognized they have a major role to play in pre-planning crop production, minimal processing and volumes with school and institutional buyers, then negotiating and brokering prices for those “contracts” before the growing season starts.

**Educating buyers:** Many food hubs, including Puget Sound Food Hub, LINC Foods, and 395 Produce Corridor, have educated local buyers on the importance of transparency, fair prices for farmers, and seasonality. This is a critical component for value chain development, to help buyers understand producer perspectives, growing practices, seasonality, constraints, and other aspects of locally sourced products. Buyers need more information about the values food hubs and small farmer co-ops work towards: supporting family farms, fresh and seasonal foods, social justice or sustainability.

**Transparency with school buyers:** LINC Foods and 395 Produce Corridor have worked intensively with school buyers to negotiate pricing, and are clear with school buyers about the pricing realities of buying from local, smaller scale farms. This has built trust and relationships to build off of, and a common understanding of goals and values.
Reduce number of crops farmers have to grow: Farmers, especially small-scale direct marketing farmers seeking some larger volume sales, are interested in growing fewer crops, especially for wholesale markets according to some food hubs interviewed. They would benefit from growing more of fewer crops for the higher volume buyers and food hubs serve.

Work with schools & universities to deliver through current channels: Some of food hubs’ institutional buyers would buy more, or be more interested in starting to purchase from a food hub, if they were able to get deliveries from current distributors. Some food hubs have begun discussing how their product and orders could be delivered by broadline distributors to certain institutions, with orders and invoicing happening between the institution and food hub.

Negotiating Values, Relationships, and New Participants

Impact of values on new supply chains: Food hubs or co-ops sharing the importance of farm viability or growing practices with processors is an important step. Conventional processors that buy wholesale or commodity ingredients may not be aware of price, scale, efficiency, or logistical differences between their current suppliers and value chain suppliers. Farmer and food hub marketing and promotional tools are another important asset for processors to incorporate, meeting their customers’ demand for source-identified product and possible end price differences.

Values are a strength: Some food hubs identified social or environmental values and features they offer to buyers that conventional distributors don’t: access to new products, transparency of farm source, environmental sustainability, social justice, high quality products and direct farmer connections. Food hubs are identifying which values, such as “local” and farm-direct, align with conventional distributor or processor needs, and which do not. This can inform which supply chains with a “value chain” approach can meet customer needs in ways that broadline supply chains cannot. Values exemplified by food hubs and farmer co-ops can also be a competitive advantage in the marketplace for some buyers, and be used to add value for that buyer.

Responding to customer needs: Most food hubs have observed there is significant competition in the school market for minimally processed produce items. Food hubs are working to differentiate processed products they create from other similar items in order to find a niche item. Products seem to be more successful when understanding and developing a product around customer needs. There are some niche products they are able to provide some items that broadline food service distributors cannot. For example, some food hubs have had good success selling these items to schools in raw and processed forms:

- Winter squash
- Rainbow carrots
- Sweet corn on the cob
- Small grade mixed color potatoes
- Bunched carrots with tops
- Pluots

Farmers are interested in specializing: Many food hubs, such as Puget Sound Food Hub, observed that especially smaller farmers are interested in growing smaller number of higher volume crops, specializing in what they grow well and in quantity. This may be an opportunity to contract and develop multiple growers for specific crops for certain markets.

Source from farms of various sizes: Many food hubs observed that mid-sized farms can better compete on school pricing than small farms. For food hubs serving the school or institutional market, having medium sized farms that still meet the business’ values will increase product consistency, volumes, and pricing to better meet school buyer needs.

K-12 procurement process: LINC Foods and Puget Sound Food Hub operate a “marketplace” ordering system, where farmers post products at prices they choose. This could help schools meet the requirements they must follow for an Informal Procurement, or make sales using the new USDA “Micropurchase” rule.
VII. Recommendations for Value Chain Development

Supporters and developers of local food systems in Washington State who are working to increase small and mid-scale producers’ access to institutional markets may want to consider the following strategies for increasing value chain processing capacity.

Investment in New Infrastructure
In their efforts to meet school and institutional demand for source-identified, minimally processed product, every food hub surveyed struggled to find specialized, efficient produce processing facilities available in their region for certain products. They also struggled to find businesses that could provide a processing service on a contract, and cold and frozen product storage. Food hubs and direct marketing farms would be able to better serve buyer needs with increased access to processors or infrastructure, but the feasibility of new infrastructure initiatives would need to be established.

Unique partnerships between buyers seeking local, source-identified processed products could yield major results. Buyers and food hubs could leverage buyer investment in equipment, resources, expertise, or coordinating capacity to meet buyers’ needs and specifications.

Increasing Processor Capacity
Some investments in equipment, resources, or time could increase processor capacity to serve small farms, food hubs, and school buyers. Food hubs and small farmer co-ops are attempting to hire businesses, especially fresh cut processors, that already do minimal processing of their own products. These businesses haven’t contracted out their services yet due to lack of staffing or ability to manage a “co-packing” model. Additional resources for staffing or technical assistance for managing a “co-packing” model could enhance processor capacity to respond to this need.

Some smaller companies may be interested in scaling up to fill processing infrastructure gaps by partnering with food hubs and adding new source-identified product lines. Additional investment in market and product development could inform the feasibility of equipment purchases or increased staffing.

Increasing Food Hub Processing Infrastructure
Some investments in equipment, resources, product expertise, or time could also increase processors’ ability to serve small farms, food hubs, and school buyers. Most food hubs and small farmer co-ops in Washington have limited or no equipment or staffing available to do their own produce processing internally. But, increased investment in food hub expansion and infrastructure, or access to facilities with equipment for rent, could increase processing capacity within regional food economies. With investments that increase access to appropriately scaled equipment, at a low cost, food hubs may be able to better control costs or scope processed product line volumes.

While food hubs and small farmer co-ops are excelling at satisfying consistency, volume, sales, and transportation of local products for farmers and buyers, more investment is needed in mid-scale, automated processing equipment for food hubs to diversify products and buyers. Investment could come from large-scale buyers of products to develop food hubs’ supply chains. Food hubs and direct marketing would also benefit from investments of time and assistance in product development, food science, and food manufacturing expertise.

Increasing Distribution Infrastructure
As food hubs develop their own processed products, they have the opportunity to expand distribution of unique niche food products. Especially for shelf-stable products, such as frozen or dried produce, food hubs may be able to sell product to other distributors in order to access new markets, including schools and institutions. This would help more conventional distributors and processors meet their customers’ demand for local, source-identified product, and increase access to local, source-identified product for schools and institutions that may prefer to buy through their traditional, mainstream distributors such as Food Services of America, Sysco, or US Foods.

Developing New Value Chain Partnerships
Some very limited opportunities do exist in some regions to use currently available minimal processing infrastructure, most often fresh cut produce. Some farms also already have their own processing equipment that
may be underutilized by the food hub and other member farms. Pursuing marketing, distribution, or processing partnerships between food hubs, member farms, and other businesses could meet buyer demand for source-identified, minimally processed products. Values such as transparency and fair pricing, source-identification and branding, food safety standards, and Certified Organic or environmental traits would need to be negotiated, and not all conventional distributors or processors will be able to align with value chain partnerships.

The following are models for new value chain partnerships that could be developed with food hubs, small farmer co-ops, processors, and buyers. Some are in the early stages of development with emerging examples in Washington State.

**Food Hubs or Co-ops as Processors**

Food Hubs purchasing member farm product for use in a co-branded product (sold under a food hub’s label but listing individual supplying farms) is a model with great success outside of Washington. The model is being piloted and streamlined by one food hub in Washington. Internal processing capacity with available equipment but limited staffing, and limited availability of external contract processing options, have made progress a challenge.

**Food hubs are taking on coordination** of aggregated, branded products. This model depends on an entity to develop buyers, volumes and product specifications, coordinate to get the product processed, and complete sales and delivery. This strategy is a strength that many conventional processors can leverage, with the ability to scale up to efficient volumes with the flexibility to source from many suppliers and coordinate the supply chain.

**Make it easy for farmers:** By buying up raw product and taking on the task, responsibility, risk, and liability for creating a processed product, food hubs and small farmer co-ops take the work out of farmers’ hands so they can spend more time farming, while increasing farm sales and market access.

**Engage small and more medium-sized farmers:** Schools face limited budgets for purchasing ingredients, and direct marketing farms have a higher cost of production. Additional sourcing relationships from both small and medium sized producers may help them meet the food service price point and maintain consistent availability.

**Pre-plan product requirements and commitments:** Food hubs and farmers are finding that extensive planning before the season is necessary to hone in on pricing, specifications, volumes, or launch a product that benefits farmers, the food hub and farmer co-ops, buyers and supply chain partners alike. Trial runs will help refine products and specifications while reducing risk. Planning buyer volume commitments for specific products with the supply from farmers in the food hub will **help farmers specialize** in certain crops.

**Educate buyers:** As with unprocessed product, institutional buyers will have to be educated on the advantages and differences between buying a local, source-identified processed product and a conventional product. There may be seasonal availability considerations, product may look different, have different pricing, or the logistics for processing and delivery may differ. Though food hubs and farms will benefit from integrating where possible with traditional and current institutional supply chains where possible, additional education about the different aspects of their product will be necessary. This may also become a competitive advantage as customers more clearly understand the added value and differentiation that food hubs and farmer co-ops can provide.

**New sales opportunities:** Some food hubs are finding there may be more market opportunity or new buyers for processed products than the fresh market for the same crop. Especially for shorter season crops, such as berries or fruits, freezing or drying crops for year-round sales is a new market opportunity. Processed products for new buyers provide opportunities to refine products, find a product niche, and access buyers at varying price points and volumes.

**Food Hub Sales of Farmer-Processed Products**

Many food hubs in Washington already have individual farms processing their own products on a small scale, which meet school and institutional food service needs by scaling up or increased marketing.

Food hubs and small farmer co-ops can **leverage and promote current processed products from individual farms** as a way to provide more source-identified processed products to food service buyers. Food hubs have found
that other buyers, such as grocery stores (if packaged for retail sale) or corporate food service, can provide a higher-value market for processed products than schools.

Processed products could also be designed to **meet school and non-school buyer needs** in order to sell the product to schools at a price that works for their budget, and at a higher price to buyers that can afford it. The value added to prepared and minimally processed products may make local, source-identified versions more comparable and competitive with conventional products, if the processing itself is cost-effective.

**Processors, Farmer, and Food Hub Partnerships**

Many processors are simply interested in increasing their local, Washington grown sourcing for current product lines to better serve their customers’ needs. Food hubs would benefit from increased sales, and especially where processors are serving the institutional market, school buyers could better access local and source-identified products from current vendors. Processors do have growing interest in purchasing local product, but are making decisions based on misinformation

Food hubs can sell to companies that are already processing products for the food service market to:

- Supply raw ingredients for current product lines, and encourage the processor to source-identify the product to the end buyer to increase sales and value.
- Work together to develop a new product line with crops the food hub is uniquely positioned to supply, or buyers are interested in purchasing. Food hubs would benefit from mobilizing buyers to clarify product needs, and increase marketing and sales through these more traditional channels.

Food hubs will still need to advocate and provide tools for form and/or food hub branding to maintain source identification through the supply chain. In-store farmer promotions, marketing, sales and branding to end buyers and consumers can increase sales of processed products for processors and food hub suppliers alike.

Since the logistics for school buyers, distributor, processor, and the food hub will vary from usual supply chains, partners will need to coordinate and be willing to think creatively about how to scale up products.

Processors, despite enthusiasm for increased local sourcing from Washington farmers, will still need to be educated on the importance of farm branding, price restraints, logistics, product grading, and other realities and advantages of sourcing directly from smaller, local farms. Collaborating with other processors and distributors may reveal additional options for cold and frozen product storage, easier transportation, or other unique opportunities to benefit value chain partners.

**Recommendations for Future Research**

Further research into scale-appropriate food science and product formulation for minimally processed products targeting small-scale local farmers, food hubs, and co-ops attempting could benefit regional value chain development. Though some on-demand expertise is available, additional resources on the food science behind fresh cut, frozen, or dried fruit and vegetable products applicable to small scale operations would support farmers and food hubs in developing high quality products.

Continued updates and detailed information about available processing infrastructure in Washington State would also benefit farmers, food hubs, and co-ops attempting to develop new source-identified, minimally processed products. Further research on multi-sector strategies, including public agencies and districts, for developing processing infrastructure to meet regional needs could also benefit local farms and economic development.

**VIII. Conclusion**

Food hubs and small farmer co-ops across Washington are building strong relationships and bridging a critical gap between institutional buyers and farmers. K-12 schools present a unique, challenging, and high-interest market for many direct marketing farmers, food hubs, and supporters. Source-identified, minimally processed products can better serve institutional markets, increase farmer sales, and meet customer demand. In order to bridge the infrastructure gap in Washington, food hubs and small farmer co-ops will need to forge values-based partners with processors and distributors, and leverage funding for specific processing infrastructure from external supporters.

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24 Urban Food Link, 2012
and buyers to fill the need for specialized equipment. For K-12 schools specifically, changing their buying patterns to increase local sourcing is a two-fold strategy: first, streamline farm-direct purchasing and increase access to current, up to date information. Second, to achieve sustainable impact on institutions, "emphasis must be placed on effecting change within the traditional distribution chain and increasing access of local food through national distributors."  

Processed, source-identified produce presents a significant opportunity to sell through traditional supply chains that food hubs and small scale farmers often don’t have access to.  

Developing regional infrastructure and value chains also presents a significant opportunity for rural economic development. Where many rural economies in Washington are dependent on agriculture as a core industry, secondary processing, distribution, and logistical services for food producers increases rural economic activity, makes local purchasing possible, and supports small farm viability. Many processors have consolidated in rural economies in Washington in the last decades, becoming too large for small producers to access, or closing altogether. As local purchasing becomes a priority for institutions in many communities, having the logistics and infrastructure available for local producers will increase regional economic activity and create opportunities for place-based agriculture.

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Appendix
Profiles of Participating Food Hubs & Co-ops in Washington State

Food hubs and co-ops in Washington State have formed over the past 10 years in response to wholesale buyer demand for source-identified products from local farmers, and small farmer demand for easier access to new or wholesale markets. Their history, level of development, and structures vary, but all have considered or pursued K-12 Schools sales and minimally processed products. They play a key role in value chain development and facilitating the supply chain to meet market demands for source-identified, minimally processed products. Their success with processed products, including fresh cut vegetables, has been varied. Most of the descriptions of the businesses below are included in their own words, to illustrate how the businesses describe themselves and their goals.

Puget Sound Food Hub Farmers Co-operative (PSFHC)

PSFHC’s description of their business: Puget Sound Food Hub Co-op is “a robust farmer-owned cooperative operating in the Puget Sound region to market, aggregate and distribute locally produced food from farms to restaurants, hospitals, preschools, grocery stores, universities and more. The Puget Sound Food Hub Cooperative and our network of aggregation sites supports the relationship between regional farmers and their customers, enabling a values-based supply chain for food safety and transparency.

[PSFHC] maintains seller eligibility requirements and quality standards while preserving the producer’s identity from “purchase to delivery” so that the producers’ customers know the story of who, how and where their food was grown.”

Puget Sound Food Hub Co-op includes a network of multiple, separately owned aggregation sites for farmer deliveries and distribution. Sites have included:

- 21 Acres (Woodinville, WA)
- Cloud Mountain Farm Center (Everson, WA)
- Bow Hill Blueberries (Bow, WA)
- Puget Sound Food Hub Warehouse (Mount Vernon, WA)

21 Acres and Cloud Mountain Farm Center were surveyed and interviewed as representatives of the Puget Sound Food Hub Cooperative.

The Northwest Agriculture Business Center provided critical start-up support and business consulting for the Puget Sound Food Hub Cooperative, and was also surveyed and interviewed for this project.

Location: Mount Vernon, WA and Everson, WA

<table>
<thead>
<tr>
<th>Primary activities</th>
<th>Customers as a percentage of sales:</th>
<th>Top performing crops by revenue in 2016:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online marketplace</td>
<td>Restaurants 40%</td>
<td>1. Chicken</td>
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<tr>
<td>Refrigerated &amp; frozen storage</td>
<td>Universities 10%</td>
<td>2. Blueberries</td>
</tr>
<tr>
<td>Refrigerated transportation</td>
<td>Corporate cafeterias 30%</td>
<td>3. Carrots</td>
</tr>
<tr>
<td>Sales &amp; marketing</td>
<td>Hospitals 5%</td>
<td>4. Apples</td>
</tr>
<tr>
<td></td>
<td>Retail/grocery stores 10%</td>
<td>5. Broccoli</td>
</tr>
<tr>
<td></td>
<td>Food banks 5%</td>
<td></td>
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</tbody>
</table>

26 http://www.pugetsoundfoodhub.com/about-us/
Okanogan Producers Marketing Association (OPMA)

**OPMA’s description of their business:** “Okanogan Producers Marketing Association was officially formed in March of 2006. We are five small farms working together, sharing resources, equipment, knowledge, expertise, marketing and sales. We have developed a close working relationship from farmer to Co-op in order to benefit the consumers we serve. We believe that we have much more to offer our customers through these relationships than we ever did as individual farms. We have forged strong connections with our markets and have developed a reputation for excellent quality fruit and produce as well as customer service and delivery. OPMA’s quick delivery from tree to the consumer makes it possible to guarantee our products. If there is any question about the condition, quality or freshness of any item we deliver, we will replace it or otherwise make it right for the buyer. The naturally warm sunny climate of the Okanogan makes it possible for us to grow some of the best quality fruit and produce available anywhere in the world.”

**Location:** Okanogan, WA

**Primary activities:**
- Refrigerated storage
- Refrigerated transportation
- Sales & marketing
- Crop planning
- Price brokering

**Customers as a percentage of sales:**
- Retail/grocery stores 45%
- Other CSAs or produce delivery services 50%
- K-12 Schools 5%

**Top performing crops by revenue in 2016:**
1. Apples
2. Peaches
3. Cherries
4. Other stone fruit
5. Berries

Highway 395 Produce Corridor Project

WSU Stevens Co. Extension and the N.E.W. Hunger Coalition, along with other partners, developed micro-scale fruit and vegetable pick-up and delivery infrastructure built around a Farm to Food Pantry (F2FP) program serving 15 food pantries in Stevens, Ferry and Pend Oreille Counties. This infrastructure includes refrigerated CoolPup Trailers, volunteer delivery vehicles, and tracking and data management tools to help manage the program. A map of the region and partners is at right (no logo available).

**Location:** Colville, WA

**Primary activities**
- Refrigerated storage
- Transportation
- Sales & marketing
- Food bank purchasing programs

**Customers as a percentage of sales:**
- Food Banks 95%
- Schools 5%

**Top performing crops by revenue in 2016**
1. Pluots
2. Summer Squash
3. Sweet Corn
4. Garlic
5. Tomatoes

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27 http://opma.us.tempcloudsite.com/about-opma/
Local Inland Northwest Cooperative Foods

**LINC’s description of their business:** “Local Inland Northwest Cooperative (LINC) Foods is a one-stop shop for local, sustainable food. We sell locally produced fruits, vegetables, grains, legumes, meats, cheeses, and eggs to colleges, universities, hospitals, retirement communities, restaurants, and grocery stores. All of the products we sell are grown by our farmer-owners in the Spokane area. We also have the capacity to provide minimal processing (washing, slicing, dicing, peeling, etc.).

We provide the freshest produce possible. Our produce is often picked the same day it is delivered to your kitchen! Our farmers do not use pesticides or chemical fertilizers, and follow a standardized food safety protocol to ensure that the produce you order from LINC Foods is safe and healthy. We offer food with a farm-to-table story along with the convenience of a streamlined order and delivery process.”

**Location:** Spokane, WA

<table>
<thead>
<tr>
<th>Primary activities</th>
<th>Customers as percentage of sales:</th>
<th>Top performing crops by revenue in 2016:</th>
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<td>Restaurants 20%</td>
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<td>Universities 30%</td>
<td>2. Carrots</td>
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<td>• Crop planning</td>
<td>Retail/grocery stores 5%</td>
<td>3. Tomatoes</td>
</tr>
<tr>
<td>• Refrigerated storage</td>
<td>Our own CSA 20%</td>
<td>4. Apples</td>
</tr>
<tr>
<td>• Refrigerated transportation</td>
<td>K-12 Schools 25%</td>
<td>5. Squash</td>
</tr>
</tbody>
</table>

Viva Farms

**Viva Farms’ description of their business:** “The Viva Farms Incubator started in 2009. The Port of Skagit leases 33 acres to Viva Farms that are subleased to new farmers to launch and grow their businesses. Viva minimizes prohibitive start-up costs by providing access to shared resources: education, training, equipment, technical assistance, capital, land, and markets. Ongoing agricultural and entrepreneurial support from Viva Farms’ staff, local agricultural support groups and peers increases the likelihood of early-stage success.”

Viva Farms provides marketing, sales, aggregation, and distribution to wholesale and retail markets for its farmer members.

**Location:** Mount Vernon, WA

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>• Sales &amp; marketing</td>
<td>Restaurants 45%</td>
</tr>
<tr>
<td>• Market development</td>
<td>Universities 5%</td>
</tr>
<tr>
<td>• Refrigerated storage</td>
<td>Retail/grocery stores 40%</td>
</tr>
<tr>
<td>• Refrigerated transportation</td>
<td>Other CSAs or produce delivery 5%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Top performing crops by revenue in 2016:</th>
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</thead>
<tbody>
<tr>
<td>1. Strawberries</td>
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<tr>
<td>2. Raspberries</td>
</tr>
<tr>
<td>3. Butternut Squash</td>
</tr>
<tr>
<td>4. Kale</td>
</tr>
<tr>
<td>5. Green Zucchini</td>
</tr>
</tbody>
</table>

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28 [www.lincfoods.com/about](http://www.lincfoods.com/about)

29 [www.vivafarms.org](http://www.vivafarms.org)
Emerging Food Hubs in Washington State

In addition to the project partners identified above, other food hubs are launching in Washington State. Many multi-producer CSAs have been operating for some years serving a variety of producers and consumers. Some direct to consumer food hubs are now moving into wholesale sales, or are launching specifically to serve that market:

- **Blue Mountain Station** in Dayton, WA is a consumer cooperative that provides high-quality food from local farmers, gardeners and food processors, educates consumers on sustainable food practices, and supports the economy by providing an outlet for local products.

- **Evergreen United Food Hub** in Shelton, WA launched in 2016 to source from Thurston County farms and serve restaurant buyers in the Tacoma, Gig Harbor, and Seattle area.

- **Kitsap Fresh** in Poulsobo, WA is a cooperative providing an online marketplace for local farmers and producers to sell source-identified products directly to customers on the Kitsap Peninsula.

- **North 40 Farm Food SPC** in Stanwood, WA works to increase the health, wealth and pride of the rural community through year round local food consumption with a commercial kitchen and co-packing model. They are working to expand into a farmer owned co-op that processes in-house and distributes products regionally.

- **San Juan Island Agricultural Guild** in Friday Harbor, WA completed a San Juan County Food Hub feasibility study with the Northwest Agriculture Business Center in 2016, finding significant demand for a food hub in the region to develop producer and buyer connections, streamlining local sales, and transportation between islands.

- **Snoqualmie Valley Farmers’ Co-operative** in Carnation, WA launched in 2012 to sell produce on behalf of farmer members through a multi-producer Community Supported Agriculture (CSA) program, and is pursuing other wholesale markets and value-added products.

- **Terra Organics** in Tacoma, WA started to augment distribution of Tahoma Farms’ CSA and Orting, WA grown produce. Terra Organics is now sourcing produce from Certified Organic growers for direct-to-consumer delivery and through a wholesale buyer fresh sheet.

- **Tilth Alliance** in Seattle, WA operates a multi-producer CSA to support the Farm Works incubator program in Auburn, WA and to increase food access to limited income families in Seattle.

- **Vashon Fresh** in Vashon, WA launched a feasibility study with the Northwest Agriculture Business Center in 2016 to assess the needs, benefits, and markets of a potential food hub on Vashon Island. In June 2017, they plan to launch Vashon Fresh, where consumers can order directly from farms online.

Some emerging food hubs identified processing as a need, along with a variety of other services they are interested in providing to farmers in the future. WSDA sent emerging food hubs listed above a survey.
Assessing National Value Chain Processing Models

Some national resources about source-identified processing for wholesale markets include:


IATP’s “Frozen Local” report summarizes different approaches to creating a frozen produce product for a school cafeteria from across the United States, including cost scenarios for some specific products.

- **Freezing on-site in K-12 kitchens**
  “Efforts to freeze local produce are taking place in schools from Massachusetts and Vermont to Wisconsin and Missouri…Freezing locally grown produce on-site in K-12 facilities can be a positive and affordable strategy for interested schools when focused on appropriate crops and when freezing activities are tailored effectively to the school’s operating environment.” (IATP p. 14-21)

- **Mobile produce processing units**
  “These are vehicles or trailers equipped to clean, cut, blanch, freeze, package and conduct other processing activities with fresh produce. Mobile units can travel to individual farms where produce is grown and serve as a processing hub for farms in a given vicinity” (IATP p. 24)

- **Multi-use or small freezing facilities**
  “Kitchen facilities and small businesses that are focused on freezing locally and regionally grown produce.” (IATP P. 27)

- **Co-packers**
  “Co-pack relationships enable an interested party to pay a processing partner to freeze produce for them, often under a fee-for-service payment structure” (IATP p. 35)

Common Market’s “Overcoming Obstacles to Local Frozen Produce” report compares and contrasts the advantages of different models for creating frozen, source-identified products. They also provide guidance for finding a “model-market match”

- **“Field Scale” Processing**
  “Processing of relatively small quantities of produce using rudimentary machinery for preparation, blanching, packing, and freezing.” (Common Market p. 12)

- **Self-Operated IQF Processing**
  “IQF technology requires product be arranged in a single, spaced layer on a conveyor belt that runs through the IQF tunnel, wherein product is “suspended” in a super-cooled freezing medium (either force-cooled air or liquid nitrogen). (Common Market p. 12)

- **Co-packing**
  “Several IQF manufacturers offer co-packing services, in which the co-packer receives raw product from the contracting farm or company, and processes it to the contractor’s specifications.” (Common Market p. 13)

**Purchase Local Source-Identified Product from Regional Processor**

“There are several large processors that value sustainable growing practices and source identification, even if their main customers do not have that value. They contract with farmers to grow vegetables to spec, even going so far as to give the farmers the seeds and tell them when to harvest. Due to their scale and sophistication, they are able to track their products back to the exact field they were harvested from (which is increasingly important for food safety and traceability.” (Common Market p. 14)


Other useful reports from other regions in the United States include:


**Source-identified Processing in other Regions**

Some businesses, projects, and initiatives in other parts of the United States have successfully provided school and institutional markets with source-identified, minimally processed produce.

- **Farm to Freezer (Traverse City, MI)**
  “Farm to Freezer is a new brand that produces a line of delicious, healthy, and locally-sourced foods that are frozen at the peak of ripeness. We are a social enterprise that solves the dual problems of local farms’ producing surplus fresh vegetables in the summer—6 billion lbs. is wasted in the U.S. annually—and a need to provide those who are food insecure with more nutrient-rich food all year round.”
  [www.farmtofreezer.wordpress.com](http://www.farmtofreezer.wordpress.com)

- **Seal the Seasons (Hillsborough, NC)**
  “Seal the Seasons partners with family farms to freeze their produce in season, bringing local frozen food to grocery stores every season of the year.
  [www.sealtheseasons.com/](http://www.sealtheseasons.com/)

- **The Farm Bridge (Kingston, NY)**
  “The Farm Bridge works with over 50 regional farms to offer top quality farm-identified frozen, IQF and shelf-stable local produce in bulk cases for institutions in the Northeast.”
  [www.thefarmbridge.com](http://www.thefarmbridge.com)
- **Fifth Season Cooperative** (Viroqua, WI)
  "Wisconsin’s full-service, local food broker serving Madison, Milwaukee, Chicago, Minneapolis, and everywhere in between – providing convenient, year-round access to local food.”
  Fifth Season Cooperative developed “Winter Moon” and “Potato Fusion” Winter Harvest frozen root crop blends for K-12 and institutional buyers.
  [www.fifthseasoncoop.com](http://www.fifthseasoncoop.com)

- **New North Florida Cooperative (NNFC) Farm to School Program** (Tallahassee, FL)
  The NNFC primarily sells chopped and bagged collard greens, field peas, muscadine grapes, and turnip greens to school buyers.
  "Florida's pioneering and successful farm to school program was initiated by a group of innovative African-American farmers after they formed the New North Florida Cooperative Association Inc. (NNFC) in 1995. The NNFC began selling to Gadsden County schools during the 1997-1998 school year and since that time has rapidly expanded, selling to a total of fifteen school districts in Florida, Georgia, Alabama, and Mississippi during the 2003-2004 school year. Positive word-of-mouth publicity has lead to a high demand for their products among school districts.”

- **Mission Mountain Food Enterprise Center** (Ronan, MT)
  "The Mission Mountain Food Enterprise Center provides a USDA/FDA fully inspected food processing facility that helps meet the processing needs of food service programs. We offer value-added products sourced from local growers in partnership with the Western Montana Growers Cooperative.
  [www.lakecountycdc.org/MMFEC%20Landing](http://www.lakecountycdc.org/MMFEC%20Landing)

- **Western Massachusetts Food Processing Center** (Greenfield, MA)
  "The Western Mass Food Processing Center's mission is to promote economic development through entrepreneurship, provide opportunities for sustaining local agriculture, and promote best practices for food producers. The FPC has established a new project to meet the needs of farmers to extend the season and institutional customers to use more local products.”
  [www.fccdc.org/food-processing](http://www.fccdc.org/food-processing)

- **Northern Girl** (Van Buren, ME)
  "At Northern Girl, LLC, we hope to bring opportunity to growers in Maine’s largest and most remote county. We hope to keep our economy thriving through building added-value for the products of a multitude of small farms. We hope to bring delicious local options to schools, restaurants, and retailers across New England. We hope to keep Maine at the forefront of the local foods movement by rebuilding Maine’s lost food processing infrastructure.”
  [www.northerngirlmaine.com](http://www.northerngirlmaine.com)

- **Iowa Choice Harvest** (Ames, IA)
  "In 2006, thirteen farmers began planning a new company that would help expand opportunities for Iowa farmers to market their fruits and vegetables. These farmers had a strong belief in crafting a local food system that would provide a fair value to the farmer while producing a quality product for Iowans. After much planning and hard work, we launched our new company in August of 2013.”
  [www.iowachoiceharvest.com](http://www.iowachoiceharvest.com)

**Other Background Resources**


Community of Practice Toolkit

Some of the applied research from this project was used to generate tools, factsheets, and resources for farms, food hubs, small farmer co-ops, processors, distributors, and other value chain businesses. Available by request from [WSDA Regional Markets](#).

Strategic Planning Tools

**Processing Price & Volume Calculator**

A calculator for estimating various production costs, volumes, and prices to help businesses assess the viability of source-identified processed products.

**Product & Business Planning Chart**

An exercise to businesses assess current or future product and service offerings

Business & Production Planning Tools

**Value Chain Processors Directory**

A list of processing businesses and commercial kitchens in Washington State, including processors that indicated interest in participating in WSDA’s supply chain study. The directory is an asset map to help facilitate supply chain partnerships that support small and medium sized farms.

**Farm to School Processed Produce Volume Estimates**

Yearly and monthly estimated purchase volumes of processed produce items for K-12 school districts in different regions in Washington State.

**Farm to School Local Processed Price Guide**

Yearly and monthly estimated, average prices of processed products for K-12 school districts in Washington State.

**Farm to School Processed Product Specification Chart**

An overview of product specifications for minimally processed fruits and vegetables common in food service markets

Food Hub Advisory Group Interview Questions

In qualitative interviews conducted July through October 2017, seven individuals representing four food hubs shared their challenges selling to schools, accessing processing and co-packing services or operating their own processing facilities, along with general goals of their organizations and the support they provide to food producers.

**Mission, Goals, Objectives**

1. What is your food hub’s mission?
2. What motivated you to start producing, selling, or distributing local food?
3. How do you measure success?
4. What are your goals for 1 year from today?
   a. 5 years?
   b. 10 years?
5. What are your financial goals for this year? For the long term?
   a. What is your break-even point or projections to reach viability (in sales)?
6. Who are your other stakeholders or supply chain partners (other than farmers and customers?)
7. What are your primary successes?
8. What are your top 5 challenges?
9. What are some opportunities your food hub hasn’t been able to take advantage of, and why?
10. What do you want to get out of this research project?
Farmer Members
11. Who are the farmers you work with?
12. What are your farmers’ other primary market outside of the food hub? Secondary markets?
   a. Do any of them already sell to schools? If so, how frequently?
   b. Or other wholesale?
   c. Do any of them already sell processed product?
   d. What’s your best guess for the average percentage of sales the food hub makes up for your farms?
13. What is your main value proposition and benefits for farmers?
   a. What is your business model for providing that service? How do you provide those services/benefits?
   b. What other services do you provide?
14. How much to farmers pay for those benefits/services?
15. What do you offer farmers that “conventional” distributors can’t?

Business Structure and Ownership
16. How is your hub incorporated? What’s your business structure?
17. Who owns product through the supply chain, and why?

Market & Customers
18. Who are your primary customers? In what markets are your farmers’ products currently sold?
19. Do you sell to any schools or institutions?
   a. Why or why not?
20. Are you hoping to sell more to schools or institutions?
21. What factors are changing or influencing the market around you?
22. What do you offer customers and buyers that “conventional” distributors can’t

Crop or customer planning to for anticipated demand
23. Do you do any crop planning with farmers? With customers?
   a. Why do you do it?
24. What does your crop or market planning look like?
   a. Have you had any particular challenges or successes with that method?
25. Do you have enough product to meet the general demand from your customers? If not, why not?
26. What is your process/model/tool for crop planning with growers specifically for schools?
27. What has worked so far for the food hub planning to meet school buyer needs? What hasn’t worked well?

Pricing
28. How are prices of product set through hub?
   a. Does the hub do any negotiation or brokering with the customer?
29. Do your prices match customer expectations? Have you had challenges with pricing?

Challenges, Opportunities, Successes for Processing
30. Have you done any processing, what kind, and why or why not?

Processing systems & infrastructure
31. What are the market or sales opportunities you see for processed product?
   a. What opportunities do your farmers see for creating a processed product?
   b. What kind of processing do your customers seem to want?
32. What have your primary challenges been in creating a processed product?
33. Has surplus or seconds in a processed product ever been something you have considered pursuing?
34. What is the demand and pricing for school or other institutional purchasing for processed products that you are seeing? Anything stand out about what you know?

Current Products/Status of Processed Product Offerings
35. What processed products do you currently sell?
   a. Who develops, sources, creates, brands and markets the product?
      i. Farmer, food hub, or third party?
b. Have you purchased or had to actively seek out source-identified, local processed product? Why?
   i. Is it to meet specific volume or locally sourced product demands?

Customers
36. Who are your primary customers for those processed products?
   a. Why are those customers interested in those products?
37. Have you sold processed product of any kind to schools?
   a. Why or why not?
   b. What sales have been successful?
   c. Have any of those sales been through broadline distributors to access school/ Institutional markets?
38. Have you ever sold raw product directly to a processor?

Processed Product Infrastructure
39. If you currently sell processed product, where do you do the processing?
   a. Do you have an In-house WSDA licensed processing/kitchen, or does one of your farmers? What products?
   b. What products have you contracted out for processing?
40. What types of processing do you most need access to?
41. Is there any type of processing you have tried to access but weren't able to?
   a. Why wasn't it available to you?

Pricing of Processed Products
42. How do you determine prices for processed product?
43. What kind of margin on processed product do you get?
   a. What margin would you hope to get?
   b. What margin would you need to get to be successful?
44. Is pricing a challenge/barrier for you to produce and sell a processed product?

Market, Products, Sales Experience, Knowledge, and Opportunities
45. Are there specific crops you see opportunities for processing?
   a. Is that based on customer demand?
   b. Based on farmer supply?
46. Are there particular raw products you have sold frequently to schools or institutions?
47. Do you have products that you think you could sell more of if it were processed (for season extension or to fill a cut produce need)?
48. What additional information would you need to plan production and processing for schools or institutions?

WSDA Farm to School Processor Survey 2016 Questions
WSDA conducted a quantitative statewide Farm to School Processor Survey from October-December 2016. This voluntary survey was distributed to all 2,033 businesses with an active WSDA Food Processor License. It received 186 responses. WSDA’s Small Farm Direct Marketing and Farm to School programs have conducted this Processor Survey biennially since 2012. To support the goals of this project, WSDA integrated new questions into this standing survey pertaining to processors’ specific needs and challenges for sourcing Washington grown product and/or offering services on a co-packing basis.

Q1. What county is your company located in?

Q2. This survey is partially used to help us evaluate Specialty Crop Block Grant projects that specifically address trends of farmers that produce specialty crops (fruits and tree nuts; vegetables; beans and lentils; culinary herbs and spices; and nursery and horticulture crops). Does your business use or work with specialty crops in any part of your food processing or business operations?
   □ Yes
   □ No
Q3. What raw agricultural products does your business use in your food processing operation? Check all that apply.
- Fruits
- Vegetables
- Meat
- Poultry
- Eggs
- Grains
- Beans, peas, or lentils
- Tree nuts
- Culinary herbs or spices
- Hops
- Honey
- Seeds
- Other (please specify)

Q4. What is your business’s average annual gross sales?
- $0 - $49,999
- $50,000 - $99,999
- $100,000 - $249,999
- $250,000 - $499,999
- $500,000 - $1,499,999
- $1,500,000 or above
- Unavailable or unknown

Q5. Where do you sell your products geographically? Check all that apply.
- International (export)
- National
- Statewide
- Regionally (nearby counties)

Q6. How are your products currently sold? Please roughly estimate the percentage of your total sales sold into each market. Your responses should total 100. Please do not include percent signs.
- Direct to consumer
- Direct to restaurant or retail store
- On-line, catalog, or mail order
- Direct to schools (K-12)
- Direct to institutions other than schools - Hospitals, universities, corporate food service, childcare centers, etc.
- Emergency food assistance providers (food banks, meal programs, distribution providers)
- Broadline distributor
- Specialty food distributor
- Other processors
- USDA Foods (Commodity Program)

Q7. How interested are you in developing or expanding sales in the following markets?
- Direct to consumer
- Direct to restaurant or retail store
- On-line, catalog, or mail order
- Direct to schools (K-12)
- Direct to institutions other than schools - Hospitals, universities, etc.
- Emergency food assistance (food banks, meal programs, distribution providers)
- Broadline distributor
- Specialty foods distributor
- Other processors
- USDA Foods (Commodity Program)

Q8. Does your business conduct any of the following operations? If not, are you interested in developing capacity for those operations?
- Co-pack – package foods for other companies to sell
Distribute products for others - ambient / non-refrigerated
Distribute products for others - refrigerated / frozen
Packing - fresh packing into boxes, bags, or vaccuum sealed
Process products for other business' private labels
Process products for industrial or other customers who will further process
Process products under your own label
Provide warehouse space for lease - ambient, dry goods, non-refrigerated
Provide warehouse space for lease - controlled atmosphere storage
Provide warehouse space for lease - refrigerated goods
Provide warehouse space for lease - frozen goods
Provide your processing facilities and/or equipment for use or lease by other businesses
Other (please specify)

Q9. For any of the services you are not offering, what barriers do you face in expanding your business operations?
- Currently at maximum operational capacity with equipment
- Currently at maximum operational capacity with staffing
- Too expensive or not financially viable for me to contract out my services
- Don't have the time to manage a co-packing model
- Not enough demand for my services to make it worthwhile
- Hadn't occurred to me before that it was an option
- Processing schedule is too tight to accommodate new business
- Not enough demand for co-packed final product
- Grading, volume, or other logistical constraints from potential clients
- Food safety permitting is too complicated
- Other (please describe)

Q10. Does your business conduct any of the following processes? If not, are you interested in developing capacity for those processes?
- Bag (single or multiple raw ingredients)
- Bake
- Can / jar
- Concentrate (create consolidated product for drinks or other products)
- Dry or dehydrate
- Form ground patties without additives or fillers
- Freeze-dry
- Fresh cut
- Freeze produce (IQF, blast/shock freezing)
- Freeze produce (bulk or other)
- Freeze (prepared meals)
- Grind
- Juice
- Mix (dry ingredients)
- Mix (wet ingredients)
- Pickle
- Preserve (add preservatives to prevent oxidation or for other purposes)
- Puree
- Vacuum pack
- Wash
- Other processes not listed above (please specify)

Q11. When purchasing specialty crops (fruits and tree nuts; vegetables; beans and lentils; or culinary herbs and spices), what is the approximate minimum and maximum amount of total product your business purchases from a single supplier?
- Minimum
- Maximum
If minimum / maximum amounts vary significantly by product category, please briefly describe:

Q12. Do you require your suppliers to have any of the following practices certified or verified by a third party? Check all that apply.
Animal Care Management (i.e. cage free, no antibiotics, animal welfare, certified humane)
Food Safety (i.e. Good Agricultural Practices / Good Handling Practices)
Labor (i.e. Fair Trade, Food Justice Certified)
Organic (i.e. WSDA, USDA, Oregon Tilth etc.)
Pasture Management (i.e. grass fed, free range, pasture raised)
Production Practices (i.e. Salmon-Safe, Certified Naturally Grown, Verified non-GMO, Food Alliance)
Regionally / Locally Grown Label
Other (Please specify)

Q13. What percentage of your total product are you currently sourcing is Washington-grown, and from what suppliers? Are you interested in starting or increasing purchases through those market channels?
- My own farm
- Directly from growers / producers
- From food hub or grower cooperative
- Through wholesalers / distributors
- Other (please specify)

Interested in starting / increasing
- My own farm
- Directly from growers / producers
- From food hub or grower cooperative
- Through wholesalers / distributors
- Other (please specify)

Q14. Have your customer requests for products with Washington-grown ingredients changed in the last year?
- Increased
- Decreased
- Stayed the same
- N/A - products or ingredients cannot be sourced locally.

Q15. Please describe any barriers that you have faced in sourcing Washington-grown ingredients for your food processing. Check all that apply.
- Distribution
- Price
- Seasonality
- Volume
- Quality
- Consistent product availability
- Don't know how to find farms or suppliers of WA-grown product
- Source identification (don't know where it comes from)
- Suppliers don't meet qualifications (i.e. required certifications or audits)
- Other (please specify)

Q16. Please select if you have used or participated in any of the following WSDA programs or projects in the last three years.
- Farm to School or Institution (Procurement education and assistance connecting with schools or other institutions - i.e. USDA Pilot Project for Unprocessed Fruits & Vegetables, Taste Washington Day, WA Harvest Posters)
- Small Farm Direct Marketing (Assistance for farms and food businesses to meet market requirements and build sales relationships with others interested buying or selling WA-grown foods)
- Supply Chain Development (Support for regional food hub, cooperative and other models providing value-chain aggregation, distribution or value-added processing opportunities to Washington businesses)
- Online Resources (for example: WSDA website - agr.wa.gov; WSDA Farm to School Toolkit - wafarmtoschool.org)
- Publications & Resources (such as the Small Farm Direct Marketing Handbook - "Green Book", Bridging the GAPs Farm Guide, A School's Guide to Purchasing Washington-Grown Foods)
Q17. If you have used or participated in any of the above WSDA programs, or are interested for the future, please indicate what you have found valuable, or what would make the services more useful to you.

Q18. If you would like to receive information from WSDA about training events, funding opportunities, new regulatory requirements and projects to help develop infrastructure, markets and business partnerships across Washington State, please provide your contact information.

Q19. WSDA is working on supply chain research and networking to help farmers and food hubs access the services you provide, and facilitate connections that may result in new businesses opportunities or sales, especially to the school market. By entering your contact info above, participating and clicking “yes, I would like to participate”, we will follow up to collect more information about your business and your needs, services offered, and connect you with suppliers and potentially with buyers.

WSDA Processor Focus Group Survey 2016 Questions

From the broad biennial WSDA Farm to School Processor Survey, a “Focus Group” of 48 processing businesses self-selected to participate in this project. These businesses were sent a follow-up survey in January 2017 and 15 responded. The Focus Group Processor Survey included more specific questions about processing types, capacity, Washington grown sourcing opportunities and challenges, fee structures, equipment, co-packing possibilities and barriers, and more.

Q1. Please enter your company's contact information

Q2. What county is your business located in?

Q3. What is your delivery area, using your own distribution or distributors? Check all that apply.

- NW Washington
- Olympic Peninsula
- Puget Sound
- SW Washington
- Central Washington
- NE Washington
- SE Washington
- Statewide

Please list any distributors you use. Or note that you self-distribute:

Q4. Please check if you do any of the following types of processing, or could start:

- Sliced fruit
- Sliced vegetables
- Chopped vegetables (cubes, diced, or coins)
- Shredded vegetables
- Vegetable peeling
- Vacuum-seal bagged fresh product
- Washing produce
- Frozen (bulk)
- Frozen (IQF)
- Vacuum-seal bagged frozen product
- Dried fruits or vegetables

Q5. Do you currently use or process any of the following raw products?
Berries
Beets
Broccoli
Carrots
Cabbage
Cauliflower
Corn
Cranberries
Green beans
Kale
Lettuce
Peas
Potatoes
Tree fruit (apples, pears, peaches, etc.)
Winter squash

Q6. What specialized processing equipment do you have? (Please include specific brand and model names, etc.)

- Equipment #1
- Equipment #2
- Equipment #3
- Equipment #4
- Equipment #5

Q7. What packing standards do you require for incoming raw product?

- Grading
- Palletized cases
- Single-use boxes
- Standardized case counts
- Packaged in plastic bags or clamshells
- Other (please specify)

Q8. If you have cooler space for rent, how much per week do you charge?

Q9. If you have freezer space for rent, how much per month do you charge?

Q10. If you rent out your processing facilities, how much per hour do you charge?

Q11. What processing or per-run fees do you charge for “co-packing” (ie, contract processing for another business)? If you don’t currently co-pack but would be interested in offering the service, include estimates.

- per pound of raw product
- per hour of processing
- per unit of end product
- per pound of end product
- If not covered by the options above, what is your fee structure?

Q12. What time of year would you have the most capacity to co-pack a product for a food hub?

- January
- February
- March
- April
- May
- June
- July
- August
- September
- October
- November
- December
- Any of the above
Q13. What do you need to purchase more ingredients for your own products from Washington farms or food hubs?

☐ Connections to food hubs in my area
☐ Connections to farms in my area
☐ Greater product consistency from food hubs or farms
☐ Greater volumes in the products I need from food hubs or farms
☐ Securing better bulk pricing
☐ Securing better pricing by buying "seconds"
☐ Support developing products that utilize more local ingredients
☐ More produce varieties that I use in my products
☐ Order and delivery schedules that better fit my timeline
☐ Other needs or challenges:

Q14. What do you need to offer more co-packing services for farms or food hubs?

☐ Additional equipment to handle co-pack projects
☐ Additional staffing for co-pack projects
☐ Templates or business planning tools for managing co-pack business model to save time
☐ Support with permitting requirements for offering co-packing
☐ Info about specific products needed for development and processing
☐ More demand from farms for co-packing services
☐ Expertise in product development and processing for a contract
☐ Loan financing for business expansion
☐ Grant financing for business expansion
☐ Other needs or challenges:

Q15. If you don't currently offer any co-packing, what are your primary challenges or barriers to offering your processing services to farmers or food hubs?

Q16. If you don't currently offer co-packing, please tell us your minimum volume requirements and/or any other associated start-up costs for launching a new product for a farm or food hub.

Q17. What would you need to sell more of your products to the school or institutional markets?

☐ Product specification requirements for institutions
☐ Sales relationships with school buyers
☐ Access to distributors that service schools already
☐ Understanding the school food procurement process
☐ Knowing and meeting volume requirements
☐ Commitments from institutions to purchase specific volumes of product
☐ Other (please specify)

Q18. Anything else you'd like us to know at this point?

Q19. We are connecting food hubs, farms, and schools to processors for potential partnerships through referrals and resource development. Can we share the information you've provided with potential partners through referrals, directory, or a similar resource? WSDA will follow up with specifics and details.