CADC Specialty Crop Food Processing Feasibility Study

Nils Johnson
WSU Stevens Co. Extension Ag Coordinator
9/19/17
Outline

• Project Background
  • Regional Food System Plan
  • CADC Produce Processing Feasibility Study
    • Survey Results
    • Target Products
    • Processing Lines
  • Facility Layout
  • Business Model
  • Contact Information
CADC Feasibility Study
Project Timeline

2010: WA State Farmers Market Conference in Renton WA
  • Result: Pickle Pilot Project
  • Outcome: Strong need for help

2011: Sweet Meadows Ranch jam production on WSDA license
  • Result: Strawberry-Jalapeno jam (and 2 other products)
  • Outcome: Business models works… but we need a better facility

2013: Hatched Feasibility Study plan with Shelly Stevens
  • Result: Wrote grant proposal
  • Outcome: Rejected on a technicality

2014: Re-submitted the grant
  • Outcome: Proposal accepted
CADC Feasibility Study
Grant Planned Activities

1) Survey and evaluate Specialty Crop demand
   • Individuals, stores, institutions

2) Survey and evaluate Specialty Crop supply
   • Producers, Farmers & Orchardists

3) Evaluate existing Value Added Processing facilities
   • Include group tours

4) Get Food Safety training for local trainer capacity

5) Design our own project to match Supply with Demand
   • Facility Design
   • Processes and Equipment
   • Food Safety
   • Business Plan
Outline

• Project Background
• Regional Food System Plan
• CADC Produce Processing Feasibility Study
  • Survey Results
  • Target Products
  • Processing Lines
• Facility Layout
• Business Model
• Contact Information
Regional Food Systems Infrastructure
Basic Components of a Complete System
Outline

• Project Background
• Regional Food System Plan
• CADC Produce Processing Feasibility Study
  • Survey Results
  • Target Products
  • Processing Lines
• Facility Layout
• Business Model
• Contact Information
Survey: Stevens County Food Pantries
2015 Food Pantry Client Produce Preference Survey

Food Bank Fruit, Berry & Vegetable Preference Survey

**Instructions:**

1. Tell us what your 5 favorite Salad Vegetables are (that you’d like more oft).
2. Tell us what your 5 favorite Cooking Vegetables are (that you’d like more oft).
3. Tell us what your 5 favorite Fruits & Berries are (that you’d like more oft).
4. If you’d like your produce in Jars, tell us if you’d like it as Unprocessed, Frozen, or Natural.

**Vegetables**

<table>
<thead>
<tr>
<th>Package Type</th>
<th>Fresh</th>
<th>Frozen</th>
<th>Canned</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Your Five Favorite Salad Vegetables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Carrots</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Lettuce</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Green Beans</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Tomatoes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Broccoli</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Asparagus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Spinach</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Mushrooms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Peppers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Onions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Produce**

<table>
<thead>
<tr>
<th>Package Type</th>
<th>Fresh</th>
<th>Frozen</th>
<th>Canned</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Your Five Favorite Fruits &amp; Berries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Apples</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Oranges</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Blueberries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Blueberries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Strawberries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Raspberries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Blackberries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Grapes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Huckleberries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Melons</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Salad Vegetables**

<table>
<thead>
<tr>
<th>Package Type</th>
<th>Fresh</th>
<th>Frozen</th>
<th>Canned</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Your Five Favorite Cooking Vegetables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Spinach</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Broccoli</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Asparagus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Carrots</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Green Beans</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Cauliflower</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Collard Greens</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Corn</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Pinto Beans</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Jars**

<table>
<thead>
<tr>
<th>Package Type</th>
<th>Fresh</th>
<th>Frozen</th>
<th>Canned</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Your Jar Preferences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Jars: Mixed Vegetables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Jars: Mixed Fruits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Jars: Mixed Berries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Jars: Mixed Fruits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Bringing you more of the produce you want!*
Survey: Stevens County Food Pantries
2015 Client Produce Preference Survey – All Results

Food Bank Client Produce Preference Survey Results (2015)

Food Bank Client Preferences (104 total respondents, 5 Food Pantries)
Survey: Stevens County Food Pantries
2015 Client Produce Preference Survey

Figure 1 – Top 5 produce items requested as "Favorite they'd like more of" by food bank clients in Stevens County
# Survey: Stevens County Farmers Markets

## 2015 Farmers Market Produce Preference Survey

### Instructions:
1. Tell us what your 5 Favorite Salad Vegetables are (that you'd like more of). Include what you think would be a fair price as well as the size of the Sales Unit at that price (e.g., quarter pound, each).
2. Tell us what your 5 Favorite Cooking Vegetables are (that you'd like more of). Include Price and Sales Unit.
3. Tell us what your 5 Favorite Fruits & Berries are (that you'd like more of). Include Price and Sales Unit.
4. If you’d like your produce in Jars, tell us if you’d like it as Jam/jelly, Pickles, Sauce, or Natural.

## Farmers Market Fruit, Berry & Vegetable Preference Survey

<table>
<thead>
<tr>
<th>Vegetables</th>
<th>Package Type</th>
<th>Fair Price</th>
<th>Sales Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Basil</td>
<td>Fresh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Cabbage</td>
<td>Frozen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Corn</td>
<td>Jars</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Collard</td>
<td>Ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Cucumbers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Kale</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Lettuce</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Mushrooms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Mustard</td>
<td>Ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Green</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Brussel Sprouts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Rodger</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Spinach</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Summer Squash</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fruit &amp; Berries</th>
<th>Package Type</th>
<th>Fair Price</th>
<th>Sales Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Apples</td>
<td>Fresh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Apricots</td>
<td>Frozen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Blackberries</td>
<td>Jars</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Blueberries</td>
<td>Ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Cherries</td>
<td>Ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Currants</td>
<td>Ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Gooseberries</td>
<td>Jars</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Grapes</td>
<td>Ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Huckleberries</td>
<td>Ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Melons</td>
<td>Ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Nectarines</td>
<td>Ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Peaches</td>
<td>Ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Pears</td>
<td>Ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Plums</td>
<td>Ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Raspberries</td>
<td>Ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Strawberries</td>
<td>Ground</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Your Jar Preferences</th>
<th>Produce in Jars</th>
<th>January</th>
<th>February</th>
<th>March</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fruit Berries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vegetable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fruit Berries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vegetable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fruit Berries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vegetable</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Survey: Stevens County Farmers Markets
2015 Client Produce Preference Survey

Results

• Inconclusive
• Results were all over the place

Two typical responses to the question of Fair Price
1. “Hmmm. I think I remember Safeway sells those on for ... $ per Lb”
2. “I don’t look at price since I can buy whatever I want... but those Farmers Market prices are too high!”
Survey: Stevens County Food Loving Public
2016 Public Produce Preference Survey

Welcome to the CADC Fruit, Berry, and Vegetable Preference Survey!
This is your opportunity to help our farmers and growers bring you more of the local food you enjoy.

Purpose of the Survey
This survey is to better understand the fruit, berry, and vegetable production in our area. It will help us understand what we can offer in terms of local and seasonal fresh produce.

General Produce Preferences - Page 1 of 5

Survey Length
The survey consists of three questions and should take less than 10 minutes to complete. Please provide your email and contact information in question 10 so we can provide you with a copy of the report for the state of Washington.

About the CADC
The Community Agriculture Development Center (CADC) is a non-profit organization that facilitates the development of community agriculture projects. The goal is to promote local food production and encourage healthy eating habits.

The facility we're planning for is not a retail facility but rather a business incubator for local high school students and young entrepreneurs. It will include an agriculture lab to develop and produce value-added products using fresh produce. There will also be a fresh market and hand-crafted sales market.

More information is available on the CADC's Facebook page at https://www.facebook.com/CADCWash

This project is funded in part by a Washington State Department of Agriculture Specialty Crops Program.

Salad Vegetable Preferences - Page 2 of 5

7. Which Salad Vegetables do you wish you could buy more of grown in Stevens County? Select an entry in up to 5 boxes on this page.

<table>
<thead>
<tr>
<th>Vegetable</th>
<th>Preparation Preferences 1</th>
<th>Preparation Preferences 2</th>
<th>Preparation Preferences 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arugula</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cabbage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrots</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Instructions:
1. Choose up to 5 of your favorite salad vegetables that you’d prefer to buy grown in Stevens County.
2. For each item, choose the type of preparation that you’d like to see at the market.
Stevens County Food Pantry
2015 & 2016 Produce Preference Survey

Top 5 produce items requested as “Favorite they’d like more of” by Food Bank Clients in Stevens County (2015)

Overlap

Salad Vegetables:
- Carrots
- Tomatoes

Cooking Vegetables:
- Broccoli
- Corn
- Garlic
- Asparagus

Fruit & Berries:
- Strawberries
- Blueberries
- Raspberries
## Community Ag Development Center - School Specialty Crop Usage Survey

Contact: Nils Johnson, nils.johnson@wvu.edu. Office: 684-2588. Mobile/text: (503) 289-9515

### School/Kitchen Name

- [ ] Time period represented below

### Salad Vegetables (eaten raw)

<table>
<thead>
<tr>
<th>Lbs Needed</th>
<th>Format/Package/Pack Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fennel</td>
<td></td>
</tr>
<tr>
<td>2. Cabbage</td>
<td></td>
</tr>
<tr>
<td>3. Carrots</td>
<td></td>
</tr>
<tr>
<td>4. Celery</td>
<td></td>
</tr>
<tr>
<td>5. Chives</td>
<td></td>
</tr>
<tr>
<td>6. Cucumbers</td>
<td></td>
</tr>
<tr>
<td>7. Kale</td>
<td></td>
</tr>
<tr>
<td>8. Kohlrabi</td>
<td></td>
</tr>
<tr>
<td>9. Lettuce</td>
<td></td>
</tr>
<tr>
<td>10. Mushrooms</td>
<td></td>
</tr>
<tr>
<td>11. Mustard Greens</td>
<td></td>
</tr>
<tr>
<td>12. Onions</td>
<td></td>
</tr>
<tr>
<td>13. Peas</td>
<td></td>
</tr>
<tr>
<td>14. Peppers (Hot)</td>
<td></td>
</tr>
<tr>
<td>15. Peppers (Sweet)</td>
<td></td>
</tr>
<tr>
<td>16. Radishes</td>
<td></td>
</tr>
<tr>
<td>17. Spinach</td>
<td></td>
</tr>
<tr>
<td>18. Summer Squash</td>
<td></td>
</tr>
<tr>
<td>19. Tomatoes</td>
<td></td>
</tr>
</tbody>
</table>

### Cooking Vegetables

<table>
<thead>
<tr>
<th>Lbs Needed</th>
<th>Format/Package/Pack Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>20. Asparagus</td>
<td></td>
</tr>
<tr>
<td>21. Beans (Snap, Green)</td>
<td></td>
</tr>
<tr>
<td>22. Beets</td>
<td></td>
</tr>
<tr>
<td>23. Broccoli</td>
<td></td>
</tr>
<tr>
<td>24. Brussels Sprouts</td>
<td></td>
</tr>
<tr>
<td>25. Bok Choy</td>
<td></td>
</tr>
<tr>
<td>26. Cauliflower</td>
<td></td>
</tr>
<tr>
<td>27. Collard Greens</td>
<td></td>
</tr>
<tr>
<td>28. Corn</td>
<td></td>
</tr>
<tr>
<td>29. Eggplant</td>
<td></td>
</tr>
<tr>
<td>30. Green</td>
<td></td>
</tr>
</tbody>
</table>
Survey: Stevens Institutions
2016 School Kitchen Produce Preference Survey

Results

• Frozen produce
  • Broccoli Florets
  • Cauliflower Florets
  • Corn on the Cob

• Fresh minimally processed produce
  • Carrots
  • Edible Pod Peas
  • Harvest of the Month & Specialty items
Survey: Specialty Crop Producers (Farmers & Growers)  
2015 & 2016 Interviews

Results

• Farmers want a market for produce they grow
• Some farmers have seconds that currently aren’t even harvested
• Most farmers don’t necessarily want another line of business

What does this mean?

A processing facility should be designed to accommodate general food systems entrepreneurs who are not necessarily farmers
Garlic in Stevens County
An excellent Crop for our Area

Facts
• Garlic grows well here (ie: Inchelium Red)
• Low water usage
• High labor to farm it
• High density production
• Large cloves are high value for seed ($20 per Lb)
• Small cloves are a byproduct ($3 per Lb)

What does this mean?
• Opportunity: Increase garlic production in Stevens County
• Opportunity: Develop markets for small cloves
Summary of Survey Work
Supply and Demand

Supply
• Farmers can grow lots of stuff... if there’s a market for it

Demand:
• Salad Vegetables: Carrots, Tomatoes
• Cooking Vegetables: Broccoli, Corn, Garlic, Asparagus
• Fruit & Berries: Strawberries, Blueberries, Raspberries

Processing Format:
• Canned in Jars High-End Boutique markets (direct sales)
• Frozen (IQF) Institutional markets (maybe direct sales)
Outline

• Project Background
• Regional Food System Plan
• CADC Produce Processing Feasibility Study
  • Survey Results
  • Target Products
  • Processing Lines
• Facility Layout
• Business Model
• Contact Information
Two Processing Technologies:
Canned (in Jars) and Frozen

Canned in Jars
• Boutique items, High-End Prices
• Purchased as gifts or for special occasions
• Include
  • Sauces
  • Pickles
  • Jams, Jellies
  • Fruit Butters
Fruit Butter
Apple, Pear, etc.

Details

• Highest value when
  • No sugar added
  • No pectin added
• Very long cooking process (up to 72 hours)

What does this mean?
• Need: Low rent processing facility
Two Processing Technologies:
Canned (in Jars) and Frozen

**Frozen in Bags**
- Individually Quick Frozen (IQF)
- For Individuals and institutions
- Minimally Processed
Outline

• Project Background
• Regional Food System Plan
• CADC Produce Processing Feasibility Study
  • Survey Results
  • Target Products
    • Processing Lines
• Facility Layout
• Business Model
• Contact Information
SCBG Feasibility Study
Target Products

Products selected through study
1. Jarred Pickled Garlic
2. Jarred Apple Butter
3. Bagged frozen Root Vegetable medley
4. Bagged frozen Corn on the Cob
5. Bagged frozen Broccoli

For high-end retail markets
For institutional markets
SCBG Feasibility Study
Produce Processing Facility

Wash  Soak  Sort  Chill

Soak Tank and Sorting Tables

Chill Tanks
SCBG Feasibility Study
Produce Processing Facility

Industrial Food Processor

- Broccoli Floret Machine
SCBG Feasibility Study
Produce Processing Facility

- Cook
- Blanch
- Peel

40 Gallon Jacketed Steam Kettle

- Root Vegetable Peeler
- Garlic Peeler
SCBG Feasibility Study
Produce Processing Facility

Proofing Oven

Heat Jars

Fill

Volumetric Filler
SCBG Feasibility Study
Produce Processing Facility

Vacuum Bagging Machine
SCBG Feasibility Study
Produce Processing Facility

Freeze

Or...

Blast Chiller

Walk-In Freezer
Facility Layout
Electricity for Portable Equipment
Facility Layout
In-Floor Drains
SCBG Feasibility Study
Equipment Costs per Processing Line

Products selected through study

1. Jarred Pickled Garlic
2. Jarred Apple Butter
3. Bagged frozen Root Vegetable medley
4. Bagged frozen Corn on the Cob
5. Bagged frozen Broccoli

Processing Equipment: $122,000
Processing Equipment: $130,000
Processing Equipment: $210,000
Processing Equipment: $180,000
Example Facilities and Processes
21 Acres, and Mission Mountain Food Enterprises Center, Ronan MT

Videos

1. 21 Acres Promo Video
2. MMFEC Overview
3. Mustard Seed Café sauces
4. Livingston Food Resources Center
5. Fosters Pickled Garlic
Outline

• Project Background
• Regional Food System Plan
• CADC Produce Processing Feasibility Study
  • Survey Results
  • Target Products
  • Processing Lines
• Facility Layout
• Business Model
• Contact Information
Facility Layout
“Large” and “Small” Configurations

“Small” Build Configuration
(1200 square feet)
Building Cost: $ 180,000

“Large” Build Configuration
(6500 square feet)
Building Cost: $ 975,000
Facility Layout
Large Configuration

Building Site (guess): $200,000
Building Cost: $975,000
Processing Equipment: $230,000
Total Cost: $1,405,000
Facility Layout
Small Configuration

Building Site (guess): $75,000
Building Cost: $180,000
Processing Equipment: $80,000
Total cost: $335,000
Outline

• Project Background
• Regional Food System Plan
• CADC Produce Processing Feasibility Study
  • Survey Results
  • Target Products
  • Processing Lines
• Facility Layout
  • Business Model
• Contact Information
Business Model
Large Configuration

• Intended Clients:
  • Ramping up from small scale
  • Building inventory for wholesale sales
  • Existing processors outgrowing their kitchens
  • In-Season runs of produce for larger institutions

• Business Model Assumptions:
  • 3 years of (startup)
  • Business ramps up between 5 and 8 years
  • Full capacity at 8 years
Business Model
3 Revenue Streams

Office and Conference Rentals
• Part of a standard business incubator
• Might be used by food systems clients or others

Processing Facilities & Storage
• Dry, Chilled, and Frozen storage by the pallet
• Processing facility rentals, by the hour

House-Owned Products
• Value-Added products manufactured, owned, and sold by facility management
• Example: Mission Mountain - Beef/Lentil Crumbles

Year 8 Total Revenue Breakdown

- Office & Conference Room Rentals: $24,072.00
- House-Owned Products: $49,848.18
- Processing Facility & Storage Rentals: $54,175.00
Survey: Business Model
Large Configuration 8 – Year Startup Plan

Income: 3 Separate Revenue Streams

<table>
<thead>
<tr>
<th>Year</th>
<th>Office &amp; Conference Room Rentals</th>
<th>House-Owned Products</th>
<th>Processing Facility &amp; Storage Rentals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>$20,000.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Year 2</td>
<td>$40,000.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Year 3</td>
<td>$60,000.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Year 4</td>
<td>$80,000.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Year 5</td>
<td>$100,000.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Year 6</td>
<td>$120,000.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Year 7</td>
<td>$140,000.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Year 8</td>
<td>$120,000.00</td>
<td>$40,000.00</td>
<td>$60,000.00</td>
</tr>
</tbody>
</table>
Survey: Business Model
Large Configuration 8 – Year Startup Plan

Expenses

![Business Expenses Chart]

- **Non-Production Employee Salaries:**
- **Building & Utilities:**
- **Licensing, Insurance, & Services:**
- **Marketing & Business Development:**
Survey: Business Model
Large Configuration Startup Plan

8-Year Financial Estimate
Survey: Business Model
Large Configuration Startup Plan

8-Year Profit/Loss Estimate
Survey: Business Model
Large Configuration Startup Plan

9-Year Cumulative Profit/Loss

<table>
<thead>
<tr>
<th>Year</th>
<th>Cumulative Profit/Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 0</td>
<td>$(2,500,000)</td>
</tr>
<tr>
<td>Year 1</td>
<td>$(2,000,000)</td>
</tr>
<tr>
<td>Year 2</td>
<td>$(1,500,000)</td>
</tr>
<tr>
<td>Year 3</td>
<td>$(1,000,000)</td>
</tr>
<tr>
<td>Year 4</td>
<td>$(500,000)</td>
</tr>
<tr>
<td>Year 5</td>
<td>$-</td>
</tr>
<tr>
<td>Year 6</td>
<td>$-</td>
</tr>
<tr>
<td>Year 7</td>
<td>$-</td>
</tr>
<tr>
<td>Year 8</td>
<td>$-</td>
</tr>
</tbody>
</table>

Total Cumulative Profit/Loss (Large Configuration):
Business Model
Job Starts with **Large** Configuration

**New Farm Revenue**
- $33,000
- Means: 3 new farming enterprises

**In-House Jobs**
- 2 new salaried jobs
- 3 new processing jobs

**Entrepreneur Jobs**
- 2 new “Jobs” to cover processing in the model

**Total:**
- 10 new jobs by year 8
Business Model
Small Configuration

- Intended Clients:
  - Production for building and testing markets
  - Startup scale entrepreneurs
  - Farmers with a value-added product to sell at Farmers Markets
  - Cottage industry food processors (candy, baked goods, etc)
Small Configuration Facility Layout
Kitchen with Dishwasher
Small Configuration Facility Layout
Kitchen with Commercial Range
Survey: Business Model
Small Configuration 8 – Year Startup Plan

Income: 3 Separate Revenue Streams

<table>
<thead>
<tr>
<th>Year</th>
<th>Office &amp; Conference Room Rentals</th>
<th>House-Owned Products</th>
<th>Processing Facility &amp; Storage Rentals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>$10,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Year 2</td>
<td>$15,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Year 3</td>
<td>$20,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Year 4</td>
<td>$25,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Year 5</td>
<td>$30,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Year 6</td>
<td>$35,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Year 7</td>
<td>$40,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Year 8</td>
<td>$45,000</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>
Survey: Business Model
Small Configuration 8 – Year Startup Plan

Expenses

<table>
<thead>
<tr>
<th>Year</th>
<th>Non-Production Employee Salaries</th>
<th>Building &amp; Utilities</th>
<th>Licensing, Insurance, &amp; Services</th>
<th>Marketing &amp; Business Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>$70,000</td>
<td>$5,000</td>
<td>$8,000</td>
<td>$200</td>
</tr>
<tr>
<td>Year 2</td>
<td>$75,000</td>
<td>$5,500</td>
<td>$8,500</td>
<td>$300</td>
</tr>
<tr>
<td>Year 3</td>
<td>$80,000</td>
<td>$6,000</td>
<td>$9,000</td>
<td>$400</td>
</tr>
<tr>
<td>Year 4</td>
<td>$85,000</td>
<td>$6,500</td>
<td>$9,500</td>
<td>$500</td>
</tr>
<tr>
<td>Year 5</td>
<td>$90,000</td>
<td>$7,000</td>
<td>$10,000</td>
<td>$600</td>
</tr>
<tr>
<td>Year 6</td>
<td>$95,000</td>
<td>$7,500</td>
<td>$10,500</td>
<td>$700</td>
</tr>
<tr>
<td>Year 7</td>
<td>$100,000</td>
<td>$8,000</td>
<td>$11,000</td>
<td>$800</td>
</tr>
<tr>
<td>Year 8</td>
<td>$105,000</td>
<td>$8,500</td>
<td>$11,500</td>
<td>$900</td>
</tr>
</tbody>
</table>
Survey: Business Model
Small Configuration Startup Plan

8-Year Financial Estimate

$- 1,000.00 2,000.00 3,000.00 4,000.00 5,000.00 6,000.00 7,000.00 8,000.00 9,000.00

[Graph showing financial estimates over 8 years with peaks and troughs]
Survey: Business Model
Small Configuration Startup Plan

8-Year Profit/Loss Estimate

Annual Profit/Loss (Small Configuration):

<table>
<thead>
<tr>
<th>Year</th>
<th>Profit/Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>$(70,000)</td>
</tr>
<tr>
<td>Year 2</td>
<td>$(60,000)</td>
</tr>
<tr>
<td>Year 3</td>
<td>$(50,000)</td>
</tr>
<tr>
<td>Year 4</td>
<td>$(40,000)</td>
</tr>
<tr>
<td>Year 5</td>
<td>$(30,000)</td>
</tr>
<tr>
<td>Year 6</td>
<td>$(20,000)</td>
</tr>
<tr>
<td>Year 7</td>
<td>$(10,000)</td>
</tr>
<tr>
<td>Year 8</td>
<td>$0</td>
</tr>
</tbody>
</table>

Annual Profit/Loss (Small Configuration):
Survey: Business Model
Small Configuration Startup Plan

9-Year Cumulative Profit/Loss

<table>
<thead>
<tr>
<th>Year</th>
<th>Cumulative Profit/Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 0</td>
<td>$(600,000)</td>
</tr>
<tr>
<td>Year 1</td>
<td>$(500,000)</td>
</tr>
<tr>
<td>Year 2</td>
<td>$(400,000)</td>
</tr>
<tr>
<td>Year 3</td>
<td>$(300,000)</td>
</tr>
<tr>
<td>Year 4</td>
<td>$(200,000)</td>
</tr>
<tr>
<td>Year 5</td>
<td>$(100,000)</td>
</tr>
<tr>
<td>Year 6</td>
<td>$0</td>
</tr>
<tr>
<td>Year 7</td>
<td>$0</td>
</tr>
<tr>
<td>Year 8</td>
<td>$0</td>
</tr>
</tbody>
</table>

Total Cumulative Profit/Loss (Small Configuration):
Business Model
Job Starts with Small Configuration

New Farm Revenue
• $ ?? – likely served by existing capacity
• Means: 0 new farming enterprises

In-House Jobs
• 1 new salaried job
• 1/2 new processing job

Entrepreneur Jobs
• ??? new “Jobs” – difficult to say... maybe 1 1/2

Total:
• 3 new jobs by year 8
Next Steps
Towards Getting an Actual Processing Center

Fine tune the Facility Design
- Used equipment?
- Rented space?

Fine tune the Business Model
- Decrease operating costs
- Find anchor tenants ready to ramp up

Recruit key partners
- Partner organizations (i.e., LINC Farmers Coop)
- Individuals with key skills

Search for grant funding
- Economic development
- Emergency Food Supply
Discussion and Comments
Contact Information

• Nils Johnson
  Stevens County WSU Extension Ag Program Coordinator

  Phone:    (509) 684-2588
  Mobile/Text: (509) 680-8659
  Email:    nils.johnson@wsu.edu

• Stevens Co. Extension Office:
  986 S. Main, Suite D, Colville WA