Feasibility Study of Locally Sourced Bagged Frozen Produce

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Goal: Connect small and mid-sized farms to mainstream grocery and food service markets.
Agenda

- Project 1
  - Feasibility Study
  - Market Research
  - Customer Survey
  - Food Hubs - Introduction
  - Feast Down East - Cost Analysis
  - Pilot Mountain Pride - Cost Analysis
- Next Steps....
Feasibility Study

- Cost Analysis
- Market Research
- Profitability Analysis

Feasibility Study
Market Research

- Competitor Survey
  (Whole Foods, Harris Teeter..)
  - Harris Teeter and Whole Foods buy from NC farms in season when the prices are lower than alternative sources.
  - Local is a merchandizing tool for both competitors as it is for Lowes Foods.

- Supplier Survey
  (Farmers/ food hubs)
  - 5% - 40% of produce wastage every season (varies by product)

- Retailer Survey
  (Lowes Foods)
  - Clear bags for Local Frozen
  - Average markup 35%-40%
  - Target Millennials
  - Add a Food hub logo to sell more
  - Average markup 35%-40%
Consumer Survey

150+ Responses to 17 questions aimed at gathering a bit of demographic data as well as the end-consumer’s thoughts on their produce shopping habits and potential interest in locally sourced frozen bagged produce.

Please select your top 3 criteria when purchasing fresh produce?

- Size
- Shape
- Texture
- Price
- Source / Origin
- Taste
- Nutrition
- Freshness
Consumer Survey

Do you consider frozen produce to be of higher, equal, or lesser quality (taste, nutrition, etc) than the non-frozen equivalent?

- 67%: Frozen is higher quality
- 30%: The two are of equal quality
- 3%: Frozen is lesser quality
Consumer Survey

How often do you buy frozen vegetables?

- Quite often: 26%
- Every so often: 26%
- Less often: 19%
- Rarely: 32%
- Never: 6%
Consumer Survey

If locally sourced frozen bagged produce were available at your grocery, how likely would you be to purchase it?

- Extremely likely: 21.9%
- Quite likely: 32.5%
- Moderately likely: 24.4%
- Slightly likely: 16.3%
- Not at all likely: 5.0%
What if the locally sourced frozen bagged produce was slightly more expensive than the non-local equivalent? How likely would you be to purchase it?

- Extremely likely: 17%
- Quite likely: 28%
- Moderately likely: 26%
- Slightly likely: 14%
- Not at all likely: 15%
What would you consider to be a reasonable premium for locally sourced frozen bagged produce?

- 1-5%: 34%
- 5-10%: 39%
- 10-15%: 6%
- 20+: 22%
Feast Down East

- Established in 2006 by Leslie Hossfield and mac Legerton under the Southeastern North Carolina Food Systems (SENCFS) Program
- Received a grant in 2010 and invested in a box car, blast chiller and freezer/cooler
- Currently have an auto sealer, labeling machine and packaging material onsite
- Need to invest in slicer/dicer machine, forklift, built-in freezer truck for transportation
- Currently supplies produce to restaurants as per demand and delivers CSAs to Lowes Food
- Have carried small scale freezing projects for blueberries in the past
Pilot Mountain Pride

- On an average 10% produce goes waste every growing season
- Procurement works on a push system - peaking in summer
- Planning to set up a freezing unit
- Volume of product available for freezing - 16000 to 18000 pounds/week
- Packaging - Branded Pilot Mountain and “LOCAL”
Total Cost Analysis

Investment Cost
(one-time investment costs)

- Cost of Freezing Station, Cooler
- Blast Chiller
- Slicer, Dicer, Bagger, Sealer
- Fork lift
- Labeling Gun
- Sorter
- Personnel Protective Equipment

Operational Costs (includes material cost, produce cost and operational cost)

- Shipping, Handling and Transportation
- Direct Operating Expenses
- Staffing Costs
- Insurance and Taxes
- Utilities
- Depreciation of equipment
Cost-Benefit Analysis - Assumptions

- Growing season is 26 weeks - 6 months,
- 5% of frozen produce goes waste in Year 1 and gradually reduces by 1% each year
- Increase the produce for freezing by 30% every year.
- Operational cost increases by 10% every year.
- Straight line depreciation
- Cost of every produce to increase by 5% each year.
- 20% markup is assumed on all produce
- Food hubs are non-profits so there is 0% tax for produce bought and sold
- Warehousing cost - assumption that it is 1% of produce cost
Food Hubs - Initial Investment Costs

- Pilot Mountain Pride
- Feast Down East

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Pilot Mountain Pride</th>
<th>Feast Down East</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freezer</td>
<td>$5,000</td>
<td>$5,000</td>
</tr>
<tr>
<td>Cooler</td>
<td>$2,650</td>
<td>$2,650</td>
</tr>
<tr>
<td>Blast Chiller</td>
<td>$4,000</td>
<td>$4,000</td>
</tr>
<tr>
<td>Slicer &amp; Dicer</td>
<td>$3,945</td>
<td>$3,945</td>
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<tr>
<td>Bagger</td>
<td>$1,100</td>
<td>$1,100</td>
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<tr>
<td>Sealer</td>
<td>$895</td>
<td>$895</td>
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<tr>
<td>Labeling gun</td>
<td>$125</td>
<td>$125</td>
</tr>
<tr>
<td>Sanitation equip</td>
<td>$1,100</td>
<td>$1,100</td>
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<tr>
<td>Personnel</td>
<td>$700</td>
<td>$700</td>
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<tr>
<td>Fork Lift</td>
<td>$399</td>
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<tr>
<td>Sorter</td>
<td>$2,000</td>
<td>$2,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$21,914</strong></td>
<td><strong>$9,749</strong></td>
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# Food Hubs-Total Cost Comparison

<table>
<thead>
<tr>
<th>Category</th>
<th>Feast Down East</th>
<th>Pilot Mountain Pride</th>
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</thead>
<tbody>
<tr>
<td>Total cost of produce</td>
<td>$132,109</td>
<td>$132,600</td>
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<tr>
<td>Total Material Cost</td>
<td>$7,825</td>
<td>$8,679</td>
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<tr>
<td>Total Operational Cost</td>
<td>$60,588</td>
<td>$66,940</td>
</tr>
<tr>
<td>Total Investment Cost</td>
<td>$21,914</td>
<td>$9,749</td>
</tr>
</tbody>
</table>

The chart above compares the total cost between Feast Down East and Pilot Mountain Pride in various categories. The total cost of produce for Feast Down East is $132,109, while Pilot Mountain Pride has a total of $132,600. The total material cost for Feast Down East is $7,825, and Pilot Mountain Pride has $8,679. The total operational cost for Feast Down East is $60,588, and Pilot Mountain Pride has $66,940. The total investment cost for Feast Down East is $21,914, and Pilot Mountain Pride has $9,749.
Food Hubs - Operational Cost Comparison

- Payroll
- Equipment Rentals
- Labor
- Warehousing cost
- Maintenance
- Transport
- Utilities
- Internet
- Advertising
- Insurance
- Certifications
- Training

Feast Down East
Pilot Mountain Pride

Costs:
- Payroll: $24,000
- Equipment Rentals: $500
- Labor: $9,360
- Warehousing cost: $221
- Maintenance: $2,400
- Transport: $5,000
- Utilities: $14,808
- Internet: $328
- Advertising: $87
- Insurance: $2,116
- Certifications: $1,000
- Training: $768
Cash Flow Analysis - Feast Down East

**Assumptions**
- 44500 pounds of produce available for freezing for 6 months in the first year
- Products considered for analysis - Kale and Blueberries
- Markup of 20% on all produce per year
- Labor for 2 people for 6 months @12.5/hour for 20 hours/week
- Transportation is $350 for one refrigerated delivery (24 deliveries in 26 weeks)
Cash Flow Analysis - Pilot Mountain Pride

**Assumptions**

110,500 pounds for 6 months in the first year.
Produce considered for analysis - Squash and Green Peppers
Labor - 2 people for 6 months @ 9/hr and 20 hrs/wk
Electricity cost for 10 x 12 freezer is $450/month and 2 such freezers (storage units)
Markup of 20% on all produce per year
Conclusions and Recommendations

It’s a volume driven business - Profitability is Volume dependent

- Feast Down East - estimated 44500 pounds for 6 months. Products - Kale and Blueberries ratio of 1:3
- Feast Down East is profitable in Year 4 at a mark-up of 20%
- Generates an NPV of $67,093 @ 10% over 5 years.

- Pilot Mountain Pride - estimated 110,500 pounds for 6 months. Products Squash and Green Peppers ratio of 1:1
- Pilot Mountain Pride is profitable in Year 4 at a mark-up of 20%
- Generates an NPV of $44,609 @10% over 5 years.
Next Steps..

- Final Report

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Thank you!

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