Food Processing Case Study

BUSINESS INCUBATOR BUILDS IN-HOUSE WHOLESALE PROCESSING

FEATURED FACILITY: VERMONT FOOD VENTURE CENTER

By Nathaniel Brooks

Vermont Food Venture Center team members process carrots for the “Just Cut” product line.

To learn more about the Vermont Food Venture Center, visit www.hardwickagriculture.org

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**OVERVIEW**

**Name:** Vermont Food Venture Center  
**Location:** Hardwick, VT  
**Opened:** 2011  
**Business Model:** non-profit; fee for service  
**Staff:** six full-time, six part-time

**Facility at a Glance:**
- 15k square feet total
- Three shared use kitchens (500 to 600 square feet each)
- 6k square feet for two dedicated tenant spaces
- 5k square feet of dry, cold and frozen storage

**Annual Revenue/Budget:** approximately $425,000  
**Current Clients:** 36  
**Services:** business incubation, business training, technical assistance, local food processing and marketing, food safety and production training, educational programming

**More Information:**
The Vermont Food Venture Center (VFVC) is owned and managed by the Center for an Agricultural Economy (CAE), whose mission is “to build a regenerative, locally based, healthy food system by engaging the greater Hardwick community through collaboration opportunities, educational outreach and providing infrastructure.”

The VFVC was built to help create jobs in the agricultural economy. It acts as a shared-use food processing hub and a home for small food businesses, farmers, and producers. It plays host to everything from food safety trainings to local student projects student projects. As of December 2016, the VFVC has 36 participating businesses, primarily producing value-added products for the direct-to-consumer retail market.

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**KEY TAKEAWAYS**

1. Underutilized capacity is a valuable resource for new product development.
2. Institutional purchasers, especially K-12 schools, are extremely price sensitive.
3. Creating institutional market demand for a premium local product line is challenging; it takes time and the strategic use of partnerships.
4. An in-house product line, even one with low margins, can be a valuable anchor for an incubator facility.

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THE CHALLENGE

The minimal processing program at the Vermont Food Venture Center (VFVC) was launched to better support local farmers. Staff at the Center for an Agricultural Economy (CAE) realized farmers weren’t taking advantage of the shared kitchens to carry out value-added processing themselves. At the same time, staff knew that the facility could be used to address one of the factors preventing greater use of local food in area institutions: namely that many had neither adequate storage space nor sufficient staff time to work with local produce in its whole, raw form.

The 2012 NOFA-VT and Vermont FEED report *Scaling Up Vermont’s Local Food Production, Distribution, and Marketing* highlighted the barriers faced by Vermont institutional purchasers seeking to increase their local sourcing. It also estimated that the gap between total sourcing and Vermont sourcing of fruits, vegetables, and eggs was $11 million annually from Vermont institutions, with 94% of institutional respondents projecting stable or increased demand in coming years.

Constructed in 2010 with funding from a consortium of local and federal economic development agencies, the VFVC was created as a “food incubator and business hub” designed to give “one of the most economically depressed corners of Vermont connections, encouragement and new jobs” (CAE Annual Report, 2010). Since construction, utilization of the shared-use kitchens has grown each year (see figure 1, page 7). Increasing utilization means fixed or semi-fixed enterprise costs are spread over more production hours, helping to ensure the VFVC covers its operating costs.

Recognizing that farmers were not using the facility for processing their own products, and that entry into the wholesale institutional market was challenging for producers, CAE staff decided to pilot a lightly-processed product line. The main goal identified at the time of the program’s launch, during the summer of 2013, was to determine the feasibility of sourcing and processing various local vegetables into fresh cut and frozen products to market to local K-12 schools.

*In the course of this assessment, program activities were meant to serve three additional goals:*
  - To increase access to local food
  - To support local farm viability by providing an additional market
  - To increase utilization of the VFVC
Beginning in July 2013, with support from a USDA Rural Business Enterprise Grant, CAE staff began recruiting farmers, analyzing demand in local school kitchens, and assessing the feasibility of different products. Titled the “Farm to Copacker” program, the initiative enlisted 15 area farms and began trying out direct sales of a variety of products to 10 local schools, producing a total of 3,100 pounds of lightly-processed vegetables.

Processing on contract for local farms proved challenging. Scheduling kitchen labor to match sporadic harvests was difficult and the overhead costs were too high for farms to justify without a proven market. These realizations led staff to pivot away from “Farm to Copacker” to create the minimally processed Just Cut product line, bringing ownership of the product in-house but intentionally de-emphasizing the role of the VFVC in favor of prominently displaying information about the farms from which produce was sourced. The result was a single “brand” that enabled customers to easily find the products on local distributor product availability lists while keeping the focus on the food’s provenance.

To source produce for the program, VFVC partnered with UVM Extension to develop a guide for farmers interested in beginning to grow for wholesale markets. A joint outreach effort in early spring of 2014 supported farms in crop planning based on projected demand and available storage, as well as providing assistance in developing farm-specific food safety plans.

Initially, the program experimented with a large variety of potential products. Products were assessed on both institutional demand and operational viability, a judgement that included reliable supply, processing efficiency, and shelf-life. Based on test batches, a number of products were dismissed as not operationally viable.
Customer feedback helped narrow the focus for 2014 to four local crops which were used to make eight products:

- Beets, sliced
- Beets, whole, peeled
- Potatoes, fry cut
- Carrots, sticks
- Carrots, shredded
- Carrots, ½” dice (frozen)
- Broccoli, florets (frozen)
- Soup bits (frozen)

By the end of 2014, the program had sourced a total of 46,000 pounds of vegetables from 11 area farms, and sales reached nearly $30,000 to 18 local institutions. With 1.5 full-time equivalent staff working on the program, it grew quickly throughout the school year. CAE staff soon learned, however, that schools alone were not a sufficient market to ensure the economic viability of the program.

After two years of experience and increasing sales, in 2015 CAE staff wanted to assess the future direction of the minimal processing program and the associated Just Cut product line. Kitchen Table Consultants, of Bala Cynwyd, Pennsylvania, was contracted to conduct an opportunity assessment and develop strategies to potentially hand the Just Cut product line off to a local distributor or entrepreneur. While recognizing the significant market opportunity, they pointed to a number of challenges including high costs of production and the lack of mid and long-term growth goals. Neither of these came as a surprise to program staff, given the history of the Just Cut product line.

The assessment of the operational complexity, low margins, and relatively low sales volume led the consultants to conclude that this would be an unattractive program to inherit. A variety of options were considered for the future of the product line, from handing it off to one of the participating farmers to persuading one of the distributors working with participating farms to take over the processing operation (as is currently done by other large regional distributors). While these remain important options for long-term viability, the decision for the next few years of the program development emphasized:

- **Production efficiencies**: particularly using the by-products of processing vegetables to create secondary product lines, and continuing to move towards the best fit equipment when possible.
- **Blended market approaches**: combining the zero margin and low volume K-12 markets with larger accounts able to pay more for local and fresh products (such as college and hospitals).
- **In-house management**: while challenging to finance in the long term, keeping the program under CAE management with the ability to include supply chain facilitation activities and shared learning was important.

In the past year, the minimal processing program has evolved to meet both demand and supply challenges. As the program navigated the “farm viability” goal, financial success was sometimes compromised. In 2015 when vegetable sourcing arrangements had evolved from simple handshake transactions to written “Good Faith Agreements”
laying out projected purchase volumes and expected prices, crop failure became an issue. When the broccoli crop in the area suffered extensive damage from swede midge (one farm lost their entire crop), program staff were forced to purchase inferior broccoli, which added to labor costs during processing. Between the lower yields and the higher cost, the program ended up taking a loss on their broccoli floret product simply to avoid losing existing customers. A more rigorous purchase contract or secondary and tertiary grower agreements, common between larger-scale processors and their suppliers, would’ve required the farm to cover the cost difference, protecting product margins.

Institutional commitment was also a challenge in 2015. Fresh fry cut potatoes had become the only product that the program was producing at a viable scale due to the relationship with a single college account that was sourcing 1,100 pounds of product every week during the Spring semester. When the head chef at that account left over the summer, the new staff decided to bring processing in-house, drastically decreasing their order volume. In order to address volatility of the market, the program not only needed to increase overall sales, but also needed to diversify the types of markets it was working with. Emphasis was placed on working with healthcare partners because of their steady year-round demand and many local hospitals were starting to develop values-based purchasing guidelines that prioritized local and organic sourcing for more healthy menus.

Feedback from college and hospital customers led to a shift in product assortment. Production of a sliced beet product was discontinued due to lagging sales and replaced with diced beets and parsnips that were easy to process and convenient for customers to roast. Inconsistent quality of the fresh fry cut and wedge cut potatoes prompted a change to a simpler one-inch diced form. Finally, staff realized the sorted frozen diced carrot offering was primarily being used in soups, in which an unsorted product was acceptable. Making this product change allowed a $0.15 per pound reduction in price that made it accessible to more institutional customers.

In late 2015, CAE staff developed strategies to address the challenge of high labor and materials costs, and focused on reducing waste in two ways:

1. **Doubling the shelf life of the Just Cut product line, from 5-7 days to 10-14 days.** This was accomplished by testing a wide range of packaging and organic preservatives to find the best fit for existing products and distribution.

2. **Developing the “secondary” products to repurpose some of what would otherwise be waste from the core vegetable products.** The addition of a chopped frozen broccoli product, for example, increased the overall processing yield on broccoli from an average of 53% to an average of 76%.

Between these changes and the ongoing efforts of CAE staff to develop customer relationships and build demand for the product line, 2015 saw total raw produce procurement reach approximately 60,000 pound, up from 46,000 pounds in 2015, an increase of 30%. At the same time sales grew from $38,000 in 2014 to $52,000, an increase of 38%.

Building on this momentum, in 2016 the program’s sourcing geography has been widened, with additional volume from larger regional farms able to offer a lower price point (e.g., Pioneer Valley broccoli at $0.70 per pound versus $1.40-1.80 per pound from local farmers) improving unit economics. The program has also expanded from nine months, focused primarily on the school year, to year-round, providing more consistent hours for staff and allowing them to better serve institutional customers. With continued focus on the development of secondary products and an effort to grow existing partnerships (e.g., Healthcare Without Harm) to further expand demand, CAE staff is optimistic about the future of the Just Cut product line.
As sales of the *Just Cut* product line have expanded, the minimal processing program has expanded from being an occasional user of the shared kitchen space to its single largest occupant, accounting for between one-quarter to one-half of kitchen utilization on an average week during processing season.

In the current model, staff communicate weekly with customers, aggregate orders, and produce to demand for the following the week, at which point orders are delivered by existing distributors (Upper Valley Produce, Black River Produce) and freight charged via Bill of Lading. CAE staff have attempted to switch to simply selling direct to the distributors and having customers order through their distributor systems, but in both cases this led to lost sales and wasted product. Direct communication with consumers allows for shared recipes, and immediate feedback for the product development, but solving the challenges in working with distributors remains a challenge for the future.

While sales of the *Just Cut* product line are still below the level CAE staff would like to see, continued refinement to the product line and proactive engagement with partner organizations is generating positive momentum. Following the success of a ‘coleslaw’ cabbage shred piloted last winter, CAE staff are planning to add other shredded vegetables to offer a seasonal slaw product year-round. A connection from Green Mountain Farm Direct, for example, led to a close relationship with the Food Service Manager for the Lamoille South Supervisory Union, with sales to his three schools increasing from a single case every few months to larger orders of three to five cases on a regular basis throughout the school year.

Being able to keep an experienced team working in the kitchens year-round, along with the addition of new equipment, more efficient processes, and better packaging, has helped the program better manage costs while continuing to grow sales. Sales for 2016 are on track to reach the target of $90,000, nearly double the 2015 total, reaching 34 different buyers. Similarly, sourcing is on track to meet the 2016 goal of 75,000 pounds from 22 farms; a 25% increase from 2015. CAE staff are also in discussions with regional partners, such as Northern Girl in Maine and the Western Mass Food Processing Center in Massachusetts, to explore regionalizing supply and production. This may be a change that the program sees in the future to assist farmers across a multi-state region, and to reach larger markets in urban areas.
IMPACTS OF THE MINIMAL PROCESSING PROGRAM

While the minimal processing program is small and many of its administrative costs are subsidized because of its non-financial goals, it provides critical utilization for VFVC. The program also delivers numerous other positive impacts in line with the Center for an Agricultural Economy’s mission:

1. **Production of Just Cut products creates food processing jobs in the Hardwick community.** The availability of trained staff familiar with the VFVC facility is a benefit to incubator clients, who occasionally recruit from the minimal processing kitchen crew to fill additional staffing needs.

2. **The need for significant volumes of produce and the work of CAE staff to recruit farms as contract growers creates markets and reduces risk for local farms.** The minimal processing program provides an easy first step for small farms looking to enter wholesale markets; for at least two farms, the program’s orders were their first wholesale accounts.

3. **Co-branding with the farms who grow the crops for the Just Cut products positively reinforces their brand** with institutional purchasers and creates or strengthens existing wholesale relationships.

4. **Institutional purchasers appreciate the convenience of the Just Cut product line.** As goals for local sourcing increase across many institutions, Just Cut offers an easy way to meet procurement targets without dramatically increasing prep costs.

5. **Incubator clients can take advantage of bulk purchasing for Just Cut production to obtain better pricing for some of their ingredients.** One client, Vermont Veggie Burger, actually buys the Just Cut beet bits product to use as an input in their burgers.

6. **Where appropriate, CAE staff cross-promote the products of incubator clients to Just Cut purchasers,** a valuable marketing boost for any new food business.

2016 PRODUCT PERFORMANCE, TOP FOUR PRODUCTS BY VOLUME SOLD

<table>
<thead>
<tr>
<th></th>
<th>CARROT, ½” DICE (FROZEN)</th>
<th>POTATO, 1” DICE (FRESH)</th>
<th>POTATO, 1” DICE (FROZEN)</th>
<th>BEET, 1” DICE (FRESH)</th>
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<tr>
<td>2016 Volume</td>
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<td>Price Per Pound</td>
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<td>Gross Margin¹ (%)</td>
<td>40%</td>
<td>47%</td>
<td>44%</td>
<td>34%</td>
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</tbody>
</table>

¹Price less cost of ingredients, packaging, and direct labor
KEY TAKEAWAYS

1. **Underutilized capacity is a valuable resource for new product development.**
   Because the shared use kitchen space wasn’t fully utilized, the opportunity cost to use it for testing new product ideas was very low. This created the flexibility to allow CAE staff to try many different products and to continue to iterate and adjust their product line.

2. **Institutional purchasers, especially K-12 schools, are extremely price sensitive.**
   Working with potential customers to identify product modifications, aggregating orders to create scale efficiencies, and being creative with secondary products to increase yield are critical to managing margins.

3. **Creating institutional market demand for a premium local product line is challenging: it takes time and the strategic use of partnerships.**
   In addition to the challenges of starting any food business, local sourcing imposes seasonal delays in working with suppliers and institutional buyers are often constrained by annual menu planning and budgeting cycles. Support organizations can assist by brokering introductions and advocating for preferred procurement, but the creation and maintenance of strong customer relationships is critical to success.

4. **An in-house product line, even one with low margins, can be a valuable anchor for an incubator facility.**
   Financial impacts are positive as long as the gross margin contribution is greater than the opportunity cost of an alternate use (e.g., the product line generates at least as much margin as the expected use by incubator clients) and the reliability of a steady, high-volume product such as lightly processed vegetables creates opportunities for incubator clients to benefit from cross-staffing, bulk purchasing, and cross-promotion.

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