SFA Crow River Chapter

Minnesota Ketchup Project

Case Study
Farmers’ challenge: utilizing excess supply to improve the bottom line

Minnesota’s sustainable farmers face a common problem. How can the full yield of a harvest be utilized, its waste minimized and excess capitalized? Growers in the Crow River Chapter of the Sustainable Farming Association have been asking this question among themselves and their
network. These challenges formed the central topic of the chapter’s 2014 annual meeting:

“Local foods: what’s the next step? … How to move beyond CSA’s and summer farmers’ markets and broaden our local food production capabilities.” The annual meeting is one example of the Crow River chapter’s active membership, comprised of board members who meet monthly and organize events for other farmers and the entire community. The chapter is one of nine regional chapters of the Sustainable Farming Association (SFA), a Minnesota-based nonprofit that supports and enhances sustainable farming through education, demonstration and farmer-to-farmer networking.

“The next step in local foods” was not just a meeting theme. It remains a practical challenge as a supply-and-demand mismatch. For instance, when a Twin Cities school district needs 14,000 pounds of tomatoes in a two week period – none before and none after those two weeks – multiple farmers are needed to fulfill such a large order. Because of the narrow two-week demand for tomatoes, each supplying farmer has excess tomato yield before and after those two-weeks. SFA Crow River Chapter board member Greg Reynolds coordinated that exact scenario in 2013. As one grower, Reynolds could not simultaneously meet the demands of the school district, his other customers, and his CSA members. The school district’s request provided a great opportunity for the multiple growers who fulfilled the order, but what would they do with all of the tomatoes available prior to and after their requested delivery dates?

"What are we going to do with all of these extra tomatoes?” Reynolds said to a fellow SFA Crow River Chapter member. “Make ketchup?”

The ketchup concept was not immediately acted upon, but it was discussed and later re-affirmed when Crow River chapter board member Mike Lilja returned from an Oregon trip, having tasted ketchup produced by some of its regional farmers. With this proof of value-added
production success, the board members saw ketchup as a one opportunity – a pilot – to answer the bottom-line questions they had posed to themselves and their sustainable farming network.

**Beginning of the Minnesota Ketchup Project**

“The beginning of the Minnesota Ketchup Project was the proposed solution to, and the culmination of, SFA Crow River Chapter’s many questions and events about increasing demand for local foods, maintaining food prices and utilizing excess food supplies to grow farmers’ bottom line,” wrote SFA member Mike Lilja. Now they had an approach. They had a chance to create a shelf-stable, value-added product using excess tomato supply from Crow River area sustainable farmers. With these possibilities in mind, the SFA Crow River Chapter board formed the ketchup committee: Chris Kudrna, Mary Jane Miller, Mike Lilja, Catherine Rose, Greg Reynolds, Constance Carlson and Dale Woodbeck.

Together, the ketchup committee and SFA Crow River Chapter board established project goals for the Minnesota Ketchup Project:

- Create additional market demand for locally grown foods through the creation of shelf-stable, value-added food products.
- Create a model for other farmers who have the same goal and who want to process and sell the food product, managing the process from end to end.
- Ultimately establish a business in one of multiple models: a grower-owned company, a co-op or another viable business model.
- Spark the re-establishment of local food processing facilities and infrastructure in Minnesota.
Through this project, locally-sourced ketchup was more than a new, potential product to introduce to the market. As committee member and food scientist, Miller wrote: “It’s not about the ketchup. It’s about learning how to take locally grown fruits and vegetables and turn them into something greater than the sum of their parts.”

Establishing the benchtop recipe

Crafting a recipe started small. It was in the kitchen, working with ingredients while keeping future scale in mind. To the committee’s advantage, one of its members was perfectly suited for testing recipes. Miller works professionally as a food scientist and a recipe developer. Not only did she have the direct recipe development experience, but she also had established relationships with licensed kitchen owners and chefs.

Miller worked with a mix of ingredients until she reached a benchtop batch, comprised of tomatoes, garlic, honey, onion, vinegar, oil, salt, spices and cayenne pepper. Miller kept track of ingredient quantities for future production and budgeting.

The benchtop recipe would be the basis of a 500-bottle test batch. The committee would later purchase the ingredients, begin food preparation at a licensed kitchen, and then partner with a licensed commercial co-packer who could combine the prepped ingredients for final test batch production, which would include bottling, sealing and labeling.

Steps to scaling up to “SFA Test Batch Number One”: 500 bottles

Because the ingredients for the 500 bottle test batch were mixed in February 2015, tomatoes from Crow River area farmers were not available. The ketchup committee opted to use canned
tomato puree for the test run. The test batch would be used to test general scalability, marketability, chef feedback and consumer feedback.

There are many commercial grade kitchens available for rent in the Twin Cities and Central Minnesota area, including some churches. The ketchup committee used the commercial-grade kitchen at Buffalo United Methodist Church to prepare its test batch for bottling. Committee members Kudrna, Miller, Rose, Carlson and Lilja worked together to prepare two distinct batches, one mix of tomato puree and one mix of onion-garlic-spice puree. The following day, Miller brought those two mixtures to a co-packing facility, where the two purees were combined, bottled and sealed.

The test bottles were first sold at the SFA Annual Conference in February 2015. After that, they appeared at the Mill City Farmer’s Market in early June, and during the SFA Crow River Chapter’s 10th annual Minnesota Garlic Festival in August 2015. Area chefs were also given test product and asked for feedback. Such feedback would be incorporated into any recipe adjustments for the 1,600 bottle production run the SFA Crow River Chapter had planned.

A note on “Food Business” regulations

While creating the test batch, the SFA needed to comply with the pertinent “food businesses” regulations, many of which are described by the Minnesota Department of Agriculture (MDA). Depending on the type of food processing, production, distribution and selling, different food businesses are required to adhere to a variety local, state and federal regulations. Information is available on the MDA website, www.mda.state.mn.us.

SFA needed to comply with food preparation and processing requirements. Many of these requirements were met by using a licensed kitchen that was already certified for food
preparation. Similarly, using a licensed co-packer for the test batch’s final processing and bottling stages complied with food manufacturing requirements. Food, health and business agencies have resources available for anyone interested in starting a food business of any size or type:

- **The MDA**: “Starting a Food Business in Minnesota”
- **The Minnesota Department of Health (MDH)**: “Food Business Safety” resources
- **The U.S. Food and Drug Administration (FDA)**: “Overview of Requirements for a Food Business”
- **Minnesota Department of Employment and Economic Development (DEED)**: “A Guide to Starting a Business in Minnesota”
- **FDA’s “Food Labeling Guide”**: For nutrition label approval, samples of the product must be sent to a testing facility before the product is made available for sale.
- **FDA requirements specific to ketchup**: Code of Federal Regulations detail specific requirements for items regulated by the FDA. The link provided is the subpart directly related to ketchup. (Subsection citation: 21CFR155.194.)

**Creating the product label**

The ketchup needed a name, a label design and label copy. Initial test bottle labels were developed clearly indicating that the test batch ketchup inside the bottle was not the final product. For the final product, a professional label wasconcepted and designed through a partnership between Lakewinds Co-op and SFA. Lakewinds CEO and General Manager Dale Woodbeck sits on both the SFA chapter board and the association board. Serving on the ketchup committee, Woodbeck and the SFA chapter agreed to pay Constance Carlson, a freelance marketing professional familiar with the goals of the ketchup project, to guide the
creation and design of the final bottle label. Carlson crafted the copy for the label based on a conversation with both the chapter’s board and the ketchup committee. The final label copy was edited and streamlined to fit within word count parameters of the label. Carlson also worked closely with Jacqui Boyum, Lakewinds’ in-house designer, to concept and articulate the final label design.

While developing the labels, one main marketing challenge was aligning the locally-sourced ketchup product with mass-produced ketchup. Marketing would have to address consumers’ existing taste and price expectations. The local ingredients mixed with local processing would create a taste and profile different from the ketchup to which consumers were accustomed.

The ketchup committee chose two bottle varieties to fit consumers’ taste preferences, selecting names to highlight the local growers producing the ketchup. “Farmer Greg Ketchup” was coined for the “regular” recipe, and “Farmer Jerry Ketchup” was used for a spicy variation. Both were named after two SFA Crow River Chapter board members who are part of the ketchup endeavor.

The copy tapped into consumers’ increasing preference for locally-produced goods, and it immediately addressed consumers’ taste expectations: “This is no ordinary bottle of ketchup, crack it open and taste Minnesota’s bounty from Riverbend, Plum Creek and Nature’s Folly Farm with a hint of sweetness from Swan Bee Company. Dip, pour and devour with pride.”

A valuable branding lesson occurred during the label creation process as well. Any association that has an existing brand must maintain consistent messaging, and introducing a new product can pose logistical challenges to the understood branding guidelines. For example, SFA Communications and Membership Coordinator Jason Walker had established consistent logo and communication standards for all nine SFA chapters, but costly four-color printing of SFA’s
logo on the ketchup bottle label meant the association had to use one-color printing. SFA chose a white logo for the ketchup bottle, but it knew future branding exceptions may arise. To maintain branding consistency in future instances that required logistical flexibility, Walker and SFA Membership Coordinator Jerry Ford worked with Carlson to create a process for a "branding exception." With Walker’s approval, the exception process would allow an SFA chapter to deviate from the current branding guidelines when necessary. This would ensure that SFA branding and messaging remain consistent while its members pursue new initiatives.

The bottom line challenges of scaling up

With the test batch completed, labeled and sold, the committee researched production options for its next step: producing 1,600 ketchup bottles using an excess supply of Crow River area tomatoes from multiple growers. Even though the test batch proved successful using canned tomato puree, there were three main hurdles to commercial-level production: ingredient quality, ingredient cost and tomato puree production capabilities.

The committee determined that it would take 2.75 pounds of tomatoes to produce one full bottle. While those tomatoes were being processed, those 2.75 pounds of tomatoes would be cooked down to approximately 2 pounds of tomato puree per bottle. The ketchup committee did not identify a facility in Minnesota that was capable of producing enough tomato puree for 1,600 bottles of ketchup. Committee members began talking with a representative of a food processing facility in Viroqua, Wisconsin. The prospect of working with a Wisconsin food processor posed questions regarding the group’s main goal for the project, and posed a potential market problem. Would using a processing facility in Wisconsin still be considered “local?” That was a question the ketchup committee had to determine for its own standards, but
they also had to gauge consumers’ reception of Wisconsin being close enough to be considered locally-produced and processed.

Beyond the definition of local, ingredient quality and therefore ingredient cost became the two main practical challenges. The ketchup committee discovered that the food processor’s tomato quality requirements were higher than the SFA chapter had anticipated. The Wisconsin food processor indicated that “perfect” tomatoes were needed to make them puree. Tomatoes with blemishes or healed cracks could not be processed into puree. Outside of several governmental regulations for food safety, talking with representatives of food processing facilities can help clarify ingredient standards while developing a test batch.

The food processor’s ingredient standards defeated another main goal of SFA’s ketchup production intent. The central idea for ketchup production was solving an oversupply problem. The value-added pilot project sprouted from one question: “What are we going to do with all of these extra tomatoes?” Those extra tomatoes were often unsold because of their blemishes. Even tomatoes with healed cracks could be sold at a market, but they were unsuitable for puree processing. The blemish-free requirement could exacerbate rather than solve the excess tomato challenge that spurred the group’s initiative.

Because of this quality requirement, another challenge was high ingredient cost. Not only would the higher-quality Crow River tomatoes increase their price, but the food processor had a tomato supplier who quoted a more competitive price. The price differences between the two were vast. The Wisconsin processor’s source could sell tomatoes at 45 cents per pound; the Crow River tomatoes would cost $1.75 per pound. Purchasing enough tomato puree for 1,600 bottles of ketchup using the 45 cents-per-pound tomatoes would cost the committee approximately $8,000 (including food processing costs). To break even, the ketchup bottles
would need to be sold at $5 per unit. Conversely, using the $1.75 per-pound Crow River tomatoes would cost $16,000 for the puree, putting the ketchup bottle retail price at $10 to $12 per unit, a range the committee deemed too high for retail sale.

It is now clear that ketchup as developed thus far would not achieve the farmers’ value-added goals. Although cheaper, using tomatoes from outside of the Crow River area for puree processing in Wisconsin was neither the intent of the SFA Crow River Chapter, nor did it solve the farmers’ over-supply problem. Furthermore, the tomato quality required for food processing would disqualify many of the tomatoes the Crow River farmers intended to use. Undeterred, the committee continues to pursue a value-added product that can harmonize growers’ supply with the variable market demands.

**Opportunities remain: the next steps**

The committee’s options are not depleted. As of September 2015, the SFA Crow River Chapter decided to pursue an alternative tomato-based product. The committee believes it can create a unique, premium-quality and profitable tomato-based product that would require less than 2.75 pounds of tomatoes. This product could be another table condiment, such as a tomato-based hot sauce or “brown” sauce that is unique to the regional marketplace. It could simply be canned tomatoes or tomato puree. The next steps in the shelf-stable, value-added product pursuit will be purchasing puree, experimenting and then establishing another benchtop recipe.

**The underlying needs: Statewide food processing infrastructure**

The Minnesota Ketchup Project is the first iteration of value-added food production led by local sustainable farmers in the Minnesota. The group’s efforts highlight the inherent difficulties of developing a product from end-to-end in a region without a food processing infrastructure
capable of meeting sustainable farmers’ needs. It is not merely a lack of brick, mortar and sterile stainless steel equipped to process excess product. The food processing craftsmanship, expertise, techniques and resources are also nowhere to be found – or at least not easily accessible – to farmers who want to enhance their sustainability by minimizing waste and improving their bottom line.

These food processing infrastructure problems revealed two major needs for the SFA Crow River Chapter. The first need is market research to discover the price consumers are willing to pay for locally-sourced and locally-produced food products. This would help articulate how local growers can adjust to changing market demands.

The second is a facility capable of processing fruits and vegetables into bulk puree or liquid. Beyond the inherent startup challenge of finding an entity willing to fund the construction of such a facility, maintaining its operations would be difficult. The facility would require a constant supply of produce to remain in business. Even with the facility in place, the fruit and vegetable supply would need to be competitively priced, given a nearby Wisconsin food processor can acquire tomatoes at 45 cents per pound and then process them into a puree that can be sold profitably for $2 per pound. If the hypothetical Minnesota food processing facility could not buy enough local produce at a reasonable price, the existing Wisconsin facility would offer a cheaper food processing option.

These are the realities steering the committees’ new direction for the shelf-stable, value-added food production initiative. SFA considers this an ongoing case study regarding the challenges that Minnesota sustainable farmers face. Consistent with SFA’s mission to assist and educate farmers, committee members hope the story of their continuing work helps other farmers who pursue similar goals.