

## **Northeast SARE Farmer/Grower Grant Report**

### **Training Center for On-Farm Milk Processing FNE04-510**

Peter H. Dixon

PO Box 993, Putney, VT 05346

tel. 802-387-4041, email<pdixon@sover.net>

### **Goals**

To start an on-farm training center at an existing farmstead milk processor's farm so that farmers can learn how to make dairy products in a realistic setting. Their will also be the opportunity to provide education in all aspects of starting and operating an on-farm milk processing business. The center will provide training in making dairy products with equipment commonly used by farmstead milk processors (there will be a particular emphasis on cheese), taking participants all the way through the process of making, aging (for some cheeses), and selling the dairy products. Participants will also learn about quality control, sanitation, regulations, production costs, marketing and organic dairy farming methods.

### **Farm Profile**

The Livewater Farm in Westminster West, Vermont, owned and operated by William and Miriam Acquaviva, was the host for the training center from January to June, 2004. Due to the dissolution of the Westminster Dairy (farmstead cheese business at the farm) by myself and Mr. Acquaviva in June, 2004, I ceased operations of the training center at his farm. During the training center operating period, Mr. Acquaviva was occasionally around to contribute information about how he operated his farm and his role in the cheese business. I was always able explain all aspects of managing the cheese business as I was part-owner and operator until September, 2004.

The training center changed its location in October, 2004 to the Woodcock Farm in Weston, Vermont. This was approved by the SARE regional manager and farmer grants specialist prior to the October workshop. The Woodcock Farm is a sheep dairy and farmstead cheese company, which is owned and operated by Mark and Gari Fischer. Their primary focus is on sheep dairying and making, aging, and selling three varieties of cheese in a facility on their farm and rearing and selling lambs. The 50 acre farm is located along the headwaters of the West River with pasture to support 80 milking sheep.

The Woodcock Farm actually proved to be a better place to operate the training center because the farmers had six years of experience dairying and being in the business of making and selling sheep cheeses. Unlike the farmer at Livewater Farm, the Fischer's participated in all of the workshops and contributed more to the education of students by relating their experience in operating their farm, and making, aging and marketing their cheese. Because of this contribution, I felt, as the principal operator of the training center, that I found the correct environment for a holistic educational experience for farmers when we were working at the Woodcock Farm.

## **Participants**

I was the technical advisor and facilitator for the project. It was my job to schedule the workshops, register participants, assemble training materials, find collaborators, teach the classes, and publicize the training center's activities.

William Acquaviva and Mark and Gari Fischer assisted by sharing their knowledge about farm operations and the management of their farmstead cheese businesses.

Dr. Paul Kindstedt from UVM was a co-teacher of one of the cheesemaking workshops in which I focused on the craft of making two varieties of cheese and Paul explained the underlying scientific aspects of the processes.

Margaret Morris, owner of Glengarry Cheesemaking and Dairy Supplies, Alexandria, Ontario, was a co-teacher of a cheesemaking workshop, which focused on the use of cultures to make cheese. We shared the teaching of actual hands-on cheesemaking.

## **Project Activities**

Six cheesemaking and milk processing workshops were held at the Livewater Farm. Five cheesemaking workshops were held at the Woodcock Farm. The descriptions of the workshops are listed below.

### **2004 Workshop/Seminar Schedule**

January 24-25 Alpine cheeses: Swiss, Asiago, Tomme and Toma, Butter and Sour Cream from cow and goat milk.

February 7-8 Italian cheeses: Making Romano, Toma, Provolone, Fresh Mozzarella, and Ricotta from goat and cow milk.

March 6-7 Soft-ripened cheeses: Brie, Camembert, Aged Goat cheeses, French Tomme, Butter and Creme Fraiche from cow and goat milk.

April 17-18 Four Blue cheeses from goat and cow milk, including Bleu de Gex (tomme-style).

May 1-2 British cheeses: Caerphilly, Colwick, Cheddar (cloth-bound), and Chesire from cow milk.

May 15-16 Soft-ripened cheeses: Brie, Camembert, Aged Goat cheeses, French Tomme, Butter and Creme Fraiche from cow and goat milk.

October 16-17 Cheeses of the Low Countries: Gouda, Edam, Havarti, and Trappist from cow, sheep and goat milk.

November 13-14 The Science of Cheesemaking and Cheese-ripening with Dr. Paul Kindstedt of UVM: Washed-rind Tomme and Brie cheese-making and classroom instruction.

December 4-5 Italian cheeses: Making Romano, Toma, Provolone, Fresh Mozzarella, and Ricotta from goat and cow milk with guest cheesemaker Brian Civitello, who will make traditional Caciocavallo.

## **2005 Schedule**

January 15-16 Cheesemaking and Starter Culture Technology with Margaret Morris: Gouda, Aged goat cheeses, and Tomme cheese-making and classroom instruction.

February 12-13 Four Blue cheeses from goat and cow milk, including Bleu de Gex (tomme-style).

April 23-24 Soft-ripened cheeses: Brie, Camembert, Aged Goat cheeses, French Tomme, and Creme Fraiche from cow and goat milk.

May 7-8 Cheeses of the Mediteranean: Feta, Kashkaval, Fresh Mozzarella, Corsican-style tomme, Ricotta and Yogurt from goat, sheep and cow milk.

May 21-22 Alpine cheeses: Swiss, Asiago, Tomme and Toma, and Sour Cream from cow and goat milk.

In addition to cheesemaking, some of the workshops at Livewater Farm (January-May, 2004) included instruction in buttermaking, as the facility had a cream separator and butter churn. The Woodcock Farm workshops (October, 2004 to March, 2005) were primarily focused on cheesemaking but also included instruction in making sour cream, Creme Fraiche and yogurt.

The participants received hands-on experience in making all of the dairy products listed above. I developed a course notebook for the participants, which included the following materials:

- Recipes used in the class and others (related to the types made in the class)
- “Fundamentals of Cheesemaking,” scientific aspects of cheese chemistry and technology
- Cheese brining and aging techniques
- The “Farmstead (Art of) Cheesemaking Journals”
- Resources for ingredients and equipment (business cards and catalogs)
- “The Business of Farmstead Milk Processing” Business planning spreadsheets and actual spreadsheets of cash flow and production costs

Classroom presentations and group discussions on a variety of topics included:

- Cheesemaking and cheese aging technology
- Starter cultures: selection and technology
- The effects of seasonal milk production on cheesemaking and cheese quality
- Organic certification process
- Marketing

- Business operations and planning for growth
- Regulations in Vermont and other states
- Cheesemaking in other countries

Field trips were taken to Taylor Farm in Londonderry, Vermont, where the Wright family is operating a Farmstead Gouda cheese business. This gave participants an opportunity to learn about another farmstead cheese business in the area. Jon Wright took time to explain his business, show us around the facilities and answer questions.

A cheese tasting and evaluation portion of the classes was developed because of an interest in some participant cheesemakers to try each others cheese and receive feedback. Cheesemakers were encouraged to bring in cheeses they had made and we also tried cheeses made in previous workshops as well as Westminster Dairy, Woodcock Farm and Taylor Farm cheeses. Occasionally local cheeses were incorporated into dishes served during the lunches. The lunch-time cheese tasting became an important teaching tool, which provided valuable information to beginners and experienced cheesemakers. We could discuss the links between the various cheesemaking and aging processes and the sensory attributes of the cheeses. It also gave cheesemakers confidence to try new recipes and evaluate the results.

There were follow-up activities of mailing additional recipes and technical information to class participants at their request. A feedback survey was used to gather information for evaluating the year's activities.

## **Results**

There were sixty individual and six repeat participants in the workshops, which gave an average of six students per class. There were 28 experienced (commercially-licensed) farmstead cheesemaker/milk processors, 35 novice farmstead cheesemaker/milk processors, and 7 participants from other walks of life (educators, marketers, and enthusiasts). Most of the participants came to learn about cheesemaking; the production of yogurt, sour cream and butter generated mild interest.

Six novice cheesemakers have started new, commercially-licensed cheese businesses and three experience cheesemakers have added new products to their businesses since the beginning of the grant period. On-farm sales were increased to a small extent at both Westminster Dairy and Woodcock Farm and two new wholesale accounts were gained. The real success seemed to be in the fostering of excitement about farmstead milk processing, particularly cheesemaking, and increasing the knowledge of all participants and providing a format for networking and sharing experiences.

The feedback from participants has been very positive with a great deal of encouragement to continue operating the center. There is a genuine interest in doing value-added dairy products, particularly cheese, on Northeastern dairy farms. The training center has provided a place for farmers to go to get information and experience to help them with their decisions to start and/or operate their businesses.

## **Assessment**

The need for this resource is evident by the feedback from evaluation surveys. Six participants were needed for each workshop to cover the costs of operation when I was the only teacher. Twelve participants were needed to cover the costs of having a co-teacher. There were not always enough participants to do this for some workshops but, on the average, there was sufficient participation. Holding the workshops at a permanent facility was necessary to provide continuity. It was important for participants to see cheeses that were made in previous workshops to learn about cheese aging conditions and techniques. Developing recipes and the appropriate aging techniques was an ongoing process, which lasted several months. The Fischers and myself were able to research and develop new varieties of cheese that other cheesemakers became interested in making, which enabled them to add new products to their businesses.

Putting people in the correct environment, in a commercially-licensed facility on a farm, was very important to the overall experience for participants. The “hands-on” learning was another important element, which gave people the opportunity to make cheese and other dairy products on their own with guidance from experienced milk processors and cheesemakers. People also liked the small class size and the networking with other participants.

Participants were most interested in technical knowledge about cheesemaking and cheese aging. The main focus areas were:

- how to improve product quality
- the basic science behind the craft
- using cultures and other ingredients
- developing recipes and experimenting with new varieties

The most frequently mentioned ideas for the future were classes in cheese aging techniques and classes for beginning cheesemakers only. I also felt that classes often came up short on time to provide information about business aspects of farmstead milk processing, e.g., construction of facilities, business operations and investment and start-up costs. Materials covering these topics were included in course notebooks. There were many comments about the usefulness of these materials. Many participants mentioned that they referred to the information regularly after they returned home.

The main strength of the training center was the “hands-on” and “reality-based” educational approach. There is a need to widen the scope of the training center’s offerings in the future with more classes about cheese aging, traditional cheesemaking practices, business planning and operations, food safety and quality assurance, and beginning cheesemaking.

## **Adoption**

There is no question that the training center filled a demand for opportunities to learn about and try doing value-added milk processing on Northeastern dairy farms. The training center attracted both novice and experienced farmstead cheesemakers and a few milk bottlers and buttermakers. The classes sparked the interest of marketers and a few chefs and entrepreneurs, who were investigating this enterprise as well. All this activity was helpful in aiding the growth of on-farm milk processing.

Improvement is needed in the lecture format. Powerpoint presentations, and handouts, of certain topics will be more effective. There should be some changes to the curriculum to include new classes for:

- beginner cheesemakers
- business planning for start-up and experience operators
- cheese aging
- cheese evaluation and quality assurance
- food safety program development

There is also an ongoing interest in apprenticeship opportunities for cheesemakers. It is my hope that it will be possible for the training center to offer six month to one year apprenticeships in the future, after lodging can be established.

Working with the Fischers at Woodcock Farm and Jon Wright at Taylor Farm has been a key to the success of the training center so far. We plan to continue operations and improve the quality and scope of the educational programs for farmers, and others, during this year.

## **Outreach**

The outreach efforts have been targeted at farmers and cheesemakers and cheese enthusiasts in the Northeastern US. The goal is to get more interest in on-farm milk processing and more participants for upcoming classes. Since the training center is continuing operations, there are cheesemaking classes scheduled in April, May, and June. A new schedule for the fall-winter 2005 and winter-spring 2006 is being prepared. The outreach program consisted of three parts as follows:

### *Advertising*

Informational brochures and class schedules mailed and handed out in classes (samples enclosed)

Class schedules and information published in Vermont Cheese Council's newsletter, Maine Cheese Guild's newsletter and website, Regional Farm and Food Project's "New Connections" and website, U Conn. Extension mailings, PA Association for Sustainable Agriculture's website, UVM Center for Sustainable Agriculture's Small Ruminant Dairy Project's Calendar of Events, Cascading Cheese Guild's website, Cream Line, and the American Cheese Society's newsletter.

### *Promotion*

Articles in The Brattleboro Reformer, Cream Line, Vermont Cheese Council's Newsletter

Presentations at other workshops taught by Peter Dixon

Articles in the Brattleboro Reformer newspaper

### *Evaluation*

An evaluation survey was mailed out to all participants. The feedback from the survey was used to write this report. The Fischers, Margaret Morris, Paul Kindstedt, Jon Wright and I have also discussed the outcomes of each workshop and used these critiques to help shape ideas for improving the offerings of the training center.

### **Report Summary**

This project was done to create a training center for on-farm milk processing, which would educate farmers about the different aspects of operating value-added dairy products businesses on their farms. The center was established at a commercially-licensed, farmstead milk processing facility. Workshops were held each month for participants to learn to make a variety of cheeses and other fermented dairy foods. Instruction was given by experts in the field and participants received "hands-on" and "reality-based" training and education. Sixty people attended ten workshops; most of the participants were farmers and farmstead cheesemakers. The results were very positive and the classes usually had enough attendance to cover costs of operation. Participants found "hands-on" learning, networking, being at a facility that represented a typical farmstead milk processor, notebook materials, and small group size to be the most useful parts of the experience. It will be important in the future to create some classes for beginners and more technical classes, e.g. cheese aging, for experienced cheesemakers.

Prepared by:  
Peter H. Dixon

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