

Sheep Farmstead Cheesemaking in Connecticut

Final Report for the Sustainable Agriculture Research and
Education Program

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Beaver Brook Farm
Lyme, CT 06371

Sustainable Agriculture Research and Education Program

Farmer/Grower Grant Final Report Format

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Project Overview

Restatement of Goals

As stated in our grant proposal, the goals of our project was to learn to produce high quality sheep cheeses in response to a strong demand for this commodity. With our grant funding we were able to bring from Rumst-Reet, Belgium, Mr. Alfred Michiels a specialist in the making of sheep's milk cheeses. With over thirty types of sheep's milk cheeses in his repertoire, Mr. Michiels was able to evaluate our current level of cheesemaking, instruct us on several new recipes and leave us with a new techniques for improving our cheesemaking in the future.

Farm update since receiving the grant

Since writing our grant proposal in December, we have almost completed a new cheesemaking facility on Beaver Brook Farm. We were able to have the 12' X 12' cheese aging room up and running before Mr. Michiels arrival. Without the cheese aging facility we would not have been able make the classic, sheep's milk cheeses. We are now only weeks away from opening a new retail store on the farm and a commercial kitchen. We continue raising over 400 sheep. In addition to the new East Freisan ram (a dairy grade sheep) we have purchased two bred East Fresian ewes.

Cooperators and their roles

Workshop Dates, Place & Times

Mr. Michiels arrived at Beaver Brook Farm on Sunday, July 5th. The workshop ran from 8:00 AM, Monday, July 6th until late in the afternoon of July 10th. All of the cheesemaking took place in the Beaver Brook Farm cheese plant. Sheep's milk was used on four of the five days, cow's milk was used on one day.

Participants & Cooperators

Alfred Michiels, our instructor, has an admitted passion for sheep's milk cheeses. He is employed by a Belgium bank but spends his free time and all of his vacations making cheeses, visiting other cheese factories and attending European cheese workshops and competitions. During an interview at lunch he spoke at length about his philosophy regarding cheese (a short article is included). Freddie has a complete cheesemaking plant at his home and ages his cheeses in his cellar. He has a small flock of East Fresian sheep.

The workshop participants were; Suzanne Sankow, owner of Beaver Brook Farm, Beverly Lewis of Foxglove Farm, Lyme, CT. who works with Suzanne; Liz Gilman of Cato Corner Farm, Colchester, CT. a local cow's milk cheesemaker; Elise Santee, Foxfire Farm in Manchester Center, CT; All of the participants had a working knowledge of cheesemaking and have been involved in the manufacture and marketing of farmstead cheesemaking.

We also relied on Dr. Larry Faillance for information and support. Larry, also a sheep cheesemaker has worked with Mr. Michiels in the past.

In addition to the participants, we heavily relied on the impressions and comments of Mr. Stewart London, Chef, from the Old Lyme Inn who tasted Mr. Michael's product that we are working to imitate. Mr. Michael's brought samples of his Brindamour, Manchego and Brebis de Pyrennes cheeses. It was important for all of us to smell and taste the variety of cheeses so we could gauge our own success.

Workshop Journal

What we did...

Day 1, Monday, July 6

1. Starters, made fresh mesophilic starters - discussed problems with using DVS (direct vat starters). Using a balanced starter to get eyes (holes) in the cheese but not air pockets was discussed. Examples were given.
2. Rennet, examined two of the three types of rennet; synthetic (which we had been using; natural calf's rennet (which we ordered and are continuing to use. We went over the correct proportions to use, the handling and care of the rennet and the storage of rennet.
3. Feta, using Freddie's recipe was made.
4. Considerable time was taken to convert measurements from English to Metric so that all the participants could understand
5. The feta made in the previous weeks was washed, resalted and set out to form a rind.
6. Sanitary procedures were reviewed and discussed. Equipment was reviewed and discussed.

Day 2, Tuesday, July 7

1. We pasteurized a large quantity of milk which was then divided into three containers.
2. Quark was produced in one container. After aging for 24 hours it was ready to be used.
3. Banon was made and set aside to age.
4. Brindamour was made and put in the whey bag to drain for 18 hours.
5. A 20% brine was made to give the cheeses a rind
6. The feta cheeses were flipped and salted.

Day 3, Wednesday, July 8

1. The pasteurizer was used to make the Belgium Abbey cheese.
2. The Brindamour was removed, cut and placed in the basket molds
3. The search began for chestnut leaves and the proper liquor to age the Banon.
4. Whey from the Belgium Abbey was prepared for brining the feta.
5. The feta cheeses were flipped and salted.

Day 4, Thursday, July 9

1. The Brindamour was flipped and salted.
2. The Belgium Abbey was removed from the molds and allowed to air dry
3. The Manchego was made and placed in the molds. We worked on a variety of ways to apply the correct pressure.
4. The feta cheeses were flipped and salted.

Day 5, Friday, July 10

1. The Pyrenees cheeses were made and placed in the molds.
2. The feta was placed in the new brine.
3. Fresh and dried herbs were prepared for the Brindamour and these were rolled on the cheeses.
4. All the cheeses were turned. Some were brushed with a coating.
5. The manchego was turned out and put in the brine.

Summary of Findings & Accomplishments

Before our SARE project began, we had been making three products, yogurt, feta and an aged cheese. We made ricotta cheese with the by-product, whey. During and after the workshop we completed these cheeses with the following results.

Note: the aging process can take up to six months, many of these cheeses were tasted early in the ripening process. An addendum to this report will be filed when these cheeses have matured and sampled by our experts.

Brindamour - a soft, white cheese covered in herbs de Province - this cheese was wrapped in plastic wrap while it was allowed to age for up to three weeks. A gray wet mold formed on the cheese. After two weeks we re-packaged the cheese with good results. On subsequent production of this cheese we have allowed the Herb's to air dry for a day before wrapping to reduce the moisture in the herb covering. We will also be experimenting with not putting the curds in a curd bag, but allowing them to drip from the basket molds another day.

Quark - a fresh, white sour cream type cheese. The quark we made with Mr. Michael's was used for a pie and with a fresh fruit trifle and served to the participants and their families. Although the Quark was typical, the reaction to most who ate the quark was that it was too sour for their tastes. It was determined that although it is easy to make, yogurt would be a better use of the milk.

Banon- a strong-tasting soft, fresh cheese. The Banon was our one failure in that a typical curd never formed. The entire batch was thrown out. Additional problems developed when we could not find the correct type of chestnut leaves or the Marc de Bourgone necessary to ferment the cheese. We have decided to abandon this cheese in favor of less costly ones.

Feta - we had been making feta during the 1997 season and before Mr. Michiels arrival in 1998. We had been facing the problem of the cheese "melting" in the brine and a strong, yeast smell to the cheese. We had been using a commercial L & O cultures purchased from Wisconsin. Mr. Michiels preferred using a buttermilk culture we made ourselves or a commercial B & D culture which we have since purchased.

Belgium Abbey - this is a prized, mild flavored aged cheese currently being made in Vermont by at least one other sheep dairy. The cheese has a smooth texture, and a pleasant, nutty flavor. This cheese must age for at least three months.

Manchego - making the Manchego cheese went without any problems until we came to the pressing stage. In the past, Beaver Brook farm had been use a press system of springs that would not allow for the measurement of the amount of pressure the cheeses needed. One of the participants brought in a simple press that allowed for various weights to be placed on the cheeses. Manchego requires up to 10X the weight of the cheese to be applied. Since we had only one press, several of the cheeses were underpressed. This caused a crumbling appearance to the cheese.

Pyreenes - this is another white, aged cheese that has become popular as a dessert cheese. We made a small amount of this cheese to learn the process. Currently this cheese is made by the Major Farm in Vermont and we would not market this cheese at this time.

Significant changes and unexpected results

Significant changes from our prior methods besides the change in culture, was the air drying of the cheese for 12-24 hours to form a rind before immersing the cheese in the brine. The forming of the rind prevented the melting that occurred in earlier batches. We had been using a 5% salt brine made with water. Mr. Michiels explained that the 10% brine made with acid whey would aid in the aging of the feta. We had been aging the feta in the refrigerator. Mr. Michiels instructed us to keep the feta in the aging room for up to three weeks then transfer the cheese in small blocks to the refrigerator.

With the grant funds we were able to purchase new cheese molds which greatly improved the appearance of the cheeses. In addition, we had been having some cheeses stick to our aluminum molds. The new molds have a built-in gauze mesh which allows the whey to drain and yet the curds will not stick to the molds. The new molds gave a uniformity to the shape and sizes of our cheeses. The appearance of the cheeses directly affects the marketability of the product. The new molds were a welcome addition.

Some of the unexpected results were that Mr. Michiels was able to take the cheeses we had already made this season and rework them to improve the look and flavor of these cheeses. We had a problem with a yeast infecting some of our feta and we believed it would be an inferior product. Mr. Michiels showed us how to wash, resalt, air dry and then prepare an acid brine to remedy the problem. The final product is a fine feta we are continuing to sell.

Specific Site Information

Beaver Brook Farm has constructed a new cheesemaking plant, however at the the time of the workshop only the aging facility was up and running. This consists of a 12' x 12' space that has temperature and humidity control. We reviewed our plans with Mr. Michiels who made several helpful comments about how his plant is set up and works. Within the next few months our building should be complete and finished.

New Ideas Generated by our Project

Within three weeks of our workshop, we introduced the Brindamour at the local farmer's market and a special open air market held in Old Lyme. We sold the Brindamour at \$16.00/lb. This is twice the price of the feta we had been producing. The reception was phenomenal. We have continued to make Brindamour almost weekly and now have a regular following for this expensive, gourmet cheese. This has been a true success of our work.

As our other cheeses age our customer's are asking us and calling on the phone to get an idea of when the cheeses will be ready. We expect the aged cheeses to have the same success. The other cheese producers have made changes and will also be introducing new cheeses to the market in the upcoming months.

The workshop has changed our use of starters, rennet and molds. We also understand the need for more sophisticated presses so we can make cheeses that require specific changes in pressure over time.

The next step...

The next steps for Beaver Brook Farm would be;

1. Continue to improve the flock by infusing East Friesian stock to increase the amount of milk. East Friesian sheep can more than double the amount of milk per animal.
2. Complete the cheesemaking plant. When completed the facility will be able to handle four to five times the amount of cheese than previously produced.

We will continue to use the new techniques made possible by the grant....

We have already introduced the Brindamour cheese to an enthusiastic customer base. We will be introducing the aged cheeses in a few weeks. Depending on the reception, in 1999 we will choose three of four cheeses as our staple products and increase production to meet the demand.

What we tell other producers about our project and results....

Sheep cheesemakers are few and far between so we have not shared our results with any other producers. We do not lose an opportunity, however, to spread the word that we had a Belgian cheesemaking expert give the workshop and we are now making excellent cheeses.

Our outreach program

We have attended three farmer's markets since the workshop, each time giving free samples of our new cheeses to the public. In general, the response has been overwhelmingly positive. We will ~~have~~ give taste tests at the upcoming Big E. We will be holding a grand opening of the new building on Labor Day and we will also have available free samples of our new cheeses. We will be publicizing this event and hopefully will have newspaper articles about the cheeses and the workshop.

In addition, our outreach program consists of sending the final cheese products to three known cheese experts; Mr. Stewart London, chef of the Old Lyme Inn, Mr. Steve Jenkins, author of the The Cheese Primer, and Mr. Greg Blais, cheese buyer for Dean & DeLuca. We will send their comments as an addendum when available. We expect the cheeses to be ready for tasting in October.

Photographs will be sent under separate cover.