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Cream Line

Issue No. 3
Fall 1999



a new voice for little dairies

Raw Milk Cheeses Endangered?

At the American Cheese Society (ACS) Conference in Vermont a panel of experts discussed the significant danger that the new *Codex Alimentarius*, being considered to govern trade of food products between nations, presents to raw milk cheesemaking. Apparently the United States delegation is leading a movement to require that all milk products be pasteurized, despite the fact that cheese has an excellent safety record. In the initial stages of *Codex* planning, so far the pasteurization requirement for aged cheeses has been held at bay, thanks mainly to strong protests from European countries and the ACS, but raw milk cheeses are not yet out of the woods. The current language is a compromise, suggesting a combination of food safety control measures appropriate to protect the public health, with pasteurization as an example. Panelist Marsha Echols, an attorney who works in the international arena, said that officials may be "waiting for an outbreak" to justify imposition of mandatory pasteurization. Others speculate that large-scale dairy processors fear the rise in popularity of artisanal cheeses. According to affineur Pierre-Yves Chaput, large-scale plants in France have been relatively unsuccessful in producing good raw milk cheeses. Such plants may simply be unable to command a market share of these valuable non-commodity cheeses.

Both Ms. Echols and Dr. Paul Kindstedt of the University of Vermont suggested HACCP as perhaps the best avenue for raw milk cheesemakers to take to defend their art. HACCP (Hazard Analysis Critical Control Points) places the burden on the producer to determine where contaminants may enter the process, and then to monitor and control those points. HACCP is currently mandatory for meat, poultry and seafood, and consumers are demanding HACCP for other foods as well. Dr. Kindstedt suggested that the ACS very seriously work to establish HACCP for farmstead cheesemaking, pointing out the importance of emphasizing the safety advantages of farmstead cheeses: fewer human beings involved in production of a particular cheese, storage time and temperature control, simple infrastructure, smaller batches, less widespread distribution of products. One of the good things about HACCP is that it doesn't necessarily depend on pre-approved equipment, though the Pasteurized Milk Ordinance (PMO) is not out the window yet. HACCP requires that each point must be monitored and corrections made as necessary when the parameters are violated. An upcoming issue will detail HACCP for dairy processors in more detail.

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Did you know?

The ACS's top two prizes for farmhouse cheeses from cow's milk went to cheese made from the same breed. Which breed?

... answer on page 8



Someone asked if there are plans to publish *CreamLine* on-line. The answer is – unequivocally – no.

To begin with, it's unfair to expect writers to do their work for free. Writing is a skill and an art, and it is hard work! Remember all the anguish you suffered to come up with that 10-page term paper? We don't expect painters to give away their paintings; doctors and lawyers don't do their work for nothing; even garbage collectors are paid. Except for those who are independently wealthy (not me), we have to have income so we can pay other people for goods and services rendered. On-line publishers often burn out and feel no compulsion to publish after awhile – ever notice how many web sites disappear or just stagnate?

More importantly, though, I don't trust computers. What would happen if today I were to try to find the information that I typed into the mainframe computer that I worked on in the late 1970s? I'd be laughed out of the place! For that matter, I can't even retrieve data from the 5¼" disks I used ten years ago because they don't make the drives any more. Magnetic data decay, even from CDs and hard disks. Not to mention the dangers of lightning and viruses. It's scary!

Sure, people can print out hard copies of on-line information, but how would anyone know who has it? Give me a good old-fashioned library (preferably with a real card catalog) any day! During the past two years I've been working on a dairy bibliography which required delving into the stacks for old books and other materials. Some of the information there is on the verge of becoming extinct, at least for the general public. Even libraries are tossing old books that someone upstairs feels are worthless, and agriculture ranks pretty low these days. Know how many up-to-date books exist on the art of making butter? You can count them on one hand. Sure, there's information on the Web, but how in-depth is it? David Letterman said something to the effect that "the Web is a million miles wide and an inch deep." That seems like a pretty accurate assessment.

Finally, pardon my paranoia, but if all information were put on-line, wouldn't that make it susceptible to corruption? Knowledge is power. What if some hacker (or organization, or government) were able to take control of it all?

The Web certainly has its place. I use it for quick searches and finding things I need. I love the used book searches – www.abebooks.com and www.bn.com – which make old books much more accessible than they previously were. Our project has a web site (www.metalab.unc.edu/creamery) that relates up-to-the-minute information that a newsletter can't. E-mail discussion groups are great, too, but pretty unorganized, even with archives. Ever spend a day going through the archives of one of these groups looking for a particular piece of information? The chatty conversations are not selected out, and it can be pretty annoying to work through all that fluff.

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See page 15 for information on classified ads.

Check out our web site at:
www.metalab.unc.edu/creamery

Moving our site has allowed us to make our own updates, which are much more frequent than before.

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The aim of *CreamLine* is to provide useful, lasting information. With this issue I will begin having the printer make holes for a three-ring binder so that issues can be easily saved.

There is one change in the promised topics of this newsletter. The article on "pH and titratable acidity" will be delayed so that I can relate some interesting and even urgent information gathered in Vermont.

Vicki Dunaway

Raw Milk -- Continued from page 1

Allison Hooper of the Vermont Cheese Council warned that cheesemakers "cannot just be righteous." The Cheese Council is working on developing a model HACCP plan for farmstead cheese. They have recently published a *Code of Best Practices*, which "is a voluntary set of guidelines that seeks to make Vermont specialty cheeses truly special." This 82-page manual was modeled after a similar code used in Britain, and may be obtained from the Council for \$15. Contact The Vermont Cheese Council, 116 State Street, Drawer 20, Montpelier, VT 05620; 888-523-7484; or e-mail, vtcheese@together.net.

Dr. Kindstedt related the history of the rise of pasteurized cheese production in America. He said that in the beginning, war caused a need for increase in production, and at the same time experienced plant personnel were sent off to war and less experienced operators took over. Cheese was not aged as long because of the need for faster turnaround. On the whole, he said, it was an "accident waiting to happen," so pasteurization was introduced to provide better safety. However, he did note that many illness outbreaks related to cheese over the years have been due to post-pasteurization contamination and, when asked if pasteurization would guarantee safety, he responded, "No."

Panelist cheesemaker Freddie Michiels from Belgium told the audience that there is a misconception about artisanal cheesemaking in Europe being unregulated. In fact, he said, the regulations are quite strict. Animals producing milk for raw milk cheeses must be tested twice a month, and are excluded from production if they are diseased. He also cited stringent regulations on facili-

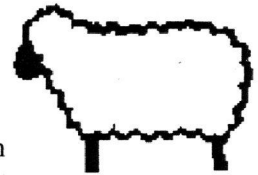
ties, which in some cases are stricter than those in the U.S. In one of the more humorous moments of the conference, Sister Noella Marcellino showed a slide from a cheese aging room in Europe where rye straws had been stuck underneath cheeses resting on nylon mats to give them the benefit of the straw's natural microorganisms that impart flavor. Before regulations prevented the practice, the cheeses were aged on straw mats.

Any discussion of raw milk seems to bring out an incredible emotional response on both sides. There is a need for advocates of raw milk and raw milk products to be more open to understanding the pressures that regulators are feeling from consumer groups to guarantee absolutely safe food. There is also a need for regulators, politicians and consumers to be educated about the fact that, especially in the case of cheese, post-pasteurization contamination causes a significant (if not equal or greater) portion of the illness outbreaks related to cheese consumption. This latter must be clearly documented and presented in an objective manner.

There may be some help on the way. Sally Fallon's book, *Nourishing Traditions*, discusses the importance of enzymes to human health, and she encourages the consumption of raw foods, including dairy foods, since valuable enzymes are destroyed in processing. This book is increasingly popular in health food circles; these are the same people who so far have so far helped prevent vitamins and herbs from being classified as prescription drugs, and who assisted in stopping the proposed organic rule that ignored the recommendations of the National Organic Standards Board. *Nourishing Traditions* is available online through Barnes and Noble (www.bn.com) or by special order through your local bookstore.

Debra Dickerson heads the ACS in its support of keeping cheesemakers' options open. The group is circulating a petition (available online at www.metalab.unc.edu/creamery) and is gathering information for defense of the raw milk cheese option. To contact Debra or to obtain a paper copy of the petition, call the ACS office at (414) 728-4458. Even more effective than simply signing a petition is writing a personal letter opposing mandatory pasteurization both for Codex and in general. Keep your statements positive and support what you say with good data. Send the letter to Debra, c/o ACS, P.O. Box 303, Delavan, WI 53115, who will forward it to the appropriate persons.

The *Other* Dairy Animal

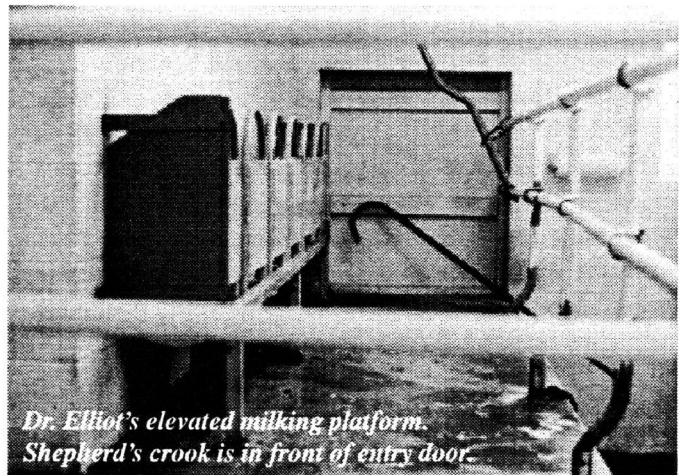


In the past year I've had the opportunity to visit two sheep dairies, a rather remarkable fact in itself considering the small number of sheep dairies in the United States. For a long time, a lot of factors have worked against sheep dairying here – lack of availability of dairy breeds and appropriate equipment, spotty consumer interest, minimal support from research facilities, high costs for entry, low yields from sheep, etc. Most of these barriers are still in place to some degree, but new opportunities have grown with the rise of interest in farmstead cheeses and ethnic foods in general, and the premiums paid for sheep milk products have encouraged a few entrepreneurs to proceed.

A Virginia Pioneer

Sheep dairying in the U.S. is being spearheaded by a few brave souls who have faith that their unusual products will find a place in the American diet. One of these pioneers is Dr. Patricia Elliott of Everona, a farm of about ten acres of rolling pastureland, located near Rapidan in eastern Virginia. Dr. Elliott is a general practitioner in her other life, and sees patients in an office at her home. She originally bought sheep, Friesians and milking Shropshires, to give her sheepdogs something to do, but then started practicing making cheese with the milk they gave. Currently she has about 20 Friesians and six Shropshires. While the Shropshire lambs are better for the meat market, Pat says she loves the temperament of the Friesians, and has recently sold some of the Shropshires. She has developed her own style of hard cheese, and she makes cheese every day from the 25-30 pounds of milk produced by her ewes. Dr. Elliott currently makes cheese in a large pot, but would like to find a small, well-designed cheese vat and cheese harp. (Sound familiar?) As sheep milk is more concentrated than cow or goat milk, it contains more solids (35-45%), and Pat has been able to make cheese without the use of weights for pressing. She washes the rinds with brine on three sides once a week (more often when younger), and keeps the cheeses in a commercial “dough retarder” for aging. This she got from a restaurant equipment company. Dr. Elliott also makes feta and ricotta cheese, as well as yogurt for her own use.

Last year Dr. Elliott built a milking parlor/cheese plant from the ground up. This 22' x 40' block structure consists of three rooms: the milking parlor, a holding room and the cheese room, in a linear arrangement. She says if she had it to do over she would not have a straight walk-through, but would arrange rooms at 90° to one another, and she would provide a separate space for her office and sales area, as well as more storage space and a bathroom. She estimates the total cost of the building and equipment, including contract labor, to have been between \$30,000 and \$40,000. The furnace was a substantial part of that cost at \$7000, and plumbing cost around \$5000. The block, roof and finish carpentry were about \$15,000. Her son did some of the labor, especially painting, but most was hired. The milking parlor arrangement, with the sheep on an elevated platform, allows her to milk without too much bending; she says they get used to it fairly easily. The ewes go up a ramp on the outside of the building, enter through a small door and then file onto the milking platform. Only the last position is open at first, and when the first ewe reaches that place and sticks her head into the yoke to get to her food, it closes and opens the next one; this happens all the way down the line, admitting seven ewes at a time into the cascading yokes. When milking is finished, the ewes exit at the opposite end and more ewes are admitted. Pat milks with a surge bucket system. Ewes are milked by machine only for a very short time – about 90 seconds maximum!

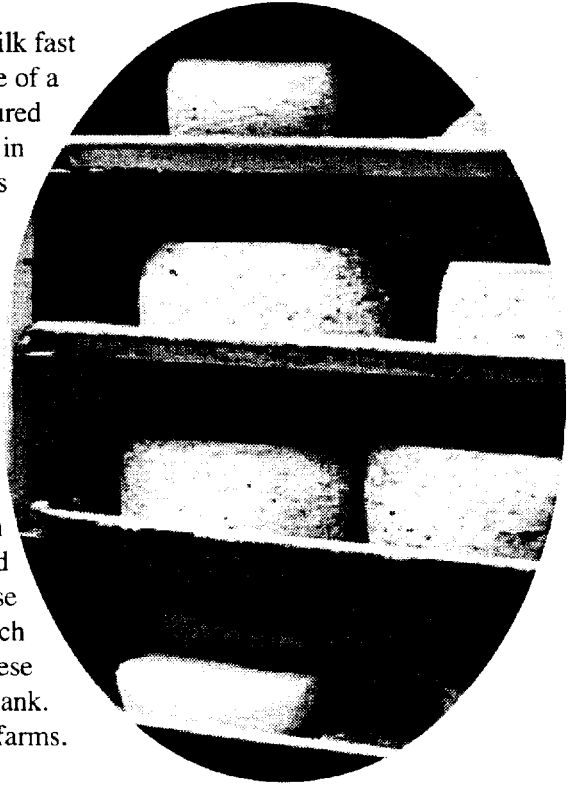


Continued on page 5

Virginia -- Continued from page 4

A major problem Pat has encountered has been with cooling the milk fast enough. The quantities of milk she gets do not justify the purchase of a bulk tank, even if she could find one small enough. Even when poured into small containers, the fresh milk doesn't reach the required 40° in two hours in a regular refrigerator. She has temporarily solved this problem by purchasing finned plastic milk coolers (Superior Products, 1-800-328-9800, web site www.superprod.com), which are frozen and then dropped into the milk to cool it quickly. Ideally, Pat would like to find a usable old can cooler.

How to cool milk quickly was discussed during the HACCP session at the American Cheese Society conference in August. Someone mentioned that DeLaval sells an in-can cooling unit, but that it is very expensive. Mary Falk of Love-Tree pours milk into five-gallon disposable milk bags, used for "milk on tap," and floats them in chilled water (30° F). One woman said she was using an old freezer with a thermostat in the manner of a can cooler. For those unfamiliar with the old-timey can cooler, it is an insulated box in which milk cans were set, while cold water circulated around the cans. These used to be very common on dairy farms until the rise of the bulk tank. Occasionally a working can cooler can still be found on old dairy farms.



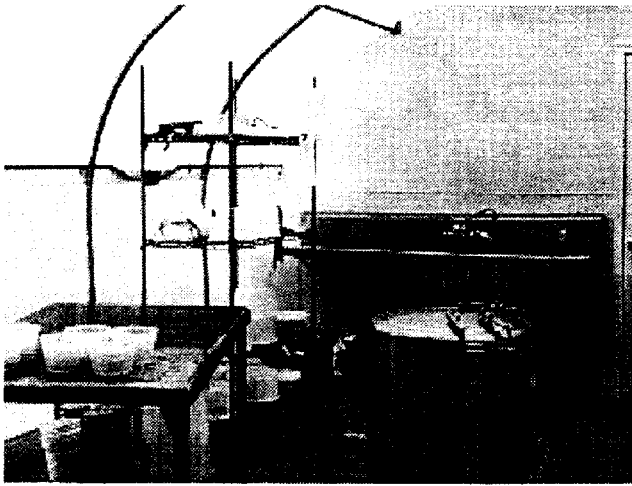
Dr. Elliott's Everona cheese is marketed mostly by mail to upscale outlets such as Zingerman's Deli in Ann Arbor, MI and Cheeseworks in New York, in Williamsburg, VA, Tomales Bay, Linden Vineyards and to a restaurant group in Washington DC. To contact her write Dr. Patricia Elliott, Everona, 23246 Clarks Mountain Road, Rapidan, VA 22733. Her phone number is (540) 854-5147, and e-mail address is pelliott@ns.gemlink.com.

Keeping Warm in Vermont

The second sheep dairy I visited was that of the Three Shepherds of Mad River Valley in Warren, Vermont. Three Shepherds is named for the three lovely children of Linda and Larry Faillace – Francis (the caretaker), Heather (the milker) and Jackie (the cheesemaker). This is a spanking new operation, with construction of the cheese plant having just been completed before a series of cheesemaking courses in mid-August featuring Belgian cheesemaker Freddie Michiels. And an interesting and innovative cheese plant it was! The Faillaces erected a 68-foot greenhouse with three rooms. The central room is the cheesemaking facility. On one end is a viewing room for visitors with a large picture window for observing the cheesemaking process; they expect the plant to be a stop for some of the one million tourists who visit the Mad River Valley each year. On the other end of the greenhouse is an equipment room, where the bulk tank, hot water heater, double bay sink, and dressing room are located. The top and upper two-thirds of the structure are covered with greenhouse plastic. The sidewalls sport a breathable, semi-opaque plastic curtain material which allows air flow but excludes insects and dust (available from FarmTek, 1-800-327-6835, www.farmtek.com). The pores in this fabric are extremely small (more than 100 times smaller than the average hole on a screen), and the fabric is so impermeable that water has a very difficult time getting through, even when aimed directly at the fabric with a pressure hose. The breathable material was most welcome on the 85° mid-August days; eventually a shade cloth was draped over the greenhouse to reduce the amount of sunlight entering and the large fans turned on, and the facility was surprisingly comfortable after that. I'd suspect it would be less workable south of the Mason-Dixon line, though. Larry estimated the cost of the facility to have been about \$25,000, including equipment.

The cheese room was well equipped with three vats, two of which were restaurant steam kettles (30 and 40 gallons), and one was a "trophy vat" (70 gallons). All of these were obtained used for very reasonable prices at auctions and

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Inside the Faillaces' cheese room. Steam kettle in foreground.

Vermont -- Continued from page 5

restaurant supply stores. For cheesemaking we used the smallest steam kettle, and it worked very nicely. To heat milk and curd, hot water was run from the tap through a hose into the jacket of the steam kettle; to cool curds, cold water was used. One problem with this system was that the water from the on-demand gas hot water did not stay hot enough and perhaps will have to be preheated. *[Cheesemakers Helen and Rick Feete, some of the original participants in the Hometown Creamery Revival project, experienced the same problem, and do pre-heat their water.]* The larger steam kettle will eventually be converted to a pasteurizer by adding a recording thermometer and probably a steam injection system to heat the air above the milk.

The Faillaces breed and milk East Friesian sheep, which they imported from Belgium and The Netherlands. *[See box.]* The sheep are kept on pasture in movable pens of electric net, protected by – nope, not dogs – llamas! I didn't observe stray dogs in the area, but Linda Faillace said that coyotes are a real problem. She said that if a predator gets inside the pen and doesn't respond to the llama's threats, the llama will sit on the predator and squash it. Apparently it works well for the Vermonters, because there were a lot of llamas out in the countryside, quietly guarding their charges in their statuesque way. *[Julia Farmer, moderator of Cheesemakers-L, says the llamas aren't foolproof, though, and she sells some of her Maremma livestock guardian dogs to llama owners. On balance, I overheard someone at the ACS conference say the dogs bark a lot. So I guess it's a personal preference.]*

Shepherd Heather is in charge of the milking operation, which takes place in a portable milking parlor constructed from a Wells Cargo trailer, which looks similar to a large horse trailer with an open side. The Faillaces borrowed this appropriate technology from a similar idea they saw in Europe, and had the parlor custom-made for about \$9000. Heather says the inspectors really like this idea because it keeps the manure source far away from the cheese plant. Since sheep have a short (six- to eight-month) lactation, winter milking isn't an issue, so the portable facility should work well for them. It appears to be very functional and easy to clean. Unfortunately, I had to rely on others for transportation during my visit and was never able to be there to watch milking in progress.

The Faillaces are "making cheese like crazy!," Linda said in a followup call, including a soft ripened sheep's milk cheese which is covered in herbs and aged 60 days (Warren Meadows), a sheep's milk Feta, a semi-hard aged cow's milk cheese (Vermont Brebant), and another semi-hard cow's milk cheese which is washed with a local microbrew (Solstice). They expect to be able to sell their products mostly to tourists and through the many local restaurants and stores which strongly support the farming community of the Valley. In addition, a non-profit group of volunteers named "Rootswork" recently remodeled the East Warren Schoolhouse, to be used as an outlet for local farm products and crafts. Behind the schoolhouse visitors can tour a large, well-maintained organic garden, have a picnic and watch the Faillaces make cheese, since the plant is located next to the school building.

The portable field milking unit.



East Friesian Sheep

by Larry Faillace

The East Friesian, as it is known in North America, is the highest producing dairy sheep breed in the world. Native to Belgium, The Netherlands, and northern Germany, these sheep originate from a family of similar breeds with various local names. In Northern Europe, they are generically referred to as *melkschapen* or “milk sheep” because of the long length of their lactations and their high milk production. They are also called Friesland sheep in Europe. From milk-recorded flocks the ewes average approximately 1,000 pounds per lactation with some exceptional ewes producing more than 2,400 pounds. The quality of this milk is extremely high and is used primarily for the production of gourmet farmstead cheese. The richness of their milk results in an average ratio of 5 pounds of milk per pound of hard cheese produced.

The East Friesian has been exported to a variety of countries and can now be found in Switzerland, Austria, Scandinavia, Great Britain, Israel, New Zealand, Australia, Canada, and the United States. Most of the interest in

this breed has been generated because of the development of the dairy sheep industry in those countries. However, there is growing interest in the breed for commercial lamb production because of the high prolificacy of Friesian ewes (average 230% lamb crop), as well as fast growth rate of their lambs. The East Friesian ewe is medium to large framed and weighs approximately 160 pounds. Rams of this breed are quite large and can approach 300 pounds. Ag-Innovations imported 53 East Friesians from Europe in 1996. Our stringent selection process was based on both production and high health status. We are continuing to expand our own flock and to foster the development of the dairy sheep industry, including making a further importation from New Zealand, which has provided an additional source of breeding stock for several of Vermont's top dairy sheep flocks.

The name Ag-Innovations was chosen for our company because we want to help improve and promote sustainable agriculture, and we feel that the best way to do this is through innovative thinking. Ag-Innovations has been offering courses in farmstead cheese production to farmers throughout the country. For more information contact us at: Ag-Innovations, Inc./Three Shepherds of the Mad River Valley, 565 Behn Road, Warren, VT 05674. Phone: (802) 496-3998, Fax: (802) 496-4096 or (802) 496-3998.

Sheep Dairying: An Opportunity for Minor Breeds

by Cynthia J. Ehrman

Excerpted with permission from the American Minor Breeds Conservancy News (now American Livestock Breeds Conservancy News), July-Aug 1992.

Sheep dairying, long a tradition in Europe, is beginning to catch on in North America. Given the annual volume of imported sheep's milk cheeses – nearly 25 million pounds – this appears to be a good idea.

Why has the production of sheep's milk cheeses not been done on a large scale in North America before? The answer is twofold. First, cattle have been the mainstay of the dairy industry in this part of the world. And second, the North American sheep industry has not selected for the milking ability that is already present in many European sheep breeds. While North America has focused enormous energy on the production of high milk yields in Holstein and other dairy cattle, the same energy, multiplied by the effects of time and experience, has produced high yields and delicious cheese in the dairy sheep industry elsewhere.

The idea of milking sheep may seem odd but in many parts of the world not only cows and sheep are hand or machine milked but so are water buffalo, camels, llamas and horses. While it may be common and practical to milk these animals in some countries, industrialization and cultural preference encouraged the greater milk production of cows. Today consumer interest in sheep's milk products has a growing number of people making use of the unique milk producing capabilities of sheep.

Throughout North America sheep farmers are looking for added income besides the meat and wool markets. Some are finding this source in the dairy sheep industry. There is an ever-expanding market for specialty and gourmet cheeses that is currently being supplied by European imports. The unique qualities of sheep's milk set it apart from cows' milk and explain not only the market demand but the growing interest of sheep farmers in this market. Sheep's milk excels in characteristics which result in a superior cheese product. Studies indicate that sheep's milk has about twice the protein, fats and solids found in cows' milk. The high fat content is what provides the

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Chef's Corner

with
Kelly Shepherd



Sheep's milk cheeses are increasing in popularity in the U.S. As people's tastes for the exotic grow, they are seeking out a variety of cheeses to satisfy their palates. Cheeses made of ewes' milk fit the bill: they are diverse and exciting, and with the Internet, one can locate cheeses that were once difficult to find.

Perhaps the best-known sheep's milk cheese is *Roquefort*. The "King of Cheese" is produced in the Roquefort-sur-Soulzon region of France, near the Spanish border. Only the milk of specially bred sheep is used. Blue mold is added to the curd by mixing it with powdered bread containing *Penicillium roquefortii* culture. The cheese is aged in huge limestone caves, as it has been for centuries. Ah, the French! They use *Roquefort* primarily as a dessert cheese.

On Corsica, a soft, mellow cheese is produced: *Brin d'Amour*. This 'morsel of love' is wrapped in a crust of herbs. Yummy! Another very popular ewe's milk cheese is the Greek feta. Originally made with ewes' milk, most modern feta is mass-produced from cows' milk and packed in brine. There are many variations: Romanian *Brinza*, Bulgarian *Sirene*, Hungarian *Brynza*, and Slovakian *Bryndza*. From Italy come *Pecorino Romano* and *ricotta salata*, among many others. *Pecora* in Italian means "sheep." This popular hard grating cheese is one of Italy's oldest. When fresh ricotta goes through a natural aging process, it becomes ricotta salata and is firm, resembling feta.

Spain also has some interesting offerings. *Roncal* is hard with a grey rind and has been made in Navarre for 3000 years. *Cabrales*, a blue cheese made with sheep and cow's milk, is traditionally wrapped in plane-tree or chestnut leaves and aged in caves in northern Spain. *Manchego*, made in La Mancha, has a nutty flavor and Swiss-like holes. In New Zealand, a semi-soft, feta-like cheese called *Hipi Ihi* is made. It means "little sheep" in Maori. England, Egypt, Portugal, Afghanistan, Russia and Wales all produce their own varieties of sheep's milk cheese, all worth seeking out. The sheep dairy industry in the U.S. is in its infancy.

The recipe on the following page sounds complicated but really isn't, and the result is delicious! By all means roast the fresh peppers yourself; they are far superior to the jarred variety. This time of year they should be readily available at the local farmer's market.

Did you know?

Answer: Both Shelburne Farms' Raw Milk Farmhouse Clothbound Cheddar and Oakspring Dairy's Leceister were made from milk from the Brown Swiss cow.



Kelly Shepherd is co-owner of The Invisible Chef, an in-home food service alternative in southwest Virginia. Kelly and her partners turn top-quality foods into gourmet meals for busy people. They do the shopping, cooking and cleaning; the client just comes home, warms up the meal and delights in The Invisible Chef's outstanding cuisine. Kelly writes this column for CreamLine on a regular basis.

Lentil Salad with Roasted Peppers and Feta (4-6 servings)

1 cup dried French green lentils
2 red or yellow bell peppers, roasted and chopped *
¼ cup chopped parsley
2 tbsp each chopped dill and mint
1 cup crumbled feta (or other white crumbly cheese)
½ cup Kalamata olives (or vary depending on your taste for olives)
lemon vinaigrette[^]
salt and pepper

Pick over the lentils. Put in saucepan and cover with water, adding some salt and pepper. Simmer until tender but still a little firm, 25-30 minutes. Drain the lentils and toss them while warm with the rest of the ingredients. Serve warm or cold.

* To roast peppers:

This can be done directly on a gas burner, on a gas or charcoal grill, or under the broiler. Wash and dry the peppers; leave them whole. Brush with olive oil and broil or grill until skins are charred and blistered, checking and turning them as you go, about 10-20 minutes. Don't let them get too black. Put them in a paper bag for 15 minutes. When cool enough to handle, peel and seed them. Chop and use in the lentil salad recipe, or marinate them with olive oil, herbs and garlic to eat with crusty bread.

[^] Lemon vinaigrette

2 tbsp. fresh lemon juice
1 tsp. finely chopped lemon zest (peel)
salt and freshly ground pepper

1 shallot, diced fine
6 tbsp. extra-virgin olive oil, or to taste

Combine lemon juice, zest, salt, pepper and shallot. Whisk in olive oil, taste and correct seasonings.

Could there be a connection?

In the past month I attended both a Dairy Quality Control conference and The American Cheese Society conference. The contrast between the two was stark.

At the Dairy Quality Control conference, it was apparent that "quality" referred to the number of living "germs" in the milk: the fewer, the better. It didn't really matter if the germs (or sloughed cells from mastitis) were in the milk, as long as they were dead. The one concern about flavor was how much acetaldehyde could migrate into fluid milk from PETE containers before consumers would notice it. Though the conference participants consisted mostly of dairy processors, there were almost no dairy products to be found in any of the two meals or three breaks served. I took my own butter to breakfast the second day because they had given us that nasty squeeze margarine for our baked potatoes the prior evening. (Sour cream for baked potatoes was the one dairy product offered in two days.)

At the ACS conference, attended by producers, distributors, retailers and connoisseurs, "quality" was based on flavors, textures, aromas and appearance of products, as well as the art and techniques (including sanitation) used in producing them. There, dairy foods were presented, evaluated, discussed, consumed, celebrated and savored at every opportunity!

aroma and taste so unique to sheep's cheese and results in a creamy texture. The most notable factor for the producer is that the milk is high in solids, with solid content in direct proportion to the quantity of cheese produced. For example, about four pounds of sheep's milk will produce about one pound of cheese, while it takes nearly eight pounds of cow's milk to produce one pound of cheese. Sheep milk products are also attractive in the interest of health. Olivia Mills, renowned British dairy sheep expert, explains in her book, *Practical Sheep Dairying*, that many people who are sensitive to dairy products have found sheep's milk easier to digest.¹

Besides the high quality of the end product there are other considerations in favor of milking sheep. Dairying can be a viable source of income for the established sheep farm, utilizing their milk as well as their meat or wool. It is important to note that, unlike cows' milk, sheep's milk can be frozen for later use without adversely affecting the quality of the product. This allows the producer to accumulate a large quantity of milk for production or sale to a manufacturer. Therefore, many sheep farmers view this new industry as a way to make their sheep more profitable while providing a quality product to a growing market.

How to Get Started

While it might seem sensible to start your dairy by importing proven dairy sheep breeds, this is not possible.² Strict regulations prohibit the importation of sheep, embryos or semen because of the threat of disease introduction. Instead, North American producers are working on improving their present stock. According to John Finlay, a former dairy sheep producer in Vermont, to produce sheep's milk you need to breed selectively and cull toward the premier dairy ewe. In his estimation this is a five-year project and for the producer who wants to milk and manufacture cheese, yogurt, or fudge, at least ten years may be needed before a profit is realized.

What about Minor Breeds?

Much of the literature about dairying describes the perfect ewe that has been selected for milk production. Studies at the University of Minnesota point to individual ewe qualities more than distinct breed qualities as indicators of dairying success. While there are no "dairy breeds" in North America,² many of the qualities favored

in these studies may point to minor breeds as good candidates for dairying. Because of their generalized characteristics of good mothering, hardiness and ease of handling, they may be better able to adapt to the dairy selection process. In one sense this gives the breeder an advantage. Generally, minor breeds are good foragers able to convert grass and browse into plenty of milk for their young. Typically they have good temperaments, making them easy to handle as well as able to let down their milk upon demand.

Susanna Davy, a longtime member of AMBC, raises St. Croix sheep. While not actively milking them she tells an important story about her experience with this breed. Susanna says that her St. Croix ewes give plenty of milk for their young. In fact, once she had a ewe give birth to a lamb that did not survive. The ewe gave so much milk that Susanna had to milk her by hand for several days in order to relieve her. She is not sure how long she could have kept this up if she had the time, but because of the calmness of the ewe and her enormous amount of milk, Susanna feels this is a minor breed that should be considered for milking. The St. Croix are prolific and can lamb more frequently than many other breeds, making it possible to milk them for a longer period of the year.

Another AMBC member, June Reed, hand milks her Cotswold sheep. She enjoys the "hands on" approach and is looking forward to producing products from her flock. June is an active promoter of sheep dairy products and the sheep dairy industry.

The sheep dairy industry appears a sensible avenue for sheep farmers to explore. Because of the large demand, the industry is growing each year. The new producer will need time and determination to learn the industry but the market demand points toward likely success. And for minor sheep breeds, this is a chance to fill a niche for which they may be the best candidates.

¹ Ms. Mills does caution that percentage-wise, as many people are allergic to goat milk as cow milk, and similar findings for sheep milk may arise if it were drunk more widely. She recommends careful research and care in making health claims.

² No longer true – see article on Friesians, page 7.

Book Reviews

Practical Sheep Dairying: the care and milking of the dairy ewe by Olivia Mills. Wellingborough, Northamptonshire, England: Thorsons Publishers, Ltd., 1989 (revised and updated edition). Only known source is *The Dairy Goat Journal*, P.O. Box 10, Lake Mills, WI 53551. \$30 ppd. (They do have a web site at www.dairygoatjournal.com but do not respond readily to e-mail.)

When you are the only game in town, anyone interested in the game has to come to you. As far as I can tell, this is the only current book on sheep dairying available. Fortunately it's a decent one! Ms. Mills' style is very British (not a bad thing), and there are a lot of unfamiliar words. To begin with, Frieslands are the same as Friesians, and that's an important first point. In the early chapters she assumes much of the reader, and in some ways this is not a book for beginners; there is only a tiny, 16-word glossary, for example, to explain what certain terms mean. I love the quaint word she uses for mating – "tapping." Sounds a little like having tea at 4 p.m., doesn't it? However, the chapters on milking sheep are quite thorough and detailed. Ms. Mills is a proponent of rotational grazing, and her advice quite apparently comes from good, down-to-earth experience with milking sheep.



Dairy Sheep Conference Nov 4-6

There will be an International Dairy Sheep Conference from Nov 4-6, 1999 in Brattleboro, Vermont at the Quality Inn (802) 254-8701. Rates at the Inn are \$59 for double occupancy before Oct 4. Conference registration forms can be obtained from the Center for Sustainable Agriculture (802) 656-5459. Registration is \$60 for the first person and \$30 for others from family or farm (+\$10 after Oct 15). Fee includes lunches and tours of sheep dairies in NY and VT; banquet is extra. This is a new location for the Great Lakes Dairy Sheep Symposium, which has been in Wisconsin the past four years.

Nov 4 - tour of 1,000 ewe-sheep dairy

Nov 5 - conference

Nov 6 - tour of Major Farm, home to Vermont Shepherd Cheese, also other local farms.

Cheesemaking Practice, by R. Scott; third edition with revisions by R. K. Robinson and R. A. Wilbey. Gaithersburg, MD: Aspen Publishers, Inc., 1998. Available from the publisher or from *The Cheese Reporter*, 4210 E. Washington Ave., Madison, WI 53704. Web site - www.cheesereporter.com Also now available from New England Cheesemaking Supply, P. O. Box 85, Ashfield, MA 01330. \$129 plus shipping (no, you can't get it for less except in quantity). Hardcover.

Cheesemaking Practice is the declared favorite reference book for one cheesemaker in the HCR project. The main body of the book is full of useful information on the general cheesemaking process, with many tables and graphs that will serve a cheesemaker well. Cheese recipes are given in outline form. In some cases they are easy to understand; others are confusing because of a failure to indicate just when certain steps are supposed to take place. For example, in the recipe for Brie, under "Drainage," the instructions are: "After 18-24 h the top hoop is removed and the cheese turned over onto a new mat." Then the instructions for "Salting" (which follow the drainage section) read: "After 12 h the cheese is dry salted and a single hoop is placed round the cheese to keep it in shape." It's unclear whether these two steps are sequential or simultaneous. *Cheesemaking Practice* doesn't contain as wide a range of recipes as Kosikowski's book (*Cheese and Fermented Milk Foods*), but Kosikowski's recipes often call for industrial equipment, which can be puzzling for the farmstead processor. If using either book, the cheesemaker needs a range of metric equipment and measuring tools for best results. Until very recently, this book was out of print and nearly impossible to find used. In the last year the new edition appeared on *The Cheese Reporter's* Web page at a high price, but right up there with Kosikowski for usefulness to the commercial cheesemaker.



In lieu of the Nov 6 tour, one could participate in Vermont's Sheeposium in Randolph, VT. For more information contact Tom Bennett at (802) 229-4020.

Thanks to Dr. Steve Washburn of North Carolina State University Sustainable Dairy Center for this submission.

Preparing Pastures for Winter and Beyond

In this neck of the woods, we have been suffering an extended drought for about three years. Here in the Virginia mountains it isn't too severe – we have gotten rains almost every time the situation has become critical – but the lowlands of Virginia and surrounding states have seen their pastures decline, with many grasses and legumes dying out and weeds taking their places. Weeds are not necessarily all bad (see Issue #2), but dairy animals require a high level of nutrition to maintain body weight and give milk. What to do about drought-stricken pastures has been a topic of conversation at our local grazing group meetings.

In general, the consensus has been to fertilize pastures in the fall rather than early spring. Spring fertilization results in lush top growth and poor root systems; too-lush spring grass after a winter of hay can cause nutritional imbalances and bloat. André Voisin, author of *Grass Productivity*, the “bible” of grazing, recommends applying half of your fertilizer in the fall to encourage strong growth before winter, 1/6 just before lush growth begins in the spring, and 1/3 at the end of the lush grass season. Ann Clark of the University of Guelph suggests that a late spring/early summer application of fertilizer makes sense, as it encourages growth during the summer growth slump.

More frequent and smaller applications of chemical fertilizer are easier on earthworms and other soil inhabitants than heavy single applications. Earthworms may also be killed by heavy applications of liquid manure. Of course if you are spreading manure, this should not be done during winter when the ground is frozen, or when heavy rains are likely, when you risk losing most of the nutrient value to runoff and polluting streams. Applying manure composted with a carbon source (wood shavings, leaves, shredded paper, etc.) is better all the way around, except that compost is not an important source of nitrogen. Compost generally contains all the major and minor plant nutrients and releases them slowly. It increases soil humus content, which encourages earthworms and beneficial microbes that break down manure and plant thatch quickly. Earthworms aerate the soil and create paths for moisture to flow down into the lower layers of the soil, even helping to break up hardpans and other compaction. “South Dakota State University research indicates fields with high earthworm populations

had water infiltration rates four times as high as those with no earthworms.”¹

What you fertilize with is important. Nitrogen available to grasses from fixation by legumes can drastically reduce the need for chemical nitrogen, and increase the protein value of forage tremendously. According to Allan Nation, grazing guru, it is easy to build up too much potassium in the soil, and high potassium levels have been linked to milk fever and grass tetany. Although it is known that grass tetany results from grazing forages low in magnesium, if phosphorus is low and potassium and nitrogen are high, this combination can restrict magnesium uptake in the plants. Nation suggests keeping a good level of legumes in the pasture to prevent grass tetany. Fertilizing with compost rather than raw poultry or dairy manure also helps to bring soil nutrients into better balance by supplying the soil with an increased number of cation exchange sites, which hold ions of nutrients which otherwise might be leached away.

The farmers in our group whose pastures have suffered from the drought plan to re-seed by either frost-seeding (broadcasting seed onto pasture in February or March when the ground is freezing and thawing, or on top of snow) or by drilling. Broadcasting seeds in the fall may also work if the animals trample the seed into contact with the soil, and if there is rain to encourage germination. Broadcast methods are best used on a pasture that has been grazed or cut short. Several in the group plan to experiment with planting cereal grains this fall to give their animals something to graze as we go into winter.

Goat owners would do well to survey the browse available to their animals. There are excellent chapters on “The Principles of Goat Feeding” and “Feeding Practice” in the **old** version (my copy is 1967) of David MacKenzie's *Goat Husbandry*, which detail the feed values of wild and cultivated foods. I believe these chapters have been deleted in the new, fifth edition, which was revised by Ruth Godwin. The older editions are available from Advanced Book Exchange (www.abebooks.com) or Barnes and Noble out-of-print books (www.bn.com). McKenzie says goats' favorite trees are elm, ash, hazel, willow and oak; favorite shrubs are brambles, briars, ivy, gorse and ling heather; favorite weeds are hog-weed (pigweed?), thistles, seeding sting-

Continued on page 13

ing nettles, plantain, cleavers and docks. These wild foods are often rich in minerals that would otherwise have to be supplemented at significant cost. Goats are not meant to live on grass alone! Unfortunately I'm unable to find much information on sheep browse. Anyone have suggestions?

If you are interested in improving your pastures, probably the best way to get information for your own area is to join a grazing group which has pasture walks on different farms. (They are more helpful for cattle than for goats, but sometimes will include sheep.) Contact your local Natural Resources Conservation Service office to find out if such a group exists in your area.

¹ Nation, Allan. *Quality Pasture: how to create it, manage it, and profit from it*. Jackson, MS: Green Park Press, 1995.

A Warning and a Salute

In my various travels recently, both physical and cyber, I've heard and seen several criticisms of New England Cheesemaking Supply as being "too expensive," often directing folks to wholesale operations. I've even heard it personalized down to "SHE is too expensive," apparently referring to Ricki Carroll, making it sound like Ricki is ruthlessly trying to get rich off of poor cheesemakers.

We Americans are bargain-hunters because we've been conditioned that way; we have no loyalty to any one place of business, and so we are gradually losing lots of places of business that we think are "too expensive." Recently I've been looking for some replacement pot handles for a kitchen stainless steel pot that is too good to use for a chicken waterer, but dangerous without a decent handle. One used to be able to find replacement handles at the local hardware store, but local hardware stores are gradually being swallowed up by large corporations that are only interested in supplying those things that "turn around" (sell) the fastest, and now I am unable to find the handles at all, anywhere.

We all know that volume buying allows a company to buy and sell all kinds of things at lower prices. The big stores have told us that. Thing is, we have to realize that smaller companies simply don't have the buying power (or the storage) to do that, and so they are unable to com-

pete. Back when recycled paper was becoming popular I started a small recycled paper business to help supply the need in my community. Then Wal-Mart, with much fanfare, started selling recycled paper and telling people how great they were for doing it. They sold paper for less than I could buy it for, so I turned my business over to a local print shop. Eventually Wal-Mart, with absolutely no fanfare at all, pretty much stopped selling recycled paper. That's just one case out of many.

Carefully scrutinize the claims of lower prices made by the big companies. Except for the chains' loss leaders, big appliances and sale items, I've found that my local grocery and hardware stores are very competitive, if not cheaper, than Wal-Mart. This week Kroger (a national grocery chain) has "vine-ripe" (meaning at least 15% pink) tomatoes on sale for \$2.99 a pound (previously \$3.99); yet last weekend at the farmers' market someone complained that our perfectly ripe, home-grown heirloom tomatoes were too expensive at \$2.00 a pound. Sure, one of the tomatoes weighed almost 2½ pounds, but most were average size – the same size someone would just stick in a shopping basket at the grocery store and never think twice about it. Stay aware! The big stores are counting on us to be numb and dumb.

This is not to say that a commercial cheesemaker should continue to buy starter cultures from New England Cheesemaking just to support them. There are other businesses in existence to supply those who need larger quantities, and NECS is doing quite well in its own niche. Years ago Ricki Carroll saw a gaping need for someone to supply the hobby cheesemaker; she filled that need extremely well and continues to do so. I had the pleasure of meeting Ricki and observing her in action at the ACS conference. She seemed to be always on the lookout for new items that might benefit the beginning and hobby cheesemakers who are her intended customers. She told me that she doesn't really want her business to grow much larger, so it's probably just as well that those who increase their cheesemaking should move on up to other sources. But there's no need to steer novices in that direction – chances are they will end up with half a pound of starter in the freezer that will ultimately get thrown out; not really a bargain after all.

In conclusion, I'd just like to say thanks to Ricki Carroll for doing such a great job and giving a leg up to so many folks! We need more "expensive" businesses like yours. New England Cheesemaking Supply, 85 Main St, Ashfield, MA 01330. www.cheesemaking.com

West Virginia Passes Farmstead Cheese Exemption

Cow cheese makers (only) in West Virginia have been given the blessing to make traditional farmstead cheese with exemption from regulatory control by the division of health. H.B. 2972 lists the following requirements for exemption: (1) The cheese must be manufactured at a home or farm-based site using either raw milk from West Virginia cows, production of which is regulated by the department of agriculture, or commercially pasteurized cow's milk; (2) the cheese products must be aged at least sixty days; (3) The cheese products must be sold directly to the consumer at the production site or marketed in local restaurants or local small businesses not engaged in interstate commerce. The exemption does not apply to businesses manufacturing more than 5000 pounds of cheese products per year, and cheese may not be marketed to ultimate consumers outside state lines, on the internet or by mail. The commissioner of agriculture may make rules providing for minimum health and sanitation standards. Julia Farmer of Cheesemakers-L sent me a copy of the bill with the specific notation that it does not apply to goat milk cheeses. She says she was told that the inspectors didn't want to deal with 'every little backyard goat raiser.' Apparently the exemption came at the urging of makers of traditional Swiss mountain cheeses in Helvetia, WV.

New Farm Liability Insurance Available

The North American Farmers' Direct Marketing Association (NAFDMA) offers a one-million dollar insurance plan for member farms involved in direct marketing. This insurance covers personal liability, product liability, bodily injury and property damage claims associated with direct marketing activities, as well as minor other coverages. Additional coverage can be purchased, up to three million dollars. The cost is \$3.00 per \$1000 of gross receipts, with a minimum annual premium of \$300. There is no deductible. You must be a member of the NAFDMA to receive coverage; membership dues are \$75 per year. For more information, contact NAFDMA at 62 White Loaf Road, Southampton, MA 01073; phone 1-888-884-9270, FAX (413) 529-2471; e-mail nafdma@map.com. Web site www.nafdma.com.

Cheesemakers on ONElist discussion group

Last issue I wrote about Cheesemakers-L e-mail discussion group. Since then I've learned about a similar group on ONElist, a site of "communities" for discussing various topics. Their home page is www.onelist.com. You are required to register and to configure your browser to accept "cookies," which is the part I like *least* about ONElist. Uh, well, I don't like navigating through their various pages, either; they just keep taking you in circles. Once you finally find your way into the Cheesemakers community (from home page, click on 'Food,' then 'Cheeses,' then 'Cheesemakers') and get signed up you're okay. Until you have to figure out how to get into the archives. The members of this group seem a bit more flamboyant than those on Cheesemakers-L, and some tend to write long essays on "what I did today," mostly using zero grammar and obviously no spell-checker. Sometimes you can get some really good cheesemaking information and be in touch with professional cheesemakers -- nuggets of gold, but you have to pan for them. There are a couple of other cheese-oriented lists on ONElist, but this one is the only one devoted to actually making cheese, at least as of now.

National Farmers Union Ethnic Cheeses Project

The Texas Farmers Union, in association with The National Farmers Union, has received a USDA Rural Development grant to identify or create varieties of gourmet Hispanic cheeses as a means of assisting Texas dairy farmers who have experienced wide swings in milk prices over the past few years. Taking advantage of a growing consumer demand for ethnic cheeses, a group of dairy producers will identify possible cheeses for production and submit them to consumer acceptance testing. They will eventually generate a feasibility study and a business plan for creating a cheese processing cooperative. For more information, contact the Texas Farmers Union at P.O. Box 7276, Waco, Tx 76714-7276, e-mail: TFUnion@aol.com.

Feta Cheese

Feta cheese, as Chef Kelly points out, was originally made from sheep's milk, but it is commonly made from goats' and cows' milk as well, and sometimes even mixed milks. Each has its own following; aficionados can be quite fierce about their preferences! Feta may be made from unpasteurized or pasteurized milk. If using unpasteurized milk, it should be very fresh. R. Scott says "collected" milks should be heat-treated, and that 0.02% of calcium chloride may be used in heat-treated milk. Calcium chloride assists curdling, particularly in pasteurized milk and milk from animals not receiving enough calcium in their diet. It may also be used in brine (at 1.5%) to prevent cheese that is slimy on the outside.

There are many different recipes for feta. The following recipe is actually a composite of three similar recipes, allowing a little leeway in temperatures, especially. Experiment!

Heat milk to 33-35° C (about 90° F). Add 3-5% *Lactobacillus lactis* (subspecies *lactis* or *cremoris*) starter culture or DVI culture at recommended rate. Add rennet at the rate of 2-3 drops per liter of milk; rennet should be diluted with tepid water. Allow to coagulate at 32-33° C for about an hour; this may vary with ambient temperature and other factors. Curd should be firm and make a clean break when tested with a knife. When firm, cut into 2-3 cm (one-inch) cubes, then allow to set for about 15 minutes. After this, there are varying methods for continuing. The following method results in a large cheese, rather than small cubes or balls.

Scoop the curds into a large mold lined with cheesecloth and allow to drain for 4-6 hours, then turn and drain overnight. Some cheesemakers allow the curds to drain in a bag for about an hour before placing in the mold. The cheese may be pressed lightly with approximately the weight of the curd. Mature the cheese for 2-3 days at about 16° C (60° F), rubbing with sea salt on both sides. Then cut the cheese into blocks and put into 10% plain brine or 10% whey brine (use fresh whey instead of water, plus 10% salt, with pH of 5.1 or less) for two weeks. (R. Scott suggests a 16% brine for 24 hours with no dry salting; another cheesemaker uses 10% salt water brine.) Remove from brine and age for 30-60 days at 50° F or lower.

Alternative brine solution from e-mail discussion group:

- * For 80 liters water = 20 kg kitchen salt. Stir.
- * Check with hydrometer for 20 deg. Baumé (1.3 s.g.)
- * Add 1.5 liter calcium chloride solution (32% +/- 1% concentrate solution, obtainable commercially)
- * Add 45 mL chemically pure hydrochloric acid per 100 liter (carefully)
- * Keep check on salt content, will last indefinitely.

CLASSIFIEDS

WANTED: Creative, energetic, experienced cheesemaker to help develop a cheese operation on an organic, seasonal all-grass dairy farm in central Kansas. Marketing experience helpful. Kenneth King, 6003 E. Eales Rd., Hutchinson, KS 67501. (316) 663-1470. E-mail: kjdking@mindspring.com

FOR SALE: Cherry Burrell 100 gallon atmospheric pasteurizer with circulating pump and steam injector, less thermometer, RTD and chart recorder. \$4500. Phone: (330) 345-8190.

FOR SALE: Sheep and dairy equipment in Virginia. Flock of 60 Dorset x East Freisian sheep, ages 1 - 5 and 2 young rams. The Dorset is from Cornell breeding and the Freisian is Swiss. All are heavy milkers and lamb any time during the year. The lambing percentage is 190%. All sheep equipment goes with them. The dairy equipment package is as follows: two 6-position head gates, cascading yoke system; two platform sections; lone end gate; one 150 gallon Cherry Burrell bulk tank; two pulsators; one bell jar; vacuum pump; three stainless steel milk buckets; stainless steel foot stool; stainless steel milk strainer; two stainless steel walk-in cooler doors with trim and compressor; stainless steel milk cooler with glass front doors and new compressor; two vat thermometers; 25 cubic foot 20 degree chest freezer; stainless steel milk room sink; hand sink; teat dip cups; strip cup; De Laval 236 Clarifier; claws, inflations, shut-off valves; various milk lines, hangers, clips; PVC vacuum lines and shut-offs; pipes for overhead rail and butt-rail; brushes for cleaning bulk tank and milking equipment; acid wash, detergent, light oil. Whole package or just the sheep or dairy equipment separately. Call Virginia or Jim at (540) 261-9647, or e-mail: jim@rockbridge.net.

Classifieds -- buy and sell equipment, books, animals, etc. Up to 25 words, \$5 per issue for subscribers; add \$5 for each 25 words thereafter. Non-subscribers add additional \$5 to total.

Display ads -- contact *CreamLine*. See page 2 for contact information.

Coming up in *CreamLine*:

Winter issue feature -- Butter!

Course Review -- University of Guelph
cheesemaking course

pH and TA -- what's the difference?

Book Review -- butter books

Chef's Corner -- Kelly can surely find a
gourmet recipe using butter.

Later Issue (Spring?) -- regulations & HACCP



Farmstead Dairy Day Conference
Tuesday, November 2
9:00 a.m. – 3:00 p.m.
Holiday Inn, Mosinee, WI

Add value to your dairy farm operation by making
cheese, yogurt or ice cream.

For more information contact: Wisconsin Department
of Agriculture, Trade and Consumer Protection Farm
Center. (800) 942-2472

*Thanks to Diane Kaufmann in Chippewa Falls,
WI for this item!*

CreamLine
P.O. Box 186
Willis, VA 24380

Cheesemaking Courses to be Offered

Nov 14: Goat Lady Dairy, Climax, NC (near High Point) 9 a.m. - 1:30 p.m. Ginnie Tate, owner, will conduct a half-day workshop as part of the Carolina Farm Stewardship Association Conference. Emphasis will be on cheesemaking as a business, and priority given to those interested in possibly establishing a commercial operation. Cheesemaking demonstration, tour of Goat Lady Dairy, discussion of costs, regulations, marketing, packaging, and other topics. Contact Tony Kleese of CFSA to receive a brochure.

E-mail Tkleese@aol.com or write P.O. Box 448, Pittsboro, NC 27312. Telephone: (919) 542-2402. Attendance at the rest of the conference is recommended but not required. Limit 20 attendees. Cost is only \$20.

Jan 21, 2000: Jekyll Island, GA 9 a.m. - 4 p.m. Put this one on your calendar. We can't announce the cheesemaker yet, but we will offer a day-long cheesemaking course as part of the pre-conference activities of the Southern Sustainable Agriculture Working Group (SSAWG) conference at Jekyll Island, GA. Cost will be \$65, attendance at remainder of conference not required, but highly recommended. Contact: Southern SAWG, c/o Jean Mills, 14430 Jackson Trace, Coker, AL 35452, or get registration form from web page: www.attra.org/ssawg/

**More information on both these courses is on our
web page: www.metalab.unc.edu/creamery**