Operating a Small-Scale Cheese Creamery

Looking Glass Creamery, LLC - Fairview, NC
 Owners: Jen and Andy Perkins
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Business Basics: We are an artisanal cheesemaking operation and not a farmstead producer. We buy raw milk from local goat and cow dairies, transport it back to the creamery and make cheese with it. The label farmstead should apply to those farms that ONLY use the milk from their farm for cheese production. We chose this path because we only have 2 acres and did not have the resources to buy more land. Dairying and Cheesemaking are two very intense and distinct businesses. We did not have the resources, family labor, or money to start both so we opted for the processing side which we could do with one of us working in the business while the other continued with a traditional job/paycheck/insurance etc. Andy quit his regular job and joined the business full time in year 3. We buy our cow milk from Pack Farm in Polk County and our goat milk from Round Mountain Creamery in Black Mountain. We started out processing 50 gallons of goat milk 1x a week. We now process 150 gallons of cow milk and 180 gallons of goat milk every week, year round as milk is available. We produce fresh, bloomy rind, and aged cheeses. It has been said that Cheesemakers are bacteria farmers, which is very true. We select and cultivate various strains of bacteria to ripen and develop in the cheese to create the variety and flavor we desire in our final product. It’s a little like growing tomatoes - only really really small ones!

Basic layout of a Creamery: Concrete or tile floors with a floor drain(s), washable walls either 2’ plus or higher tiled or coated in FRP/Dairy Board, hand wash sink in addition to commercial 2 bay or 3 bay dish washing sink. Call the NCDA to get specifics on facility layout and design.

If making fresh cheeses or cheeses aged less than 60 days you will also need a commercial pasteurizer that is in accordance with the PMO (Pasteurized Milk Ordinance), state regulations, and the advice of your inspector. Get to know your inspector before you build, not after. They can be a valuable resource and you want to get this critical relationship off on the right foot.

If buying a used pasteurizer, ALWAYS have the pasteurizer approved by your inspector before buying it. The pasteurizer will have to have a leak detection valve, a chart recorder, an airspace thermometer, an indicating/product thermometer and lids. To properly pasteurize, the milk must be above 145°F for a minimum of 30 minutes and the airspace must be above 150°F throughout the pasteurization process. Airspace heating is usually accomplished with an electric element or super-heated hot air blown constantly into the air space.

Heating milk in the vat is usually accomplished two ways, an electric heating element in a walled vat or closed loop recirculation of very hot water through the jacket using a commercial boiler and heat exchanger to reach desired temperatures. We use a propane fired boiler which is highly efficient and can heat 106 gallons of 38°F milk to 145°F in 30 to 40 minutes. Smaller vats, under 50-75 gallons, typically will use heating elements which
are less cost effective to operate but less expensive to install on the front end. Larger vats will need the higher efficiency of a boiler system to heat the milk in a reasonable amount of time (and money).

For fresh cheese production: You will also need a workable space within the cheese room to drain the cheese which can be hanging in the room for 12-24 hours and space enough to package it. Always build bigger than you think you will need to. After packaging you will need adequate refrigeration space to store the product before moving it to market. We use a Coolbot for our refrigeration in our walk in cooler. Our cheese kitchen is 12’ x 24’ which is adequate for a startup operation (this does not include the refrigerated space, aging room, drying room, bulk tank room if you need it or other options and necessities).

Raw Milk Cheese Production – Cheeses aged 60 days or more are currently legal to be made in the US with raw milk, meaning that the milk does not have to be pasteurized prior to production. North Carolina is NOT a raw milk state meaning that it is not legal to sell raw, unpasteurized milk for human consumption. (South Carolina and several others are Raw Milk states where it is legal to purchase raw milk for human consumption, but a Raw Milk processor still has to be licensed and inspected in order to do so). As a processor, we are licensed to buy raw milk for cheese production which we can make into pasteurized cheese or raw milk cheese (as long as it is aged a minimum of 60 days). If you are only interested in making raw milk cheeses you need a simple vat, not a vat pasteurizer. Your vat will need to have a means of heating and cooling the milk in order to produce most cheese recipes but not all the other expenses and regulation of a pasteurizing vat.

For aged cheese production – you will also need an aging room or “cave”. That room should be kept at 52°-55°F and approximately 90% humidity. We use a standard compressor for managing the temp in our aging room. Find a good heating and cooling contractor to help you install the best system. Bloomy rind cheeses like 90-95% humidity, harder aged cheeses prefer 80-90% humidity. You can use a humidifier if necessary or pour water on the floor to assist with maintaining proper humidity. Be sure to scrub and sanitize the humidifier often if using one in your aging room to prevent the spread of unwanted bacteria. In a well-built aging room, you should not have to supplement humidity once there is a critical mass of cheeses aging in the room. Any aging room must have air circulation as well to prevent the buildup of ammonia that is off-gassed by the cheeses and introduce fresh air into the room. All intake air should pass through a Hepa Filter prior to entering the room and have separate outlet vent for the removal of air from the room. We use inline greenhouse fans for this purpose. Be sure to drill a hole in the casing of the fan to prevent condensation build up in the fan housing due to the temperature differential of the outside and inside air.

For aged cheese production it is ideal to have a drying room as well as an aging room. Most cheeses have a drying phase (2-3 days after production & salting) that requires less humidity to encourage proper rind development. Drying is typically accomplished at 62°F and 60-70% humidity. This can be accomplished in your cheese kitchen but it is a handicap because it ties up the room and you should not make other cheeses while finished cheeses are drying due to fluctuating humidity and temperature. We do not have a drying room but I would definitely build one in if I could do it all over again. It can be a simple closet with temperature control.
Our Highest Costs:

#1 – Raw Cow & Raw Goat Milk,  #2 – Labor,  #3 – Packaging & Labeling

Your highest margin products are those with higher moisture content like Chevre. The longer you age something, the more labor it represents, the more resources it takes, and the lower yield you end up with. It is typical to balance your product line to include both fresh and aged products to broaden your selection and be able to age product out when the seasonal buying slows and milk availability decreases in January and February. Most small producers start with fresh cheeses and add aged cheeses in as they can afford to and their business grows.

At year 4, we are at a break even stage. Every expansion or increase in production comes with an increase in operating expenses and often capital investments of new equipment and building improvements which have kept us from making a profit. In addition, the bulk of our business is in the wholesale area. We are trying to shift to more direct retail sales by offering an on-farm store and starting the WNC Cheese Trail to encourage tourism to us and other producers. It is still a work in progress and we hope to make it a profitable enterprise within the next couple of years.