

The Essentialist

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Making Cheese with Kalispell Creamery Pasteurized Milk

By Catherine Haug

(all photos by C. Haug & S. Riedesel unless noted otherwise)

See also: [Cheese Making with Kalispell Creamery Milk](#)

Thanks to Shelli for allowing me to photograph this process, and helping me to learn how cheese is made



Cheese Making supplies

This photo, above right, shows ingredients and supplies used, including:

- colander with cheesecloth
- stock pot (for heating milk, curds)
- cheese press (plastic tub with holes in bottom) and weights
- gallon of milk
- packet of rennet tablets
- buttermilk culture powder (not used)
- knife for cutting curd and slotted spoon for stirring

Missing from this photo are: bottle of CaCl_2 solution, yogurt culture, dairy thermometer, and miscellaneous measuring cups and spoons.

Step 1: Culture the milk



This step acidifies the milk to the proper pH so that the rennet can produce curds. Heat 1 gallon Kalispell Creamery (KK) whole milk to 145° F for 15 seconds (thermization).

Set pot in sink of cold water to cool milk to inoculation temperature of 20° C (68° F). Then add 1/2 cup of the warm milk to 1/3 cup yogurt, then add back to the warm milk. Stir, then let rest 1 hour to culture.

Preheat before inoculate

Step 2: Forming the Curd and Getting a Clean Break

We divided the inoculated milk into two half-gallon batches to test whether calcium chloride (CaCl₂) is needed to work with the rennet in forming a curd:

- ▶ **Batch 1 (without CaCl₂):** Warmed to 30° C (86° F). Mixed 1/8 tablet rennet (crushed) with 2 Tbsp water, added to milk with stirring, then covered to let it rest. After 1 hour, it had not yet shown signs of clean break.
- ▶ **Batch 2 (with CaCl₂):** Added 1/4 tsp CaCl₂ mixed with 2 Tbsp water, stirring. Then warmed to 30° C (86° F). Mixed 1/8 tablet rennet (crushed) with 2 Tbsp water and added to milk with stirring, then covered and let it rest. After 30 minutes it was already beginning to coagulate (separate from the whey, also known as 'clean break').
- ▶ **Both batches:** We let it sit overnight (8 hours); the whey had separated by morning.



Clean break (whey separated)

Step 3: Cutting and setting the curd

Using a long-handled knife, holding the knife at an angle, cut the curd first N to S, then E to W, into 1/2" - 3/4" cubes (photo, below left)

Then set pot over heat; slowly warm to 34°C (92° F) for soft curd cheese, or as high as 39°C (102°F) for very firm cheese. While it is heating, using clean hands, gently stir the curd by scooping and lifting, gently separating the curds without squeezing them.



Cutting the curd



Setting the curd



Cut large curds with knife

Some large curds may need to be cut with a knife (photo, above right)

Maintain heat until curds have consistency of firm scrambled eggs. Remove from heat. The curds should sink (if they float, there is a contaminant in the curd and you must discard the batch).



The above photos are of the batch with CaCl₂; there are no hard soap-like flakes, just curd.

The photo (left) is the batch without CaCl₂, showing many hard, soap-like flakes, which are denatured casein (not good). We fed this batch to Shelli's animals.

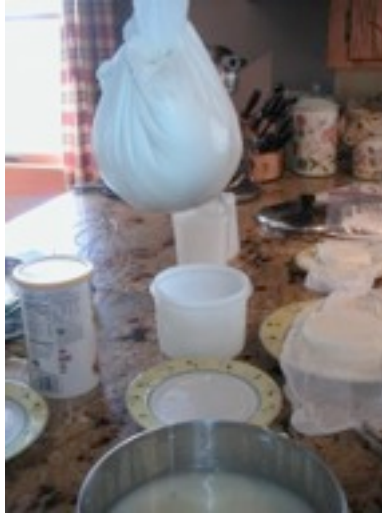
Step 4: Drain and salt the curd

Line a colander with good quality cheesecloth, set over a bowl, then pour in the curds & whey. Let the whey drain into the bowl (photo, below left).

Tie up the cheesecloth around the curds to squeeze out more whey, then hang above the bowl until it stops dripping, about an hour (photo, below, center).



Pouring curd into cheesecloth-lined colander



Hanging curds in cheesecloth, to drain



Hand mixing-in the salt

When it stops dripping, dump the curds into a clean bowl (photo, above right).

Add 2 tsp cheese salt per gallon of milk (we added 1 tsp for our half-gallon) to the curds in the bowl, and work salt into cheese with your hand.

[NOTE: you can save the whey for other uses such as inoculating a lacto-ferment of fruits or veggies, adding to a smoothie (excellent source of protein), or making ricotta.]

Step 5: Press and cure the cheese

[Shelli's press: she found a plastic tub that just allows her weights to fit inside, then made it into a press by punching holes in the bottom of the tub.]

Line the cheese press with a clean piece of cheesecloth; dump the salted cheese into the cheesecloth (photo right).

Fold the cheesecloth over as a bandage to completely wrap up the cheese (photo, below left).

Add weights to press out more whey, thus drying the cheese (photo, below center).



Dump cheese into cheesecloth-lined press

Each day (for 5 - 6 days, as long as cheesecloth continues to be wet), remove bandage-wrapped cheese and rub salt over outside of cheese (photo, above right), then re-wrap in a fresh bandage and return to press, with weights.



Wrap curd with bandage



Pressing the bandage-wrapped curds



Changing the bandage

Important: Keep an extra, clean bandage to avoid introducing contaminants into the cheese. Boil the used cheesecloth after each changing, then hang to dry before using again the next day.

When cheese develops a yellow rind, you can stop the re-bandaging.

- As a soft cheese, it is ready.
- If you want a hard cheese, dip it in melted wax and store in refrigerator to age a month or longer.

References, or for more information

1. [ESP article: Food Safety & Pasteurization](#)
2. [Beginning Cheesemaking: Ingredients & Equipment](#), by Dr David B. Fankhauser, Ph.D., Professor of Biology and Chemistry, University of Cincinnati Clermont College
3. [Basic Cheesemaking for 1 Gallon of Milk](#), also by Dr. Fankhauser
4. [Cheesemaking Recipe for Chevre](#), also by Dr. Fankhauser
5. [Cheesemaking Recipe for Feta](#), also by Dr. Fankhauser
6. [Rennet Preparation \(from a ruminant stomach\)](#), also by Dr. Fankhauser
7. [About Cheese Making](#), by Leeners (a menu of cheesemaking topics)
8. [How to Use Rennet in Cheese Making](#), by Leeners
9. New England Cheesemaking Supply Co.: cheesemaking.com