



Making Fresh Mozzarella using Citric Acid

THE MILK-Making fresh Mozzarella using citric acid to acidify the milk compared to using a lactic starter culture takes less time and also produces nice results. Though, one must use quality milk, milk that hasn't been processed to damage it or overheat it through over pasteurization. Your results may vary based on the milk you are using. Check out realmilk.com for local suppliers of milk. Or try your local store bought milk. Try to find NON homogenized milk. If you cannot find NON homogenized milk, use whole milk which has been pasteurized and homogenized. **DO NOT USE ORGANIC OR NON ORGANIC ULTRA PASTEURIZED MILK.** You can also add one part heavy cream to 9 parts whole milk. Every milk processor uses different pasteurization temperatures. The lower pasteurization temps are best to maintain the integrity of the protein structure of the milk. Test a gallon or less of milk before moving on to larger batches. Use calcium chloride when using milk which is not fresh from the farm and has been homogenized & pasteurized. One gallon of milk will make 1-1.25 lbs. of mozzarella.

The following recipe is for one gallon (3.78 liters) of milk. Follow the usage rates for any ingredient you place into the milk listed on the ingredient. It is important that you use exactly 1.5 tsp of citric acid for every gallon milk. This ratio achieves the targeted pH (5.2) which enables the curd stretching later in the process.

THE PROCEDURE- Add Calcium Chloride to the cold milk if you are using any milk which is not RAW (non-homogenized/non—pasteurized). Dissolve 1.5 tsp (7.3ml) of citric acid into a ¼ cup (59ml) of clean warmed water. Pour this mixture into the milk using only 2-3 gentle strokes and proceed to slowly warm the milk to a temperature not lower or higher than 86-88f (30-31c). You will want to maintain this temperature until you are ready to stretch the curds in a salted hot water bath. Best method is to use a double boiler in which you heat the water which transfers heat to the milk. Add the rennet (liquid or tablet should be first diluted into a small amount of cool water). Stir for only 3 gentle strokes across your pot or pan. Cover and leave to rest for 30-60 minutes or until the milk is set and you have a clean break (when a knife or spoon is placed into the gel(curd mass), a clean wall is produced, much like what a soft Tofu would look like when cut.

Cut curds into approximately ½ inch (1.45cm). Allow the curds to rest (healing the curds) for 10 minutes. After about 10-15 minutes gently stir the curds for 5-10 minutes. This releases some moisture from the curd. If you want a firmer texture of your Mozz., stir longer until you notice the curds firm up a tad. Maintain the above temperature range using a water bath method (double boiler-pot within a pot). If you can pick up a piece of curd with your fingers without the curd falling through your fingers, it is ready for the final step, the hot water bath with minimal stretching. This is when it truly becomes Mozzarella. Add additional stirring time to release additional moisture from the curd if the curds are still way too soft and slipping through your fingers when picked up.

Use this step is only to make firmer, dryer Mozzarella: Slowly heat curds to 102f-106f (38.8c-41.1c) while stirring gently. This may take about 20-25 minutes. Turn off heat and allow to rest another 20-25 minutes for additional healing of the curds.

Once the curds have a texture where they will not slip through your fingers, you can either make Mozzarella right away or refrigerate the curd mass and make it the following day. Or freeze the curds in a tightly sealed plastic container or vacuum bag and use them another day. Once frozen, curds will last many months and can still be used later to make Mozzarella. This method is especially nice for making pizza style Mozzarella.

SALTING & STRETCHING-Heat up a pot of water (1.5 gallons for every pound of final mozzarella made) to a range of 165-180f. Add any salt you have available into the water until the water has a recognizable salty taste. Using a small bowl, start off with a small piece of curd for a test and pour some of the salty water over the curd just to cover it. Using a wooden spoon, move the curd around in the water. If the curd becomes very gooey, begins to dissolve in the water, your water is a bit too hot. You want the water hot enough so the curd starts to stretch or pull away without any force, just by gravity. Once this test is complete you can place all or some of your curds into a bowl and pour the hot water over it just covering the curds. Allow a few minutes for the heat from the water to transfer into the curds. Thin rubber gloves are optional for this next step. With the assist of your wooden spoon, pick up all or some of your heated curds and allow gravity to stretch the curd into mozzarella. You can pull the curd a bit and stretch and form either one large mozz ball or smaller mozz balls. Some like to allow the curd to stretch into long thick strands and braid them. You don't want to handle the curd in your hands too long. A few minutes is plenty to manipulate the curd into the shape you like. Then, place the stretched and shaped mozz into cool water and into the refrigerator or consume warm (very tasty when eaten warm). Eat your fresh mozzarella within a week or so. Or you can place your mozz balls into 70% olive oil/30% Safflower or Canola oil with or without some herbs, then into the fridge. This mixture of oil will keep the oil liquid as pure olive oil will partially solidify when cooled. If you use 100% olive oil, allow the partially solidified oil stored in the fridge to come to room temperature where the oil will become liquid again.

Ricotta (*cannot be made from lactic whey-from making Chevre or other high acid cheeses*)

With the left over yellowish liquid (whey) you can make a small amount of Ricotta which is a by-product of the cheese making process.

Procedure:

1. Heat whey to 190-200F.
2. Turn off heat.
3. Add ½ tsp. of citric acid or ¼ cup of white vinegar per each gallon of whey.
4. Stir for two minutes, then let mixture rest and cool until you see pieces of white Ricotta form on the surface.
5. Line a colander with very fine mesh cloth and gently pour or scoop whey into lined colander.
6. Let drain until stopped for an hour or so.
7. Take out Ricotta and gently mix salt into it. You can also mix herbs or blend other fresh items into your Ricotta. Whey Ricotta will be a bit dry, great for lasagna recipes. Make your Ricotta creamy by whipping in a little milk or cream.

-Enjoy. Steve Shapson, thecheesemaker.com