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How-to: Easy Homemade Dairy Products

Here are some recipes to help you enjoy the taste and nutritional benefits of raw grass-fed dairy by turning milk into other delicious products. All equipment and cultures can be purchased from www.getculture.com. Let us know if you have questions about anything.

Butter

Raw, grass-fed butter contains incredible nutritional properties. It is also amazingly delicious. Butter made in the spring, from cows eating the new, rapidly-growing grass, was considered sacred by traditional dairy cultures. We now know that this kind of butter is extremely high in Vitamin K2, which contains many health-promoting properties. Raw, grass-fed butter is also high in vitamins A and D, which are needed for the absorption and utilization of the proteins, minerals, and other vitamins we consume. Thus, consuming butter in conjunction with vegetables and other foods isn't just good for taste, it also makes sense nutritionally.

You will need:

- Cream (After letting your milk sit undisturbed for a day, you can skim the cream off the top.)
- A glass container that is more than double the volume of your cream, with a tight fitting lid; OR a food processor with a bowl more than double the volume of cream
- Salt (if salted butter is desired)

Pour the cream into the container. It is very important that the container is more than double the volume of the cream. Let it sit out at room temperature for several hours to allow it to warm up. The butter-making process is easiest when the cream is around 55-65°F. Next simply shake the jar until butter forms. (It's nice to have a friend to pass the jar along to when your arms get tired.) As you shake, the cream will get thicker and thicker, and then all at once, it will “break.” At that point, instead of one thick, homogeneous liquid, you'll have clumps of yellow butter floating in a thin murky liquid, the buttermilk. Older cream will always break sooner than fresher cream - in fact, to ensure that the cream breaks into butter, you should only attempt to make butter if the cream is at least 2 days old.

Sometimes, if you're working with particularly heavy cream, the cream has trouble breaking. It will get extremely thick, to a point when you can no longer shake it. When this happens, pour it out into a bowl and agitate it with an immersion blender, or process in the food processor. The butter usually breaks after a minute or two.

As an alternative to the labor-intensive shaking method you could pour the warmed cream into a food processor and just let it run till you notice the yellow flecks of butter.

After the cream breaks into butter and buttermilk, pour off as much of the buttermilk as you can without losing any butter into another container. (This is different than the buttermilk sold in the store, which is really cultured skim milk - see recipe below. You can use it in place of buttermilk in baking recipes, but it won't produce the exact same results. However, it could be used for cooking oatmeal or fed to chickens.) Then add cold water to your butter jar – approximately the same volume as the buttermilk that you just poured off. Shake a few times, then dump out as much water as you can into the sink. Repeat a few more time. This process is

called “washing the butter;” its purpose is to get rid of as much buttermilk as possible, which will keep the butter from going sour.

After washing, take out a clean bowl that will easily hold all of the butter you just made. Rinse the inside of this bowl with the coldest possible water from the tap. Then dump all of the butter and whatever liquid remains into the bowl. If you like salted butter, sprinkle in some salt. (Approximately 1 teaspoon salt for each pound of butter; one quart of cream will usually yield a little under one pound of butter.) Wash your hands, rinse them with the coldest water possible, and don't dry them. Now for the fun part – knead the butter with your hands, working in the salt and expelling as much liquid as possible. As you coax out more liquid, dump it into the sink. The purpose of the cold water coating the bowl and your hands is to keep the butter from sticking. (This works because fat and water repel one another, and the coldness keeps the butter solid.)

Finally, when you've gotten rid of all the water, press your butter into a glass container. If you've done a thorough job at expelling all the buttermilk, you can keep it at room temperature for a few weeks. For longer-term storage, keep in freezer.

One note of warning - butter-making is not a fail-safe process. The thickness and temperature of the cream, along with many other variables, can affect how well the process goes and how long it takes. Once in a while, it just doesn't work. Be patient, it sometimes takes a little experimenting to really get a feel for it and to figure out what works best for you. If you're just starting, it's a good idea to use just a small amount of cream. We have done a lot of experimenting with butter-making, and have encountered many different situations and results, so if you have a question, just contact us and we can help you troubleshoot.

Cultured Dairy Products

The process for making all cultured dairy products is basically the same: Heat the milk to a temperature that is ideal for the beneficial bacteria you'll be adding, add the beneficial bacteria, and hold the milk at a certain temperature for a certain amount of time for the bacteria to do their work. The bacteria digest the lactose and produce lactic acid, giving these products a distinctive sour taste. Once the milk has been cultured to the desired level, keep it in the refrigerator, where the good bacteria will still live but will cease multiplying.

Cultured dairy products have many health-promoting properties. All of the benefits of raw, grass-fed milk are enhanced when the milk is cultured. The good bacteria enhance digestibility of the milk, increase the availability of vitamins, and promote the growth of healthy gut bacteria. Also, since most of the lactose is consumed by the bacteria, individuals with lactose intolerance can usually consume raw cultured dairy without a problem.

Yogurt

Plain, raw yogurt is incredibly delicious, and its uses go far beyond a substrate for granola. We bring yogurt onto the table with every meal, as if it's the salt shaker. Adorning sweet and savory dishes alike, high-quality whole-milk yogurt enhances just about anything. Pour it on pancakes or mixed-veggie stir-fries, dollop on soups, stews, and casseroles, or use it as a base for sauces, salad dressings, or marinades. Sometimes I just pour some yogurt on the center of my plate and mix it in with whatever else happens to be there. For breakfast, try yogurt with applesauce and/or fresh or dried fruits and/or nuts. Yogurt mixed with applesauce is also a great snack-on-the-go. Or you can sprinkle cinnamon on this mixture and it's good enough for dessert.

You will need:

- Milk
- A pot large enough to hold the milk
- Glass quart jars with tight-fitting lids
- Thermometer

- Starter culture: yogurt from your last batch or plain yogurt from the store (make sure it contains no other ingredients besides milk and cultures)
- Cooler that will fit all quart jars

Heat milk in pot to 110°F. While heating milk, put 1-2 tablespoons of starter yogurt into each quart jar. Pour heated milk into each jar, screw on lids tightly, and shake each jar.

Now it's time for the cultures to do their work – the cultures that you added to the milk will digest the milk, turning it into yogurt. They are most active at a temperature between 100°F and 115°F. So the next step is to keep your milk at that temperature for 12-24 hours. (The longer you let it culture, the more sour it will be.) There are many methods for accomplishing this. This is a method that we've had the most success with: Place the jars in a cooler. Fill the cooler with 120°F water so that the jars are completely submerged. Close the cooler and wrap it with several layers of wool blankets or sweaters. The extra layers help maintain the temperature. Remove after 12-24 hours and refrigerate.

There is a very mysterious element to making any cultured dairy product. Sometimes when making raw milk yogurt the texture comes out a little runny. We've run many experiments on this and have no definitive conclusion as to why this happens. Our best guess is that maintaining a steady temperature above 100°F is the most important for getting a thick, creamy texture. Many yogurt recipes call for raising the milk to 180°F, then cooling to around 110°F before culturing. This extra step helps ensure a thicker texture. However, bringing the milk to that temperature robs the benefits of raw milk, plus it imparts an unpleasant cooked taste. The result is a less nutritious product with compromised taste, so we take our chances with the texture and never raise the temperature above 110°F.

Yogurt kept in the refrigerator will last a very long time. We've never had yogurt go bad; the longest we've kept it is 3 months. Your starter culture, however, should be under 1 month old.

Farmer's Cheese

The texture of this cheese is most akin to ricotta. On its own, this cheese is very plain but the simple addition of salt and various herbs really makes the flavor bloom. Whether plain or flavored, this cheese is extremely versatile. It can be substituted for ricotta in lasagna or any other dish, or for cream cheese in cheesecake. Plain farmer's cheese is great in a green salad instead of blue cheese, chevre, or feta. Add dill and mayo for a raw veggie dip. Add chives and spread on toast or dollop on eggs. Our favorite addition is garlic and basil. This combination is delicious spread on raw heirloom tomatoes slices. We also spread it on veggie frittatas, and add a generous plop to pasta with tomato sauce, ratatouille, and just about any vegetable dish.

You will need:

- 1 gallon milk
- Pot to hold milk
- Thermometer
- 1/8 tsp starter culture: MM Series (can be found at www.getculture.com)
- 3 drops liquid rennet, diluted in 1/3 C water (can be found at www.getculture.com)
- Butter muslin

Heat milk to 86°F. Stir in starter culture. Stir in 1 tsp of diluted rennet mixture. Make sure you mix thoroughly. Let milk sit at room temperature for 12-24 hours. You will know it has finished culturing when it has a gel-like texture. Slide your finger between the curd and the inside of the pot, making sure it separates cleanly. If it does, you are ready for the next step. If not, let it culture a few more hours and try again. Make sure that your kitchen temperature isn't too cold – the bacteria are very sleepy below 68°F. If your room temperature is too cool, try letting it culture

in the oven – the light or the pilot light should be enough to raise the temperature to the desired level.

Next, put your butter muslin into a bowl or another pot large enough to hold all of the curd. Using a liquid measuring cup, scoop out all of the curd and place it into the butter muslin. Then tie a rope around the muslin and hang the curd to drain. It can drain from 5-12 hours, depending on how dry you want the texture of your final cheese.

Remove the cheese from the butter muslin, place in a container, and refrigerate. Thoroughly rinse the butter muslin in warm water immediately and then hang to dry – it can be used over and over again. The whey that has drained from the cheese has many uses as well. It can be used instead of water for cooking grains like oatmeal or rice. It could also be added to water for soaking grains prior to cooking. We feed our extra whey to our chickens or pigs.

Your cheese will last about 2 weeks in the fridge.

Sour Cream and Buttermilk

Raw sour cream is a real treat. It produces excellent results in baking, but has the most nutritional benefits when eaten raw. You can dollop sour cream on just about anything – sweet dishes like pancakes and oatmeal, or savory ones like roasted root vegetables and soups. The rich tang and deep, complex flavors are sure to improve any food.

Buttermilk is likewise fabulous in baking, and is also delicious enough to drink by itself!

You will need:

- 1 qt cream (for sour cream) or milk (skim, whole, or anywhere in between, for buttermilk)
- 1/8 tsp starter culture: Mesophilic Aromatic Type B (can be found at www.getculture.com)
- Jar

The preparation couldn't be easier: allow the cream or milk to get to room temperature. Add starter culture and mix thoroughly. Let sit at room temperature (68-75°F) until thickened, about 24 hours. Sour cream and buttermilk will last about 2 weeks in the fridge.