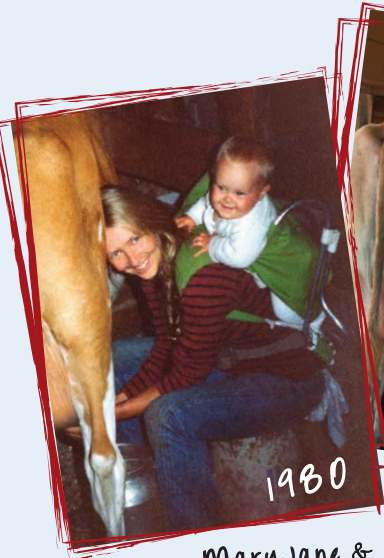




Eliza Belle



MaryJane & daughter Meg



\$70 gadget turns a fridge into a cheese cellar



5-minute butter



use milk raw or heat-treat with low temp/fast time

I haven't met a woman yet who didn't swoon when she first set eyes on one of my newborn Heritage Jerseys. It happens every time. True "cow" girl romance is a feeling that grabs you at moo. We've all seen the many photos of pioneer women posing with their family milk cows—wanting and loving a milk cow is imbedded in our very DNA. It's part of our herstory. Falling head-over-hooves in love with a cow combines the love of a kissy-pooch fido and love-me-do kitty into one sweetie-pie moo-cow that FEEDS you! Have I got a "cowpanion" for you!!

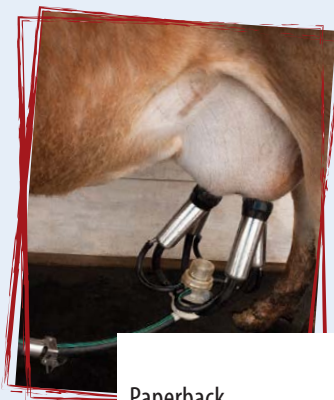
But a backyard cow in our modern-day era is more than just an adorable, unique pet. It's about dairy products without growth hormones and routine antibiotics. It's about food as pleasure. It's about robust good health. It can even be about making money.

My recipe for moo-cow love is one part cookbook and one part cow care. I'm here to guide you through 75 fuss-free, farmstyle recipes, in addition to 15 step-by-step, super-simple cheese-making recipes that *really work*, plus how-to details for keeping a pet milk cow on your suburban half acre, a backyard lot in town ... or at least the fantasy of a someday cow grazing outside your kitchen window.

Follow my growing "milk-her-once-a-day-not-twice" backyard milk cow movement at HeritageJersey.org.



dairy start-up in a single-car garage



once-a-day by hand

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MILK COW KITCHEN

MaryJane Butters

MARYJANE'S WORKBOOK SERIES

FARM KITCHEN

VOLUME #1



GIBBS SMITH

MILK COW KITCHEN

MARYJANE BUTTERS



"cow" girl romance



backyard cow keeping



15 step-by-step cheese recipes



75 farmstyle recipes

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“ We all have *hometown* appetites.
 Every other person is a *bundle* of
longing for the *simplicities* of good
taste once enjoyed on the *farm* or
 in the *hometown* left behind. ”

– Clementine Paddleford

ABCs of MILK & CHEESE MAKING



Because milk is the most important ingredient in our recipes, it's important to use the real deal, as in high-quality, pure, tasty, good-for-you milk. For me, that means **organic** if store-bought, or **locally-produced-on-a-small-scale**, or ideally, milk that is **homegrown**, right outside your back door.

Here are a few things to look for:

If you don't have your own cow and need to buy milk, read the label carefully. Don't buy milk that says things like ultra-pasteurized or the "words" UHT (ultra-high-temperature or ultra-heat-treated) or ESL (extended shelf life).

Either pasteurized milk (145°F for 30 minutes) or HTST milk (high temperature short time, 161°F for 15 seconds) will work in our recipes.

Why not UHT or ESL?

There are a variety of things that make ultra-pasteurized, ultra-high-temperature, and extended-shelf-life-milk undesirable for making things like yogurt and butter, and unsuitable for making cheese. The high temperatures used for these methods affect how the milk coagulates when making cheese, often resulting in poor curd formation, or if a curd does form, it breaks apart easily, turning into grainy flecks. In addition, the high heat used in these methods not only wipes out any bacteria that may be harmful, it also wipes out the beneficial bacteria and enzymes in the milk and destabilizes the whey proteins.



Did you know that ESL milk in an unopened aseptic carton will last 6–9 months without being refrigerated? The cartons could be sitting on a grocery shelf right next to cans of soup, but marketing experts have discovered that placement is everything, so ESL milk is usually found in the milk cooler.

With that being said, not all heat-treating is bad news—in fact, we prefer to heat-treat our milk before using it—at a much lower temperature, however.

I made the decision to heat-treat our milk when I was going through the process of getting my small-scale dairy approved by the state of Idaho. Once we had our mechanized system all set up for raw milk production (legal in the state of Idaho) and everything was perfectly white and sparkly clean, we sent off a sample of raw milk to be tested for bacteria and ... failed the test. What?! I couldn't believe it.

I re-examined our procedures, found a few minor things we could change, and passed the next test.

Okay. What did we change? Not much. Rather than hang the hoses to the milking machine in a loop on a hook on the wall after cleaning and sterilizing them, we rigged up a system where they hung straight down so that moisture wasn't getting trapped in the top of the loop overnight. And we started sanitizing our counters and some of our equipment with a spritz of 200 ppm bleach.

Also, I was of the opinion that our first equipment rinse, before we started to really clean and sterilize everything, needed to be done using hot water. As it turns out, hot water can cause some of the milk proteins to stick to the sides of the stainless-steel containers. Who knew?

All along, we'd been checking regularly for mastitis using a quick procedure called the California Mastitis Test (CMT). I felt we were good to sell milk, and then ... we failed another test. Granted, Idaho's standard for bacterial count in raw milk is strict, but my level of anxiety was off the charts at that point. I'd had a milk cow on and off since 1980 and never heat-treated the milk that my family and I drank, but expanding that circle beyond my immediate family was challenging my strident belief in raw milk. I was being motivated to learn a whole lot more about bacteria.

My local veterinary dairy inspector heeded my call for help, and during a site visit, pointed out a few more places where bacteria might be lurking. To this day, we've never failed another test. As I explain in more detail on p. 230, we failed the "other bacteria" part of the test, not the coliform or the somatic cell count part of the test (that would indicate our cows had a bacterial infection such as mastitis). In other words, we weren't getting our equipment, hands, etc. clean enough. The reason milk needs to be so clean is because it's the perfect breeding ground for rapid bacterial growth—a little turns into a lot in no time at all.

I think the real culprit that has changed the nutritional value of milk is the process of homogenization—done mostly for cosmetic reasons. It eliminates the cream line in milk. During homogenization, cream is removed from the milk and forced through tiny holes at high pressure, which causes the fat globules to permanently shrink in size.



Ultra Pasteurized

Flavored Butters

Blue Cheese & Green Onion

Prep Time: 10 minutes
Makes: 3/4 cup

- 1/2 cup butter, softened
- 2 green onions, minced
- 1/4 cup blue cheese

1. In a small bowl, combine butter, green onions, and blue cheese. Roll into a log, wrap in wax paper or plastic wrap, and refrigerate until ready to use.

Raspberry & Honey Butter

Prep Time: 15 minutes
Makes: 3/4 cup

- 1/2 cup butter, softened
- 2 T raspberry preserves
- 2 T raspberry fruit leather, finely diced
- 2 T honey
- 1 cardamom pod, seeds removed and pulverized

1. In a small bowl, combine butter, raspberry preserves, fruit leather, honey, and ground cardamom seeds. Roll into a log, wrap in wax paper or plastic wrap, and refrigerate until ready to use.

Roasted Garlic & Sun-dried Tomato Butter

Prep Time: 15 minutes
Cook Time: 15 minutes
Makes: 5/8 cup

- 4 garlic cloves
- 1/8 t olive oil
- 1/2 cup butter, softened
- 2 T Parmesan
- 1 T sun-dried tomatoes, minced
- 1 T chives, minced

1. Preheat oven to 400°F. Place garlic cloves on a piece of foil, drizzle with olive oil, and wrap up; roast for about 15 minutes, or until garlic is tender. Remove from oven and let cool. When cool enough to handle, mash into a paste.
2. In a small bowl, combine butter, Parmesan, sun-dried tomatoes, chives, and roasted garlic. Roll into a log, wrap in wax paper or plastic wrap, and refrigerate until ready to use.

Cranberry Merlot Butter

Prep Time: 10 minutes
Cook Time: 5–7 minutes
Makes: 5/8 cup

- 1/2 cup butter, softened
- 1/4 cup dried cranberries, minced (orange-juice sweetened)
- 1/3 cup Merlot wine

1. In a small bowl, combine butter and cranberries; set aside.
2. In a small pan, bring Merlot to a simmer, reduce heat to low, and cook for 5–7 minutes, until wine is reduced in half.
3. Cool for a few minutes, then add Merlot to the bowl with the butter and cranberries and mix well. Roll into a log, wrap in wax paper or plastic wrap, and refrigerate until ready to use.

Fig, Maple & Vanilla-bean Butter

Prep Time: 15 minutes
Makes: 5/8 cup

- 1/2 cup butter, softened
- 3 T dried figs, minced
- 1 T maple syrup
- 1 vanilla bean, seeded
- 1/4 t cinnamon
- zest from half an orange

1. In a small bowl, combine butter, figs, maple syrup, vanilla-bean seeds, cinnamon, and orange zest. Roll into a log, wrap in wax paper or plastic wrap, and refrigerate until ready to use.



Colby-Jack

Can be made using **thermized** or **pasteurized** or **raw** milk.

Colby-Jack cheese is the combination of two distinctly American cheeses. Colby is dense and slightly squeaky, and Monterey Jack is creamy and moist. Both cheeses are washed-curd cheeses (see Monterey Jack), and the colby is dyed with annatto to create the marbled look of Colby-Jack cheese.



If using pasteurized milk, add calcium chloride, p. 24.

- 1 Create two double boilers, putting 1/2 gal of milk into each of the smaller pots and water in the larger pots. Heat milk to 90°F. Add 2 T of cultured buttermilk to each of the double boilers. Cover and let ripen for 30 minutes.
- 2 Add annatto (for color) to one of the double boilers, and whisk in until the color is even.
- 3 In two separate 8-oz canning jars, dilute 1/8 t rennet in 2 T distilled water. Add one jar of diluted rennet to each of the double boilers. Whisk in, using a back-and-forth motion. Cover and let sit until a clean break forms (p. 63)—about 30 minutes.
- 4 Using a kitchen knife rather than a curd knife, cut the curds into 1/2" cubes. Let them rest for 10 minutes.
- 5 Slowly heat the curds to 100°F, gently stirring with a perforated spoon. Using a ladle, remove some of the whey from both of the pots so it's level with the curds. Add 1 cup distilled water to each pot.
- 6 Reheat to 100°F and hold this temperature for 10 minutes, stirring occasionally.

(continued)



- ♥ **Level:** Intermediate
- ♥ **Prep Time:** 2 hours, 20 minutes
- ♥ **Pressing Time:** 18 hours, 15 minutes
- ♥ **Aging Time:** 2–3 months
- ♥ **Makes:** 1 to 1 1/4 lbs
- ♥ **Ingredients:** (p. 25)
 - 1 gal **whole** or **cream-line** milk
 - 1/4 cup cultured buttermilk, divided (p. 43)
 - 5 drops liquid annatto
 - 1/4 t liquid animal rennet, divided
 - 2 1/4 cups distilled water, divided
 - 1 T non-iodized salt
- ♥ **Equipment Needed:** (p. 26–31)
 - two 4-qt stainless-steel pots with lids
 - 8-qt stainless-steel pot
 - 12-qt stainless-steel pot
 - stainless-steel measuring cups
 - stainless-steel measuring spoons
 - assorted canning jars
 - wire whisk
 - floating dairy thermometer
 - thermometer
 - kitchen knife
 - stainless-steel perforated spoon
 - ladle
 - cheesecloth
 - 7-qt stainless-steel colander
 - latex gloves
 - 4.9" cheese mold
 - draining tray
 - exercise weights: 5+2 1/2+1 1/4 directly on follower
 - 4-qt stainless-steel pot
 - 2-qt stainless-steel bowl dedicated to cheese wax
 - cheese wax
 - cheese wax brush

Macaroni & Cheese Dinner



• Prep Time:

30 minutes

• Cook Time:

1 hour, 10 minutes

• Makes:

4 servings

• Ingredients:

- 1 cup brown-rice macaroni
- 1/4 cup feta
- 8 slices bacon
- 8 asparagus spears
- 4 Portobello mushrooms
- 1/4 cup flour
- 1 t dry mustard
- 1/2 t salt, divided
- 1/2 cup (4 ozs) Brie, cut into 1" pieces
- 1 T butter
- 1/2 yellow onion, peeled and diced
- 1/4 cup white wine
- 1 cup cream
- 1 cup Monterey Jack, shredded
- 1 cup Asiago, shredded

- 1 Bring a pot of water to a boil and cook macaroni until al dente. Drain and pour into medium bowl; stir in feta and set aside.
- 2 In a large skillet over medium heat, partially cook bacon (you want it soft and pliable to wrap around asparagus spears). Remove bacon from skillet, leaving bacon grease.
- 3 Preheat oven to 350°F and line a baking sheet with foil.
- 4 Wrap bacon around asparagus spears, securing tops and bottoms with toothpicks. Bake until the bacon is crispy, leaving oven on.
- 5 Carefully remove stems and gills from mushrooms and discard. In a medium bowl, combine flour, mustard, and 1/4 t salt. Dredge mushroom caps in flour mixture and fry in the skillet with bacon grease over medium-high heat for 2–3 minutes on each side.
- 6 Place mushroom caps on a baking sheet. Evenly divide Brie between mushroom caps. Set aside.
- 7 In a medium saucepan, melt butter over medium heat. Add yellow onion and remaining 1/4 t salt. Cook until golden brown, about 6 minutes. Add wine and cook until reduced by about half (about 5 minutes).
- 8 Pour in cream, bring to a simmer, reduce heat to low, and cook for 8–10 minutes, stirring frequently.
- 9 In a small bowl, combine Monterey Jack and Asiago. Reserve about 1/4 cup for topping. Slowly stir in remaining cheese to cream mixture.
- 10 Add macaroni to sauce, divide evenly between the mushroom caps, and sprinkle with reserved cheese. Bake for 8–10 minutes, until cheese is golden brown. Serve with bacon-wrapped asparagus.



In this recipe

• **MONTEREY JACK**, see p. 67

Also: Feta, p. 80, Brie, p. 102, Butter, p. 37, Asiago, p. 99



Hand Milking

Once I'm done with the pre-cleaning of the cow and her udder (p. 211), I wash and dry my hands (think surgically clean!) and I put on a pair of nitrile gloves. (I find the gloves not only keep everything cleaner—hands harbor a plethora of different bacteria—but they make it easier for me to grip the teat.) Then I take a seat and get into position. A 5-gallon bucket turned upside-down works just fine for a stool. I milk two teats (two quarters in dairy jargon) at a time—the two on the side closest to me—and then I milk the other two teats either by moving around to my cow's other side or by staying in the same place and reaching past the first two teats. Some beginners find it easier to milk just one teat at a time until they get the hang of it. Also, if you lean into your cow with your head, you'll be able to feel (sense?) her muscles tightening before she actually moves, enabling you to grab the bucket should she decide to lift or move a foot and spill your hard-earned treasure. Once she settles again, you can proceed. You should consider hobbling her rear legs so you're not crying over spilled milk (p. 212).

When hand milking, the object is to pinch off the back flow of milk from the teat back into the udder at about the same time you begin squeezing the milk trapped in the teat down and out through the teat duct.

First, position the teat where it attaches to the udder into the crook of your thumb and forefinger.

Next, grip the teat with your thumb and forefinger in order to pinch off back flow going from the teat back up and into the udder.

In the same motion that you're using to close off any back flow, squeeze the milk trapped in the teat down and out of the teat using your other fingers. Depending on the length of the teats, your ring and little fingers might not serve any function at all other than to stay out of the way of the stream of milk squirting into your bucket.

Finally, open your hand to let the teat fill up with milk again and continue, pulling down gently. Repeat. Did I say repeat? Repeat MANY times.

Be patient with yourself. It'll take a while to get a rhythm down. Go slowly at first. Take your time. Don't look at your watch.

Just go with the flow! If you're getting a strong, steady stream of milk each time, then you're probably getting it right. As you do it more, you'll figure out your own particular motion and what works best for you. Everyone seems to do it a little differently. For the comfort and health of your cow's udder, it's important not to pull or squeeze too hard (that can damage the tissues in the teats) and to keep an even, steady pace.

When I first started milking, it would take me a full hour to milk my cow dry. After half an hour, my hands were tired. But within a couple of weeks, my hands got stronger and faster and I was down to 45 minutes. It speeds things up if you can get a helper to milk the other side at the same time. That's what good friends are for! Or spouses. Or children.



Machine Milking

While there are different types of milking machines to choose from, they all operate under the same principle—vacuum pressure sucks the milk out of the teat. Here's my milking protocol using a NuPulse milking machine (the basics will be pretty much the same for other brands of machines).

Clean your cow (p. 211).

Make sure the hose that leads to the milking claw is clamped shut, then turn on the pump and wait for it to reach the right pressure (or follow the instructions that come with the machine you've chosen).

Wash and dry your hands and put on a pair of nitrile gloves. If you have big hands (I don't), take the claw in one hand and hold it so that all four hoses going to the inflations (the rubber thingies inside each metal tube) are pinched off. Open the clamp on the main milk hose to start the suction to the claw, and one by one, unpinch the hoses and put an inflation on each of the four teats.

If you have small hands like I do, this is where another 6-quart, stainless-steel bowl comes in (not the bowl you used to clean her udder and teats). My bowl method also comes in handy for milking cows that are short and lower to the ground like my mid-size Jerseys. I nestle the claw into the bowl with each inflation plugged using the red stoppers that came with my machine. (See p. 220 for how to milk a mini-cow.)

If you have all four inflations sucking air when you open up the main valve, you'll be sucking hair and other debris into your milk tank. Not a good idea! Using my nitrile-gloved (AKA clean!) hands, I make sure the hose to each inflation is pinched off while I pull out its red stopper and drop it into the bowl. In other words, I'm putting them on one at a time while the other inflations rest in the clean bowl and not on the ground. I also like using the red stoppers because I can take an inflation off and leave the others still sucking, should a particular teat run dry before the others. This will happen if you're letting a calf nurse on your cow.



More on Milking Machines ...

Even though I bought a 7-gallon milk bucket for my NuPulse milker, they also offer a 3-gallon. My machine without milk weighs 28 lbs. A gallon of milk weighs around 8 lbs. If you're not producing more than 3 gallons of milk in one milking, you should buy the 3-gallon bucket so it isn't as heavy. (Keep in mind, if your cow ever produced more than 3 gallons and it backed up into the machine, you'd have a problem on your hands.) So if you add up 28 lbs and the weight of the milk, you have a bit of poundage to haul around. My milking parlor is a good jaunt from where I process my milk, so I haul my machine on a dolly that I customized with a strap and a bottom plate that's a tad wider than it was originally. As it turns out, my milk dolly has been put to use in a dozen different ways around the farm. I also use it to haul around my 50-lb sacks of organic alfalfa pellets.

To read my reviews of four different milking machines, please visit our chatroom at HeritageJersey.org, where you'll find **Milking Machine Reviews** under **Updates and Revisions**.