

How to make vinegar



DELICIOUS, FANCY VINEGARS aren't hard to find in America. Go to an upscale grocery store and you can get everything from French Banyuls (wine aged for at least five years in oak barrels and then converted to vinegar) to Spanish sherry vinegar and Italian balsamic vinegar (aged in a series of barrels of different woods for at least 12 years).

What is much harder to find is good ordinary red-wine vinegar. Most of what's available commercially for a couple of bucks a bottle is thin and flavorless. That's because it's made using a speeded-up fermentation process (anywhere from 1 to 3 days). Traditional red-wine vinegar, left to ferment naturally on its own, takes about 2½ months and results in a much richer texture and flavor.

The good news is that "slow vinegar" is easy to make at home, tastes wonderful, and is cheap to produce (it feeds on leftover wine). We made batches of it for our summertime One-Block Feast (sunset.com/oneblockfeast). Tuck a crock into a corner of your kitchen and you'll have a constant supply of flavorful vinegar for salad dressings, sauces, and much more. It makes a great and unusual gift, too.

WHAT WE MADE Syrah Vinegar

Because we were already making Syrah wine, we decided to divert a portion of it to making vinegar. The result: A deep purple-red vinegar, intensely fruity and sharp and with a lively freshness. It makes a good vinaigrette, too.

WHAT WE USED Materials, Prices, and Sources

Aluminum or iron kitchen tools aren't ideal for making vinegar, since they can impart "off" flavors. We used plastic, glass, and wood.

A notebook and pencil to record the dates you fed your vinegar and the amounts. It's easy to lose track.

A good mother In the world of vinegar, a "mother" is a live starter, similar to a bread starter for sourdough. It's home to a type of acetic acid-producing bacteria called *acetobacter*, which will convert your wine to vinegar. The mother will form a not-unpleasant and actually quite fascinating thin, firmish gelatinous layer on the surface of your vinegar crock. This is a sign that the bacteria are alive and well and doing their work.

You can either get your mother from a vinegar-making friend (see "How We Did

It: A Step-by-Step Guide," below), or you can buy it from a vinegar-supplies shop, which more often than not will also be selling wine and/or beer supplies (\$12.50 per 8-oz. jar of vinegar mother, enough to provide a continuous supply of vinegar over time, from Oak Barrel Winecraft, Inc., in Berkeley, CA; 510/849-0400; www.oakbarrel.com).

Leftover red wine We used our own Syrah, but you can use any decent, fruity red wine. It's a great use for that half-bottle you can't finish. Note: Some vinegar makers recommend avoiding wine that's been treated with sulfites, since they slow down the acetobacter.

Fermenting container (1 to 1½ gallons) The best containers allow for a wide surface area, so that the bacteria have enough oxygen to do their work, and are enclosed to keep out light, which slows down the bacteria's progress. A glass 1-gallon iced-tea jar can work (keep it in a cardboard box), but Mason jars are too narrow. We had best luck with Italian demijohns, 5-liter size (about 1½ gallons) and enclosed in light-blocking mesh holders (\$37.50 each from Oak Barrel Winecraft), and gorgeous 1-gallon clay crocks from Clay Coyote Pottery in Hutchinson, MN (888/737-4014; www.claycoyote.com; available

in a range of glazes; \$80 each).

Aging container (about 1 gallon) New vinegar is very sharp, almost feisty. If you'd like to let it mellow, age it for at least a month in a separate container after straining and pasteurizing. Clay crocks produce a very fine, soft vinegar (see above). The Italian demijohns made for a fine but sharper-tasting vinegar. An open-top French oak crock is a bit pricey (6-liter crock, \$160) but imparts a lovely mellow toastiness to the vinegar and looks stunning besides. (You can also use it for making the vinegar.) We don't recommend miniature barrels that are conventionally shaped, because their tiny openings make them hard to clean.

Cheesecloth To keep fruit flies out of your vinegar (about \$4.50 for 2 square yards at a hardware store or cookware shop).

Non-stainable work surface The first time we fed our vinegar crocks, we turned a nice wooden kitchen island into a purple-splattered disaster. Now we work on a granite counter—easy to wipe clean.

Plastic turkey baster (about \$12 at a cookware shop) or 1 to 1½-foot length of **plastic tubing** (about \$1 per foot at a hardware store).

4-cup glass measuring cup About \$8 at a cookware store.

Medium plastic colander From \$6 at a cookware store.

Plastic ladle From \$3 at a cookware store.

Coffee filters About \$3.50 for 40 filters at a grocery store.

Storage/serving bottles and corks We ordered 230 clear glass bottles (250-ml size), with corks, from California Glass in Oakland, CA (510/635-7700; www.calglass-pcc.com). About \$200, plus \$50 charge for orders less than \$500. Since corks can't effectively be sterilized, order from a reputable supplier with high turnover, who sells good fresh corks that have not been exposed to air—and examine them before you use (reject any that look old, crumbly, or moldy).

Funnel Plastic, and narrow enough to fit securely into your bottles. From \$3.50 online or at a cookware store.

Canning pot Very helpful for sterilizing your bottles (although a deep roasting pan can also work). About \$20 online and at cookware shops (make sure you get one at least 12 inches deep to accommodate the bottles, and that the insert rack sits down deep in the pot).

Jar lifter Sturdy and plastic-coated on one end, this is indispensable for gripping your steaming, slippery bottles, draining them, and positioning them for filling. Use them for canning and jam-making, too. About \$9 online and at cookware shops.

Labels Use a design/graphics program like Adobe Illustrator or contact The Olive Oil Source's label design service (415/924-0690; susan@oliveoilsource.com). Min. 20 sheets of self-adhesive labels; 10-14 per sheet; from \$5/sheet plus \$100 set-up fee. (To learn how we made our own labels, see below.)

HOW WE DID IT A Step-by-Step Guide

1. Find the mother We got our mother for free, from cookbook author and vinegar maven Paula Wolfert (www.paulawolfert.com). Paula procured hers several years ago from her friend Abra Bennett, a food writer from Bainbridge Island, Washington; it is at least 40 years old, and we think it originated in France.

Paula cut 5 playing-card-size pieces

from a mother fished out of one of her crocks, slipped each piece into a small glass jar, and fed it with just enough diluted red wine (1 cup wine with ½ cup water) to allow it to travel safely back to Sunset. "Start small," she advised us. "Swamp it, and it'll be dead." Each jar was roughly equivalent to what you would purchase commercially (see above).

2. Start the mother Pour each jarful of mother into a fermenting container (see above for choices) and add more diluted wine: 2 cups of wine to 1 cup water. Cover each container's open top with a double layer of cheesecloth and roll a rubber band down around the rim to keep it in place. Put the containers in the warmest, darkest places you can find (ideal temperature: 80°, but anywhere between 70° and 90° will work).

3. First feedings: A set of 3 A week and a half later, once the bacterial conversion has begun, add 2½ cups of Syrah to each container three times over a period of 1½ weeks. (Reader, we spaced out and ended up with about 2 weeks between feedings instead of five or six days. Luckily, strong, healthy mothers had formed in most of our crocks after the first two weeks—but very little liquid was left in the larger, more efficient containers.)

How to feed your vinegar Sometime into the first-feeding period, a mother will form on the surface of your vinegar. Ideally you want to leave it floating on top. To avoid "swamping" it, Paula recommends using a plastic turkey baster, bulb removed, and tucking the narrow end underneath the edge of the mother before adding the wine (using a funnel to pour wine into the baster makes it easier). Plastic siphoning, again combined with the funnel, works even better than a baster. Pouring very slowly helps. The truth is, even if you don't use anything—just pour the vinegar in carefully down the side—and partly sink the mother, a new one will form shortly.

So when is it ready to use? When it smells and tastes like vinegar. It is possible to do a titration test to figure out just how acidic the mixture is, but unnecessary unless you are using the vinegar for pickling food (more on this later on our Team Vinegar

blog: http://oneblockdiet.sunset.com/team_vinegar/index.html). We dipped clean plastic spoons into our vinegar, took thoughtful sips, and if it tasted like vinegar—tart, sharp, strong, delicious—we either pasteurized and bottled (steps 5 and 7) or continued feeding it (step 4) to increase the volume. If it tasted more like wine than vinegar, we left it alone until it was ready.

Warning sign If your vinegar ever starts to smell like furniture polish, throw it away. It has been contaminated and can't be saved. We accidentally contaminated several batches by feeding them spoiled wine, and had to start over with fresh mothers clipped off from our other batches. Moral: Always taste a bit of the wine before you feed it to your vinegar.

4. Maintenance feedings Once the aceto-bacter have established themselves vigorously, keep adding small amounts of wine whenever you think of it—½ to 1 cup per container every week or so. Whenever the vinegar is at a vinegary moment (just taste it to see), you can bottle it. If you'd prefer a milder vinegar, mix the wine with ½ to ½ part water when feeding.

Fishing out the old mothers Every now and then, the mother will wear out and sink to the bottom; a new mother will take its place. This doesn't harm your vinegar, but after a while the old mothers will start to take up too much room in the crock, crowding out the liquid. Every month or so, wash your hands very well and reach down under the nice firm top mother (gently push it aside as you do so) and fish out any settled mothers; throw them away. This isn't nearly as awful as it sounds, but you do need to use your bare hands (gloves might give your vinegar an "off" taste). Some vinegar-makers use meat hooks, but metal can corrupt the vinegar too.

5. Pasteurizing This step ensures that a mother won't grow in either the bottle or, if you decide to age it, the aging vessel. With a plastic ladle, scoop vinegar into a coffee-filter-lined colander (this will give you the clearest vinegar) into a heavy saucepan. Because homemade vinegar is exhilaratingly strong, and because it will

evaporate as you heat it, you'll want to add anywhere from 1 to 3 cups of water; keep tasting until you reach the strength you like.

Position a clean candy thermometer in the vinegar. Over medium heat, bring it to 155°. Note that it'll take the thermometer ages to crawl upward, and then, at the last minute, it will shoot up rapidly; watch carefully and turn off the burner if you need to lower the heat, or shift it to a lower burner. Hold it at 155° for 30 minutes (don't walk away until it's stabilized). In our experience, the temperature tends to drop toward the end, so you might need a blast of heat at that time.

You can now let your vinegar age a while (step 6) or bottle it (step 7).

6. Aging The vinegar can only begin to mellow in the absence of bacteria. Theoretically, the lidded aging vessel closes out oxygen and therefore kills the bacteria, but if your aging vessel is roomy, the aceto-bacter may have enough air supply to generate a new mother. Pasteurizing is the surest way to kill the bacteria and start your vinegar on the aging path.

Let the pasteurized vinegar cool, then pour into the aging vessel. Taste periodically to see how the flavor develops; generally you'll start to notice a mellowing after a couple of weeks. When you like what you taste, sterilize a batch of bottles and bottle your vinegar, bearing in mind that some aging will continue in the bottle. You can also keep topping up your aging vessel with newly pasteurized vinegar for as long as you like.

7. Bottling While you're pasteurizing the vinegar, get your bottles and bottling equipment ready: Wash the bottles, corks, a clean plastic ladle, and a funnel that fits the neck of your bottles in hot, soapy water and rinse. To sterilize the bottles, you can use either a canning pot (best, easiest) or your biggest, deepest turkey roasting pan. Fill the bottles with hot water, set them in the pot or (sideways) in the roasting pan, and add enough water to the vessel to cover by 1 inch. Bring the whole shebang to a boil and boil for 10 minutes. Remove the bottles carefully with tongs or, better yet, a jar lifter (see

"What We Used," above) and tip out hot water. With the clean funnel inserted into each jar neck, and using the clean ladle, fill each jar with hot pasteurized vinegar, leaving ½ inch headspace. Stopper the bottles with the clean corks.

8. Labeling We laser-printed labels for our bottles onto white Avery 5265 full-sheet labels (www.officemax.com). Atop a self-healing mat (www.dickblick.com) we lined up our metal ruler along a label edge and used a craft knife (www.dickblick.com) to cut out each label. Then it was easy to peel and stick a label onto each bottle. Tip: To get your label on straight, try just barely peeling back one corner of the label and using that sticky spot to help you position the label on your clean bottle surface. Then reach under the label and gently remove the backing with one hand; with the other, smooth down the label as you peel off the backing.

Helpful Info

Vinegar: The User-Friendly Standard Text Reference & Guide to Appreciating, Making, and Enjoying Vinegar by Lawrence J. Diggs (Quiet Storm Trading Co., 1989)

Kim Adams, home vinegar-maker, shares her tips: www.gangofpour.com/diversions/vinegar/index.html