

# True Brews

*How to Craft* FERMENTED CIDER, BEER, WINE,  
SAKE, SODA, MEAD, KEFIR, AND KOMBUCHA *at Home*



EMMA CHRISTENSEN



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KEFIR, AND KOMBUCHA  
*at Home*

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PHOTOGRAPHY BY PAIGE GREEN

  
TEN SPEED PRESS  
Berkeley

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Published in the United States by Ten Speed Press, an imprint of the Crown Publishing Group, a division of Random House, Inc., New York.

[www.crownpublishing.com](http://www.crownpublishing.com)

[www.tenspeed.com](http://www.tenspeed.com)

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Library of Congress Cataloging-in-Publication Data

Christensen, Emma.

True brews : how to craft fermented cider, beer, wine, sake, soda, kefir, and kombucha at home / Emma Christensen. — First edition.

pages cm

Includes index.

Summary: "An accessible homebrew guide for alcoholic and non-alcoholic fermented drinks, including beer, mead, soda, kefir, kombucha, hard cider, sake, and fruit wines"—Provided by publisher.

1. Brewing—Amateurs' manuals. I. Title.

TP570.C56 2013

641.873—dc23

2012034347

eBook ISBN: 9781607743392

Hardcover ISBN: 9781607743385

Food styling by Karen Shinto

Prop styling by Esther Feinman

Author photograph by Danielle Tsi

v3.1





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# Introduction

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Let's set a few things straight: anyone can homebrew in any size apartment with a stockpot, a bucket, and a jug. I promise you this is true. You don't need a lot of space. You don't need fancy equipment. You won't stink up the apartment or be forced to hide homebrew in the bathtub. And as long as you use common sense, you don't need to worry about exploding bottles. You want to homebrew? Let's do it.

Sodas run the gamut from the simplest of ginger ales to the fanciest fancy-pants fresh fruit and herb-infused sparklers. There are kombucha scobys and kefir grains that have traveled the world and back over the course of generations. Homebrewers and winemakers will argue into the wee hours about the merits of this brewing technique with that temperature variance and using this particular piece of hand-welded equipment.

But every single one of these brews, from that basic soda to the finest Pinot Noir, shares the same fundamental process. If you take a sugary liquid, add some yeast or friendly bacteria, and let it sit for a while without bothering it, this beverage will transform into something fizzy, flavorful, and quite often, alcoholic. That, my friends, is fermentation.

**Sugary liquid + yeast (and the occasional friendly bacteria) + time = delicious fermented beverage**

It really is that simple. Right this very minute, you could buy a gallon of grape juice from the store, add a teaspoon of yeast, and in a few weeks, you'd have wine. Not very good wine but wine nonetheless. If you want better wine, there are some details that need to be discussed. Lucky for you, those details are right here in this book.

I started brewing beer in 2009 with my husband. We were newly married and newly settled in a city far away from friends and family. We thought that brewing would be a dance project to tackle as we settled into our new life together.

Our first batch was so terrible that we poured it straight down the drain. Our second batch was slightly better. Our third was downright drinkable. By our fourth, we had upgraded our equipment, collected a small library of brewing books, and reserved the domain name for our imaginary future brewpub: New Low Brewing Company. (Its tagline: "When life reaches a new low, grab the beer that's right there with you!")

As was probably inevitable, I started looking around for more things that we could transform into alcohol using this magical process of fermentation. I grilled a friend about making mead and started obsessing over the idea of brewing sake. Yeast-carbonated sodas in recycled plastic bottles started collecting in our fridge. After a second move, this one to California, I discovered kombucha and kefir. I loved these beverages immediately for their snappy flavors and centuries-old fermentation process—plus their payload of probiotics and antioxidants didn't hurt.

At a certain point, it became obvious: I was addicted to brewing. Which, in the larger

scheme of things, is not really so terrible.

All of the recipes in this book are tailored to batches of 1 gallon or less. That goes for the equipment as well as the ingredients. I have only ever lived in small city apartments, and so sympathize with the limits on kitchen and storage space.

Small batches are also good for learning the brewing process. Temperatures are easier to control, pots are easier to lift, and mistakes are easier to catch. And if a mistake does happen somewhere in the process, it's less heartbreaking to part with 1 gallon of funky brew than 5 or more of them.

The Brewer's Pantry, Brewer's Toolbox, and Brewer's Handbook sections are meant to introduce you to the basic ingredients, equipment, and procedures you'll encounter in the recipes that follow. Flip through them before you get started so you know what you're shopping for. Later on, use these sections for refining your skills and tweaking your process.

The ensuing chapters start with the easiest and quickest brewing recipes and move gradually to the more lengthy: soda pop, kombucha, kefir, hard cider, beer, mead, sake, and fruit wine. Interviews with some of the top brewers and artisan makers in the country kick off each chapter, giving you expert advice and inspiration as you dive into your own brewing projects.

The master recipes are there to guide you through the individual quirks and procedures for each brew in extensive detail. They are also your template for making your own recipes. If you discover an abandoned apricot tree or find yourself unable to resist a flat of olallieberries at the farmers' market, you can adapt your bounty to these master recipes and feel confident in the results.

And of course, there are the recipes themselves. I'm probably not supposed to pick favorites, but promise me you'll try the [Watermelon-Mint Soda](#) this summer along with the [Apricot Wheat Ale](#). The [Strawberry Wine](#) and [Summer Melon Wine](#) are also excellent for sipping in the middle of winter when you need a reminder of what sun feels like. One more? Make the [Sweet Spiced Mulled Cider](#). You won't regret it.

I hope these recipes and this book as a whole inspire your brewing and give you the tools to start experimenting on your own. Your tastes and my tastes may not be exactly the same all the time, and you may very well encounter brewing snags that I couldn't anticipate when working on these recipes in my own kitchen. But stick with it. Talk to other homebrewing friends. Experiment. And most of all, have yourself a grand old time. There's nothing more rewarding than pouring yourself a glass of homebrew and drinking every single drop.



## **BREWER'S PANTRY**

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It never ceases to amaze me how such complex and deeply flavored beverages can be made from just a few basic ingredients. Nothing fancy is needed: just some fruit or maybe some malts for beer, sugar, water, and yeast. Plus a few other ingredients to round things out.

### **Basic Brewing Ingredients**

Here we have the heavy hitters, the basic brewing ingredients you'll use again and again. Keep them stocked and you'll never lack for something to brew.



FRUIT

Fruit forms the base of the vast majority of recipes in this book and the vast majority of fermented beverages in general. It is worth seeking out the very best you can find and afford.

**CANNED FRUIT.** Canned fruit should be a last resort. Most are packed with sugar and preservatives, and definitely are no longer at their fruity best. Will they ferment? Yes. Will they taste good? Probably not.

**DRIED FRUIT.** Dried fruits are best used for smaller brews, like flavoring kefir or adding a bit of fruitiness to a batch of beer.

**FRESH FRUIT.** When at all possible, use fresh fruit that is ripe and in season. This fruit is guaranteed to be at its very peak in flavor and quality. Taste before buying and only buy fruit that you would eat on its own. Wine made with mediocre strawberries will end up being mediocre strawberry wine.

**FROZEN FRUIT.** Frozen fruit from the grocery store is second best to fresh. (And fruit you freeze yourself is just as good as fresh!) Obviously, you can't taste frozen fruit before buying it, but use your best judgment. I have found that frozen organic fruits are generally higher in quality than more commercial varieties.

**FRUIT JUICE.** Good fruit juice is halfway to being cider or wine already! Buy only 100 percent juice products, with no added sugar and preferably no preservatives. Pasteurized juices are fine, but will make your finished brew look hazy.

## MALTS

Malted grains, or malts, are used almost exclusively for beer brewing. Hidden inside the little grains are the sugars that will eventually feed the yeast. They're called malted grains for the process by which they're made: grains are partially sprouted, or "malted," to develop their sugars and then dried before being sold. Malts are usually barley, but can also be wheat, rice, oats, corn, or even rye. They can also be lightly toasted or deeply roasted; combining different kinds of malts will change the flavor profile of your beer. Remember to have your grains milled at the brewing supply store when you buy them; this cracks the grains open and exposes their sugary insides to the brewing process.



*Malts*

## MILK

Kefir cultures love the fattiness of whole milk but will settle for 2 percent or even nonfat milk. Pasteurized milk is okay, but avoid ultra-high-temperature pasteurized (UHT) milk, which doesn't have enough nutrients for the kefir to survive on. Cow, goat, or sheep milk can be used to make kefir, as can raw milk. (If using raw milk, use only the highest-quality milk coming from a source you trust.) Almond, soy, and other nonanimal milks can also be used, but the kefir grains will wear out after a while; they can either be replaced with new grains or soaked in animal milk to revitalize them (see [chapter 3](#) for more details on making and using kefir).

## RICE

The rice used for commercial sake-making is polished to a very high degree, much more than the average table rice that we buy for dinner. You can buy specially milled sake rice online (see [Resources](#)), but short-grain rice or sushi-grade medium-grain rice makes a good substitute, is easier to find, and makes an only slightly less-refined sake. Avoid long-grain rice because its starches are not as easily fermented into sake.

## SUGAR

Sugar is yeast food. Yeast need it in order to ferment our brews, produce carbon dioxide to carbonate our brews, and make the alcohol that gives many brews their punch. Some beverages like ciders have enough natural sugars on their own, but most brews need a little help.

**BROWN SUGAR, TURBINADO, AND PILONCILLO.** Using these sugars for all or some of the sugar in recipe will give your brew a caramel-like sweetness even after fermentation.

**CORN SUGAR.** I don't typically use corn sugar for brewing per se, but it's my favorite kind of

sugar to add during bottling to make carbonated beverages. It dissolves easily, is virtually tasteless, and won't affect the flavor of your beverage.

**HONEY.** Locally produced honeys from equally local bees are going to have a lot more character and complexity than mass-produced honey from the store. I recommend the former over the latter whenever possible. Honey can be substituted for white granulated sugar, though it will give brews a mild honey flavor. Some people like this, others don't—it's up to you. Use about 50 percent more honey than you would sugar (1 cup sugar to 1½ cups honey). Also note that honey lacks some of the essential nutrients that help the yeast thrive, so it's important to add yeast nutrient whenever brewing with honey. *Do not* use honey when brewing lacto-fermented beverages like kefir and kombucha. The antiseptic nature of honey will weaken these cultures over time.

**WHITE GRANULATED SUGAR.** This is the sugar I use for most brewing projects. It ferments fully and cleanly, meaning the yeast will eat all of the sugar (at least until the alcohol level becomes too high), and it won't leave behind much residual flavor. Everyday grocery-store cane sugar is fine for brewing purposes, though organic is preferred.

## WATER

You don't need to get too fancy with your water. As long as the water from your tap tastes good, it will do quite nicely. If desired, you can filter your water or buy it already filtered from the store. For some recipes, you'll need to [dechlorinate](#) your water before brewing.

## YEAST

Any yeast will ferment any beverage, but some yeast strains have been specially developed to work best with particular beverages. For instance, you can use Hefeweizen yeast with wheat beers and Pasteur red wine yeast with red wines. When you're first starting out, stick to what the recipe calls for. Once you're feeling confident, you can start playing around with other yeasts in your brews to see how they affect fermentation and flavor. It's even possible to use wild yeasts to ferment your brew, though the results are harder to predict and control. One tube or pouch of liquid yeast or one packet of dry yeast is enough to ferment up to 5 gallons of homebrew. For this book's 1-gallon batches, you can use half of a tube or half of a pouch of liquid yeast and save the rest in a sanitized sealed jar in the refrigerator for another batch. With dry yeast, it's easiest just to use the whole packet.

## Other Brewing Ingredients

These are the supporting actor ingredients, many of which are specific to the world of brewing. You won't find them at your grocery store, but your local homebrew supply store will keep them stocked. If in doubt, turn to the Internet for your supplying needs (see [Resources](#)).

**ACID BLEND.** This powder gives ciders, meads, sake, and wines their crisp edge. Go by the



sweetness of your fruit and add more or less to compensate. You can always add more later you find that your wine tastes flat.

**CAMPDEN TABLETS.** This sulfite is used for sterilizing fruit and other ingredients that don't get cooked during the fermentation process, especially with mead and wine. One crushed tablet will do the trick for a 1-gallon batch of homebrew. Since it kills all the bacteria and wild yeast in the fruit, add it to your homebrew 24 hours before pitching (adding) the yeast. A second tablet added before bottling helps to stabilize the wine and prevent further fermentation (and potentially exploding bottles) after bottling. Do not use a second Campden for beverages you plan to carbonate.

**DRIED MALT EXTRACT.** Use this when making yeast starters for beer. Dried malt extract is basically über-concentrated beer juice that has been dried into a powder.

**HOPS.** These fragrant flowers play a big role making beer but can also be used for flavoring mead, sake, and wine. Available as compressed pellets or (more rarely) as whole fresh hop flowers, they help to balance the sweetness of the malts and preserve the beer so it stays fresh longer. Hops contain two things: resins that add bitterness and oils that add flavors and aromas. Hops have to be boiled for a lengthy period of time to extract the bittering resins, but this same boiling will destroy the more delicate flavoring and aroma oils. This is why hops are usually added at three times: hops at the start of the boil for bittering, hops in the last 20 minutes or so for flavoring, and hops at the very end for aroma. The same or different hops can be used at all three stages depending on which flavors and aromas you desire in the finished brew.

**IRISH MOSS.** When you want a very clear beer, add a pinch of dried Irish moss during the last 20 minutes of the hop boil. This seaweed (also called carrageen or carrageen) helps to settle out the proteins that cause hazy beers.

**KEFIR GRAINS.** Similar to a kombucha scoby, kefir grains are home to the bacteria and yeasts that ferment kefir. There are two different kinds of kefir grains: milk kefir grains that ferment the lactose in milk and that look like miniature cauliflowers, and water kefir grains that ferment white granulated sugar and look more like rubbery crystals. Both kinds of kefir grains are gluten-free and are reusable from batch to batch. You can find dehydrated kefir grains online (see [Resources](#)).

**KOJI RICE.** Necessary for sake brewing, this rice has been inoculated with a special mold that breaks down rice starches into sugar to feed the yeast. You can [make it yourself](#) or buy prepared koji rice (see [Resources](#)).



*Left to right: Hops, kefir grains, koji rice*

**PECTIC ENZYME.** Some fruits that are high in pectin will cause a haze in the wine or cider (which is called, predictably, “pectin haze”). This powder helps to clear the pectin and give you a crystal-clear brew. Since it’s hard to tell how much pectin any given fruit will have, it’s a good practice to add  $\frac{1}{2}$  teaspoon to every 1-gallon batch of wine at the beginning of fermentation regardless of the fruit being used.

**SCOBY.** Technically, scoby stands for “symbiotic culture of bacteria and yeast.” It’s also sometimes called a mother or a kombucha mushroom. The scoby looks like a thick, rubbery, cream-colored disk, and it houses all the bacteria and yeast that go into brewing kombucha. The same scoby can be reused in each batch of kombucha. You can buy them online (see [Resources](#)) or grow your own (see [How to Make Your Own Scoby](#)).



*Scoby*

**TANNIN.** Tannin is responsible for the sensation of dryness and astringency in your mouth when drinking wine, similar to the feeling of drinking a strong cup of black tea. As strange as this may sound, a few pinches of this powder help give ciders, meads, and wines an overall balanced quality. You’ll miss it if it’s not there! Some fruits have their own natural tannin (like blackberries) and others need a little more help. Start with a little; you can add more

later in the process if you decide you want a drier-tasting wine.

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**YEAST NUTRIENT.** Yeast requires a few essential nutrients to thrive, and unfortunately, these are lacking in the fruit and sugar going into ciders, meads, sake, and wine. The added nutrient, which comes as a powder, gives the yeast the extra vitamins and minerals it needs to stay happy.

## BREWER'S TOOLBOX

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I am a big proponent of using the pots, pans, and tools you already have. If your mom gave you a stockpot when you moved into your first apartment and it still holds water, by all means use it. This said, it's worth buying whatever equipment you don't have. Don't try to get by with a tea strainer in place of a bigger strainer or guess the number of cups with a coffee mug. You'll just drive yourself crazy.

The brewing-specific equipment like bottle cappers and jugs are available at homebrewing supply stores and online. Take a look at the [Resources](#) section at the end of the book if you're having trouble finding something in particular.

### Brewing Equipment

Gather these materials when you're ready to get your brew on.

**ELECTRONIC SCALE.** Precision is key for many recipes, and weighing ingredients is much more accurate than scooping them. Buy a scale that can toggle between grams and ounces, and that can register weight as small as 5 grams or ¼ ounce.

» **USE FOR:** cider, beer, mead, sake, wine

**FLOUR SACK TOWELS OR CHEESECLOTH.** Flour sack towels are large pieces of tightly woven cloth that can be washed and reused. They're useful for things like steaming rice for sake and for straining out fruit and other sediment from your brews. Cheesecloth can also be used but should be doubled a few times to make a finer weave.

» **USE FOR:** beer, mead, sake, wine

**LARGE FINE-MESH STRAINER.** Buy one that's big enough to rest over your stockpot and fermentation bucket. A metal strainer with a long handle and a deep well that's about 10 inches in diameter is ideal.

» **USE FOR:** beer, mead, sake, wine

**LONG-HANDLED SPOON.** You'll use this constantly during all stages of the brewing process and for every brew. Make sure it reaches to the very bottom of the pot (without submerging you

hand in boiling liquid, of course). Plastic, silicone, or metal spoons are best since they are easily cleaned and sanitized.

» **USE FOR:** soda, kombucha, kefir, cider, beer, mead, sake, wine

**MEASURING CUPS AND SPOONS.** Since you'll be measuring large quantities of water, it's very useful to have a quart (4-cup) or larger liquid measuring cup in addition to standard 1-cup and ½-cup measures. Tablespoon and teaspoon measures are necessary for accurately measuring out small quantities of spices, additives, and other brewing ingredients.

» **USE FOR:** soda, kombucha, kefir, cider, beer, mead, sake, wine

**SANITIZING SOLUTION.** For ciders, beers, meads, sake, and wines, you need to sanitize all equipment coming into contact with your brew at every stage of the process (for beer, sanitation is important once the hop boil is complete). All homebrewing stores carry instant sanitizers that just need to be diluted in water. Some good ones are One-Step and StarSan. You can also use a solution of 1 tablespoon of bleach to 1 gallon of cold water and soak equipment for 20 minutes. Be sure to rinse the bleach solution off the equipment before using it. (See [How to Sanitize Your Equipment](#).)

» **USE FOR:** cider, beer, mead, sake, wine

**SMALL FINE-MESH STRAINER.** A small 3½-inch-diameter strainer is very helpful for filtering out sediment from soda or straining kefir grains. Make sure your strainer is plastic or stainless steel since aluminum and other reactive metals can give brews a metallic flavor and will weaken kefir and kombucha cultures over time.

» **USE FOR:** soda, kombucha, kefir, sake

**STOCKPOT.** A 2-gallon pot is big enough for all of the recipes, though some of the beers will be a tight fit. If you already have a 2-gallon pot, start with that. If you're buying one new, spring for a 12-quart (3-gallon) pot.

» **USE FOR:** kombucha, hard cider, beer, mead, sake, wine

**THERMOMETER.** Some brews need to be heated or cooled to certain temperatures at certain times. I like to use a digital instant-read thermometer because it's quick and accurate, but a mercury-based candy thermometer is also fine. An oven thermometer is also handy for the mash step in brewing beer.

» **USE FOR:** cider, beer, mead, sake, wine

## Fermentation Equipment

You'll need some special equipment for the actual fermentation stage of brewing. These things will keep your homebrew safe from bacteria, oxygen, and dust while it's fermenting away.

**AIR LOCK.** Inserted into the lid of the fermentation bucket (and later, the jug), an air lock

allows carbon dioxide to escape while preventing dust, bacteria, and other undesirables from coming in contact with the brew.

» **USE FOR:** cider, beer, mead, sake, wine

**CANNING JARS.** Canning jars are cheap, easy to clean and sanitize, and come in lots of different sizes. They are perfect for lots of little brewing tasks.

» **USE 1-GALLON CANNING JARS FOR:** kombucha, sake

» **USE 2-QUART CANNING JARS FOR:** kombucha, water kefir, sake

» **USE 1-PINT CANNING JARS FOR:** milk kefir, cider, beer, mead, sake, wine

**FINE-MESH 19-INCH BAG.** Keeping fruits contained in one of these nylon or muslin mesh bags makes it infinitely easier to strain out the solids after fermentation.

» **USE FOR:** cider, mead, wine

**FOOD-GRADE 2-GALLON PLASTIC BUCKET WITH LID.** This is your “primary fermenter.” Although we’re brewing 1-gallon or smaller batches, a 2-gallon bucket is the way to go. This will hold all the fermenting liquid plus any fruits or other ingredients you choose to add. A larger bucket also gives the fermenting brew more space to bubble and froth during the first few very active days of fermentation without risk of the brew spilling out of the bucket. Make sure the lid has a rubber-lined hole for the air lock. If your local homebrew store doesn’t carry this size, you can find them online or at hardware stores, though you may have to drill and grommet the lid yourself.

» **USE FOR:** cider, beer, mead, sake, wine



*Left to right: Stockpot, long-handled spoon, thermometer; large fine-mesh strainer, clear 2-gallon plastic food storage container, airlock*

**LARGE FUNNEL.** Use this when transferring brews with a lot of sediment into the secondary fermenter. Lined with a flour sack towel, it helps filter out the solids. An 8-inch funnel is ideal.

» **USE FOR:** mead, sake, wine

**1-GALLON GLASS JUG.** This is your “secondary fermenter.” After the main fermentation is done you’ll transfer your brew into this smaller container for longer aging and to minimize contact

with oxygen. Some homebrew stores sell 4-liter jugs instead of 1-gallon ones. These will hold just slightly more liquid and are fine to use.

» **USE FOR:** cider, beer, mead, sake, wine

**JUG STOPPER.** You'll need a plastic stopper, like a cork, to fit in the neck of your 1-gallon jug. Make sure it has a hole drilled through the middle for the air lock. One-gallon jugs generally take a #6 stopper (the number refers to the size).

» **USE FOR:** cider, beer, mead, sake, wine

**RACKING CANE.** This crooked tube made of either plastic or glass looks a little like a miniature version of your grandma's walking cane. Choose one that is 16 to 24 inches in length and use this for creating a siphon to transfer brews from one container to the next, aka "racking."

» **USE FOR:** cider, beer, mead, sake, wine

**TIP FOR THE RACKING CANE.** This little cap fits over the end of the racking cane and helps prevent sediment from the bottom of the fermentation bucket and jug from being pulled into the tube.

» **USE FOR:** cider, beer, mead, sake, wine

**SIPHON HOSE.** Another part of the siphon, this length of plastic tubing gets attached to the racking cane and later to the bottle filler. Buy at least 3 feet of 5/16-inch plastic tubing and make sure that it will fit over the tip of your racking cane.

» **USE FOR:** cider, beer, mead, sake, wine

**HOSE CLAMP.** Slip this over the open end of the siphon hose to help control the flow of liquid through the tube.

» **USE FOR:** cider, beer, mead, sake, wine



*Left to right: Food-grade 2-gallon plastic bucket with lid, cheesecloth; racking cane and tip for the racking cane; 1-gallon glass jug, siphon hose, and hose clamp*

## Bottling Equipment

Bottling time! You weren't going to drink from the jug, were you? Not only is it extremely

satisfying to behold a shelf of your own homebrew, but bottling makes homebrew easier to store, serve, and share with friends.

**BOTTLES.** Carbonated beverages, such as soda and beer, need to be bottled in containers made to withstand the pressure of carbonation. These can be reused plastic soda bottles, swing-top bottles, or any bottle that can take a crown cap (generally 12-ounce and 22-ounce beer bottles that have a thin lip around the rim). Additionally, longer-aging brews, such as cider and beer, should be kept in dark-colored bottles to protect them from the light, which can affect flavor. With wines and other still (nonbubbly) beverages, we also have the option of corking in wine bottles.

- » **USE BROWN 12-OUNCE OR 22-OUNCE GLASS BOTTLES FOR:** soda (conditionally, see recipe), cider, beer, mead, sake, wine
- » **USE SWING-TOP BOTTLES FOR:** soda (conditionally, see recipe), kombucha, water kefir, cider, beer, and for short-term storage of mead, sake, and wine
- » **USE REUSED PLASTIC SODA BOTTLES FOR:** soda, kombucha, water kefir, and for short-term storage of cider, beer, mead, sake, wine
- » **USE 750-MILLILITER WINE BOTTLES FOR:** noncarbonated mead, sake, noncarbonated wine

**BOTTLE CAPS.** You can reuse glass beer bottles indefinitely, but need to use fresh caps with each project.

- » **USE FOR:** cider, beer, mead, sake, wine

**BOTTLE CAPPER AND/OR WINE CORKER.** Butterfly cappers and basic wine corks are fairly inexpensive and worth buying for the convenience. Homebrewing stores also usually have full-size wine corks, which are easier to use than the smaller ones, available for rent.

- » **USE FOR:** cider, beer, mead, sake, wine

**BOTTLE FILLER.** This is a straight plastic tube with a pressure lock on one end. When pressed against the bottom of a bottle, it will allow liquid to pass through. When lifted, the flow of liquid stops. This little device makes bottling far easier and less messy.

- » **USE FOR:** cider, beer, mead, sake, wine

**WINE CORKS.** As with bottle caps, fresh corks need to be used every time you bottle, although wine bottles can be reused.

- » **USE FOR:** noncarbonated mead, sake, noncarbonated wine



*Left to right: Hydrometer; bottle filler; bottle capper*

## Other Handy Things

You can certainly brew without these things, but having them makes life easier.

**BOTTLE BRUSH.** One of these makes cleaning the gunk from the insides of the fermentation jug and bottles a breeze.

**CLEAR 2-GALLON PLASTIC FOOD STORAGE CONTAINER.** Find one with measurement markings down the side and think of it like a really big measuring cup. Eyeballing a gallon of beer works fine, but the more neurotic types among us (and I'll raise my own hand here) like the accuracy this provides.

**HYDROMETER.** Though not strictly a necessary piece of equipment for brewing, this little tool will help you measure the [amount of alcohol in your brew](#).

## BREWER'S HANDBOOK

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The specifics will vary, but many of the basic techniques and procedures are the same no matter what you're brewing. All brews start out as a sugary liquid and finish with being portioned out into bottles. Cleanliness is always important. Starting a siphon will inevitably involve a bit of fumbling and cursing. The rest is in the details.

## 5 Steps to Homebrewed Beverages

**1 • MAKE A SUGARY LIQUID.** This might mean mixing fruit juice with sugar for a soda pop or dissolving honey into water for mead, but all you're doing is creating a sugar-rich environment for yeast to live in.

**2 • ADD THE YEAST OR YEAST STARTER TO THE SUGARY LIQUID AND STIR VIGOROUSLY.** The first several hours of yeast life are not actually spent making alcohol, but rather spent



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sample content of True Brews: How to Craft Fermented Cider, Beer, Wine, Sake, Soda, Mead, Kefir, and Kombucha at Home

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