



# KOMBUCHA

All About Drinking, Brewing, and  
Enjoying a Traditional Fermented Beverage

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*“Kombucha: All About Drinking, Brewing, and Enjoying a Traditional Fermented Beverage”* is a cookbook in the In the Kitchen collection from Modern Alternative Mama.

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# Introduction

Kombucha.

I noted that many of my Facebook fans were planning to attempt to brew their own kombucha this year. It's a popular topic on my blog and one I really love, since I've been brewing it now for almost two years. I love it. We are constantly drinking it, and we now have every member of the family on board! (It took us a good year and a half, maybe a bit longer, to win over my daughter, but we did it! Never give up on those reluctant family members.)

I thought some additional information might be helpful to my readers, so I'm putting together this short and sweet FREE ebook, just for my subscribers. If there's anything you've ever wanted to know about kombucha, you'll find it here!

## Sponsored by Cultures for Health:

Cultures for Health is a unique website that sells all types of cultures and equipment to produce your own cultured and fermented foods at home! They have SCOBYs and kombucha starter kits as well as other brewing supplies and options. Check their website, [www.culturesforhealth.com](http://www.culturesforhealth.com) to learn more or to buy the needed supplies to start brewing your own kombucha!

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# What is Kombucha?

## Why Drink It?

Kombucha is a fermented Chinese tea. The origins are unclear, but the usually-told story goes something like this: a man left some tea sitting out and it became contaminated with some bacteria and yeasts. When he discovered it, a strange beige-colored "mushroom" had grown on top. He tasted the liquid below it and found it to be delicious, so he used the "mushroom" to brew more and began to share it with others.

We don't know if that's true. But we do know that's how kombucha is produced today!

The kombucha is created with a SCOBY – Symbiotic Culture Of Bacteria and Yeast. There is a smooth top to the SCOBY, which is the 'yeast side.' There is a brown, stringy bottom to it, which is the 'bacteria side.'

The reason we still drink kombucha, besides the fact that it is yummy, is for the health benefits. Kombucha contains a number of beneficial acids and enzymes, as well as probiotics.

It contains:

- Acetobacter aerobic (produces acetic and glucaric acids)
- Saccharomyces boulardi (yeast; produces alcohol)
- Brettanomyces anaerobic or aerobic (produces alcohol or acetic acid)
- Gluconacetobacter kombuchae (bacteria; creates acetic and gluconic acid)
- Zygosaccharomyces kombuchaensis (yeast; creates carbonation and alcohol)

Kombucha causes the body to detox and it cleanses the liver, which reduces the burden on the body. It contains high levels of glucaric acid, an acid which has shown benefit to reducing the risk of cancer, or even helping to fight it.

One source states that kombucha is also high in glucuronic acid, which is the acid responsible for detoxifying the liver. It binds up with toxins and carries them out of the body so that they cannot harm the person.

## *What is Kombucha?*

Another states that kombucha actually doesn't contain this, and that it is the glucaric acid that is responsible for the cleansing and detoxifying. (Either way, kombucha helps to make the liver more efficient and increases the efficiency of the body's natural detoxifying processes.)

Kombucha can fight yeast, too. Many people suffer from yeast overgrowth these days (candida). Some warn against drinking kombucha in this case, because it does contain strains of yeast. However, these are different strains, and these different strains help bring candida back into the proper balance in the body. These strains (found in kombucha) also do not have the spores that candida and problematic strains do. Kombucha is therefore beneficial for candida overgrowth.

It is high in B vitamins, which are needed to prevent anemia, provide energy, and for growth and development in children (yes, kombucha is good for children, and pregnant women – provided they start drinking it prior to pregnancy).

Kombucha may be beneficial\* in the following conditions:

- Arthritis
- Gout
- Rheumatism
- Cancer
- High blood pressure
- Constipation
- Anxiety
- Irritability
- Headaches
- Dizziness
- Hemorrhoids
- Diabetes
- Candida overgrowth
- High cholesterol
- Fatigue
- Depression
- Preventing kidney stones

## *What is Kombucha?*

\*Research has shown that these conditions may be impacted positively by drinking kombucha. This is not medical advice and there is no guarantee that kombucha will affect them, nor in any way 'cure' them. I can't legally make any medical claims about it. My research has simply shown that others have experienced changes in their health in these areas after drinking kombucha.

That's quite a list of conditions! Kombucha is, overall, extremely beneficial to the body. It helps to balance the body's pH and restore vital health.

Kombucha is commercially available for those who are wary of brewing their own, or feel unable or unwilling at this time. However, it is quite expensive to buy. In the next several pages, I'll explain in detail how to brew your own for a fraction of the cost (and make all kinds of neat flavors!). We love kombucha and have no less than 6 gallons going at any one time, because it has made such a difference in our health! Hopefully you will experience the same.

See the accompanying free video for a visual demonstration on brewing and bottling kombucha.

### Sources:

<http://www.ncbi.nlm.nih.gov/pubmed/2208084?dopt=Abstract>

<http://en.wikipedia.org/wiki/Kombucha>

[http://www.happyherbalist.com/analysis\\_of\\_kombucha.htm](http://www.happyherbalist.com/analysis_of_kombucha.htm)

<http://www.gaiaresearch.co.za/kombucha.html>

# How to Brew Your Own

Kombucha is definitely expensive to buy — but not to brew! If you plan to drink it on a regular basis, it is definitely worth it to learn to brew your own. It's easy, doesn't take much time, and costs around \$1 per gallon (compared to \$3 - \$4 per 16 oz. bottle from the store). Not to mention that you can choose to flavor it any way you choose, which is pretty neat.

First you need to obtain a SCOBY, or "Symbiotic Culture of Bacteria and Yeast." You can buy one from Cultures for Health ([www.culturesforhealth.com](http://www.culturesforhealth.com)), or you can grow your own (see page X). If you have friends who brew kombucha, just wait a week or two and they'll have one to give you. In fact, they'll be GLAD to give it to you. We'll get to that, though.

It is important, also, to choose ingredients that are as high-quality as you can afford. Choose organic white cane sugar to avoid the issue of GMOs. Choose organic tea in order to avoid fluoride in the processing. Choose filtered water to avoid chlorine, fluoride, and all the other "yucky" stuff in the water. These things can hurt your culture over time, so buy gallons of filtered water if you don't have access to a filter. However, if you plan to brew on a regular basis (and also just for your family's health), consider purchasing a good quality water filter.

Some may ask if you can use other sweeteners besides cane sugar. "Yes, but" is probably the best answer. Sucanat is okay to use and I have sometimes mixed it with cane sugar, depending on what I had on hand. Others say it makes the brew too strong – but it certainly won't hurt. Honey is anti-microbial and can damage your culture, so you should not use it. I have never tried or known anyone who has tried maple syrup. Artificial sweeteners, agave nectar, and other processed "substitutes" (even, in this case, stevia) are not acceptable. Sugar is there to feed the culture and it has to be real sugar. Most of it will be consumed by the culture and will not be available in the final product.

Types of tea that are acceptable include black, green, oolong, and rooibos. Herbal or fruit-based teas are not appropriate. Do not add flavors of any kind to the initial ferment, as this can hurt the SCOBY. Flavors should only be added to the second ferment.

Many of these supplies, including a starter kit, can also be purchased from Cultures for Health. They are a great resource if you are unsure where to buy equipment to get started!

You will need:

- 1 gallon-sized glass jar
- 1 piece of cheesecloth (I used birdseye cotton) that covers the top of the jar
- 1 rubber band
- 1 gal filtered water
- 8 tea bags\*
- 1 cup sugar (organic, to avoid GMOs)
- 1 kombucha SCOBY with at least 1/2 c. brewed kombucha (that's important and any SCOBY you get should be in some kombucha)

\*Yes, I do mine strong. Many recipes say to use only 4 teabags per gallon. I have always done mine at twice that strength, and I like it that way. If you don't, you can reduce the number of teabags as desired.

Make sure that your hands and work area are clean. While contamination is unlikely because kombucha is a rather "sturdy" ferment, it's still wise to take precautions.

Boil the water and steep the tea for 5 minutes. Set a timer; it gets bitter if you steep it too long.

Remove the tea and stir in the sugar. Stir until it is all dissolved. At this point, you need to wait for it to cool. It needs to be under 115 degrees, and should feel just warm to you, not hot. A good rule of thumb is, if you can stick your finger in it without burning yourself, it's cool enough.

I am far too impatient for this process.

Alternately, boil about a quart of water and steep all the tea there. Stir in the sugar until dissolved. Add this strong tea mix to your glass jar, and dump in the cool, filtered water. Instant cooled tea.

When the tea is cool, add the SCOBY to the top of the jar, pouring

the starter kombucha in with it. If you have more than ½ cup, add it. Up to 2 cups is good, because it helps to keep the kombucha more consistent. This lowers the acidity so to keep the brew safe until the fermentation process starts.

Place the cloth over the top of the jar and put the rubber band on to keep it in place. You want oxygen to be able to get to the tea, but not bugs. It's very important that oxygen get in! If you seal the jar, you will end up with alcohol. Alcohol is an anaerobic ferment (i.e. no oxygen), while kombucha is an aerobic ferment (with oxygen). If you drink your kombucha plain, straight from your jar, it should contain basically no alcohol for this reason.

Set the jar somewhere warm and dark (like a pantry, the top of your fridge; it only needs to be room temperature and out of sunlight) for about two weeks.

What if you don't have a warm place to put it? The top of the fridge is usually a viable option. Failing that, you can purchase a seed mat or a reptile heating pad to place under the jars. Aim to keep them at about 75 degrees. It's slightly warmer than room temperature, and it will produce the best and most controlled ferment.

Cooler temperatures (in the 60s) means it takes much longer to ferment – about 3 – 4 weeks instead of 2. Warmer temperatures (80s) may take only a week, give or take a day. It's important to watch and adjust for the temperature you are working with. We have brewed through summers with no air conditioning, summers with a/c, spring and fall with ideal 70s (that was the best), and winters with the house in the low 60s. Aim for mid-70s around your jars and you will do well.

When you first start brewing, it's important to bottle it a little sooner than you think you want to. You will like it better when it's still slightly sweet. The "strong stuff" takes some getting used to. Under ideal tconditions I brewed for 5 – 6 days at first, then 8 – 9 days after a couple months, and ultimately began going about 14 – 16. It would have been undrinkable to me if I'd started out that way, though.

# How to Bottle

I saved most of my G.T. Dave's kombucha bottles, and I used these. You can also buy the flip-top Gorsch-type bottles from a home brewing store – I have used those too. The advantage to the G.T. bottles is that with the wider mouth, it's easier to bottle and easier to fish out the baby SCOBY that grows during the double fermentation (if you are doing this). Neither seems to have a particular advantage for carbonation. Some have said that the flip-top style bottles are more likely to break if you leave them out too long, too.

Set up your work area first (you can see how I do it in the video – I lay a towel down, get out my clean equipment, and make sure I have everything I need). Wash your hands. Everything should be clean to avoid the possibility of contamination.

Remove the cloth from your jar. You'll see a SCOBY floating at the top – probably two of them! More on that later. Put the mother(s) into a small dish and pour about 1 cup of kombucha over them. They'll sit aside for now.

For "single" fermentation (no added flavors), simply pour the kombucha into bottles and pop them in the fridge. If you'd like extra carbonation, you could leave them out a couple days, but it won't make much difference (the sugar has already been eaten).

For double fermentation (added flavors), add about 1 ounce of juice per 16-oz. bottle. Fill them up near the top, but not all the way up. There needs to be a little bit of air at the top for the carbonation to fill! Too much or too little air can result in no carbonation, or the bottle overflowing so much that you lose half of the kombucha! It can also result in a bottle shattering from the pressure, so don't overfill (especially the flip-top style).

I like to bottle in 16-oz. bottles personally, but others prefer larger or smaller bottles, depending on how many people will be drinking the kombucha and how much each will drink per day. It is up to you. I like to keep the proportion of kombucha at 95%, and the flavor at 5% (which is the same as G.T. Dave's).

Once bottled, I let the bottles sit out for two more days. This is how it develops its nice carbonation. This, too, varies depending on temperature, what you added to the bottle (how much extra sugar), and how strong you like it. I may leave it for 2 – 3 days in the summer, but a full week in the winter. Watch the bottles and if they look foamy or are making a hissing sound, refrigerate them quickly! They can explode if they become over-carbonated. I have not had this happen.

# *The Other Mother*

Speaking of mother(s) (another name for the SCOBY), I discovered something cool when I took the cloth off the top: a full-grown second mother.

I was told that a “baby” would grow each time I brewed kombucha and that it might or might not separate from the mother. So, I was under the impression that it would be kind of small. Maybe a smaller diameter or only like 1/4” thick or less. But no. It was full grown second mother! The one on the right is the “baby.”

I warned you these things grow fast.

Please be aware that this, too, is affected by temperature and a number of other factors. Your SCOBY won’t always be so active and a full grown “baby” won’t always grow. It seems that the longer you use the same SCOBYs in the same environment, the slower the “babies” grow. See later sections for ideas on how to revitalize slow-fermenting kombucha.

Use these SCOBYs to restart your brew in the same way that you originally started it. Rinse out your jar, brew your tea, and mix the sweet tea with your leftover kombucha and add your SCOBY. See the next section for brewing tips and hints!

If you have extra kombucha leftover, you can use it to water your garden, or to pack up with an extra SCOBY and share with a friend. Or start another gallon yourself! Don’t pour any extra kombucha down the sink if you have a septic system – I’ve heard this results in a giant SCOBY and a very clogged septic system!

# Brewing Tips and Hints

Kombucha is a bit finicky. One batch can be excellent, and the next batch only so-so. I always love it and drink it, regardless. But I've figured out a few things that help to keep the kombucha pretty tasty, week after week.

## *1) Use a "fresh" SCOBY*

For my first couple of batches, I had the SCOBY sitting in the fridge for a week or two before use. This seemed to produce a bitter, yeasty kombucha. I have not had this problem since I began doing my brews consistently, always starting either immediately or within a couple days.

## *2) Brew for the shorter lengths of time at first; then extend it as you adjust*

You may find that, if you choose to leave your brew for 12 days the first time out, that it is too strong in both flavor and potency (effects) for you. Try leaving it only 5 – 7 days at first, and slowly increasing the time as you get used to both drinking and brewing. Kombucha can cause powerful detox in new drinkers. Even though I'd been drinking it several weeks when I began brewing, I still sometimes had headaches and stomachaches when I tried to brew mine too long initially. (This effect completely disappears if you drink it consistently for months, even if you brew it for a very long time.)

## *3) Add up to 2 cups of brewed kombucha to each new batch; the more you use, the more consistent your brew*

The more kombucha you use from your previous batch, the more consistent your brew will be. This means solid flavor, good carbonation, and more. I found my brews were frequently lacking flavor and carbonation when I used only a small amount (the required 1/2 cup) of brewed kombucha in my new batch.

## *4) When bottling, leave a bit of space at the top so that carbonation can form*

Carbonation was also lacking when I completely filled my bottles. Leaving a tiny bit of head room for the gases to expand in helped this problem.

*5) Bottled kombucha should, ideally, "age" about 3 days at room temperature and an additional week in a cool place.*

We also noted that the best flavor and carbonation were developed after 3 days sitting at room temperature and an additional week in the fridge. We always found that the "early" bottles we drank were disappointing, but by the time we reached the end of the batch they were pretty good! In an ideal world I'd get ahead of it so I'd always have "old" bottles to drink, but we just drink too much of it for this to happen!

*6) Kombucha seems to really like lemon and lime juice.*

I've noted lately with some of my new flavor experiments that the kombucha seems to really like lemon juice. In the flavors which used the lemon juice, the baby SCOBYs (the gelatinous side, not the brown stringy side) grew very quickly and very large once bottled. 5 – 10 times as large as in other flavors!

*7) Don't strain your kombucha before bottling*

Removing all those beneficial floaties can leave you with fewer benefits and less carbonation, so don't do that!! You can remove some of the floaties at the time you're ready to drink it, if they bother you.

# *Kombucha Flavors*

*Grape:* 1 ounce 100% organic grape juice

*Strawberry:* 3 – 4 frozen strawberries

*Lemon-lime:* 1 tbsp. EACH lemon and lime juices, freshly squeezed

*Gingerale:* 1 tbsp. EACH lemon and lime juices OR 2 tbsp. lemon juice + 2 – 3 slices fresh ginger (fresh is much better and less powerful than dried; I have done both and fresh is a better choice)

*Cranberry:* 1 ounce 100% organic cranberry juice

*Pineapple:* 4 – 5 "tibits" (about 1 tbsp.) of pineapple

*Strawberry-Lemonade:* ½ tsp. sucanat, 1 tsp. lemon juice, 4 – 5 strawberries

*Cherry:* 2 tbsp. cherry puree OR 3 – 4 whole cherries

*Mint:* 2 – 3 whole, fresh mint leaves and ½ tsp. sucanat

You can use 1 ounce of any fruit juice you'd like. These amounts are all for 16-oz. bottles.

# *How to Grow a SCOBY*

Growing your own SCOBY is simple! If you have access to unpasteurized, real kombucha (like G.T. Dave's), but aren't sure where to get a SCOBY, you can simply grow your own.

If you're not up for this experiment, you can always buy a SCOBY from Cultures for Health.

## You will need:

- 1 cup black tea (1 tea bag)
- 1 tbsp. organic white sugar
- 1 bottle (16 oz.) unflavored, unpasteurized kombucha

## Here's what you do:

Dissolve sugar in slightly warm or room-temperature tea. Pour tea into a one-quart glass mason jar.

Add the bottle of unflavored kombucha and stir to combine.

Place a dish towel or piece of cheese cloth on top and secure it with a rubber band (it needs to be bug-proof, but not air tight). Wait 3 – 4 weeks, and your very own SCOBY will grow!

# FAQ

## Q: Is foam on kombucha normal?

Yes. This means that your new SCOBY is growing! A whitish foam is completely normal.

## Q: How long can I brew kombucha?

Kombucha can be brewed anywhere from 7 days to 30 days, depending on what flavor you like, the temperature of the room, etc. In a cooler room you'll need to brew longer; in a warmer room, less time. I brew for 9 – 10 days in the summer and 14 – 18 days in the winter. You may like it less or more sour; so taste with a small spoon after a week and every couple of days afterward until you find out where you like it.

## Q: What if I leave it too long?

A: If your kombucha is a bit too sour (left a few days too long), you can add a little extra sugar and/or juice and bottle it for a brief (1 – 2 days) second ferment. If you have left it way too long, and it is undrinkable, throwing it out is advisable (you can still keep and use the SCOBYs to start a new batch, though). "Undrinkable" kombucha can also be used for cleaning or treating a variety of health conditions, though, if you are interested. I'm told it makes a good foot soak and could help combat athlete's foot. Kombucha's pretty versatile!

## Q: Is my kombucha likely to get contaminated? How will I know if it does?

A: Research shows that it's actually very difficult for kombucha to become contaminated. Take precautions and wash your hands and equipment carefully, making sure to rinse all the soap away. The SCOBY is very stable and naturally resistant. If kombucha is left for an extremely long amount of time (months), it may grow black fuzzy mold. However, it would be undrinkable at that point anyway, if there were even any liquid left in the jar. During

a normal fermentation process, kombucha is highly unlikely to become contaminated by other bacteria or yeasts. If the SCOBY is in any way fuzzy or anything but smooth, or you suspect contamination, throw it out (brown stringiness on the bottom is normal though). Better to be safe! Also, if you leave the jar uncovered, it may become contaminated with fruit flies and fruit fly larvae – they love the stuff! Keep your jars covered and throw out any SCOBYs that show signs of larvae (it will be obvious in the top of the SCOBY – see picture below).

### Q: What can I do with extra SCOBYs?

Composting them is a good idea. If you can, pass them along to friends or neighbors who might like to brew their own kombucha. You can throw them in the trash if you can't find a way to use them and don't compost. It's smart to save the "newer" SCOBYs for brewing and get rid of the older ones.

### Q: How do I grow my own SCOBY?

It's easy! Just mix 1 c. black tea, 1 tbsp. sugar, and 16 oz. of plain kombucha (unpasteurized). G.T. Dave's plain kombucha works great. Leave it sit for a few weeks and it will grow you a new SCOBY! See page X for more details.

### Q: I started my kombucha and my SCOBY sank! What's wrong?

Nothing! This happens sometimes. It will float back to the top eventually. It doesn't mean anything if your SCOBY sinks. It doesn't matter if it sinks when growing your own, either.

### Q: How do I know if my SCOBY is bad?

If your SCOBY starts growing black, fuzzy mold, it is not good anymore. You may choose to throw it out if it sits unused for several weeks because it will produce "stale" kombucha. You may also notice sometimes little fruit flies or larvae-looking things in your SCOBY if you left it uncovered too long (see picture). This also is not good and should be thrown out.

Q: What do I do with my SCOBY in between brewing? How long can I leave it?

The best thing is to just start another batch! It takes several days so you may be ready for more by the time it's ready. But if you need to store it for any reason (like vacation), place it in a glass container with enough brewed kombucha to keep it moist and cover it. Keep it in the fridge until you're ready to brew again.

Q: What is the brown stringy stuff in the kombucha or under my SCOBY? —

This is just the bacteria stuff, and it is normal! Don't worry about it.

Q: Why hasn't my kombucha grown a baby yet? How long does it take?

Usually your batch will grow a new SCOBY every time you brew a batch. But sometimes it doesn't completely grow one and it doesn't separate from the mother. It will look like it hasn't grown one because they haven't separated, but it has grown some. You can check under the mother to see if there is a layer you can peel off. That is your baby! Otherwise, just use your mother in a new batch and let it keep going. Soon you will have a baby. Ordinarily it takes 7 - 10 days but it can take longer.

Q: Should I strain my kombucha? At what point?

No! If you really don't like the "stuff" floating in your kombucha, you may choose to strain right before drinking. But don't strain it before this! All that "stuff" is really good for you!

Q: Help! My kombucha isn't carbonated. Why not?

A variety of reasons. You may not have brewed it long enough, or brewed at too cool a temperature. Use double fermentation and allow your kombucha to sit, bottled, at room temperature for 2 - 3 days (up to 7 days in very cool temperatures) to help ensure carbonation. You may also want to leave your kombucha in the fridge (after bottling) for a week or so to help it age. Kombucha

improves with age! Although you may not like it as well without carbonation, it retains the same health benefits, so don't worry about it. Batches can vary and sometimes they just aren't carbonated.

Q: Is pasteurized kombucha the same as unpasteurized in health benefits?

No! Not at all. Pasteurization kills all the enzymes and probiotics that make kombucha so beneficial. Never buy pasteurized kombucha and never pasteurize your own!

Q: Is kombucha good for stomach viruses?

It can be! If you are used to drinking it, the probiotics in it will help the stomach virus go away. However, since kombucha can cause die-off because of the high levels of probiotics, you may not want to start drinking it for the first time during or right after a stomach virus in order to avoid unpleasant die-off (which could exacerbate your symptoms).

Q: I have a headache and feel sick after drinking it, is this normal?

Yes, usually. This is typically die-off (a "Herxheimer reaction"). Go slower in introducing kombucha, taking only a few ounces per day until you know how you handle it. You don't want to cause problems. In rare cases, this could be an allergic reaction or a sign you should not drink it, but this is typically not the case. Die-off can include headaches, nausea, irritability, diarrhea, and other symptoms. These symptoms may hit rather suddenly, so drinking kombucha for the first time "on the go" may not be a good idea! They should subside if you drink smaller amounts or over time, as you adapt to drinking kombucha. If they do not subside even if you are drinking only a tiny amount, it is possible that you may be sensitive and should discontinue drinking it. This is extremely rare, though.

### Q: Is kombucha safe during pregnancy and breastfeeding?

If you have already been drinking kombucha, yes, it is perfectly safe to continue. It is not a good idea to start during pregnancy or while exclusively breastfeeding in case you have a die-off reaction. During breastfeeding, it will get to the baby, as well, and can cause fussiness. If you are breastfeeding only part time, it is safe to start very slowly. Watch both your baby and yourself for die-off.

There are differing opinions on this and some say “never” while pregnant or breastfeeding. It honestly depends on how sensitive you are, and how toxic your body is to begin with. I personally began drinking kombucha for the first time when I was almost exclusively breastfeeding my second baby and continued to drink it throughout my third pregnancy and while exclusively breastfeeding that baby with no issues. Go slowly and see how you react. Everyone is different.

### Q: Is kombucha safe for children? At what age?

Generally, yes. Children over a year can drink it. Children under a year should focus on nourishing breastmilk (ideally) and shouldn't consume large quantities of any beverage. Start with an ounce or less per day until you know how they will react. Older children (3 – 4 years of age) can safely drink 8 oz. or so per day, as desired. My own children very much enjoy the kombucha I brew.

### Q: Is lemon juice good for kombucha?

Yes. It is good for flavoring and seems to help produce carbonation when used in the double fermentation method. Lime juice is also good. No juice needs to or should be used during the initial fermentation.

### Q: How do I do a double ferment?

After your kombucha has initially brewed (for the 7 – 14 or so

days), bottle your kombucha in glass bottles with tight lids. Add about 1 ounce of some type of juice or other flavoring (fresh ginger slices, dried fruit, etc.) and cap the bottles tightly. Allow the bottles to sit for 1 – 3 days (depending on temperature), then place them in the fridge. They are ready!

### Q: What flavors can I use?

Anything you can dream up! Cherry, strawberry, grape, guava, mango, greens, etc. Whatever you like! Simple puree it or juice it and use about 1 ounce per 16-oz. bottle.

### Q: Does kombucha contain alcohol? If so, how much? Is it safe for children or alcoholics?

Kombucha does contain a small amount of alcohol, yes, due to the fermentation. Most estimates and tests have revealed it to be around 0.5 – 0.7%. The average glass of wine or beer is 4%. Anything under 0.5% can be sold as “non-alcoholic.” This tiny amount of alcohol doesn’t have any effect and it is safe for children. Alcoholics must choose for themselves whether they feel comfortable drinking it; some find that anything that even tastes remotely alcoholic is dangerous for them. Other alcoholics have found that kombucha helps to “rebalance” their systems, leading to decreased desire for and addiction to alcohol. It is an individual choice.

### Q: Does kombucha contain caffeine? How much?

Yes, but in very tiny amounts. Caffeine is consumed by the SCOBY during the fermentation process. Amounts in the 5 – 10 mg range per 8 oz. remain. This is about the same as decaffeinated tea.

### Q: Is kombucha safe for diabetics?

Probably. It needs to be fermented for a long period of time (more than 10 days) in order to remove as much sugar as possible. A diabetic should start very slowly with it and see how they react. As always, talk to your doctor or other health professional if you are unsure – only they can make specific recommendations for

your situation.

Q: Is kombucha safe for those with medical conditions?

Depends. I'm not a doctor and can't say for sure. Those who have kidney or liver disease or another chronic disorder should speak to a health care professional before choosing to drink kombucha or make any other major changes to their diet. Kombucha very well may be safe, especially if you start drinking it very slowly, but always contact a health professional who is familiar with your particular situation.

Q: What probiotics does kombucha contain, and how much?

Extensive research bore no answers to this question. It seems that the type and amount of probiotic varies widely depending on the conditions of the ferment – temperature, type of tea used, type of sugar used, length of ferment, etc. There is no way to analyze all possible brews to find out what any given ferment contains. Best estimates are types of lactobaccili and bifidobacterium, though.

Q: Which is better, kombucha or water kefir?

There is no way to answer this; it is based on personal preference. Some people prefer kombucha because it requires less frequent work (water kefir only ferments for 1 – 2 days, and needs to be bottled and restarted frequently; but it's also much faster to obtain if you want a fermented beverage right now!), or because they prefer the flavor. Both beverages have different strains of probiotic bacteria and other properties, so ideally, drinking both is a good idea. Neither can be said to be truly superior.

Q: It's cold in my house and my kombucha's brewing slowly. Does this matter, and what can I do to speed it up?

This is common. Kombucha is ideally brewed in an environment in the mid-70s. You can use a seed mat or heating pad underneath your jars to raise them to this temperature and control the ferment better, especially in the winter. A warm place on top of your fridge may work too; just don't forget about it! If you don't mind waiting, and the somewhat "wild" nature of the ferment (kombucha will be less likely to be carbonated if it ferments slower), you can simply wait longer.

Q: Where can I get the equipment to brew kombucha? What do I need?

Equipment is available from many sources. Some find basics like jars at thrift stores or home goods stores. Cultures for Health sells many of the items needed to brew kombucha too. All the necessary equipment is listed in the "how to brew" section of the book.

Q: What about continuous brewing? How does that work and where do I find that equipment?

Continuous brewing is a method where about 5 gallons of kombucha are brewed at a time in a large container. No more than 25% of this is removed at any time to drink fresh or to bottle with fruit juice. Sweet tea to replace what was removed is added. Otherwise, the brew is undisturbed – the SCOBY isn't removed (until it separates, anyway) and the tea isn't fully drawn off. This ensures a consistent ferment and constantly available kombucha. Equipment is expensive and hard to obtain, however, and we have never done it this way ourselves.

Q: My kombucha tastes weird – strong/bitter/yeasty. Why is this and how do I fix it?

Kombucha ferments can be affected by a lot of things – temperature, length of time, etc. Try fermenting at a warmer temperature for a shorter amount of time (ideally, around 74 degrees). Longer, slower ferments are more likely to have these "off" tastes. You can also dilute overly strong kombucha with

filtered water and see if this improves the taste enough to be “drinkable” so you don’t waste the batch.

Q: Can I use teas besides black to brew? Which ones?

Yes, you can use other types of tea. Flavored or fruit-based teas are not a good idea, but other “plain” types of tea work just fine. These include green, oolong, and rooibos. Be aware that this can change the flavor of the finished products, as well as the types of beneficial acids. Some ferments can become more lactic acid than acetic or gluconic, and this is not as beneficial. A mixture of black and another type of tea is often a good idea.

Q: I’ve heard you can’t use metal with kombucha. Is that true?

Why?

You should not brew kombucha in a metal container (may react and upset the balance of acids and probiotics). However, it is okay to use metal strainers or spoons with it – items that will not touch the kombucha for extended periods of time. Stainless steel is safe because it is a non-reactive metal. Do not use copper or other reactive metals, however. See this link for more: [http://users.sa.chariot.net.au/~dna/Makekefir.html#\\*Note](http://users.sa.chariot.net.au/~dna/Makekefir.html#*Note).

Q: What do you do with any extra kombucha that is left?

Kombucha is great to add to your garden. Water your plants with it and they will be happy. A reader warns me that if you have a septic system, you should never pour it down the drain. Something about clogging the system with a giant SCOBY. Just feed your plants with it and everyone will be happy!

# *Final Thoughts*

Enjoy your experience with kombucha, and experiment to find out what you like the best. The beauty of homemade drinks or food are the ability to customize them to your taste! I've very much enjoyed coming up with the "best" way to make kombucha for my family.

If you're a visual person, please see the video on my site that walks you through the brewing and bottling process easily. I've included instructions in the video on how to prepare our favorite flavors: pineapple and strawberry-lemonade!

Thanks for reading!

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