Preparation of Kombucha Tea

Kombucha Tea Recipe at a Quick Glance:

1. Boil 1 gallon (nearly 4 litres) of pure clean water. I recommend distilled, but any water that’s not tap water is best. Do not let it over boil as the kombucha tea needs oxygen to function and excess boiling can deplete the water of oxygen.

2. Add 1 and ¼ cup of white sugar (1.25 cups). Stir until completely dissolved. Then stir some more to ensure the sugar is completely dissolved.

3. Add 3 Tablespoons of black tea, in a strainer, and let steep until water temp returns to room temperature. This could take a few hours. In other words, let it steep a good and long time. (picture shows teabags)

4. Once it’s cooled to room temp, pour into glass container, add the Kombucha starter liquid and then the SCOBY. Starter liquid should be about 10% of the volume you start with. If it’s cool enough that you can stick your finger in, it’s cool enough for the culture to survive.
5. Cover with a breathable cloth material and seal with a rubber band. I use old cotton t-shirts cut up. Cheesecloth does not suffice.

6. Set aside somewhere, out of direct sunlight, in a warm location, where it won't be moved for 11 days.

After 11 days, stick a plastic straw past the edge of the newly formed baby scoby and test the flavor. If it’s to your liking, then it’s time to bottle it. If it’s not yet sour enough, leave it for another day and test again. If it’s too sour for your liking, bottle it anyway and next time, test for flavor after 7 days.

Ideally it should have a sharp taste, similar to vinegar, but with a hint of sweetness. Left for a few weeks, Kombucha tea will lean towards a very low pH and be quite acidic / vinegar tasting. This is normal and fine, and quite honestly, the best way to consume it. However, that said, a balance between sweet and sharp is best.

It’s that simple

**Jar Sizes:** When it comes to jars, the best are ones that have a larger surface area for the SCOBY to form.

*Kombucha needs to breathe* and have access to oxygen. *Short and wide are best.* Tall and thin are not.

In these images, you see a 2 gallon cookie jar that is wide, with a large opening. This is ideal. It doesn’t have to be 2 gallons, but the shape is ideal. The other containers work too, but wide with a large surface area is ideal.

**NOTE:** If this is your first batch after receiving a starter SCOBY, read the next section before starting
Brewing Your First Batch of Kombucha

If you’ve just received your first Kombucha starter kit containing a SCOBY and starter liquid, follow these instructions for your first batch.

With your first batch of Kombucha, you want to make sure that it gets a good solid start so that the rest of your batches have a healthy SCOBY to continue with.

The idea is to make a half batch the first time, and here’s why:

Kombucha is an acid beverage. It’s a very low pH. It’s the acids that provide the benefits to our bodies and it’s in an acid environment that Kombucha thrives. The acid also keeps the culture protected from any invaders, spores, molds etc. We WANT it to be acid.

When you first receive your kombucha starter kit, it contains the SCOBY culture and a little starter liquid. The starter liquid you’ve been given should be a lot more on the acid side. This keeps the culture safe during transport, whether on your trip home, or if it’s sent in the mail, and perfect for starting your new brew.

This kombucha starter is designed to infuse your sugar / tea solution and immediately lower its pH so that the tea can get a good start. Remember, kombucha loves an acid environment.

Depending on how you received your culture and stater, there may only be a little bit of it available.

So.... It’s best to start with a smaller batch of tea your first time, so that the pH is at the right place.

Each time you make a new batch of kombucha, you should keep 10% of the previous batch to use in the new batch. This *starts* the new brew. Kind of like sourdough bread where you need a little from the previous to begin the new.

If you think about this, every batch of kombucha you drink contains a little bit of brew from every brew every created since this began. It’s a small amount mind you, but that sort of history could boggle the mind.

For Your First Batch:

Cut all the amounts in half from the basic recipe seen on page 1

2 litres of water (1/2 gallon)
¾ cup of white sugar
1.5 Tablespoons of black tea

The rest is the same.
Important Information:

When working in any kitchen with food products, it is important to remember cleanliness is essential. Canning, drying and freezing can be done safely in any home kitchen.

Washing your hands thoroughly with soap and water is very important. Ideally, a little rinse with apple cider vinegar is good too.

Set aside a special time for preparing the Kombucha Tea during which you will be uninterrupted. If you do get interrupted, you will have to wash your hands again.

Gather and wash the utensils you will need. You may want to use these only for making the Kombucha Tea.

Remove all metal jewellery. The metal in your jewellery may not adversely affect your Kombucha, but the bacteria harboured in it might contaminate it.

Wash your hands and all utensils with soap and hot water and rinse well.

Required Utensils You will need:

- a four quart stainless steel pot (Don't use aluminum).
- a wooden or stainless steel spoon.
- a measuring teaspoon and measuring cup.
- a one-gallon glass jar to ferment the tea in. I use a 1 gallon and 2 gallon cookie jar that you can get from any Wal-mart, Zellers, Superstore, Canadian Tire or any other sort of kitchen supply store. I recycle the lids as I’ve never used them.
- netting, coffee filter, linen cloth, paper towels or any other clean breathable covering. You could use a nylon "knee-high" stocking for this. The cuff holds tight to the neck of the jar, just knot it right above the neck and snip the "foot" so it doesn't hang over the side. This keeps airborne contaminants and fruit flies out. As I mentioned earlier, I cut up some old t-shirts and they work quite nicely.
- a tea ball, coffee filter or netting (only if you use loose leaf tea) 3 Tbsp of loose tea or equivalent in tea bags
- 1 cup sugar (white).
- a rubber band. Not necessary if you use a knee-high
- a Kombucha Culture
- 1 cup fermented Kombucha Tea Starter (or 1/4 cup apple cider vinegar)

Tea Bags Instead of Loose Leaf Tea

If you’re using tea bags instead of loose leaf tea, you’ll need 8 teabags per gallon. Information varies, but from what I understand, 1 teabag is about a tsp of tea.

3 tsp per 1 Tbsp
2 tsp required for each litre
4 litres per gallon
4 litres x 2 tsp = 8 tsp
8 tsp / (3 tsp per Tbsp) = nearly 3 Tbsp
So… 8 tea bags per gallon, or 3 Tbsp (rounded up for good measure)
**White Sugar? I Don’t Want To Consume White Sugar**

When you brew Kombucha, everything you do is for the nourishment and care of the kombucha culture. It’s not for you.

The tea sugar solution is food for the SCOBY.

During the fermentation process, the food materials given to the scoby at the beginning (the tea and sugar) are consumed and converted into the resulting beverage.

YOU do not consume the sugar.

That said, I’ll tell you a little about sugar.

It’s really about how easily the culture has to work to break down it’s food source. White sugar is the best.

However... other sugars work too, and can provide additional benefits through the minerals they contain.

Brown sugar works, as do all the fair trade, ethically sourced, organic sugars you can find. But... they’re a little harder to break down, so one should take care when first using these types of sugars. Before you begin any experimentation with anything other than the basic kombucha recipe, make sure you have back up’s of your SCOBY’s. (See next point).

If you’re going to use a sugar different than basic white, begin with a mix of the two so that the basic white is feeding the culture right off the bat, and then has access to the secondary sugar over the long run.

Also, make sure the sugar is completely dissolved and there are no sugar grains sitting on the bottom.

Artificial sweeteners will not work and honey may affect the outcome as honey is a natural antibiotic / kills bacteria.

For best results, use pure sugar. Remember, it’s for the culture health, not yours.
Having Backup SCOBY’s

As your brewing moves forward, you will see new baby scoby’s forming on the surface of your brewing vessel. This is how this works and how the culture replicates itself.

It’s a REALLY GOOD idea to keep a backup SCOBY or two in your fridge for emergencies.

Take a clean quart sealer, and inoculate it with vinegar. I use Braggs Apple Cider Vinegar for all my brew vessel cleaning.

Clean quart sealer with apple cider vinegar and even go so far as to let sit for an hour or two.

Rinse

Pick a SCOBY or two that have been used in at least a couple of successful brews into the quart sealer and fill with some kombucha tea.

Leave out in room temp, covered with a cloth for another week or two so that the kombucha tea gets to a really low pH (where kombucha is most happy).

Seal container with a top of some sort (the actual top works best lol)

Place in the back of your fridge.

As the container gets cold, the culture will go dormant and stay safe for quite a few months.

In the event your main culture has something bad happen to it (mold), use a backup.

When using a backup, bring the container out into room temp and allow it to warm up naturally over a day or two. Take the top off, cover with a cloth to allow it to breathe.
Heads Up

SCOBY’s Will Sink - Fresh SCOBY’s added to a brew vessel do not always float on the top. They often sink to the bottom because they’re quite heavy. This is perfectly normal. A new baby scoby will form on the top in a few days.

DO NOT MOVE the brew vessel once you’ve begun. This is important because the new culture forming on the top attaches itself to the sides of the tank. Moving the tank disrupts this.

YES you will see bubbles forming everywhere. They will bubble up, and may seal themselves under the newly formed culture, OR... they might burp themselves out as they find a small weakness in the culture. Bubbles are a good sign.

SCOBY IS HEAT SENSITIVE – This means that liquids that are too hot when you first put your scoby in could kill it. Make sure your sugar tea solution is cooled to room temperature.

SCOBY LIKES WARM ROOMS – The culture best ferments between 21 and 29 degrees celsius. Temperature affects the rate of fermentation, so... summer brews can occur 2x as fast as spring or fall and during the winter months (depending on your location), fermentation can be quite slowed. I use an electric heat pad under my tanks and a digital stick on thermometer on the sides to monitor conditions and keep the brews consistent. Not necesseary, but for your info, so that you’re informed.

SCOBY and WHEATGRASS do not play nicely – Wheatgrass often goes hand in hand with mold. When I introduced a wheatgrass flat to my room where my cultures were brewing, I lost all but one to mold. My advice is to not grow wheatgrass and kombucha in the same room or on the same floor if possible. Be aware.

MOLD – if you see mold on the top of your culture, it’s pretty much had the bisquit. It’s actually not all that bad, but if you want to keep your culture pure, best to just use a backup to start again. It’s rare, but it happens. That said, there are some changes to the SCOBY that look like mold but aren’t. They’re just weird versions or spots in the SCOBY. You’ll know mold when you see it.

SMOKE and KITCHENs – Because the culture needs oxygen to ferment, and we brew our kombucha in a breathable container, its advised not to smoke in the same room and also that the kitchen is not the best place to store your brewing vessels. Kitchens can produce various odors, vapors or floaties that could make it into your culture. Best to keep the two apart.
Time Off From Brewing

When you've got a bunch of kombucha bottled, you may want to take some time off from brewing. Leave a little kombucha in the bottom of your brew vessels with the scoby's in them, leave them covered and just let them sit.

Once a week, I might slightly disturb the tanks by swishing them around a little so that the top of the SCOBY gets a good washing with the acid's. This keeps them clean and greatly reduces the chances of mold forming.

The low pH of the kombucha protects them, so a little swish to wash the top is a good thing. This is the one time you can disturb your brew which won't affect it.

Be aware that kombucha will evaporate eventually, so if your tanks are on “time off” and they're getting low, you might want to brew a little sugar tea solution to give them a little food and top up their liquids a little. This is a very minor amount. Just enough to give them some more fluids.

Remember, when you want to begin brewing again, you’ll need 10% kombucha starter to start, so this is why it’s a good idea to keep your brew vessels (tanks) with at least a little bit in them.

A Note About The Images Seen Previously

This image shows a very large 2 gallon brew vessel full to the top and then a small little SCOBY being added to it. I was making this batch of Kombucha for the very first time in this size a tank. I added 4 little SCOBY's to it and extra starter. It was also in Texas, it was hot, and the room I was leaving the kombucha to brew in was easily 30C. The conditions were ideal for a good batch. As I recommended previously, begin your first batch of Kombucha tea with ½ the amounts noted in the basic recipe.

What Does SCOBY Stand For?

Symbiotic Culture Of Bacteria and Yeast

The Yeast and Bacteria live together in a symbiotic relationship. The yeast converts the sugar into alcohol and the bacteria converts the alcohol into Kombucha. When the brew is done, nearly all the alcohol should be gone, but a little remains. Commercial kombucha has somewhere around ½ a percent of alcohol (0.5%)
Bottling

Brewing Kombucha with the SCOBY is part 1 of a 2 step process. With the tanks covered yet allowed to breathe allows for fermentation to occur. This is the aerobic part of the fermentation (aerobic means ‘with oxygen’)

Then, once bottled, capped and sealed, a second process occurs. This is the anaerobic (‘without oxygen’) part of the process and in which the most carbonation occurs. Because the kombucha is bottled and sealed, there is no place for the bubbles to go, so they stay within the bottle.

This does two things:

1. First, it creates a fizzy drink when we open it. Kombucha becomes a lot more like apple cider and I’m told that people who drink soda pop have an easy time switching to the new habit of Kombucha because it has a similar belch factor.
2. Second, it creates pressure. Yes, bottles can explode. When I first started brewing, I used old wine bottles and pushed to corks back in as far as I could. Kombucha easily blows the corks out.

I recommend bottles that can be tightly sealed such as the old style beer bottles like the one pictured which can be purchased from a beer / wine supply store, or you can just get a few Grolsch beer’s, enjoy the beer, clean them and then re-use them for Kombucha.

Quart sealers work well too as long as they’re sealed tightly. Even then, look for lids that are bulging before opening.

And… a word of warning... regardless of your bottle type, open carefully and fully expect the contents to come shooting out. It’s happened to me…. LOTs.

While traveling in our RV, I learned that I had to open the door first and aim my bottle out the door as I opened it. Mind you... this pressure factor is usually related to the conditions in which your bottles are stored.

After bottling, they should be kept at room temp for 2 days, then put into cold storage. This increased fizz.

Storing them at room temp, especially when it’s hot out, for extended periods, could result in your entire contents shooting out the end when it’s opened.
When you make the tea sugar solution for the tea, metal utensils are fine, but once the kombucha is brewed, use only wood, plastic or glass. Metal can react with the acids.

1. Wash your hands
2. Remove the culture from the tanks and place in glass flatware of some sort.
3. Remove a cup of kombucha liquid from the top of the tank and place over the cultures
4. Cover with a cloth for the time being
5. Pour the beverage into your bottles. Straining is not required, but some like to remove the yeast stringy bits. Again, not required. Having the yeasty stringy bits in your bottles can affect the pressure / carbonation in the bottles.
6. Seal the bottles
7. Store at room temp for about 2 days
8. Move bottles to cooler location
9. For best results, leave bottled for at least 5 days. Not required, but will produce a better beverage
10. Cool in fridge before consuming

Choosing When To Bottle

Using a straw to test, slip it past the SCOBY and taste a little

4 - 6 Days - Too sweet, not all sugar converted.
7 - 9 Days - May taste like sparkling apple cider.

10 + Days - Vinegary taste becoming perceptible (sweet & sour). This is how I like mine. I brew for 11 and 22 days at about 26C (controlled with an electric heat pad)

If you notice the Tea becoming too strong or fermented, dilute it with fruit juice. You can also use it for table vinegar if you wish.

Recipe Ideas

**Kombucha Lemonade** - A nice way to enjoy kombucha during the summer is to first make a batch of real lemonade by squeezing fresh lemons and adding a little stevia. Then mix a portion of lemonade with kombucha

**Kombucha Wine** – A little kombucha added to white wine also makes for an interesting beverage as well.
Your First Tastes of Kombucha Tea

Begin drinking 1/4 cup (2 ounces) daily on an empty stomach. If it bothers your stomach, you can drink it after eating. The different constituents of the Tea will work on the body differently depending on if there is food in one's body or not. (If you wish, you can start with a daily dose of 1/4 cup). After two weeks, include another half-cup dose in the afternoon. After a month, you can add another dose of a half cup - taking three half-cup doses everyday. It is not necessary to increase your dose, unless for a specific reasons. For weight loss, it does suppress the appetite and is great for removing the urge for in-between meal snacks! REMEMBER TO DRINK PLENTY OF WATER TO FLUSH THE TOXINS FROM YOUR BODY. It was reported the doctors in the Soviet military hospitals gave their patients one litre of Kombucha each day. That's approximately four cups a day! It is important to find out for yourself what the best dose of the Kombucha Tea will most benefit your body. Ask your Higher Self, pray to God, ask for guidance from the Holy Spirit, use your intuition or do whatever you feel comfortable with, but whatever you do, "Know Yourself!" Tune into your body and feel what is best for you. Remember, too much of a good thing is not always the best.

It is the responsibility of all who drink Kombucha to be aware of contaminants. BECAUSE OF THE ACIDITY AND OTHER FACTORS IN THE KOMBUCHA CULTURE, IT IS HIGHLY UNLIKELY IT WOULD BECOME CONTAMINATED. As with any home cooking, canning, dehydrating, freezing, or brewing of wine or beer; common sense must be used and contamination has to be considered if the food products smell bad or have moulds growing on them. In the fermenting container, carbonic acid bubbles can push up portions of the Culture making foamy bubbles that look like, but are not mold. Brown streamers are cells from the Culture and can be strained or washed off, but is not necessary to do this. Sometimes air bubbles make holes in the Culture patty. Other times it may have brown edges. Cultures vary in colour from white, grey, tan and brown. Paul Stamets, a noted mycologist states "... most often the contaminants are green, pink or black mould-islands floating on the surface of the tea." Healthy Cultures should feel firm and rubbery. Discard any Cultures that fall apart easily. Make sure your fermenting tea smells vinegary. If it smells foul, or if you're in doubt, throw out the Tea and Culture and start with a new Culture and a new batch of Tea. It is a good idea to always keep at least one extra Culture in the refrigerator as a back-up in the unlikely case your fermenting Culture gets contaminated. WITH PROPER CARE, THE KOMBUCHA CULTURE WILL LAST YOU A LIFETIME.

Sometimes, a culture can be seen growing in your bottles when you open them. You can discard this. This is perfectly normal.