



Kombucha, Beet Kvass and Kefir: Non-Alcoholic Fermented Beverages Made at Home

Introduction

Making your own beverages at home is tasty, rewarding, and economical, but, for most of us, also requires learning new things. This class introduces you to my favorite homemade drinks: Kombucha, Kvass and Kefir. Homemade non-alcoholic beverages like these contain health-promoting cultures and can be consumed in their raw states (unpasteurized), which means they are chock full of digestive enzymes and beneficial probiotic bacteria. My family and I especially enjoy our homemade fermented drinks in the summer to rehydrate and replenish us on hot days working on the farm.

Tools Needed

- Large glass bowls or jars (4 quart+), spoons, measuring tools, funnel, ladle, cutting board, knife
- Mason jars, glass bottles with tight seals such as wire capped, flip-top beer bottles (available at the Central Street Farmhouse, Bangor, www.centralstreetfarmhouse.com), or glass juice jars with metal caps (reused from store bought fruit juices), or reused glass kombucha bottles (GT's for example).

Recipe

Basic Batch of Kombucha (2-3 quarts)

3 quarts of water (non-chlorinated, please!)

1 cup sugar

4-6 tsp organic loose black tea or green tea or a combo (or 4 tea bags)

1 kombucha culture (called a mother, scoby, or mushroom)

2 cups unflavored raw kombucha liquid

Bring 1 quart of water to boil in large pot. When at boil, add tea and stir and remove from heat. Let steep 8-15 min. Remove tea. Let sit until it's cooled down to room temperature. When mixture has cooled, pour liquid into a 4 quart glass bowl or one gallon-size glass jar. Add 2 quarts cold water. Slip the kombucha culture on top of the liquid (it may or may not float right away) and add the unflavored raw kombucha liquid. Make an "X" with masking tape over top of bowl (optional). Then cover with a kitchen towel and sit at warm room temperature (80 degrees is ideal) for 7-12 days until it reaches desired combination of sweet and sour. Taste it by slipping a straw on the side of the culture!

Basic rule: The longer kombucha brews the more acidic, aka like vinegar, the taste; the warmer the air temperature, the faster the brew. This can range from 7-12 days or more! After a few days the kombucha culture will start to form a new layer that is thin and transparent and covers the whole top of the bowl. This is good and normal; the culture is working. Whenever you like the taste of your kombucha, in order to bottle what you want to drink, you need to remove the culture from the top. You can either place it in a new batch or in a glass jar with lid and some of the unflavored kombucha liquid to store at room temperature for the short term. The remaining liquid is homemade kombucha! It can be stored in a glass container in the fridge and drunk that way unflavored or can be bottled, flavored and aged to develop effervescence.

Kombucha Bottling and Flavoring

After removing the culture, pour your kombucha into bottles (see *Tools Needed* section above for more specifics), add flavorings, cap the bottles, label bottles with date and flavor, and let stand at room temperature for 2-5 days to meld the flavors and develop fizziness. Below are ideas for flavorings:

- Super Berry: strawberries, blueberries, blackberries, raspberries, etc., all chopped into small pieces
- Ginger Berry: same as above, and add ½ TSP minced ginger
- Apple Strawberry: ½ strawberry and 2-3 small chunks of apple
- Apple Mint: a few fresh minced mint leaves and 4 small chunks of apple
- Pineapple Ginger: ½ TSP minced ginger and 3-4 small chunks of pineapple
- Citrus: 2-3 chunks of lemon and 2 chunks of lime
- Citrus Ginger: same as above, and add ½ TSP minced ginger
- Etc... Etc... Get creative! Any combo of fruits, fruit juices, dried fruits, veggies, and herbs could work.

It does not take many pieces to flavor a bottle of kombucha. Letting the bottle stand at room temperature allows the flavor to fill the whole bottle. It's important to cut the fruits and other ingredients into small pieces because in the kombucha liquid they will swell and you will have trouble cleaning your bottle if they're too big.

A tip to speed up the flavoring process: I chop up fruit into little pieces that fit into bottles and store them in ziplock bags in the freezer. Whenever I have a batch ready to flavor, I remove the bags and put the pieces into the jars still frozen. Fast and easy!

Frequently Asked Questions about Kombucha

- **It sunk to the bottom. Is my kombucha SCOBY dead?**
If the mother sinks to the bottom, be patient. Chances are that it will eventually rise up to the top. And even if it doesn't, a new one will likely form. If you wait it out for over 30 days or so and no new mother has formed and the SCOBY is still sunk down to the bottom with no corner touching the top, then the SCOBY has probably died. This has never happened to me, though, so I don't think it happens very often.
- **I haven't made kombucha in a while and my SCOBY has been sitting in the fridge or on the counter. Is it still good?**
When you get a kombucha mother from someone who's been storing it a while, you need to rejuvenate it to get it up to its full fermenting potential. Don't despair! This is not hard to do. Just make a batch of kombucha and put your mother in. And be patient. Just know that this mother will need a little extra time to get going. This could take a month or so. Check the taste and once it is close to what you want, make another batch. And so forth. Making back to back batches will get your SCOBY "in shape" and ready to brew kombucha in more normal times of 7-10 days.
- **Can I use anything other than black tea to make kombucha?**
Yes, you can! Though, I do not have any experience making kombucha with alternative teas, other people do and I would encourage you to try it! The only caution is that the tea you use must be from the actual *Camellia* family, or true tea, not herbal. The mother has a symbiotic relationship with this species of tea only. So you can try green tea, white tea, roiboos tea, etc. But, not chamomile or mint. Get it?
- **Can I use anything other than white sugar to make kombucha?**
Yes, you can! Though, I do not have any experience making kombucha with alternative sugars, other people do and I would encourage you to try it! For example kombucha made with honey is called Jun Tea. All I know is that kombucha fermented with white sugar has the highest content of the desirable and health-giving glucuronic acid.
- **Is there a lot of sugar left in the kombucha after it is fermented?**
No. The kombucha SCOBY/mother consumes the vast majority of the sugar that you originally added, so there is not a huge concern over the sugar content of the final beverage.
- **I don't like all the caffeine. Can I decaffeinate the tea leaves?**
Boil water and pour over measured amount of tea leaves for your recipe. Let steep 3 minutes and drain, reserving the tea leaves to steep with your sugar water. This method removes between 40-70% of the caffeine from the tea.
- **Can I do continuous brew with kombucha?**
Yes, you can! I just don't drink enough kombucha to do it this way, but if you do, it can be an easier way to have kombucha available all the time. I am sure there are many online resources for doing this and one that I've used is: <http://www.westonaprice.org/food-features/continuous-brewing-kombucha>
- **Where can I get a kombucha culture/mother/SCOBY/mushroom?**
 1. From a friend! If you know anyone who makes kombucha ask them for a culture. They're free!

Also, we maintain kombucha cultures at our house free for anyone who wants to pick one up (subject to availability. Feel free to give us a call to see if we have one.

2. From Central Street Farmhouse! www.centralstreetfarmhouse.com

3. Online/Mail Order: <https://www.kombuchakamp.com/>

4. Make your own! You can also grow your own kombucha culture from unflavored, unpasteurized commercially available kombucha bought from a health food store (like Natural Living Center in Bangor) or from the grocery store. Simply pour kombucha into a wide-mouth glass jar, cover with a lid or cloth, and let stand at room temperature until a new mother forms on the top. This can take weeks but will happen! I've done it many times! ☺

- **Where can I get more information on making kombucha, kvass, and kefir and other fermented foods?**

My favorite online resource for kombucha is <https://www.kombuchakamp.com/>

General book resources below:

- *Nourishing Traditions* by Sally Fallon, New Trends 2001

Unique resource with recipes for kombucha and other fermented drinks. Our favorite cookbook!

- *Wild Fermentation* by Sandor Ellix Katz, Chelsea Green 2003

Kefir and Kombucha and many more variations. Great resource for all things fermented. Also check out Sandor's website at: www.wildfermentation.com for tips.

- *The Complete Idiots Guide to Fermenting Foods* by Wardeh Harmon, Alpha 2012

Really clear and well explained with lots of great recipes for veggies, drinks, dairy, etc. Great for beginners.

Recipe

Kefir

milk (We use raw milk, but pasteurized milk will work, too.)

kefir grains

Place kefir grains and milk into a glass jar and screw lid on tightly. Let stand at room temperature for 18-48 hours or until desired taste and texture is achieved. Kefir is sensitive to temperatures so I've put in a time range to reflect this. Also people enjoy their kefir at different stages of sourness and textures. You'll need to experiment to find your sweet spot. We generally do ours around 24 hours at an average temperature in the low-mid 60's. In the hot part of the summer, our kefir needs as little as 18 hours to be ready.

The shorter the time you ferment your kefir the more "milky" and less sour it will be. The longer the time you give it at room temperature, the sourer and thicker and/or separated it will become. The warmer the air temperature is the faster the fermentation process, and the cooler the air, the slower the fermentation process. The kefir aging process is like this:

Milky→Yogurt-like-thick→Separated (or a little grainy when shaken)

It's all up to you as the consumer. I encourage you to taste it and keep tasting it as it ferments! To get it the way you like it will involve some experimentation. If it gets separated, shake it up and drink it that way. Separation does not mean that it has "gone bad."

Once you like the taste of your kefir, strain or scoop out the grains and place jar with cap on in the refrigerator for storage or leave out to drink that day. Culture the grains again right away or store them in a glass jar in a little milk in the fridge for a few weeks. The grains will grow as you keep using them. You want to periodically reduce the amount of grains that you are culturing with and either compost them, give them to a friend, eat them in smoothies, or store them in a little milk in the fridge/freezer.

Kefir flavoring

I love to lightly flavor my kefir after it's done. To do this, I remove the grains and then add a little bit of flavor and put it in the fridge to store until I want to drink it. Options I like for flavoring are strips of lemon peel, strips of orange peel, strips of grapefruit peel, honey, maple syrup, or a bit of cinnamon. Mix and refrigerate.

How to rejuvenate old kefir grains stored in refrigerator

When I first tried kefir, I couldn't get the grains to grow and eventually I let them go. This is why I want to impart to you a tip that I learned from a friend the second time I tried kefir grains.

When you get kefir grains from someone who's been storing them in the refrigerator, you need to rejuvenate them for a period of days to weeks up to a month. This involves culturing them every day or so and not putting them back into the fridge until you're sure they are "active." Place them in a jar with 1-2+ cups of milk until your desired consistency is reached (approx. 24-48 hours), strain and repeat until you can see that they're increasing in size. Then you know you have a fully active culture. Of course every time you strain them off, you'll have kefir to drink.

Recipe

Beet Kvass (1/2 gallon)

2-3 cups red beets, coarsely chopped

1 TBSP sea salt

¼ cup whey (see how to make whey below) or ¼ cup shredded raw cabbage

Water to cover (non-chlorinated, please!)

Combine all ingredients into a glass ½ gallon jar and stir to incorporate salt. Make sure to leave at least 1 inch below the top of the jar and cap it tightly and label. Leave jar at room temperature for at least 2-3 days or until you like the taste of the drink. We generally leave ours out at room temperature for weeks or months because Beet Kvass takes a long while to develop a full taste with nice effervescence (usually 1-3 months). When you like the taste of your Beet Kvass store it in the refrigerator. Occasionally, you'll get some foam or white film at the top of your Beet Kvass drink. This is fine. Just skim it off of the top and the rest is fine to drink.

Important tip for aging your Beet Kvass at room temperature: As with all things fermented, pressure tends to build up in the jar and needs to be released from time to time. During the first few days at the beginning of rapid fermentation, usually the first 1-5 days, we'll "burp" or release the pressure of this jar at least once a day. Once the period of rapid fermentation subsides, every week or so we'll "burp" the jar to release the pressure.

Bubonic Tonic variation (1/2 gallon)

2-3 cups red beets, coarsely chopped

3 TBSP onion, minced

1 TBSP ginger, minced

1 TBSP horseradish, minced

1 ½ tsp garlic, minced

½ tsp jalepeno or other hot pepper, minced

1 TBSP cabbage, shredded

1 TBSP sea salt

¼ cup whey (see how to make whey below) or ¼ cup additional shredded raw cabbage

Water to cover

Making Whey (and Yogurt/Kefir Cheese)

1 quart of plain natural yogurt, no additives (or kefir, culture removed, that's been let to stand until well separated)

Whey is made by separating the milk solids from the liquid whey. The easiest way to do this is with a natural yogurt. Many yogurts in the grocery store contain thickeners like pectin and other additives that interfere with the separation process. Using a yogurt that only contains milk and cultures will give the best results.

Place cheesecloth over a plastic colander and set into a bowl. Pour the quart of yogurt into the cheesecloth-lined non-metallic colander and let drain for about 12 hours. The yellow liquid in the bowl is whey and can be used in any lacto-fermented vegetable recipe. The resulting thick yogurt cheese can be used like cream cheese. Store both in the refrigerator. The whey will keep for 6 months.

About the Instructor

Since 2007, Mary Margaret Ripley has made over 100 diverse kinds of fermented vegetables and beverages with favorites including fermented curried carrot sticks, fermented kimchi (Korean cabbage pickle), kefir, and much more. At their organic vegetable farm in Dover-Foxcroft, Mary Margaret, her husband Gene, and daughters enjoy her fermented products every day, year round. For more info on Mary Margaret's future classes please visit the website: www.ripleyorganicfarm.com or email her at ripleyfarm@gmail.com to get on the future classes notification list.