

Kombucha

Scoby

Symbiotic Culture Of Bacteria and Yeast.

- **Acetobacter:** This is an aerobic (requiring oxygen) bacteria strain that produces acetic acid and gluconic acid. It is always found in kombucha. Acetobacter strains also build the scoby mushroom. *Acetobacter xylinoides* and *acetobacter ketogenum* are two strains that you might find in kombucha

- **Saccharomyces:** This includes a number of yeast strains that produce alcohol, and are the most common types of yeast found in kombucha. They can be aerobic or anaerobic (requiring an oxygen-free environment). They include *Saccharomycodes ludwigii*, *Saccharomycodes apiculatus*, *Schizosaccharomyces pombe*, *Zygosaccharo-myes*, and *Saccharomyces cerevisiae*.

- **Brettanomyces:** Another type of yeast strain, either aerobic or anaerobic, that is commonly found in kombucha and that produces alcohol or acetic acid.

- **Lactobacillus:** A type of aerobic bacteria that are sometimes, but not always, found in kombucha. They produce lactic acid and slime.

- **Pediococcus:** These anaerobic bacteria produce lactic acid and slime. They are sometimes, but not always, found in kombucha.

- **Gluconacetobacter Kombuchae** is an anaerobic strain of bacteria that is unique to kombucha. It feeds on nitrogen that is found in tea, and produces acetic acid and gluconic acid as well as building the scoby mushroom.

- **Zygosaccharomyces Kombuchaensis** is a yeast strain that is unique to kombucha. It produces alcohol and carbonation as well as contributing to the mushroom body. Kombucha also contains a variety of other nutrients, particularly various acids and esters that give the drink its characteristic tang and fizz. Included in these components is gluconic acid, which is the primary difference between the makeup of kombucha and the makeup of apple cider vinegar!

The actual bacteria, sugar, and acid content of kombucha depends on many factors, including the culture you begin with, the type of tea used, the type of sugar used, the strength of the tea, the type of water, the length of time brewing, the temperature at which it is cultured, and more.

While different scobys may vary in their exact makeup, what is common to all kombuchas is gluconic acid, acetic acid, and fructose.

Type of containers – equipment

Types of tea

Herbal Teas. Herbal teas do not contain the necessary nutrients to nourish the scoby and should be used in combination with black tea (at least 25% black tea) to prevent problems for the batch and the scoby. While herbal tea alone will technically brew a batch of kombucha, it is much more difficult to

control the pH level of the brew and the scoby will suffer nutritionally, both of which can result in an unsafe beverage. Beware of herbal teas containing oils! They should not be used. (Examples include peppermint, chamomile, ginger, etc.)

While it can be tempting to try to find ways not to use sugar in recipes, sugar is required for the fermentation process and cannot be bypassed or substituted. During fermentation, the scoby breaks down the sugar and transforms it into acids, vitamins, minerals, enzymes, and carbon dioxide (which accounts for the fizzy nature kombucha is known for). Do not be tempted to use less sugar than called for. Upsetting the ratios will disrupt the fermentation process and potentially result in a beverage that is unsafe to drink. Keep in mind that at the conclusion of the fermentation process, kombucha contains only 1 to 2 grams of sugar or less per cup. Compare that to apple juice which contains 28 grams of sugar per cup.

The use of sugar

Honey. but we do not recommend it for a number of reasons. Raw honey contains its own bacterial profile, and may disrupt the balance of yeast and bacteria in the scoby. Additionally, raw honey may include other organic material that might disturb the scoby or attract mold. Keep in mind that such disruption isn't always obvious and may result in an unsafe batch the first time or several batches later.

. **Coloring.** The scoby should be primarily off-white in color or sometimes more tan. Blobs of brown or stringy brown particles clinging to the scoby are normal byproducts of the yeast. Do not use a scoby that has signs of mold (black, orange, green, or very white spots) or a scoby that has turned black (a sign the culture has died).