

Appetite for Knowledge



KOMBUCHA!

Kombucha - once reserved for small-batch do-it-yourself home-fermenters is now regularly found in farmers markets, health food stores, and even many mainstream supermarkets and gas stations across Wyoming. While many individuals are becoming more familiar with this popular beverage, numerous questions still arise: What is kombucha? How is it made? Is it even safe? Will it cure what ails you?

Kombucha is a fermented beverage made from brewed sweetened tea. Though not introduced commercially in the United States until the 1990s, there are records of kombucha being consumed as a 'functional beverage' (consumed for purported health benefits) in China dating back as far as 220 BC. Popularity of this beverage has surged in the US in recent years, with commercial growth far exceeding the industry average for non-alcoholic beverages.

HOMEBREWING

Instead of (or in addition to) purchasing commercial offerings, many individuals enjoy brewing their own kombucha at home. Kombucha can be easily (and safely) made at home without a need for purchasing expensive specialized equipment. It is important, however, to follow a tested recipe and maintain safe and hygienic practices to minimize

the risk of contaminants that could cause spoilage or illness.

Raw kombucha contains many live bacteria and yeasts in both the SCOBY and the kombucha liquid. Specific strains and amounts are highly variable depending on the source of the SCOBY and starter liquid as well as the fermenting environment. During fermentation the yeasts break down sugar to create ethanol and carbon dioxide. Bacteria use sugar as well as the ethanol to create acetic acid and gluconic acid (the primary acid components) as well as the cellulose that provides the structure for the SCOBY.



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Most of the sugar is consumed by bacteria and yeasts but a small amount will remain in the finished product. Some alcohol will remain as well, though with proper fermentation the concentration will be less than 0.5%.

SAFETY

While kombucha has a good track record of safety (both commercial- and home-produced), all fermentations are susceptible to contamination with spoilage and pathogenic organisms. If choosing to ferment at home, the following precautions can help to ensure a successful fermentation:

- Be cautious about your SCOBY source. A friend's mature SCOBY is an okay source to start your first batch but the best source is to purchase from a manufacturer that is licensed and inspected. Ensure you are getting enough starter liquid with the SCOBY (1.5 - 2 cups per 1-gallon batch).
- Use only clean and sanitary equipment and utensils.
- Use hot water (>165°F) to steep tea in order to kill any vegetative pathogens that may be present.
- Ferment at recommended time/temperature and measure finishing pH (target 2.5 - 4.2). Longer fermentations could result in unsafe acid levels.



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- Promptly discard any SCOBY or kombucha that shows sign of mold or contamination.

Illnesses related to kombucha are rare, but have been associated with the following:

- Consumption by a sick or immunocompromised individual.
- Consuming a highly acidic batch or in high quantity (>4oz/day).
- Improper production or storage resulting in lead contamination.

Health claims for kombucha are wide-ranging. As with many 'natural' foods and beverages, the associated claims seem to be limited only by the imagination. Unfortunately, there is no strong evidence to support the many health claims. Similarly, there is not reason to believe that kombucha could have significant medicinal effects, based on the known components of the beverage. Even further, the variable nature of kombucha makes it unlikely that a consistent effect could be demonstrated.

While kombucha certainly does not live up to its many health claims, it can be enjoyed - in moderation - as part of a well-balanced diet. As with any new food or beverage, it is a good idea to introduce slowly in your diet. Sick or immunocompromised individuals should avoid consumption, and it is typically recommended that healthy individuals limit consumption to 4 ounces per day.

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