

## **Kombucha: An Exploration of Brewing Conditions and the Effect of Fermentation Time on the Rate of Alcohol Production**

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Kombucha is a probiotic, fermented tea created with the help of a symbiotic culture of yeast and bacteria. The presence of bacteria and yeast in the broth permits fermentation and alcohol production to continue after the “mother” SCOBY has been removed and after bottling has occurred for mass consumption. In the normal metabolic path of kombucha fermentation, the yeast breaks down the disaccharide sucrose into the monosaccharides glucose and fructose and ferments the sugar into ethanol. The potential of unmarked, unregulated alcohol being sold in America is a public health concern. The purpose of this study was to identify a standard fermentation time for kombucha that will yield acceptable alcohol levels, establish a shelf life for kombucha, and to provide food scientists with a standard means of kombucha brewing preparation for future research. Two (2) batches of traditionally brewed kombucha were allowed to ferment for an initial period of fourteen (14) days. The samples were observed and the specific gravity was recorded every fourteen (14) days for a total of fifty-six (56) days. Kombucha allowed to ferment at 26°C for forty-two (42) days yielded a desirable broth, containing a concentration of alcohol (0.13%) suitable to sale without further regulation. Standardization of fermentation time and corresponding health education interventions will provide consumers with the tools to make educated choices regarding their storage and consumption behaviors of kombucha.