

## ABSTRACT

Sukma Aulia Wulandari.24020120120003. **Chemical and Organoleptic Characteristics of Turmeric Kombucha Fermentation with Variation of SCOBY Starter Concentration.** Supervized by Endang Kusdiyantini and Siti Nur Jannah.

Turmeric kombucha is a fermented beverage given a SCOBY starter, which provides health benefits for the body when consumed. SCOBY (Symbiotic Culture of Bacteria and Yeast) is a consortium or combination of bacteria and yeast that live in the same colony and have a gel like coating. SCOBY plays a role in the fermentation process of turmeric kombucha drinks. Turmeric is the basic ingredient for making turmeric kombucha because it contains various compounds that provide additional health benefits. This study has made turmeric kombucha drinks with variations of SCOBY starter, which are 5% (b/v), 10% (b/v), and 15% (b/v). This study aims to determine the effect of SCOBY starter concentration on pH value, total acid, ethanol content, antioxidant activity, total microbes, and organoleptic quality of turmeric kombucha and determine the best concentration. This study used a completely randomized design (CRD) with one factor, namely the different concentrations of SCOBY starter (5% (b/v), 10% (b/v), and 15% (b/v)) with three replications resulting in 9 experimental units. Application of SPSS ver. 29 with one-way ANOVA and DMRT test for real difference were used to analyze the data. Total microbial and organoleptic quality were analyzed using Kruskal Wallis. The results showed that the variation of SCOBY concentration had a significant effect on the pH value, total acid, and color organoleptic in turmeric kombucha, but had no significant effect on ethanol content, antioxidant activity, total microbes, and organoleptic aroma, taste, and acceptability. The treatment of turmeric kombucha with the best concentration based on the organoleptic test results is the treatment of adding 10% (b/v) starter concentration with a pH value of 3.57, total acid 0.25%, antioxidant activity based on IC<sub>50</sub> value 10.18 ppm, total microba  $2.30 \times 10^6$  CFU/mL, with organoleptic quality slightly yellow color, slightly pungent aroma, slightly sour taste, and "acceptable" acceptability.

*Keywords : kombucha, turmeric, SCOBY*