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AUTHOR

siti chairiyah batubara

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Study on Kombucha Tea From Dragon Fruit Peel Potential as a High-Antioxidant Functional Drink

Siti Batubara

Sahid University

Objectives: This study aims to obtain the quality of kombucha which has high antioxidant activity and is accepted by consumers.

Methods: The research design used Completely Randomized Design (CRD) with 2 factors and 2 repetitions. The first factor was fermentation time consisting of 4 treatments levels (4, 8, 12, and 16 days). The second factor was dragon fruit peel tea concentration consisting of 2 treatments levels (1% and 2%). The analysis method used was an analysis of variance. If it shows a significant difference, then Duncan's test is carried out as a follow-up test. Kombucha's quality analyzed by physical test (color and total dissolved solids); chemical test (antioxidant activity, pH value, acid content, and alcohol content); microbiological test (total microbes); and organoleptic test (hedonic and hedonic quality of color, aroma, and taste).

Results: Different fermentation time had a very significant effect at $\alpha = 0.01$ on the color and total dissolved solids of antioxidant activity, pH value, acid content, and alcohol content, total microbial; and organoleptic quality. Different concentrations of dragon fruit peel tea and the interaction between fermentation time and concentration of dragon fruit peel tea different significantly affect at $\alpha = 0.05$ on the hedonic quality of aroma, color and total dissolved solids, antioxidant activity, pH value, acid content, concentration alcohol, total microbial and organoleptic quality, however, had no significant effect on hedonic color and scent.

Conclusions: Kombucha with the best quality was found in the 8 days of fermentation and 2% of dragon fruit peel tea concentration with with color value (lightness (L*) 39.25, reddish color (a*) 45.26, yellowish color (b*) 4.23), total dissolved solids value 8.4%, antioxidant activity 53.49%, pH value 3.32, acid content 0.13%, alcohol content 0.20%, and total microbial 207 CFU/ml

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