

ABSTRACT

The Effect of Sugar Addition and Fermentation Duration on The Characteristics of Waxy Cassava Kombucha

By

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Cassava of the waxy variety is rarely cultivated in Indonesia. Waxy cassava contains very low levels of amylose, which can be demonstrated through iodine testing, as there is no color change in the iodine solution. Waxy cassava holds considerable potential in industrial applications, indicating a high potential for cultivation and cassava starch production. The liquid filtrate from cassava starch production is not utilized as a food product. This study explores the use of *waxy* cassava liquid filtrate as a substitute for tea and fruit juice solutions. The liquid filtrate contains 6-7% sugar. This research aims to investigate the effects of sugar addition and fermentation duration on the characteristics of waxy cassava kombucha and to determine any interactions between sugar addition and fermentation duration in producing the best *waxy* cassava kombucha. The study employed a RAKL with two treatment factors: sugar addition at 0%, 5%, 10%, and 15%, and fermentation durations of 7 days, 14 days, 21 days, and 28 days. The results of this study indicate that the addition of sugar and fermentation duration affect the characteristics of waxy cassava kombucha and produce the optimal kombucha in terms of alcohol content, titratable acidity, pH, and total microbial count. There is an interaction between sugar addition and fermentation duration on the characteristics of the waxy cassava kombucha produced.

Keywords: sugar, fermentation, kombucha, cassava, *waxy*, characteristics

ABSTRAK

PENGARUH PENAMBAHAN GULA DAN LAMA FERMENTASI TERHADAP KARAKTERISTIK KOMBUCHA UBI KAYU *WAXY*

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Ubi kayu dengan jenis *waxy* jarang dibudidayakan di Indonesia. Ubi kayu *waxy* mengandung amilosa yang sangat rendah, hal ini dapat dibuktikan dengan uji iodin, larutan iodin tidak mengalami perubahan warna. Ubi kayu *waxy* memiliki potensi cukup tinggi pada bidang industri, sehingga potensi budidaya dan produksi pati ubi kayu cukup tinggi. Filtrat cair ubi kayu hasil produksi pati tidak dimanfaatkan sebagai produk pangan. Pemanfaatan filtrat cair ubi kayu *waxy* sebagai pengganti larutan teh dan sari buah. Filtrat cair ubi kayu mengandung komponen gula sebanyak 6-7%. Penelitian ini dilakukan untuk mengetahui pengaruh penambahan gula dan lama fermentasi terhadap karakteristik kombucha ubi kayu *waxy* serta mengetahui adanya interaksi penambahan gula dan lama fermentasi dalam menghasilkan kombucha ubi kayu *waxy* terbaik. Penelitian ini menggunakan metode RAKL dengan 2 faktor perlakuan yaitu penambahan gula 0%, 5%, 10%, dan 15% dan lama fermentasi 7 hari, 14 hari, 21 hari, dan 28 hari. Hasil penelitian ini menunjukkan bahwa penambahan gula dan lama fermentasi mempengaruhi karakteristik kombucha ubi kayu *waxy* dan menghasilkan kombucha terbaik dengan kadar alkohol, total asam tertitrasi, pH, dan total mikroba. Adanya interaksi penambahan gula dan lama fermentasi terhadap karakteristik kombucha ubi kayu yang dihasilkan.

Kata kunci: gula, fermentasi, kombucha, ubi kayu, *waxy*, karakteristik