

ABSTRACT

THE EFFECT OF VARIATIONS IN MALTODEXTRIN ADDITION AND FERMENTATION DURATION ON THE CHARACTERISTICS OF INSTANT KOMBUCHA CASCARA

By

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Kombucha cascara are fermented tea beverage produced with the addition of a Symbiotic Culture of Bacteria and Yeast (SCOBY). The aim was to evaluate the effects of maltodextrin concentration and fermentation duration on the chemical, physical, and sensory (maltodextrin concentration: 5%, 10%, 15%, 20%); fermentation duration: 6, 8, 10, 12 days) and three replications was applied. Sensory attributes (taste, aroma, color), moisture content, solubility time, pH, ash content, hedonic score, and antioxidant activity were evaluated. Data were analysed using Bartlett's and Tukey's tests, followed by ANOVA and the Honestly Significant Difference (HSD) test at a 5% level. Results indicated that maltodextrin concentration significantly affected solubility time, moisture content, ash content and pH, while fermentation duration significantly affected moisture content and pH. The interaction between the two factors had a significant impact on moisture content, with a highly significant effect on sensory attributes and pH. The best treatment, M2L4 (10% maltodextrin 12 days fermentation), resulted in a light-yellow color (2,60), slightly sour aroma (3,60) and taste (3,90), solubility time of 45,25 s, moisture 2,791%, ash 0,564%, pH 4,25, overall hedonic score 4,16 (liked), and antioxidant activity of 40,73%.

Keywords: Fermentation, foam mat drying, maltodextrin, kombucha cascara

ABSTRAK

PENGARUH VARIASI PENAMBAHAN MALTODEKSTRIN DAN LAMA FERMENTASI TERHADAP KARAKTERISTIK KOMBUCHA CASCARA INSTAN

Oleh

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Kombucha cascara merupakan minuman teh yang difermentasi dengan penambahan *scooby*. Penelitian ini bertujuan untuk mengetahui pengaruh konsentrasi maltodekstrin dan lama fermentasi terhadap karakteristik kimia, fisik, dan sensori kombucha cascara instan. Penelitian ini menggunakan Rancangan Acak Kelompok Lengkap (RAKL) dengan dua faktor dan tiga ulangan. Faktor pertama konsentrasi maltodekstrin (5%, 10%, 15%, 20%), dan faktor kedua lama fermentasi (6, 8, 10, 12 hari). Parameter yang diamati meliputi sifat sensori (rasa, aroma, warna), kadar air, waktu larut, pH, kadar abu, uji hedonik, serta aktivitas antioksidan. Data yang diperoleh dianalisis secara statistik menggunakan uji Barlett dan uji Tukey, dilanjutkan dengan analisis ragam dan uji Beda Nyata Jujur (BNJ) pada taraf 5%. Hasil penelitian menunjukkan bahwa konsentrasi maltodekstrin berpengaruh sangat nyata terhadap waktu larut, kadar air, kadar abu, dan pH. Lama fermentasi berpengaruh sangat nyata terhadap kadar air dan pH. Interaksi keduanya berpengaruh nyata pada kadar air dan sangat nyata pada sifat sensori serta pH. Perlakuan terbaik diperoleh pada M2L4 (10% maltodekstrin dengan fermentasi 12 hari), dengan warna 2,60 (kuning cerah), aroma 3,60 (sedikit asam), rasa 3,90 (sedikit asam), waktu larut 45,25 detik, kadar air 2,791%, kadar abu 0,564%, pH 4,25, skor hedonik keseluruhan 4,16 (suka), serta aktivitas antioksidan 40,73 %.

Kata kunci: Fermentasi, *foam mat drying*, maltodekstrin, kombucha cascara