

ABSTRACT

THE EFFECT OF ADDED SUGAR AND FERMENTATION LENGTH ON THE CHARAKTERISTICS OF *NATA DE OCHA*

By

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Nata de ocha is one of the secondary metabolite products made from the fermentation of sweet tea and composed of cellulose produced by *Acetobacter xylinum* bacteria during the fermentation process. This study aims to determine the influence of sugar addition, fermentation duration, and the interaction between sugar addition and fermentation duration on the characteristics of nata de ocha produced through fermentation. The study utilized a Complete Randomized Block Design arranged factorially with 2 factors: sugar addition and fermentation duration. The sugar additions used were 10%, 15%, and 20%, while the fermentation durations were 7 days, 14 days, and 21 days. The measured parameters included yield, thickness, total microbes, moisture content, ash content, and crude fiber content. The results showed that sugar addition significantly affected the yield, thickness, total microbes, moisture content, and fiber content of nata de ocha produced through fermentation. Fermentation duration significantly affected the yield, thickness, moisture content, ash content, and crude fiber content of nata de ocha produced through fermentation. The addition of 15% sugar and a fermentation duration of 21 days had a significant effect on the yield, with an increase of 5.723%, and the addition of 15% sugar with a fermentation duration of 14 days significantly affected the crude fiber content, increasing by 1.353% in the nata de ocha produced through fermentation.

Keywords: nata, sugar, fermentation, kombucha

ABSTRAK

PENGARUH PENAMBAHAN GULA DAN LAMA FERMENTASI TERHADAP KARAKTERISTIK *NATA DE OCHA*

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Nata de ocha merupakan salah satu produk metabolit sekunder yang terbuat dari fermentasi teh manis dan tersusun dari selulosa hasil bakteri *Acetobacter xylinum* selama proses fermentasi. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan gula, pengaruh lama fermentasi, dan interaksi pengaruh penambahan gula dan lama fermentasi terhadap karakteristik *nata de ocha* hasil fermentasi. Penelitian ini menggunakan Rancangan Acak Kelompok Lengkap disusun secara faktorial dengan 2 faktor yaitu penambahan gula dan lama fermentasi. Penambahan gula yang digunakan yaitu 10%, 15%, dan 20% dan lama fermentasi yang digunakan yaitu 7 hari, 14 hari, dan 21 hari. Parameter yang diukur meliputi rendemen, ketebalan, total mikroba, kadar air, kadar abu, kadar serat kasar. Hasil menunjukkan bahwa penambahan gula berpengaruh nyata terhadap rendemen, ketebalan, total mikroba, kadar air, dan kadar serat *nata de ocha* hasil fermentasi. Lama fermentasi berpengaruh nyata terhadap rendemen, ketebalan, kadar air, kadar abu, dan kadar serat kasar *nata de ocha* hasil fermentasi. Penambahan gula 15% dan lama fermentasi 21 hari berpengaruh terhadap rendemen sebesar 5,723% dan penambahan gula 15% dan lama fermentasi 14 hari berpengaruh terhadap kadar serat kasar 1,353% *nata de ocha* hasil fermentasi.

Kata kunci: nata, gula, fermentasi, kombucha