

Dina Tria Apsari, 2019. **Pengaruh Konsentrasi Air Tebu Hijau dan Lama Waktu Fermentasi terhadap Kualitas *Nata de Tejo* (Tebu Hijau)**. Skripsi ini di bawah bimbingan Drs. Agus Supriyanto, M.Kes. dan Dr. Fatimah, S.Si., M.Kes., Program Studi S1 Biologi, Departemen Biologi, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya.

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh variasi konsentrasi substrat, lama fermentasi, dan kombinasi keduanya terhadap kualitas *nata* dari air tebu hijau. Penelitian ini merupakan penelitian eksperimental dengan rancangan faktorial 4x3 dengan total perlakuan sebanyak 12 dan 3 kali ulangan. Variabel pertama adalah 4 variasi konsentrasi substrat air tebu hijau (25, 50, 75, dan 100%) dan variabel kedua adalah 3 variasi lama fermentasi (7, 14, dan 21 hari). Parameter yang diuji adalah kadar air, ketebalan, dan berat *nata*. Data dianalisis menggunakan *Brown Forsythe* dan dilanjutkan dengan uji *Games Howell* untuk mengetahui beda nyata antar perlakuan. Hasil penelitian menunjukkan bahwa kombinasi variasi konsentrasi substrat air tebu hijau dan lama fermentasi memberikan pengaruh yang berbeda nyata terhadap kadar air. Variasi konsentrasi substrat air tebu hijau memberikan pengaruh yang berbeda nyata pada ketebalan. Variasi lama fermentasi memberikan pengaruh yang berbeda nyata terhadap berat. Kadar air tertinggi diperoleh pada perlakuan kombinasi konsentrasi substrat air tebu hijau 100% dan lama fermentasi 7 hari yaitu sebesar 77,12%. Nilai ketebalan tertinggi diperoleh pada perlakuan kombinasi konsentrasi substrat air tebu hijau 100% dan lama fermentasi 21 hari sebesar 2,51 cm. Sementara itu, berat tertinggi diperoleh pada perlakuan kombinasi konsentrasi substrat air tebu hijau 100% dan lama fermentasi 21 hari sebesar yaitu sebesar 160,90 gram.

Kata Kunci : fermentasi *nata*, kadar air, ketebalan, berat, lama fermentasi

Dina Tria Apsari, 2019, **The Effect of Green Sugar Cane Concentration And Fermentation Time On The Quality of *Nata de Tejo***. This script was under the guidance of Drs. Agus Supriyanto, M.Kes. and Dr. Fatimah S.Si., M.Kes., Undergraduate Program of Biology, Department of Biology, Faculty of Science and Technology, Airlangga University, Surabaya.

ABSTRACT

This research was aimed to determine the effect of variation substrate concentration, variation of fermentation time, and the combination of both to the quality of *nata* from green sugar cane's water as raw material. This research are experimental research using 4x3 factorial design with the amount of treatment are 12 and 3 replications. First variable is 4 variation of green sugar cane's water substrate concentration (25, 50, 75, and 100%) and second variable is 3 variation of fermentation time (7, 14, and 21 days). Parameters that measured are water content, thickness, and weight of *nata*. Data were analyzed by *Brown Forsythe* test to know the obvious difference treatments. This research showed that combination between variation of green sugar cane's water substrate concentration and fermentation time both was obviously different using water content. Variation of green sugar cane's water substrate concentration was obviously different to the thickness. Variation of fermentation time and the combination of both was obviously different to the weight. The highest water content is in treatment combination of 100% substrate concentration and fermentation for 7 days that is 77,12%. Value of highest thickness is in treatment combination of 100% substrate concentration and fermentation for 21 days that is 2,51 cm. Meanwhile, the highest weight obtained on treatment combination of 100% substrate concentration and fermentation for 21 days that is 160,90 gram.

Keywords : *Nata* fermentation, sugar level, substrate concentration, thickness, weight, fermentastion time