

PENGARUH KONSENTRASI GULA SEMUT AREN TERHADAP MUTU KIMIA, MIKROBIOLOGIS DAN ORGANOLEPTIK WATER KEFIR SARI BUAH PEPAYA (*Carica papaya* L.)

[THE EFFECT OF GRANULATED PALM SUGAR CONCENTRATION ON MICROBIOLOGICAL, CHEMICAL, AND ORGANOLEPTIC OF PAPAYA JUICE WATER KEFIR]

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ABSTRACT

*The Papaya juice water kefir is a fermented drink from papaya juice using grain water kefir as starter with a fermentation time of 24 hours. This study aims to determine the total lactic acid bacteria (LAB), total yeast, total acid, pH and organoleptic (color, aroma, taste and sensation of soda) papaya juice water kefir (*Carica Papaya* L..) with the addition of various concentrations of granulated palm sugar. The method used in this study was the experimental method conducted in the laboratory and were arranged with randomized design (CRD) with one factor that is concentration of granulated palm sugar 0%; 2%; 4%; 6%, and 10%. The parameters observed were the total lactic acid bacteria (LAB), total yeast, total acid, pH and organoleptic (color, aroma, taste and sensation of soda). Observed data were analyzed for diversity with a real level of 5% using Co-Stat. If there was a real difference, further analysis was carried out Polynomial Orthogonal Method (MOP) (chemical parameters and microbiological), and Honestly Significant Difference (organoleptic parameters). The results showed that the concentration of granulated palm sugar had a significantly different effect on the total lactic acid bacteria (LAB), total yeast, total acid, pH and organoleptic properties of color scoring, taste scoring, taste hedonic and sensation of soda scoring of papaya juice water kefir. Papaya juice with concentration of granulated palm sugar 10 % was the best treatment based on the value of total lactic acid bacteria (LAB) is 8.54 log CFU/mL, total yeast 8.56 log CFU/mL, total acid 0.84%, pH 3.12 with organoleptic color "slightly brown", aroma "does not smell papaya", taste "slightly sour" and sensation of soda "slightly fizzy".*

Key words : *granulated palm sugar, papaya juice, water kefir*

ABSTRAK

*Water kefir sari buah pepaya merupakan minuman fermentasi dari sari buah pepaya yang menggunakan starter *grain water kefir* dengan waktu fermentasi 24 jam. Penelitian ini bertujuan untuk mengetahui total bakteri asam laktat (BAL), total khamir, total asam, pH dan organoleptik (warna, aroma, rasa dan sensasi soda) *water kefir* sari buah pepaya (*Carica Papaya* L..) dengan penambahan berbagai konsentrasi gula semut aren. Penelitian ini menggunakan rancangan acak lengkap satu faktor yaitu konsentrasi gula semut aren 0%; 2%; 4%; 6%; 8% dan 10% serta ulangan sebanyak 3 kali sehingga didapat 18 unit percobaan. Adapun parameter yang diuji pada penelitian ini adalah total bakteri asam laktat (BAL), total khamir, total asam, pH, dan organoleptik yang meliputi warna, aroma, rasa dan sensasi soda. Data hasil pengamatan dianalisis keragaman dengan taraf nyata 5% menggunakan Co-Stat. Apabila terdapat beda nyata, dilakukan uji lanjut Metode Ortogonal Polinomial (MOP) (parameter kimia dan mikrobiologis), dan uji lanjut Beda Nyata Jujur (BNJ) (parameter organoleptik). Perlakuan konsentrasi gula semut aren memberikan pengaruh yang berbeda nyata terhadap total khamir, total bakteri asam laktat (BAL), total asam, nilai pH, organoleptik warna (skoring), organoleptik rasa (skoring dan hedonik) dan sensasi soda (skoring) *water kefir* sari buah pepaya. Perlakuan terbaik adalah konsentrasi gula merah aren 10% dengan total bakteri asam laktat (BAL) 8,54 log CFU/mL, total khamir 8,56 log CFU/mL, total asam 0,84 %, pH 3.12 dengan organoleptik warna "agak coklat", aroma "tidak berbau pepaya" rasa "agak asam" dan sensasi soda "agak bersoda" sehingga disukai panelis.*

Kata kunci : *gula semut aren, sari buah pepaya, water kefir*