

PENGARUH PERBANDINGAN DUA JENIS GULA TERHADAP KARAKTERISTIK MINUMAN FERMENTASI TEPACHE

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh perbandingan dua jenis gula, yaitu gula semut tebu dan gula semut aren, terhadap karakteristik minuman fermentasi tepache serta mengetahui kelayakan ekonomi dari produk yang dihasilkan. Penelitian menggunakan Rancangan Acak Lengkap (RAL) dengan 5 taraf perlakuan perbandingan gula semut tebu : gula semut aren yaitu 100 : 0, 75 : 25, 50 : 50, 25 : 75, dan 0 : 100, masing-masing dengan tiga kali ulangan. Parameter yang dianalisis meliputi angka lempeng total (ALT), total asam tertitrasi, gula pereduksi, pH, kadar alkohol, total padatan terlarut, bakteri asam laktat (BAL), uji organoleptik (rasa, aroma, dan warna), serta analisis ekonomi. Hasil penelitian menunjukkan bahwa perbandingan dua jenis gula berpengaruh nyata ($P < 0,05$) terhadap angka lempeng total, total asam tertitrasi, gula pereduksi, pH, dan total padatan terlarut, namun berpengaruh tidak nyata ($P > 0,05$) pada kadar alkohol. Pada perlakuan A perbandingan gula semut tebu : gula semut aren 100 : 0, menghasilkan karakteristik terbaik menurut organoleptik, dengan angka lempeng total $1,6 \times 10^5$ cfu/ml, total asam tertitrasi 0,123%, gula pereduksi 7,600, pH 2,533, kadar alkohol 0,373%, total padatan terlarut 15,633 °Brix, bakteri asam laktat (BAL) $1,4 \times 10^8$ cfu/ml. Analisis ekonomi menunjukkan bahwa *Break Even Point* (BEP) produk tercapai pada 288,95 unit produk, sedangkan berdasarkan rupiah sebesar Rp3.178.439.

Kata kunci: fermentasi, gula semut tebu, gula semut aren, karakteristik, tepache.

THE EFFECT OF THE RATIO OF TWO TYPES OF PALM SUGAR ON THE CHARACTERISTICS OF FERMENTED TEPACHE BEVERAGE

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ABSTRACT

This research aims to determine the effect of the ratio of two types of sugar, namely cane palm sugar (gula semut tebu) and arenga palm sugar (gula semut aren), on the characteristics of tepache fermented beverage, as well as to determine the economic feasibility of the resulting product. The research used a Completely Randomized Design (CRD) with 5 treatment levels of cane palm sugar : arenga palm sugar ratios, namely 100:0, 75:25, 50:50, 25:75, and 0:100, each with three replications. The parameters analyzed included total plate count (TPC), total titratable acid, reducing sugar, pH, alcohol content, total dissolved solids, lactic acid bacteria (LAB), organoleptic testing (taste, aroma, and color), and economic analysis. The results showed that the ratio of the two types of sugar had a significant effect ($P < 0.05$) on total plate count, total titratable acid, reducing sugar, pH, and total dissolved solids, but had no significant effect ($P > 0.05$) on alcohol content. Treatment A, with a cane palm sugar : arenga palm sugar ratio of 100:0, produced the best characteristics according to organoleptic testing, with a total plate count of 1.6×10^5 cfu/ml, total titratable acid of 0.123%, reducing sugar of 7.600, pH of 2.533, alcohol content of 0.373%, total dissolved solids of 15.633 °Brix, and lactic acid bacteria (LAB) of 1.4×10^8 cfu/ml. Economic analysis showed that the product's Break Even Point (BEP) was reached at 288,95 units of product, or Rp3.178.439 in terms of revenue.

Keywords: characteristics, fermentation, palm sugar, palm cane sugar, tepache.