

ABSTRACT

THE INFLUENCE OF CINNAMON AND SAPPAN WOOD CONCENTRATION TO THE CHARACTERISTICS OF RED GUAVA (*Psidium guajava L*) JUICE PROBIOTIC BEVERAGES

By

EZA SUSANTI

Red guava juice probiotic beverages were functional foods that have benefits for the health of the digestive tract. The addition of spices such as cinnamon and sappan wood was done to improve the aroma and flavor so that it was more acceptable to consumers. This study aims to determine the effect of spices (cinnamon and sappan wood) and their concentration, as well as the interaction between the types and concentrations of the best spice to the characteristics of spicy probiotic beverages of red guava juice which is fermented with bacteria *Lactobacillus casei*. This treatment was arranged in a Complete Randomized Block Design (CBRD) with two factors and three replications. The first factor is the type of spice consisting of cinnamon (J1) and sappan wood (J2). The second factor is the concentration of spice, i.e. 1% (K1), 2% (K2), 3% (K3), 4% (K4), and 5% (K5). The data obtained were analyzed by analysis of variance and continued using comparison and orthogonal polynomials (OP / OC) at the level of 5%. The results showed that the type of spices (cinnamon and sappan wood) had a very significant effect on the total lactic acid bacteria (LAB), total lactic acid, aroma, color, and significant effect on overall acceptance, as well as no significant

effect on the pH and taste of spicy red guava juice probiotic beverages.

Concentration of spices has a very significant effect on total lactic acid bacteria (LAB), total lactic acid, pH, aroma, taste, overall acceptance and color of spicy red guava juice probiotic beverages. The addition of 3% cinnamon extract resulted in probiotic beverages of spicy red guava juice with the best characteristics, i.e. total BAL of 10.93 log cfu / ml; total lactic acid 0.49%; pH 4.25; 3.31 flavor score (rather like); aroma score 3.24 (rather like); and overall acceptance score of 3.53 (rather like).

Keyword : probiotic beverage, *Lactobacillus casei*, red guava juice, cinnamon, and sappan wood.

ABSTRAK

PENGARUH KONSENTRASI KAYU MANIS DAN KAYU SECANG TERHADAP KARAKTERISTIK MINUMAN PROBIOTIK SARI JAMBU BIJI MERAH (*Psidium guajava L*) DENGAN BAKTERI *Lactobacillus casei*

Oleh

EZA SUSANTI

Minuman probiotik sari jambu biji merah merupakan pangan fungsional yang memiliki manfaat bagi kesehatan saluran pencernaan. Penambahan rempah-rempah seperti kayu manis dan kayu secang dilakukan untuk memperbaiki aroma dan citarasa sehingga lebih dapat diterima oleh konsumen. Penelitian ini bertujuan mengetahui pengaruh jenis rempah (kayu manis dan kayu secang) dan konsentrasinya, serta interaksi antara jenis dan konsentrasi rempah terbaik terhadap karakteristik minuman probiotik sari jambu biji merah berrempah yang difermentasi dengan bakteri *Lactobacillus casei*. Perlakuan disusun dalam Rancangan Acak Kelompok Lengkap (RAKL) dengan dua faktor dan tiga ulangan. Faktor pertama adalah jenis rempah yang terdiri dari kayu manis (J1) dan kayu secang (J2). Faktor kedua adalah konsentrasi rempah yaitu 1% (K1), 2% (K2), 3% (K3), 4% (K4), dan 5% (K5). Data yang diperoleh dianalisis dengan analisis varian dan diuji lanjut menggunakan perbandingan dan polinomial ortogonal (OP/OC). Hasil penelitian menunjukkan bahwa jenis rempah (kayu manis dan kayu secang) berpengaruh sangat nyata terhadap total bakteri asam laktat (BAL), total asam laktat, aroma, warna, dan berpengaruh nyata

terhadap penerimaan keseluruhan, serta berpengaruh tidak nyata terhadap pH dan rasa minuman probiotik sari jambu biji merah berempah. Konsentrasi rempah berpengaruh sangat nyata terhadap total bakteri asam laktat (BAL), total asam laktat, pH dan aroma, rasa, penerimaan secara keseluruhan warna minuman probiotik sari jambu biji merah berempah. Penambahan ekstrak kayu manis 3% menghasilkan minuman probiotik sari jambu biji merah berempah dengan karakteristik terbaik yaitu total BAL 10,93 log cfu/ml; total asam laktat 0.49%; pH 4.25; skor rasa 3.31 (agak suka); skor aroma 3.24 (agak suka); dan skor penerimaan keseluruhan 3.53 (agak suka).

Kata kunci: minuman probiotik , *Lactobacillus casei*, sari jambu biji merah, kayu manis, dan kayu secang.