ABSTRAK

PENGARUH PENAMBAHAN VARIASI JENIS GULA TERHADAP KUALITAS MINUMAN SINBIOTIK SARI KULIT PISANG AMBON (*Musa paradisiaca* L.) DAN *Lactobacillus casei*

Sinbiotik merupakan suatu kombinasi antara prebiotik dan probiotik. Salah satu alternatif untuk memperoleh minuman sinbiotik yaitu dengan memanfaatkan kulit pisang ambon (*Musa paradisiaca* L.) dan inokulum *Lactobacillus casei* sebagai starter. Serta penambahan variasi jenis gula untuk memperoleh kualitas minuman sinbiotik yang baik dan disukai. Penelitian ini bertujuan untuk menganalisis pengaruh penambahan variasi jenis gula terhadap kualitas minuman sinbiotik sari kulit pisang ambon (*Musa paradisiaca* L.) yang meliputi karakteristik kimia, aktivitas antioksidan, aktivitas antibakteri, dan organoleptik. Minuman sinbiotik sari kulit pisang ambon (*Musa paradisiaca* L.) dibuat dengan tanpa penambahan gula (A1), penambahan gula tebu (A2), penambahan gula aren (A3) dan penambahan gula pasir (A4). Nilai pH diuji menggunakan alat pH meter, total asam tertitrasi (TAT) menggunakan metode titrasi asam basa, analisis aktivitas antioksidan menggunakan metode DPPH (*2,2-diphenyl-1-picrylhydrazyl*), pengujian aktivitas antibakteri menggunakan metode difusi cakram dan uji organoleptik secara hedonik. Hasil penelitian yang diperoleh menunjukan bahwa semakin banyak asam organik yang dihasilkan selama proses fermentasi maka nilai pH semakin menurun, sedangkan untuk total asam tertitrasi (TAT), aktivitas antioksidan dan aktivitas antibakteri semakin meningkat. Kualitas terbaik minuman sinbiotik sari kulit pisang ambon berdasarkan uji antioksidan yaitu sampel dengan penambahan gula aren (A3) sebesar 59,90%, nilai pH 2,78, TAT 1,89%, dan aktivitas antibakteri sebesar 1,21 mm. Berdasarkan uji organoleptik sampel yang paling disukai oleh panelis yaitu minuman dengan penambahan gula aren (A3). Berdasarkan hasil yang diperoleh, penambahan variasi jenis gula terhadap minuman sinbiotik memberikan pengaruh terhadap karakteristik kimia, aktivitas antioksidan, aktivitas antibakteri dan mutu hedonik minuman sinbiotik sari kulit pisang ambon (*Musa paradisiaca* L.) dan *Lactobacillus casei.*

Kata Kunci : karakteristik kimia; kulit pisang ambon; *Lactobacillus casei*; organoleptik; sinbiotik.

ABSTRACT

THE EFFECT OF ADDING VARIATIONS IN SUGAR TYPES ON THE QUALITY OF SYNBIOTIC BEVERAGES OF AMBON BANANA PEEL ESSENCE (Musa paradisiaca L.) AND Lactobacillus casei

Synbiotics are a combination of prebiotics and probiotics. One of the alternatives to obtain synbiotic beverage is by utilizing ambon banana peel (Musa paradisiaca L.) and Lactobacillus casei inoculum as a starter. As well as the addition of various types of sugar to obtain good quality and preferred synbiotic beverages. This study aims to analyze the effect of adding various types of sugar on the quality of ambon banana peel essence (Musa paradisiaca L.) synbiotic beverage which includes chemical characteristics, antioxidant activity, antibacterial activity, and organoleptic. Ambon banana peel essence (Musa paradisiaca L.) synbiotic beverage was made with no added sugar (A1), added cane sugar (A2), added palm sugar (A3) and added granulated sugar (A4). The pH value was tested using a pH meter, total titratable acid (TAT) using the acid-base titration method, antioxidant activity analysis using the DPPH (2,2-diphenyl-1-picrylhydrazyl) method, antibacterial activity testing using the disc diffusion method and hedonic organoleptic test. The results obtained showed that the more organic acids produced during the fermentation process, the pH value decreased. As for total titratable acid (TAT), antioxidant activity and antibacterial activity increased. The best quality of ambon banana peel essence synbiotic beverage based on antioxidant test is the sample with added palm sugar (A3) of 59.90%, pH value of 2.78, TAT of 1.89%, and antibacterial activity of 1.21 mm. Based on the organoleptic test, the sample most favored by panelists was the beverage with the addition of palm sugar (A3). Based on the results obtained, the addition of various types of sugar to the synbiotic beverage influenced the chemical characteristics, antioxidant activity, antibacterial activity and hedonic quality of the ambon banana peel essence synbiotic beverage (Musa paradisiaca L.) with Lactobacillus casei.

Keywords: *chemical characteristics, ambon banana peel. Lactobacillus casei, organoleptic, synbiotic*