ABSTRAK

ANALISIS KIMIA, MIKROBIOLOGI, UJI ORGANOLEPTIK, DAN UJI AKTIVITAS ANTIBAKTERI KEFIR OPTIMA SUSU KAMBING ETAWA DENGAN PENAMBAHAN SARI BUAH NANAS

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Kefir merupakan minuman probiotik dari olahan susu yang difermentasi menggunakan bibit kefir. Kefir dapat dibuat dari susu kambing, susu sapi, susu kerbau, dan susu kedelai. Pada penelitian ini jenis kefir yang digunakan adalah kefir optima susu kambing etawa. Kefir dengan bahan dasar susu kambing memiliki aroma prengus *(goaty flavor)* yang kurang disukai konsumen. Aroma prengus pada susu kambing dapat diminimalisir dengan penambahan sari buah nanas untuk memberikan aroma segar dan meningkatkan kualitas cita rasa pada susu kambing. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan sari buah nanas dengan variasi konsentrasi P0 (0%), P1 (10%), P2 (20%), dan P3 (30%). Metode yang digunakan pada penelitian ini meliputi fermentasi susu kambing etawa dengan penambahan bibit kefir 10%, analisis kimia berupa nilai pH, total asam laktat, kadar alkohol, kadar protein dan kadar lemak serta uji bakteri asam laktat, uji organoleptik, dan uji aktivitas antibakteri. Hasil penelitian menunjukkan bahwa penambahan sari buah nanas dengan konsentrasi P3 (30%) relatif lebih baik dengan memperoleh nilai pH (3,86), total asam laktat (2,15%), kadar alkohol (0,49%), kadar protein (4,15%), kadar lemak (1,20%), dan total bakteri asam laktat ($13{,}71 \times 10^{7}$). Uji organoleptik secara keseluruhan *(overall)* menunjukkan formula yang paling disukai yaitu P3 dengan rerata nilai 4,05. Aktivitas antibakteri kefir optima susu kambing etawa dengan variasi konsentrasi sari buah nanas menunjukkan diameter zona hambat terbesar pada penambahan 20% sari buah nanas. Diameter zona hambat terhadap *Bacillus cereus* mencapai 9,34 mm dan zona hambat bakteri *Escherichia coli* sebesar 9,22 mm dimana keduanya termasuk dalam kategori antibakteri kuat.

Kata kunci: kefir optima, fermentasi, nanas, susu kambing etawa, dan antibakteri

ABSTRACT

CHEMICAL ANALYSIS, MICROBIOLOGY, ORGANOLEPTIC TESTS, AND ANTIBACTERIAL ACTIVITY TESTS OF KEFIR OPTIMA ETAWA GOAT MILK WITH THE ADDITION OF PINEAPPLE JUICE

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Kefir is a probiotic drink made from fermented milk using kefir grains. Kefir can be made from goat's milk, cow's milk, buffalo milk, and soy milk. In this study, the type of kefir used was kefir optima from Etawa goat's milk. Kefir made from goat's milk has a goaty flavor that is less preferred by consumers. The goaty flavor in goat's milk can be minimized by adding pineapple juice to provide a fresh aroma and improve the taste quality of goat's milk. This study aims to determine the effect of adding pineapple juice with variations in concentrations of P0 (0%), P1 (10%), P2 (20%), and P3 (30%). The methods used in this study include fermentation of Etawa goat's milk with the addition of 10% kefir grains, chemical analysis in the form of pH value, total lactic acid, alcohol content, protein content and fat content as well as lactic acid bacteria tests, organoleptic tests, and antibacterial activity tests. The results showed that the addition of pineapple juice with a concentration of P3 (30%) was relatively better by obtaining a pH value (3.86), total lactic acid (2.15%), alcohol content (0.49%), protein content (4.15%), fat content (1.20%), total lactic acid bacteria (13.71×10^7). Overall organoleptic tests showed that the most preferred formula was P3 with an average value of 4.05. The antibacterial activity of kefir optima goat milk with variations in pineapple juice concentration showed the largest inhibition zone diameter at the addition of 20% pineapple juice. The diameter of the inhibition zone against Bacillus cereus reached 9.34 mm and the inhibition zone against Escherichia coli bacteria was 9.22 mm, both of which are included in the strong antibacterial category.

Keywords: kefir optima, fermentation, pineapple, goat's milk, and antibacterial