ABSTRAK

OPTIMASI PRODUKSI MINUMAN PROBIOTIK KEFIR BERBAHAN BAKU KOLOSTRUM SAPI

Siwi Meutia Sadewi

Kefir merupakan salah satu minuman probiotik yang baik untuk kesehatan. Kefir dapat dibuat dari susu sapi, susu kambing, ataupun susu kedelai. Pada penelitian ini, kolostrum sapi pemerahan pertama digunakan sebagai bahan baku pembuatan kefir. Penelitian ini bertujuan untuk mengetahui kondisi optimum fermentasi kefir kolostrum sapi dan pengaruh suhu, waktu fermentasi, serta konsentrasi bibit kefir terhadap kadar protein, lemak, total asam, dan jumlah bakteri asam laktat. Metode yang digunakan pada penelitian ini meliputi analisis protein dengan metode *kjedahl*, analisis lemak dengan metode sokhletasi dan Babcock, analisis total asam laktat dengan metode titrasi, dan analisis bakteri asam laktat dengan metode TPC (*Total Plate Count*). Keseluruhan data yang diperoleh dianalisis menggunakan Anova. Hasil penelitian menunjukkan bahwa kadar protein tertinggi kefir kolostrum sapi adalah pada variasi bibit 10%, suhu 37 ^{o}C, dan waktu fermentasi 24 jam yaitu 21,7100%. Kadar lemak terendah pada bibit 10%, suhu 37 ^{o}C, dan waktu fermentasi 24 jam yaitu 0,3728 %. Kadar total asam laktat tertinggi terdapat pada variasi bibit 10%, suhu 37 ^{o}C, dan waktu fermentasi 24 jam yaitu 1,4569%. Sedangkan kadar total bakteri asam laktat tertinggi pada variasi bibit 10%, suhu 37 ^{o}C, dan waktu fermentasi 24 jam yaitu 16,0 x 10^{7} CFU/ml. Berdasarkan hasil yang diperoleh dapat disimpulkan bahwa adanya variasi waktu fermentasi, suhu fermentasi dan konsentrasi bibit kefir tidak terlalu berpengaruh nyata ($\alpha > 0,05$) terhadap kadar protein, lemak, total asam laktat, dan total bakteri asam laktat pada fermentasi kefir kolostrum sapi.

Kata Kunci : Minuman Probiotik, Fermentasi, Kefir, Kolostrum Sapi.

ABSTRACT

OPTIMIZATION OF KEFIR PROBIOTIC DRINKS DERIVED FROM COW COLOSTRUM

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Kefir is one of the good probiotic drinks for health. Kefir can be made from cow's milk, goat's milk or soy milk. In this research, the first cow milk colostrum was used as raw material for making kefir. The aim of this research was to determine the optimum condition of kefir bovine colostrum fermentation and the effect of temperature, fermentation time, and concentration of kefir seedlings on protein, fat, total acid, and the number of lactic acid bacteria. The method used in this study included protein analysis with the *kjedahl* method, fat analysis with soxhletation and Babcock methods, total analysis of lactic acid by titration method, and analysis of lactic acid bacteria by the TPC (Total Plate Count) method. Then, all data obtained were analyzed using Anova. The results showed that the highest protein content of kefir cow colostrum was in the variation of 10% seeds, temperature 37 ^{o}C, and 24 hour fermentation time which was 21.7100%. Where as the lowest fat content in the seeds is 10%, the temperature 37 ^{o}C, and the fermentation time was 24 hours, which was 0.3728%. The highest total lactic acid levels were found in 10% seed varieties, 37 ^{o}C, and 24 hour fermentation time at 1.4569%. While the highest total levels of lactic acid bacteria in the variation of 10% seed, temperature 37 ^{o}C, and 24 hour fermentation time was 16.0 x 10^{7} CFU/mL. Based on the results, it can be concluded that the variation in fermentation time, fermentation temperature and kefir seed concentration did not significantly influence ($\alpha > 0.05$) on protein, fat, total lactic acid, and total lactic acid bacteria in the kefir fermentation of cow colostrum.

Keywords : Probiotic Drinks, Fermentation, Kefir, Cow Colostrum.