

RINGKASAN

ULFAHTU WAKHIDAH. Judul penelitian: Total Bakteri Asam Laktat dan Kadar Asam Laktat Kefir Susu Kambing dengan Penambahan Sari Kedelai (*Glycine Max (L.) Merril*) pada Lama Penyimpanan Berbeda. Penelitian dilaksanakan mulai 18 Oktober 2018 - 15 Maret 2019. Tujuan penelitian ini adalah untuk mengetahui peningkatan dan lama penyimpanan optimal kefir susu kambing dengan penambahan sari kedelai terhadap total bakteri asam laktat dan kadar asam laktat. Materi yang digunakan dalam penelitian ini adalah 5 liter susu kambing yang berasal dari Nani Farm, 150 gram kefir *grains* dan sebanyak 500 gram kedelai. Metode penelitian menggunakan metode eksperimen dengan Rancangan Acak Lengkap (RAL) dengan 5 perlakuan dan 4 ulangan. Perlakuan yaitu 75% susu kambing dan 25% sari kedelai yang disimpan pada P₀ dalam penyimpanan refrigerator 0 hari (sebagai kontrol), P₁ dalam penyimpanan refrigerator 2 hari, P₂ dalam penyimpanan refrigerator 4 hari, P₃ dalam penyimpanan refrigerator 6 hari, P₄ dalam penyimpanan refrigerator 8 hari. Variabel yang diukur dalam penelitian ini adalah total bakteri asam laktat dan kadar asam laktat. Hasil penelitian menunjukkan lama penyimpanan selama delapan hari terhadap total bakteri asam laktat sebesar $4,83 \pm 0,58$ log cfu/ml sampai dengan $7,21 \pm 0,67$ log cfu/ml. Rataan hasil pengujian kadar asam laktat $1,50 \pm 0,08\%$ sampai dengan $2,50 \pm 0,25\%$. Analisis variansi menunjukkan bahwa lama penyimpanan sampai hari ke delapan pada kefir susu kambing dengan penambahan sari kedelai berpengaruh sangat nyata ($P < 0,01$) terhadap total bakteri asam laktat dengan persamaan $y = 0,297x + 4,956$ dan $R^2 = 95,7\%$ dan kadar asam laktat dengan persamaan $y = 0,126x + 1,4276$ dan $R^2 = 99,5\%$. Simpulan bahwa lama penyimpanan dalam refrigerator sampai hari ke delapan dapat meningkatkan total bakteri asam laktat dan kadar asam laktat kefir susu kambing dengan penambahan sari kedelai.

Kata Kunci : susu kambing, sari kedelai, kefir, total bakteri asam laktat, kadar asam laktat

SUMMARY

ULFAHTU WAKHIDAH. The research title: Total Lactic Acid Bacteria and Lactic Acid Levels of Goat Milk Kefir with Addition of Soybean (*Glycine Max (L.) Merril*) to Different Storage Lengths. The study was conducted from October 18, 2018 - March 15, 2019. The purpose of this study was to determine the increase and optimal storage time of goat milk kefir with the addition of soybean juice to the total lactic acid bacteria and lactic acid levels. The material used in this study was 5 liters of goat's milk from Nani Farm, 150 grams of kefir grains and as much as 500 grams of soybeans. The research method used experimental methods with Completely Randomized Design (CRD) with 5 treatments and 4 replications. Treatment is 75% goat's milk and 25% soybean juice stored at P₀ in refrigerator storage for 0 days (as control), P₁ in refrigerator storage for 2 days, P₂ in refrigerator storage for 4 days, P₃ in refrigerator storage for 6 days, P₄ in refrigerator storage 8 days. The variables measured in this study were total lactic acid bacteria and lactic acid levels. The results showed eight days of storage time for total lactic acid bacteria of 4.83 ± 0.58 log cfu / ml up to 7.21 ± 0.67 log cfu / ml. The average test results for lactic acid levels were $1.50 \pm 0.08\%$ to $2.50 \pm 0.25\%$. Variance analysis showed that the storage time until the eighth day of goat milk kefir with the addition of soybean juice had a very significant effect ($P < 0.01$) on the total lactic acid bacteria with the equation $y = 0.297x + 4.956$ and $R^2 = 95.7\%$ and levels lactic acid with the equation $y = 0.126x + 1.4276$ and $R^2 = 99.5\%$. The conclusion that the length of storage in the refrigerator until the eighth day can increase the total lactic acid bacteria and the lactic acid level of goat milk kefir with the addition of soy juice.

Keyword : goat milk, soy juice, kefir, total lactic acid bacteria, lactic acid levels