

ABSTRAK

Kelor adalah tanaman dengan berbagai manfaat yang terkandung di dalamnya. Yogurt merupakan salah satu produk fermentasi dengan penambahan bakteri asam laktat. Penggunaan yogurt melibatkan bakteri *Lactobacillus bulgaricus*, dan *Streptococcus thermophilus*. Tujuan dari penelitian ini untuk mengetahui kadar protein dan nilai pH yogurt susu kambing dengan penambahan ekstrak daun kelor serta mencari konsentrasi terbaik penambahan ekstrak daun kelor. Materi yang digunakan yakni susu kambing 5 liter dan ekstrak kelor sebanyak 300 ml dengan variabel yang diukur meliputi kadar protein dan nilai pH. Penelitian ini menggunakan metode rancangan acak lengkap (RAL) dengan 4 perlakuan P_0 (0% ekstrak daun kelor), P_1 (4% ekstrak daun kelor), P_2 (8% ekstrak daun kelor), P_3 (12% ekstrak daun kelor), dan diulang sebanyak 5 kali. Hasil pengamatan dianalisis dengan analisis variansi. Hasil penelitian menunjukkan bahwa penambahan ekstrak daun kelor berpengaruh sangat nyata $P < 0,01$ terhadap peningkatan kadar protein dengan rata-rata $P_0 = 18,11\% \pm sd 1,19$; $P_1 = 19,18\% \pm sd 0,88$; $P_2 = 21,25\% \pm sd 1,62$; dan $P_3 = 22,45\% \pm sd 1,63$ dan nilai pH yogurt susu kambing dengan rata-rata sebesar $P_0 = 4,18 \pm 0,42$; $P_1 = 4,04 \pm 0,15$; $P_2 = 4,58 \pm 0,14$; $P_3 = 4,81 \pm 0,13$. Hasil penelitian diuji lanjut dengan ortogonal polinomial dengan persamaan garis $Y = 17,615 + 0,2509x$ dan koefisien determinasi sebesar 47,65% pada pengujian kadar protein. Persamaan garis $Y = 3,9737 + 0,0408x$ dan koefisien determinasi sebesar 39,27%. Kesimpulan dari hasil penelitian ini kadar protein dan nilai pH yogurt susu kambing dengan penambahan ekstrak daun kelor meningkat. Konsentrasi terbaik penambahan ekstrak daun kelor yakni pada perlakuan yogurt dengan penambahan ekstrak kelor sebesar 12%.

Kata kunci : yogurt, daun kelor, protein, nilai pH.

ABSTRACK

Moringa is a plant with various benefits contained in it. Yogurt is one of the fermentation products with the addition of lactic acid bacteria. The use of yogurt involves the bacteria *Lactobacillus bulgaricus*, and *Streptococcus thermophilus*. The purpose of this research was to determine the protein content and pH value of goat milk yogurt with the addition of Moringa leaf extract and find the best concentration of Moringa leaf extract addition. The material used was 5 liters of goat milk and Moringa extract as much as 300 ml with measured variables including protein content and pH value. This research used a completely randomized design method (CRD) with 4 treatments P₀ (0% Moringa leaf extract), P₁ (4% extract of leaves of Moringa), P₂ (8% extract of leaves of Moringa), P₃ (12% Moringa leaf extract), and repeated 5 times. The observations were analyzed by analysis of variance. The results showed that the addition of Moringa leaf extract was highly significant $P < 0.01$ against the increased levels of the protein with the average P₀ = 18.11% ± 1.19 sd; P₁ = 19.18% ± sd 0.88; P₂ = 21.25% ± sd 1.62; and P₃ = 22.45% ± sd 1.63 and the pH value of goat milk yogurt with an average of P₀ = 4.18 ± 0.42; P₁ = 4.04 ± 0.15; P₂ = 4.58 ± 0.14; P₃ = 4.81 ± 0.13. The results of the research were further tested with orthogonal polynomials with a line equation $Y = 17.615 + 0.2509x$ and a coefficient of determination of 47.65% for protein test content. The equation of line $Y = 3.9737 + 0.0408x$ and the coefficient of determination is 39.27% for pH value. . The conclusion from the results of this research was the protein content and pH value of goat milk yogurt with the addition of moringa leaf extract increased. The best concentration of the addition of moringa leaf extract is the treatment of yogurt with the addition of moringa extract by 12%.

Keywords: yogurt, Moringa leaf extract, protein content, and pH value.

