

RINGKASAN

SOEFI NUR FAZRIAH. Kajian Total Mikroba dan Kadar Asam Laktat Susu Sapi Pasteurisasi secara LTLT (*Low Temperature Long Time*) pada Penyimpanan Suhu *Refrigerator*. Penelitian ini dilaksanakan dari 21 februari sampai 3 Maret 2019 di Laboratorium Produksi Ternak Perah Fakultas Peternakan, Universitas Jenderal Soedirman, Purwokerto. Tujuan penelitian adalah mengkaji penyimpanan susu sapi pasteurisasi secara LTLT (*Low Temperature Long Time*) pada suhu *refrigerator* terhadap total mikroba dan kadar asam laktat. Sampel susu yang digunakan diambil dari Experimental Farm Universitas Jenderal Soedirman sebanyak 10 liter. Pasteurisasi dilakukan secara LTLT (*Low Temperature Long Time*) sebanyak 20 sampel masing – masing 500 ml. Penelitian menggunakan Rancangan Acak Lengkap (RAL) dengan 5 perlakuan 4 ulangan. Perlakuan tersebut terdiri dari R₁ : Penyimpanan susu sapi pasteurisasi selama 96 jam; R₂ : Penyimpanan susu sapi pasteurisasi selama 120 jam; R₃ : Penyimpanan susu sapi pasteurisasi selama 144 jam; R₄ : Penyimpanan susu sapi pasteurisasi selama 168 jam; R₅ : Penyimpanan susu sapi pasteurisasi selama 192 jam. Peubah yang diukur adalah total mikroba dan kadar asam laktat. Data yang diperoleh dianalisis menggunakan analisis variansi dan dilanjutkan dengan Uji Beda Nyata Jujur bila perlakuan berpengaruh nyata atau sangat nyata.

Hasil penelitian menunjukkan bahwa rata-rata total mikroba pada susu sapi pasteurisasi LTLT (*Low Temperature Long Time*) setelah penyimpanan selama 96, 120, 144, 168, dan 192 jam masing – masing adalah $4.1 \times 10^5 \pm 19361.69$ cfu/ml; $3.9 \times 10^5 \pm 18026.02$ cfu/ml; $2.6 \times 10^5 \pm 16904.76$ cfu/ml; $2.2 \times 10^5 \pm 12938.96$ cfu/ml; $1.4 \times 10^5 \pm 24822.70$ cfu/ml, sedangkan kadar asam laktat menunjukkan $0.315 \pm 0.0037\%$; $0.324 \pm 0.0082\%$; $0.332 \pm 0.0043\%$; $0.388 \pm 0.0077\%$; $0.456 \pm 0.0043\%$. Analisis variansi menunjukkan bahwa total mikroba berbeda sangat nyata ($P > 0.01$) dan kadar asam laktat berbeda sangat nyata ($P > 0.01$). Kesimpulan dari penelitian ini adalah susu pasteurisasi yang disimpan selama 192 jam terjadi penurunan total mikroba dan peningkatan kadar asam laktat.

Kata kunci : susu sapi, pasteurisasi, total mikroba, kadar asam laktat

SUMMARY

SOEFI NUR FAZRIAH. Study of Total Microbes and Milk Lactic Acid Levels of Pasteurized LTLT (Low Temperature Long Time) at Refrigerator Temperature Storage. The research was conducted from February 21th to March 3th, 2019 at the Laboratory of Dairy Production of the Faculty of Animal Husbandry, Jenderal Soedirman University, Purwokerto. The aim of the study was to assess the storage of cow's milk LTLT (Low Temperature Long Time) at refrigerator temperature against total microbes and lactic acid levels. The milk samples used were taken from the 10-liter General Sudirman University Experimental Garden. Pasteurization is carried out by LTLT (Low Temperature Long Time) of 20 samples of 500 ml each. The study used a completely randomized design (CRD) with 5 treatments 4 replications. The treatment consists of R₁: Storage of pasteurized cow milk for 96 hours; R₂: Storage of pasteurized cow milk for 120 hours; R₃: Storage of pasteurized cow milk for 144 hours; R₄: Storage of pasteurized cow milk for 168 hours; R₅: Store pasteurized cow's milk for 192 hours. The variables measured were total microbes and lactic acid levels. The data obtained were analyzed using variance analysis and continued with a Honest Real Difference Test if the treatment had a significant or very real effect.

The results showed that the total microbial average in LTLT pasteurized milk (Old Low Temperature) after storage for 96, 120, 144, 168, and 192 hours was respectively $4.1 \times 10^5 \pm 19361.69$ cfu / ml; $3.9 \times 10^5 \pm 18026.02$ cfu / ml; $2.6 \times 10^5 \pm 16904.76$ cfu / ml; $2.2 \times 10^5 \pm 12938.96$ cfu / ml; $1.4 \times 10^5 \pm 24822.70$ cfu / ml, while lactic acid levels show $0.315 \pm 0.0037\%$; $0.324 \pm 0.0082\%$; $0.332 \pm 0.0043\%$; $0.388 \pm 0.0077\%$; $0.456 \pm 0.0043\%$. Analysis of variance showed that total microbes differed significantly ($P > 0.01$) and lactic acid levels differed very significantly ($P > 0.01$). The conclusion of this study is that pasteurized milk stored for 192 hours decreases microbial total and increases lactic acid levels.

Keywords: cow milk, pasteurization, total microbes, lactic acid levels