

Pengaruh Lama Penyimpanan Berbeda Pada Suhu Dingin (4-8°C) Terhadap Nilai pH, Viskositas dan Warna Kefir Susu-Kolostrum Sapi

Title	Pengaruh Lama Penyimpanan Berbeda Pada Suhu Dingin (4-8°C) Terhadap Nilai pH, Viskositas dan Warna Kefir Susu-Kolostrum Sapi
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Abstract	<p>Background. This study was conducted to determine effect of different storage times on cold temperature (4-8°C) on pH, viscosity and color of milk-colostrum kefir of cows. The study was conducted on January 6-19, 2020 at the Laboratory of Animal Products Technology, Faculty of Animal Science, Jenderal Soedirman University, Purwokerto. Materials and methods. The materials of study used 3 liter of cow's milk, 3 liter of cow's colostrum and 300 gram of kefir grain. The study used mixing of kefir by 50% of cow's milk, 50% of cow's colostrum and 5% of kefir grain with 24-hour incubation time at room temperature. Kefir products that have been incubated for 24 hours were filtered to separate kefir and kefir grains, then kefir was separated into 5 treatments P0 (day 0), P1 (day 3), P2 (day 6), P2 (day 6), P3 (day 9) and P4 (day 12). Sample that was used in each treatment was 300 ml and was stored in different jars in a refrigerator at 4-8°C. All treatment was measured for pH, viscosity and color of kefir. The method of study used an experimental method with Completely Randomized Design (CRD) which was carried out 4 replications. The data obtained were further analyzed by analysis of variance, then orthogonal polynomial for further test. Results. The results of the analysis showed that the different storage times at cold temperatures (4-8°C) had very significant effect ($P < 0.01$) at the pH of kefir value with an average of 5.44 and the line equation of $Y = 4.75 + 0.702X + (-0.11)X^2 + 0.004X^3$, then had significant effect ($P < 0.05$) at the viscosity of kefir with an average of 253,02 CP and the line equation of $Y = 175,53 + 59,33X + (-10.34)X^2 + 0.52X^3$, and had no significant effect ($P > 0.05$) at colors of kefir (lightness, redness, and yellowness). The results obtained of the pH average value were P0 4.74, ± 0.03, P1 6.05, ± 0.41, P2 5.86, ± 0.19, P3 5.49, ± 0.08, and P4 5.04, ± 0.09. The average results of viscosity were P0 172.85, ± 36.84 CP, P1 285.175, ± 34.25 CP, P2 255.15, ± 53.34 CP, P3 260.50, ± 59.72 CP, and P4 291.43, ± 43.64 CP. Then the average of colors results were divided into 3 names (lightness, redness, and yellowness). Lightness had average value of P0 69.78, ± 5.25, P1 64.33, ± 1.66, P2 67.43, ± 4.01, P3 67.00, ± 0.70, P4 65.98, ± 2.07. Redness had average value of P0 -3,1, $\pm 0,46$, P1 -2,40, $\pm 0,07$, P2 -3,05, $\pm 0,15$, P3 -2.88, ± 0.60, P4 -2.60, ± 0.32 and then yellowness had average value of P0 13.23, ± 2.61, P1 11.78, ± 1.55, P2 11.95, ± 1.63, P3 11.43, ± 0.98, P4 10.85, ± 1.48. Conclusion. The conclusion from this study was the different storage times of milk-colostrum kefir of cows stored in refrigerator temperatures (4-8°C) could cause changes in pH and viscosity values, but produce relatively similar in colors.</p>
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