

**PENGARUH SUMBER SUSU DAN MASA SIMPAN KEFIR TERHADAP
JUMLAH BAKTERI ASAM LAKTAT UNTUK MENENTUKAN
KUALITAS KEFIR SUSU SAPI**

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ABSTRAK

Susu sapi merupakan bahan baku produk fermentasi kefir. Susu yang berasal dari peternakan berbeda memiliki kualitas yang berbeda pula. Kandungan nutrisi susu berpengaruh pada daya simpan kefir yang dibuat. Kualitas kefir ditinjau dari jumlah bakteri asam laktat (BAL), pH, dan total asam kefir selama masa simpan. Tujuan penelitian diantaranya mengetahui pengaruh sumber susu dan masa simpan kefir terhadap jumlah BAL, mengetahui sumber susu dengan kualitas kefir terbaik ditinjau dari jumlah BAL, pH, total asam, dan masa simpan serta korelasi jumlah BAL, pH, dan total asam kefir dalam menentukan kualitas kefir. Penelitian ini menggunakan metode eksperimental rancangan acak lengkap dua faktor (sumber susu dan masa simpan). Terdapat empat perlakuan sumber susu diantaranya susu peternakan Desa Ciporeat (S1), Desa Margamukti (S2), Desa Cilembu (S3), dan Desa Cijambu (S4). Perhitungan jumlah BAL menggunakan metode *Total Plate Count*, pH menggunakan pH meter, dan total asam dengan titrasi. Data dianalisis menggunakan uji ANOVA dan uji korelasi. Sumber susu dan masa simpan berpengaruh signifikan terhadap jumlah BAL kefir (berpengaruh 96,4%) dengan jumlah BAL tertinggi pada perlakuan S1 ($1,44 \times 10^6$ CFU/mL) dan terendah pada perlakuan S3 ($0,29 \times 10^6$ CFU/mL). Peningkatan jumlah BAL diiringi peningkatan total asam namun pH cenderung menurun. Berdasarkan hasil penelitian, disimpulkan sumber susu dan masa simpan berpengaruh signifikan ($P=0,000$) terhadap jumlah BAL, sumber susu peternakan Desa Ciporeat merupakan bahan baku kefir terbaik dengan jumlah BAL $1,49 \times 10^6$ CFU/mL, pH 3,73, dan total asam kefir 2,13% pada masa simpan kefir terlama (28 hari), total asam berkorelasi negatif terhadap pH dan berkorelasi positif terhadap jumlah BAL.

Kata kunci: BAL, fermentasi, kefir, masa simpan, susu sapi

THE EFFECT OF MILK SOURCE AND KEFIR'S SHELF LIFE ON TOTAL LACTIC ACID BACTERIA TO DETERMINE THE QUALITY OF COWS MILK KEFIR

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ABSTRACT

Cow's milk is the raw material for kefir products. Milk from different farms has different qualities and affects the shelf life of kefir that is determined by the number of lactic acid bacteria (LAB), pH, and total acid. This research was conducted to determine the effect of milk source and kefir shelf life on total of LAB, the best milk raw material for kefir product determined the amount of kefir's LAB, pH, total acid, and the kefir's shelf life, and to determine the correlation between pH, total acid, and the amount of LAB to determine the qualities of kefir. This research used experimental method with completely randomized design two variables (source of milk and shelf life). There were four cohorts of milk sources including milk from Ciporeat (S1), Margamukti (S2), Cilembu (S3), and Cijambu Village (S4). The amount of LAB was counted using the Total Plate Count method, pH value was measured using a pH meter, and total acid was determined by titration. Data were analyzed using the ANOVA and correlation tests. Milk source and shelf life (35 days) significantly affected the amount of kefir LAB (affected 96%) with the highest amount of LAB was in S1 ($1,44 \times 10^6$ CFU/mL) and the lowest was in S3 ($0,29 \times 10^6$ CFU/mL). The increase in LAB was followed by an increase in total acid, but the pH tended to decrease. Based on the research, it was concluded that the source of milk and the shelf life significantly affected ($P=0,000$) on the amount of LAB, the source of milk farm Ciporeat Village has the best raw material for kefir product with the amount of kefir's LAB $1,49 \times 10^6$ CFU/mL, pH 3,73, total acid 2,13% on the longest shelf life (28 days), total acid was negatively correlated with pH and positively correlated with the amount of LAB.

Keyword: LAB, kefir, fermentation, shelf life, cow's milk