

**PERBANDINGAN KUALITAS SUSU FERMENTASI KULTUR TUNGGAL
(*Streptococcus thermophilus*) DENGAN KULTUR CAMPURAN
(*Lactobacillus acidophilus*, *Bifidobacterium longum*, DAN
Lactobacillus casei) DARI SUSU RENDAH LEMAK**

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INTISARI

Tujuan penelitian ini adalah untuk mengetahui apakah kultur tunggal (*Streptococcus thermophilus*) dan kultur campuran (*Lactobacillus acidophilus*, *Bifidobacterium longum*, dan *Lactobacillus casei*) dapat digunakan dalam pembuatan susu fermentasi sapi rendah lemak dan perbedaan kualitasnya dari segi pH, keasaman, angka kemanisan, asam organik, cita rasa, daya terima; serta kualitas viskositas, asam organik, cita rasa, dan daya terima setelah penyimpanan 21 hari. Susu fermentasi diinkubasi pada suhu 39°C dan diuji pada jam ke-0, jam ke-3, jam ke-6, dan jam ke-9. Percobaan dirancang secara acak lengkap dengan 4 ulangan. Nilai pH diukur dengan pH meter digital, keasaman diukur dengan metode titrasi, viskositas diukur dengan viskosimeter, asam organik diukur dengan metode *High Performance Liquid Chromatography*, cita rasa dan daya terima diuji secara organoleptik dengan 10 panelis terlatih. Nilai pH, keasaman, viskositas, dan angka kemanisan dianalisis dengan metode rancangan acak lengkap pola faktorial (2x4), asam organik dianalisis dengan metode deskriptif, cita rasa dianalisis dengan metode *K-independent samples test Kruskal Wallis*, dan daya terima dianalisis dengan metode *Quantitative Descriptive Analyze* pola *Spider Web*. Hasil penelitian menunjukkan bahwa jenis kultur dan waktu inkubasi memberikan perbedaan yang nyata ($P < 0,05$) terhadap nilai pH, keasaman, viskositas, angka kemanisan, cita rasa asam dan tidak signifikan pada cita rasa manis, pahit, dan daya terima. Nilai pH susu fermentasi kultur tunggal ST lebih rendah, keasaman lebih tinggi, viskositas lebih tinggi, kemanisan lebih rendah, asam organik lebih tinggi dari pada susu fermentasi kultur campuran ABC. Kesimpulan dari penelitian ini adalah kultur bakteri tunggal ST dan kultur campuran ABC dapat digunakan sebagai kultur susu fermentasi rendah lemak; perbedaan kualitas pada signifikan nilai pH, keasaman, viskositas, angka kemanisan, cita rasa asam; daya terima konsumen relatif sama.

Kata kunci: fermentasi, kultur tunggal, kultur campuran, rendah lemak

COMPARISON OF QUALITY SINGLE CULTURE (*Streptococcus thermophilus*) WITH MIXED CULTURES (*Lactobacillus acidophilus*, *Bifidobacterium longum*, AND *Lactobacillus casei*) FERMENTED MILK FROM LOW FAT MILK

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ABSTRACT

The aim of this research was to know the difference of pH value, acidity, viscosity, sweetness value, organic acid, sensory quality, and acceptability of single culture fermented milk (*Streptococcus thermophilus*) and mixed cultures (*Lactobacillus acidophilus*, *Bifidobacterium longum* and *Lactobacillus casei*) from low fat cattle milk. The fermented milk was incubated at 39°C and tested at the 0th hour, the 3rd hour, the 6th hour, and the 9th hour. The experiment was designed randomly complete with 4 replications. The pH value was measured by digital pH meter, acidity measured by titration method, viscosity measured by viscosimeter, organic acid measured by HPLC method, sensory quality and consumer acceptance were tested organoleptically by 10 trained panelists. The pH value, acidity, viscosity, and sweetness value were analyzed by completely randomized design method of factorial pattern (2x4), the organic acid was analyzed by descriptive method, the taste was analyzed by *K-independent Kruskal Wallis samples test*, and receive power were analyzed by the method of *Quantitative Descriptive Analyze Spider Web pattern*. The results showed that culture type and incubation time gave significant difference ($P < 0,05$) to pH value, acidity, viscosity, sweetness, organic acid, taste, and consumer acceptance. The pH values of the single culture fermented ST cultures were lower, higher acidity, higher viscosity, lower sweetness, higher organic acids than the ABC mixed culture fermented milk. The conclusions of this study are the different types of cultures and incubation times affect the quality of pH, acidity, viscosity, sweetness, organic acid, taste, and acceptability of low fat fermented milk.

Keywords: fermentation, single culture, mixed cultures, low fat