

**PENGARUH LAMA PENYIMPANAN TERHADAP KUALITAS
FISIKO-KIMIA DAN ORGANOLEPTIK KEJU FETA KAMBING
RENDAH LEMAK DENGAN INOKULASI KULTUR KOMBINASI
(*Lactobacillus acidophilus*, *Bifidobacterium longum*, dan
Lactobacillus casei)**

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INTISARI

Penelitian ini bertujuan untuk mengetahui kualitas fisiko-kimia keju feta susu kambing rendah lemak dengan inokulasi kultur kombinasi *Lactobacillus acidophilus*, *Bifidobacterium longum*, dan *Lactobacillus casei* yang disimpan selama 60 hari. Pengamatan yang dilakukan meliputi pengamatan mikroskopis, komposisi keju, kekerasan, nilai pH, keasaman, protein terlarut, asam organik, dan organoleptik. Pengamatan mikroskopis, komposisi keju serta asam organik dianalisis secara diskriptif. Nilai pH keju dianalisis secara faktorial (3x2) dengan perlakuan lama penyimpanan dan kedalaman pengukuran pH. Data terkait keasaman, kadar protein terlarut, dan kekerasan keju dianalisis menggunakan rancangan pola searah tunggal lama penyimpanan, masing-masing perlakuan mempunyai 3 ulangan. Data terkait organoleptik dianalisis menggunakan analisis non-parametrik *Kruskall-Wallis Test*. Analisis yang berbeda nyata akan diuji lanjut dengan Duncan. Hasil penelitian menunjukkan bahwa terdapat rendemen *curd* dan *whey* sebesar 14,32% dan 85,68%, kadar air serta protein kasar keju yaitu 51,33% dan 42,40%. Selama penyimpanan probiotik dapat tumbuh pada keju, nilai pH berubah signifikan ($p < 0,05$), keju bagian dalam memiliki pH yang lebih rendah dibanding bagian luar ($p < 0,05$), sedangkan interaksi penyimpanan dan kedalaman tidak mempengaruhi pH keju secara signifikan ($p > 0,05$). Lama penyimpanan memberikan perbedaan yang nyata terhadap kadar protein terlarut keju, penilaian rasa asam, asin, pahit serta kekasaran tekstur keju ($p < 0,05$), dan tidak berubah secara signifikan terhadap kadar keasaman, kekerasan, daya terima cita rasa serta daya terima tekstur keju ($p > 0,05$). Terjadi peningkatan dan penurunan kadar asam laktat dan asam asetat, serta sedikit peningkatan asam piruvat selama penyimpanan keju. Berdasarkan hasil penelitian dapat disimpulkan bahwa probiotik mempengaruhi pH, protein terlarut, asam organik, dan organoleptik keju, lama penyimpanan mempengaruhi nilai pH, kadar protein terlarut, penilaian rasa asam, asin, pahit dan kekasaran tekstur keju, serta daya terima konsumen terhadap keju menurun selama masa penyimpanan. Kata kunci : Susu Kambing, Keju Feta, Multiprobiotik, Kualitas fisiko-kimia, Cita rasa.

**EFFECT OF STORAGE TIME ON PHYSICO-CHEMICAL AND
ORGANOLEPTIC QUALITY OF LOW FAT GOAT FETA CHEESE
WITH INOCULATION CULTURE COMBINATION (*Lactobacillus*
acidophilus, *Bifidobacterium longum*, and *Lactobacillus casei*)**

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ABSTRACT

These research is aimed to determine the physico-chemical and organoleptic quality of low-fat goat milk feta cheese inoculated with combination of the probiotic bacteria *Lactobacillus acidophilus*, *Bifidobacterium longum*, and *Lactobacillus casei* which were stored for 60 days. The observations included probiotic analysis, cheese composition, hardness, pH value, acidity, soluble protein, organic acids, and organoleptics. Probiotic numbers, cheese composition and organic acids were analyzed descriptively. The pH value of the cheese was analyzed using factorial design (3x2) with storage time and pH measurement depth as the treatments. Data related to acidity, dissolved protein, and cheese hardness were analyzed using a single unidirectional pattern of storage time (3 duplicate replications). Organoleptic data were analyzed using the non-parametric *Kruskall-Wallis Test* analysis. Further analysis of data that significantly different will be tested with Duncan. The results showed that the curd and whey yields were 14.32% and 85.68%, the water content and crude protein content of cheese were 51.33% and 42.40%. During storage probiotics still presented in enough numbers $1,21 \times 10^7$ total bacterial counts/ml within cheese, cheese pH value changes significantly ($p < 0.05$), the inner part of cheese had lower pH than outer part ($p < 0.05$), while interaction between storage and depth of pH measurement were not affected cheese pH ($p > 0.05$). Soluble protein content, sourness, salty, bitter and cheese texture score showed significant difference during storage ($p < 0.05$), and acidity, hardness, acceptability of taste also texture cheese didn't change significantly ($p > 0.05$). There was fluctuative in lactic and acetic acid levels, and a slight increase in pyruvic acid level during storage. Results showed that probiotics effected cheese quality, while storage time affected cheese pH value, soluble protein content, sourness, salty, bitter score, texture cheese, and consumer acceptance on goat feta cheese decreased during storage.

Keywords : Goat milk, Feta cheese, Multiprobiotic, Physico-chemical quality, Taste.