

KARAKTERISTIK FISIK, KIMIA, DAN SENSORIS KEJU FETA KAMBING *REDUCED FAT* DENGAN INOKULASI KULTUR TUNGGAL *Lactobacillus casei* FNCC 0090 SELAMA PENYIMPANAN

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INTISARI

Penelitian ini bertujuan untuk mengetahui karakteristik keju feta kambing *reduced fat* yang diinokulasikan bakteri tunggal *Lactobacillus casei* FNCC 0090 sebanyak 10% (v/v) yang disimpan selama 60 hari pada suhu 4 hingga 6°C. Parameter yang dianalisis, antara lain kualitas bahan baku meliputi uji alkohol, berat jenis, pH, keasaman, kadar protein kasar, air, lemak kasar, dan abu, kualitas fisik keju meliputi rendemen, kekerasan keju, dan nilai pH, kualitas kimia keju meliputi kadar protein kasar, lemak kasar, abu, air, keasaman, asam organik, protein terlarut (Lowry). Sedangkan uji sensoris keju dianalisis oleh 12 panelis terlatih, dan perhitungan jumlah bakteri menggunakan metode *Total Plate Count* (TPC). Keju feta kambing *reduced fat* mempunyai ulangan sebanyak tiga kali dan diuji secara duplo pada masing-masing parameter. Kualitas bahan baku dianalisis secara deskriptif. Komposisi keju dianalisis secara T-test. Nilai pH keju dianalisis secara faktorial (2x2x2) dengan perlakuan penambahan probiotik, penyimpanan, dan kedalaman pengukuran. Kekerasan, asam organik, kadar air, dan protein terlarut (Lowry), dan TPC dianalisis secara faktorial (2x2) dengan perlakuan penambahan probiotik dan lama penyimpanan. Data sensoris dianalisis menggunakan analisis nonparametrik *Kruskall-Wallis Test*. Hasil penelitian menunjukkan bahwa bahan baku berkualitas baik dengan pH normal. Penambahan probiotik berpengaruh signifikan ($P < 0,05$) terhadap rendemen, keasaman, kekerasan, kadar asam organik dan air. Penyimpanan selama 60 hari berpengaruh signifikan ($P < 0,05$) terhadap keasaman, kekerasan, kadar asam organik, protein terlarut, rasa asam, rasa pahit, kesukaan rasa, kelembutan, dan kesukaan tekstur oleh panelis, dan tidak berpengaruh signifikan ($P > 0,05$) terhadap rasa asin keju. Nilai pH keju meningkat dari hari ke-0 ke hari 60, yaitu $5,23 \pm 0,03$ menjadi $5,30 \pm 0,1$. Total bakteri *L.casei* FNCC 0090 meningkat dari hari ke-0 ke hari 60, yaitu $1,6 \times 10^7 \pm 3,01$ menjadi $2,2 \times 10^7 \pm 4,80$. Akseptabilitas konsumen pada keju tergolong kurang suka. Kesimpulan dari penelitian ini adalah terjadi perubahan pada karakteristik fisik, kimia dan sensoris keju feta



kambing *reduced fat* akibat inokulasi probiotik *L.casei* FNCC 0090 selama penyimpanan 60 hari. Saran yang dapat diberikan adalah keju feta lebih baik dikonsumsi segar tanpa penyimpanan.

Kata kunci : susu kambing, keju feta, *Lactobacillus casei*, fisiko-kimia, sensoris

PHYSICO-CHEMICAL AND SENSORY CHARACTERISTICS OF REDUCED FAT GOAT MILK FETA CHEESE INOCULATED WITH MONO CULTURE PROBIOTIC *Lactobacillus casei* FNCC 0090 DURING STORAGE TIME

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ABSTRACT

This research was aimed to study the physico-chemical and sensory characteristics of reduced-fat goat milk feta cheese inoculated with 10% (v/v) mono culture strain of probiotic bacteria, *Lactobacillus casei* FNCC 090 which were stored for 60 days in 4 to 6°C. The observations included quality of raw milk (alcohol test, density, pH, acidity, protein, water, fat, and ash content), physical characteristic of cheese (yield, hardness, and pH value), chemical characteristic of cheese (protein, fat, ash, and water content, pH value, acidity, organic acids, and soluble protein (Lowry)), sensory characteristics of cheese which were tested by 12 entrained panelists, and probiotic number used *Total Plate Count* (TPC) method. Raw milk was analyzed descriptively. Crude protein, fat, ash, used T-test analysis. While pH value was analyzed using factorial design (2x2x2) with addition of probiotic, storage time, and measurement depth as the treatments. Hardness, organic acids, water content, soluble protein, and TPC were analyzed using factorial design (2x2) with addition of probiotic and storage time as the treatments. Sensory test was analyzed using *Kruskall-Wallis Test*. The results showed that the raw milk were comply on standard requirement of good quality for cheese making, which was the pH value for fullcream and reducedfat milk were 6,46 and 6,55 respectively. Yield, acidity, hardness, organic acids, and water content of cheese significantly changes ($P<0,05$) due to addition of probiotic. Acidity, hardness, organic acids, soluble protein, and sensory tests of sourness, bitterness, softness, flavor and texture acceptance significantly changes ($P<0,05$) due to storage time. The number of probiotic were rised nonsignificantly ($P>0,05$) during storage time. The pH value were rised from day 0 to day 60 which were $5,23\pm 0,03$ and $5,30\pm 0,1$, respectively. Total Plate Count (TPC) were rised from day 0 to day 60 which were $1,6\times 10^7 \pm 3,01$ to $2,2\times 10^7 \pm 4,80$ respectively. The reduced-fat goat milk feta cheese acceptability of consumers were considered as dissatisfied. The conclusion of this study is that there is a changes of physico-chemical and sensory characteristic of



feta cheese from reduced fat goat milk due to addition of probiotic *L.casei* FNCC 0090 and storage time. Feta cheese is better consumed without storage.

Keywords : Goat milk, feta cheese, *Lactobacillus casei*, physico-chemical, sensories.