

PENGARUH INOKULASI KULTUR *Lactobacillus acidophilus* TERHADAP KUALITAS FISIKO-KIMIA DAN SENSORIS KEJU FETA KAMBING *REDUCED FAT* SELAMA PENYIMPANAN

Natasha Dyah Pratiwi
17/414841/PT/07530

INTISARI

Penelitian ini bertujuan untuk mengetahui kualitas fisiko-kimia dan sensoris keju feta kambing *reduced fat* (kadar lemak 50% lebih rendah dari normal) dengan diinokulasi kultur tunggal *L. acidophilus* FNCC 005. Keju feta kambing *reduced fat* tanpa penambahan kultur dibuat sebagai kontrol. Keju disimpan selama 60 hari. Parameter kimia yang diamati antara lain kadar air, abu, protein kasar, lemak, pH, derajat keasaman, asam organik dan kadar protein terlarut, parameter fisik antara lain rendemen dan kekerasan, parameter mikrobiologis yaitu *total plate count* serta parameter sensoris dengan uji organoleptik rasa asam, asin, pahit, kesukaan rasa, kelembutan, dan kesukaan tekstur. Kadar air, derajat keasaman, asam organik, kadar protein terlarut, *total plate count* dan kekerasan keju dianalisis menggunakan faktorial (2x2) dengan perlakuan penambahan kultur dan lama penyimpanan, sedangkan pH dianalisis secara faktorial (2x4) dengan perlakuan penambahan kultur, lama penyimpanan dan kedalaman pengukuran. Kadar abu, protein kasar, lemak, dan rendemen dianalisis menggunakan *One Sample T Test* dengan perlakuan penambahan kultur. Hasil uji organoleptik dianalisis menggunakan non-parametrik *Kruskall-Wallis Test*. Hasil uji keju *L. acidophilus* dibanding kontrol yaitu rendemen (16,94 % ; 14,46 %), kadar protein kasar (31,31 ± 0,57 % ; 24,50 ± 0,12 %), abu (3,29 ± 0,13 % ; 2,68 ± 0,71 %), lemak (13,42 ± 0,20 % ; 18,69 ± 0,10 %). Penambahan kultur signifikan (P<0,05) terhadap rendemen, kadar protein, abu dan lemak keju. Penyimpanan berefek signifikan (P<0,05) terhadap kadar air, pH, derajat keasaman, asam laktat, protein terlarut, rasa pahit, kesukaan rasa dan kesukaan tekstur. Lama penyimpanan tidak berpengaruh secara signifikan (P>0,05) terhadap kadar asam asetat, asam piruvat, *total plate count*, kekerasan, rasa asam serta rasa asin. Inokulasi kultur berpengaruh secara signifikan (P<0,05) terhadap kadar air, pH, derajat keasaman dan kadar asam laktat, sedangkan terhadap kadar asam asetat, asam piruvat, protein terlarut dan kekerasan tidak menunjukkan hasil yang signifikan (P>0,05). Berdasarkan hasil penelitian dapat disimpulkan bahwa inokulasi *L. acidophilus* meningkatkan kualitas keju feta kambing *reduced fat* serta daya terima konsumen menurun karena penyimpanan.

Kata kunci: susu kambing, feta *reduced fat*, *Lactobacillus acidophilus*, kualitas, penyimpanan.

EFFECT OF *Lactobacillus acidophilus* CULTURE INOCULATION ON PHYSICO CHEMICAL AND SENSORIC QUALITY OF REDUCED FAT GOAT FETA CHEESE DURING STORAGE

Natasha Dyah Pratiwi
17/414841/PT/07530

ABSTRACT

This research was aimed to study the physico-chemical and sensoric quality of reduced fat (fat content 50% lesser) goat feta cheese by inoculation of *L. acidophilus* FNCC 005. Reduced fat goat feta cheese without addition of culture was made as a control. Cheese were stored for 60 days. The observation of chemical parameter included water content, ash content, crude protein content, fat content, pH value, acidity, organic acid, and soluble protein content, physical parameter included cheese yield and hardness, microbiological parameter included total plate count and sensory parameter with organoleptic test. Water content, organic acid, soluble protein, acidity, total plate count and hardness were analyze using factorial design (2x2) with culture inoculation and storage time as treatments. The pH value was analyzed using factorial design (2x4) with culture inoculation, storage time and pH measurement depth as treatments. Ash content, crude protein, fat and cheese yield were analyzed using One Sample T Test with culture inoculation as a treatment. Organoleptic test was analyzed using non parametrical Kruskal-Wallis Test. The chemical composition of goat feta cheese inoculated with *L. acidophilus* was significantly higher ($P < 0,05$) compared to control. The result showed percentage of cheese yield, crude protein content, ash content, and fat content respectively (16,94 % ; 14,46 %), ($31,31 \pm 0,57$ % ; $24,50 \pm 0,12$ %), ($3,29 \pm 0,13$ % ; $2,68 \pm 0,71$ %), ($13,42 \pm 0,20$ %; $18,69 \pm 0,10$ %). Storage time effected significantly ($P < 0,05$) to water content, pH value, acidity, lactic acid content, soluble protein content, bitterness and consumer acceptance. While acetic acid content, piruvyc acid content, total plate count, hardness, sourness and salty weren't affected by storage time ($P > 0,05$). Culture inoculation effected significantly ($P < 0,05$) to water content, pH value, acidity, lactic acid content while acetic acid content, piruvyc acid content, soluble protein content and hardness weren't affected significantly ($P > 0,05$). According to the research, inoculation of *L. acidophilus* affected reduced fat goat feta cheese quality and consumer acceptance on reduced fat goat feta cheese decreased during storage.

Keywords : Goat milk, reduced fat feta cheese, *Lactobacillus acidophilus*, quality, storage