PERBANDINGAN KOMPOSISI KIMIA SUSU FERMENTASI KAMBING KACANG DAN PERANAKAN AFRICAN DWARF DENGAN KULTUR TUNGGAL *LACTOBACILLUS ACIDOPHILLUS* DAN *BIFIDOBACTERIUM LONGUM*

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INTISARI

Penelitian ini bertujuan untuk mengetahui komposisi kimia susu kambing Kacang dan Peranakan *African Dwarf* (PAD) yang difermentasi menggunakan kultur tunggal dari bakteri *Lactobacillus acidophilus (La)* FNCC 0051 dan *Bifidobacterium longum (Bl)* FNCC 0463 pada berbagai waktu inkubasi. Komposisi kimia yang dianalisis meliputi kadar lemak, kadar protein kasar, kadar laktosa, serta deteksi asam-asam organik. Susu fermentasi diinkubasi pada suhu 38˚C, yang meliputi susu kambing Kacang dengan kultur bakteri *La ,* susu kambing Kacang dengan kultur bakteri *Bl,* susu kambing PAD dengan kultur bakteri *La,* serta susu kambing Kacang dengan kultur bakteri *Bl.* Inkubasi dilakukan dalam waktu 0 jam, 3 jam, 6 jam, dan 9 jam. Percobaan dirancang secara acak lengkap (RAL) dengan pola faktorial 2x2x4 (macam bakteri, macam bangsa kambing, dan waktu inkubasi). Analisis kadar lemak, kadar protein kasar, dan kadar laktosa dilakukan dengan *Analysis of Variance* (ANOVA). Analisis asam organik dilakukan secara deskriptif. Hasil penelitian menyatakan bahwa bangsa kambing memengaruhi kadar lemak susu fermentasi ($P<0,05$), sedangkan jenis bakteri dan lama inkubasi tidak memengaruhi ($P>0,05$). Bangsa kambing, jenis bakteri, dan lama inkubasi tidak berpengaruh terhadap kadar protein kasar susu fermentasi ($P>0,05$). Lama inkubasi berpengaruh nyata terhadap kadar laktosa susu fermentasi ($P<0,05$), sedangkan bangsa kambing dan jenis bakteri tidak memengaruhi ($P>0,05$). Asam organik yang terdeteksi pada analisis menggunakan HPLC adalah asam laktat, asam asetat, dan asam piruvat. Kesimpulan dari penelitian ini adalah terdapat perbedaan komposisi kimia pada susu kambing Kacang dan PAD yang difermentasi dengan kultur tunggal *La* dan *Bl.*

Kata kunci : Susu Fermentasi, Kambing Kacang, Peranakan *African Dwarf*, *Lactobacilus acidophilus*, *Bifidobacterium longum,* komposisi kimia

COMPARISON OF THE CHEMICAL COMPOSITION OF FERMENTED MILK FROM KACANG GOATS AND AFRICAN DWARF CROSSBREEDS WITH SINGLE CULTURES OF *Lactobacillus acidophilus* AND *BIfidobacterium longum*

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ABSTRACT

This research aims to determine the chemical composition of fermented milk from Kacang Goat and African Dwarf Crossbreeds with single cultures of *Lactobacillus acidophilus (La)* and *Bifidobacterium longum (Bl).* The chemical composition analyzed includes fat content, crude protein content, lactose content, and organic acids detection. Fermented milk was incubated at 38˚C, with samples consisting of fermented milk from Kacang goat with *La,* fermented milk from African Dwarf Crossbreeds with *La,* fermented milk from Kacang goat with *Bl,* fermented milk from African Dwarf Crossbreeds with *Bl.* Incubation were set at 0 hours,3 hours, 6 hours, and 9 hours. The experiment was designed with Completely Randomized Design (CRD) with factorial pattern 2x2x4 (type of bacteria, goat breeds, and incubation time). Fat content, crude protein content, and lactose content were analyzed by *Analysis of Variance* (ANOVA). Organic acids were analyzed by descriptive method. The results showed that goat breeds affected the fat content of fermented milk ($P<0,05$), while type of bacteria and incubation time did not affect ($P>0,05$). Goat breeds, type of bacteria, and incubation time did not affect the protein content ($P>0,05$). Incubation time significantly affected the lactose content ($P<0,01$), while type of bacteria and goat breeds did not ($P>0,05$). Organic acids detected at HPLC analysis composed of lactic acis, acetic acid, and pyruvic acid. The conclusion of this research is there are differences in the chemical composition of Kacang goat milk and African Dwarf Crossbreed goat milk fermented with single cultures of *Lactobacillus acidophilus* (La) and *Bifidobacterium longum* (Bl).

Keywords : Fermented Milk, Kacang Goat, African Dwarf Crossbreed Goat, *Lactobacilus acidophilus*, *Bifidobacterium longum,* chemical composition