

ANALISIS KOMPARATIF KOMPOSISI KIMIA PADA SUSU KAMBING KACANG DAN PERANAKAN AFRICAN DWARF (PAD) SELAMA 12 MINGGU MASA LAKTASI

Rian Saputra
21/475257/PT/08871

INTISARI

Penelitian ini bertujuan untuk mengetahui perbedaan komposisi kimia susu kambing Kacang dan kambing Peranakan African Dwarf (PAD) pada fase *early lactation*, *mid lactation*, dan *late lactation*. Penelitian ini dilakukan pada bulan Agustus 2024 sampai Desember 2024 dengan menggunakan 5 ekor kambing Kacang dan 5 ekor kambing PAD pada laktasi kedua (partus ke 2). Sampel diuji komposisi kimianya yang meliputi lemak, protein, laktosa, *total solids*, dan *solid non fat* menggunakan bantuan alat *lactoscan milk analyzer* terstandar. Perbandingan rata-rata nilai komposisi kimia susu kambing dianalisis menggunakan metode *ANOVA two way* dengan bantuan aplikasi *statistical product and service solutions* (SPSS) versi 26. Hasil penelitian menunjukkan bahwa pada susu kambing kacang dan PAD yang dihasilkan selama masa laktasi memiliki *total solids* masing masing sebesar $15,41 \pm 1,42\%$ dan $13,71 \pm 0,95\%$, berbeda nyata ($P < 0,05$); SNF masing masing $9,29 \pm 0,61\%$ dan $8,76 \pm 0,43\%$, berbeda tidak nyata; lemak masing masing $6,18 \pm 1,20\%$ dan $4,94 \pm 0,98\%$, berbeda nyata ($P < 0,05$); protein masing masing $4,45 \pm 0,39\%$ dan $4,11 \pm 0,20\%$, berbeda nyata ($P < 0,05$); laktosa masing masing $4,20 \pm 0,32\%$ dan $3,99 \pm 0,28\%$, berbeda tidak nyata; *total ash* masing masing sebesar $0,68 \pm 0,06\%$ dan $0,66 \pm 0,04\%$, berbeda tidak nyata. Hasil penelitian juga menunjukkan bahwa fase laktasi berpengaruh nyata ($P < 0,05$) terhadap *total solids*, lemak dan laktosa dalam susu kambing dan tidak berpengaruh nyata ($P > 0,05$) terhadap komponen SNF, protein, dan *total ash*. Hasil analisis juga menunjukkan bahwa interaksi antara bangsa ternak dengan masa laktasi tidak berpengaruh nyata terhadap nilai komposisi kimia susu. Berdasarkan hasil penelitian dapat disimpulkan bahwa bangsa ternak berpengaruh signifikan ($P < 0,05$) terhadap *total solids*, lemak, dan protein, sedangkan tahap laktasi berpengaruh signifikan terhadap *total solids*, lemak, dan laktosa susu yang dihasilkan kedua bangsa kambing.

Kata kunci: Kambing Kacang, Kambing Peranakan African Dwarf, Komposisi Susu, Masa Laktasi

COMPARATIVE ANALYSIS OF THE CHEMICAL COMPOSITION OF MILK IN KACANG AND AFRICAN DWARF CROSSBREED (PAD) GOATS DURING 12 WEEKS LACTATION PERIOD

Rian Saputra
21/475257/PT/08871

ABSTRACT

This study aimed to determine the differences in the chemical composition of milk from Kacang and PAD goats during the early lactation, mid-lactation, and late lactation phases. The research was conducted from August 2024 to December 2024 using five Kacang goats and five PAD goats in their second lactation (second parturition). The milk samples were analyzed for their chemical composition, including fat, protein, lactose, total solids, and solid non-fat (SNF), using a Lactoscan milk analyzer. The mean values of milk composition were compared using a two-way ANOVA method with the help of the Statistical Product and Service Solutions (SPSS) version 26. The results showed that the total solids content in Kacang and PAD goat milk during lactation was $15.41 \pm 1.42\%$ and $13.71 \pm 0.95\%$, respectively, significantly difference ($P < 0.05$). The SNF content was $9.29 \pm 0.61\%$ and $8.76 \pm 0.43\%$, not significant difference. The fat content was $6.18 \pm 1.20\%$ and $4.94 \pm 0.98\%$, showing a significantly difference ($P < 0.05$). The protein content was $4.45 \pm 0.39\%$ and $4.11 \pm 0.20\%$, also showing a significantly difference ($P < 0.05$). The lactose content was $4.20 \pm 0.32\%$ and $3.99 \pm 0.28\%$, not significant difference. The total ash content was $0.68 \pm 0.06\%$ and $0.66 \pm 0.04\%$, respectively, not significantly difference. The study revealed that the lactation phase significantly influenced ($P < 0.05$) the total solids, fat, and lactose content in goat milk but had no significantly effect ($P > 0.05$) on SNF, protein, and total ash content. The analysis results also showed that the interaction between breed and lactation period had no significant effect on the chemical composition of milk. Based on these findings, it can be concluded that the goat breed significantly affects ($P < 0.05$) the total solids, fat, and protein content, while the lactation stage significantly affects the total solids, fat, and lactose content in the milk produced by both goat breeds.

Keywords: Kacang, African Dwarf Crossbreed, Milk composition, Lactation Phase