Kualitas Fisiko-Organoleptik Mentega Susu Kambing Peranakan *African Dwarf* (PAD) dibanding Peranakan Ettawa (PE)

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INTISARI

Penelitian bertujuan untuk mengetahui pengaruh jenis susu kambing Peranakan *African Dwarf* dan Peranakan Ettawa terhadap kualitas fisiko-organoleptik mentega selama penyimpanan 40 hari dalam refrigerator. Parameter yang diamati pada pengujian kualitas fisiko-organoleptik mentega yaitu uji kualitas susu, ukuran dan jumlah globula lemak, uji rendemen, uji kekerasan, uji titik leleh, dan uji organoleptik. Penelitian dilakukan hari ke-0, 20, dan 40. Hasil penelitian menunjukkan bahwa lemak susu kambing PAD (3,88±0,37µm) memiliki ukuran yang lebih besar dari lemak susu kambing PE (3,16±0,24µm) (P<0,05). Mentega kambing PE banyak memiliki ukuran kurang dari 3µm (57,97±6,81µm), sedangkan mentega kambing PAD banyak memiliki ukuran 3-5µm (52,47±5,30µm) (P<0,05). Jumlah globula lemak susu PAD (188 globula/0,6 mm lens objective) lebih banyak dari PE (143 globula/0,6 mm lens objective) (P<0,05). Rendemen krim dari susu kambing PE (10,63±0,06%) lebih besar dibandingkan susu kambing PAD (9,14±0,08%) sehingga akan menyebabkan waktu *churning* mentega kambing PE lebih lama (240±7,07 detik) dibanding mentega kambing PAD (184,5±6,36 detik) dan rendemen mentega yang lebih rendah (62,85±2,14%) dibanding rendemen mentega PAD (72,98±1,44%) (P<0,05). Kekerasan mentega PE dan PAD meningkat dari hari ke-0 hari (1,29±0,27), hari ke-20 (1,41±0,27), hingga hari ke-40 (2,29±0,53) (P<0,05). Tidak terdapat perbedaan pada waktu leleh mentega pada hari ke-0 hingga hari ke-40 (32,33±1,98℃; 32,29±2,09℃; dan 31,92±1,84℃) (P>0,05). Keasaman mentega kambing PE (0,7-1,6) (P=0,045) dan PAD (0,2-1,1) (P=0,008) mengalami peningkatan. Tingkat kesukaan rasa pada mentega PE (2,3-2,2) (0,90) dan PAD (2-1,1) (P=0,907) mengalami penurunan. Bau prengus pada masing-masing mentega mengalami peningkatan (P=0,043). Tingkat daya oles pada masing-masing mentega tidak mengalami perubahan (P=0,123). Kesimpulan menunjukkan bahwa mentega mengalami penurunan kualitas selama penyimpanan 40 hari.

Kata Kunci : Mentega, Susu Kambing, Kambing Peranakan *African Dwarf* (PAD), Kambing Peranakan Ettawa, Kualitas Fisik, Lama Penyimpanan.

PHYSICO-ORGANOLEPTIC QUALITY OF AFRICAN DWARFS BREEDS GOAT'S MILK BUTTER COMPARED TO ETTAWA BREEDS GOAT'S MILK BUTTER

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ABSTRACT

The research aims to determine the influence of African Dwarf crossbred goat milk and Ettawa crossbred goat milk on the physico-organoleptic quality of butter during 40 days of storage in the refrigerator. The parameters observed in the physico-organoleptic quality testing of butter were milk quality test, size and quantity of fat globules, yield test, hardness test, melting point test, and organoleptic test. The research was conducted on day 0, 20, and 40. The results of the study showed that the fat from African Dwarf crossbred goat milk (3.88±0.37µm) had a larger size compared to the fat from Ettawa crossbred goat milk (3.16±0.24µm) ($P<0.05$). Ettawa goat butter had a majority of fat globules with a size less than 3µm (57.97±6.81µm), while African Dwarf goat butter had a majority of fat globules with a size of 3-5µm (52.47±5.30µm) ($P<0.05$). The quantity of fat globules in African Dwarf goat milk (188 globules/0.6 mm lens objective) was higher than in Ettawa goat milk (143 globules/0.6 mm lens objective) ($P<0.05$). The cream yield from Ettawa goat milk (10.63±0.06%) was higher than from African Dwarf goat milk (9.14±0.08%), resulting in a longer churning time for Ettawa goat butter (240±7.07 seconds) compared to African Dwarf goat butter (184.5±6.36 seconds) and lower butter yield (62.85±2.14%) compared to African Dwarf butter yield (72.98±1.44%) ($P<0.05$). The hardness of Ettawa and African Dwarf butter increased from day 0 (1.29±0.27) to day 20 (1.41±0.27) to day 40 (2.29±0.53) ($P<0.05$). There was no difference in the melting point of butter from day 0 to day 40 (32.33±1.98℃; 32.29±2.09℃; and 31.92±1.84℃) ($P>0.05$). The acidity of Ettawa goat butter (0.7-1.6) ($P=0.045$) and African Dwarf goat butter (0.2-1.1) ($P=0.008$) increased. The level of taste preference for Ettawa butter (2.3-2.2) (0.90) and African Dwarf butter (2-1.1) ($P=0.907$) decreased. The rancid odor in both types of butter increased ($P=0.043$). The spreadability of both types of butter did not change ($P=0.123$). In conclusion, the quality of butter decreased during the 40-day storage.

Kata Kunci : Butter, Goat Milk, African Dwarf Crossbred Goat (PAD), Ettawa Crossbred Goat, Physical Quality, Storage Duration.