PRINCIPAL COMPONENT ANALYSIS UKURAN TUBUH DOMBA GARUT

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INTISARI

Penelitian ini bertujuan untuk mengidentifikasi komponen utama ukuran tubuh Domba Garut menggunakan metode PCA. Materi yang digunakan dalam penelitian adalah 78 ekor Domba Garut yang terdiri atas 20 ekor betina muda (8 – 12 bulan), 20 ekor betina dewasa (1 – 3 tahun), 20 ekor jantan muda (8 – 12 bulan), 18 ekor jantan dewasa (1 – 3 tahun). Data ukuran tubuh yang diambil meliputi panjang badan, tinggi gumba, lebar dada, lingkar dada, dalam dada, lebar pinggul, tinggi pinggul, panjang pinggul, lingkar pinggang, lingkar perut tengah, panjang kepala, lebar kepala, panjang telinga, lebar telinga, dan panjang tanduk. Data dianalisis deskriptif kuantitatif, korelasi dan *Principal Component Analysis* (PCA). Hasil penelitian menunjukkan bahwa kecukupan sampel (KMO) Domba Garut jantan 0,856 sedangkan betina sebesar 0,667. Terbentuk dua PC pada Domba Garut jantan, yaitu PC1 (panjang badan, tinggi gumba, tinggi pinggul, panjang pinggul, lebar dada, lingkar dada, dalam dada, lingkar perut tengah, lingkar pinggang, dan panjang tanduk) mewakili 59,96% dan PC2 (lebar pinggul, panjang kepala, lebar kepala, panjang telinga, dan lebar telinga) mewakili 11,69%. Pada Domba Garut betina yaitu PC1 (panjang badan, lebar pinggul, lingkar dada, lingkar perut tengah, dan lingkar pinggang) mewakili 33,85%, PC2 (tinggi gumba, tinggi pinggul, dan panjang pinggul) mewakili 20,05%, PC3 (panjang kepala dan lebar kepala) mewakili 9,02%, dan PC4 (panjang telinga dan lebar telinga) 8,47%. Disimpulkan bahwa sebagian besar ukuran tubuh Domba Garut jantan ditentukan oleh PC1 sedangkan betina ditentukan oleh PC1 dan PC2.

Kata kunci: Domba Garut, PCA, Ukuran tubuh.

PRINCIPAL COMPONENT ANALYSIS BODY SIZE OF GARUT SHEEP

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ABSTRACT

This study aimed identify the main components of the body size of Garut sheep using the PCA method. The material used was 78 head of Garut sheep consisting of 20 head of young females (8 – 12 months of age), 20 adult ewes (1 – 3 years of age), 20 young males (8 months – 12 months of age), and 18 adult rams (1 – 3 years of age). The data collected included body length, wither height, chest width, hearth girth, chest depth, hip width, hip height, hip length, waist girth, mid-abdoment girth, head length, head width, ear length, ear width, and horn length. The data analyzed quantitative description, 2-tailed Pearson Correlation and PCA. The results showed that the sample adequacy (KMO) of male Garut sheep was 0,856 while that of females was 0,667. There were two components formed in male Garut sheep, namely PC1 (body length, wither height, hip height, hip length, chest width, hearth girth, chest depth, mid-abdomen girth, waist girth, and horn length) representing 59,962% and PC2 (hip width, head length, head width, ear length, and ear width) representing 11,695%. In female Garut sheep PC1 (body length, hip width, hearth girth, mid-abdomen girth, and waist girth) representing 33,855%, PC2 (wither height, hip height, and hip length) representing 20,048%, PC3 (head length and head width) representing 9,021%, and PC4 (ear length and ear width) representing 8,475%. It was concluded that most of the body size of male Garut sheep was determined by PC1, while female were determined by PC1 and PC2.

Keywords: body size, Garut sheep, PCA.