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Body condition score and its relationship with live weight in Kenguri sheep

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Abstract

The present work was carried out to find the relationship between body condition score and body weight in Kenguri sheep. Total of 150 animals with different age groups and sexes (0-6 months, 6-12 months and more than 12 months) were taken for the present study in Veterinary College, KVAFSU, Bidar, Karnataka and nearby villages of Bidar district. The mean BCS of male and female Kenguri sheep aged 0 to 6 months of age groups, was calculated as 3.82 ± 0.18 and 3.18 ± 0.18 respectively. Whereas, the mean BCS in 6 to 12 months of age groups was 3.43 ± 0.20 in males and 3.44 ± 0.17 in females. In above 12 years of age group, the mean BCS in males and females appraised as 3.913 ± 0.02 and 3.54 ± 0.05 respectively. The present research revealed that the mean body weight of males was higher than the females in all age groups. And a positive correlation was observed between live weight gain and BCS in Kenguri sheep.

Keywords: Body condition score, Kenguri sheep, body weight

1. Introduction

India is a rich source of sheep population with 74.26 million and it contributes 8% towards national economy by meat, processed products and their by products and Karnataka has 7 million sheep. Maximum sheep population is seen in Andhra Pradesh, Karnataka and Tamil Nadu. There are 44 recognized breeds of sheep in our country. In general, sheep rearing is very less in the areas of high rainfall, deep forest and water logging. The breeding of sheep is the livelihood of the small and marginal farmers' economies. Kenguri breed is found in the geographical district of Koppal, Raichur and the neighbouring district of Bagalkot and the district of Gulbarga. In both India and Karnataka, the majority of sheep breeds show meagre production and growth. The sheep are well built in size, body coat is dark brown or coconut coloured. In most cases, there is a white spot on the forehead and sometimes on legs and other body parts also. Males are usually horned and females polled. About 85% males and 6% females were observed as horned. The present study is under taken on the Kenguri breed of sheep to understand the body condition score and to find its relationship with body weight.

2. Materials and Methods

The body condition score and its relationship with body weight was measured in individual animals of different sexes (Male and Female) and age groups (0-6 months, 6-12 months and more than 12 months) were taken using five point scale as shown in fig. 1 and the live weight of the animal was taken using electronic Salter spring balance of 150 kg. The data for the present study was obtained in Kenguri sheep farm in Veterinary College Bidar, Karnataka state and nearby villages of Bidar district. The data were recorded on total of 150 animals and were divided in different age groups of 0-6 months, 6-12 months and more than 12 months and Male and Female. The body condition score was assessed by palpation in lumbar region and loin and feet to find the underlying muscle and fat and body weight by weighing machine. The measurements were recorded in five point scale, as mentioned in detail in fig. 1 and live body weight was recorded in kilograms.

3. Results and Discussion

The present study was done for the assessment of body condition score with its body weight in Kenguri sheep. Data obtained from Kenguri sheep was subjected to statistical analysis with the following results.

3.1 Body Condition Score (BCS)

The mean of BCS of male and female Kenguri sheep aged 0 to 6 months, 6 to 12 months and above 12 months are presented in Table 1. In 0 to 6 months of age groups, the mean BCS was calculated as 3.82 ± 0.18 in males and 3.18 ± 0.18 in females respectively whereas, the mean BCS in 6 to 12 months of age groups was 3.43 ± 0.20 in males and 3.44 ± 0.17 in females. In above 12 years of age group, the

mean BCS in males and females appraised as 3.913 ± 0.02 and 3.54 ± 0.05 respectively. The present research revealed that the mean body weight of males was higher than the females in all age groups. The 6 to 12 months age groups the BCS were statistically non-significant ($p > 0.05$) with body weight. However, during 0 to 6 months and above 12 months age groups the BCS were statistically significant ($p < 0.05$) with body weight at 5% difference level.

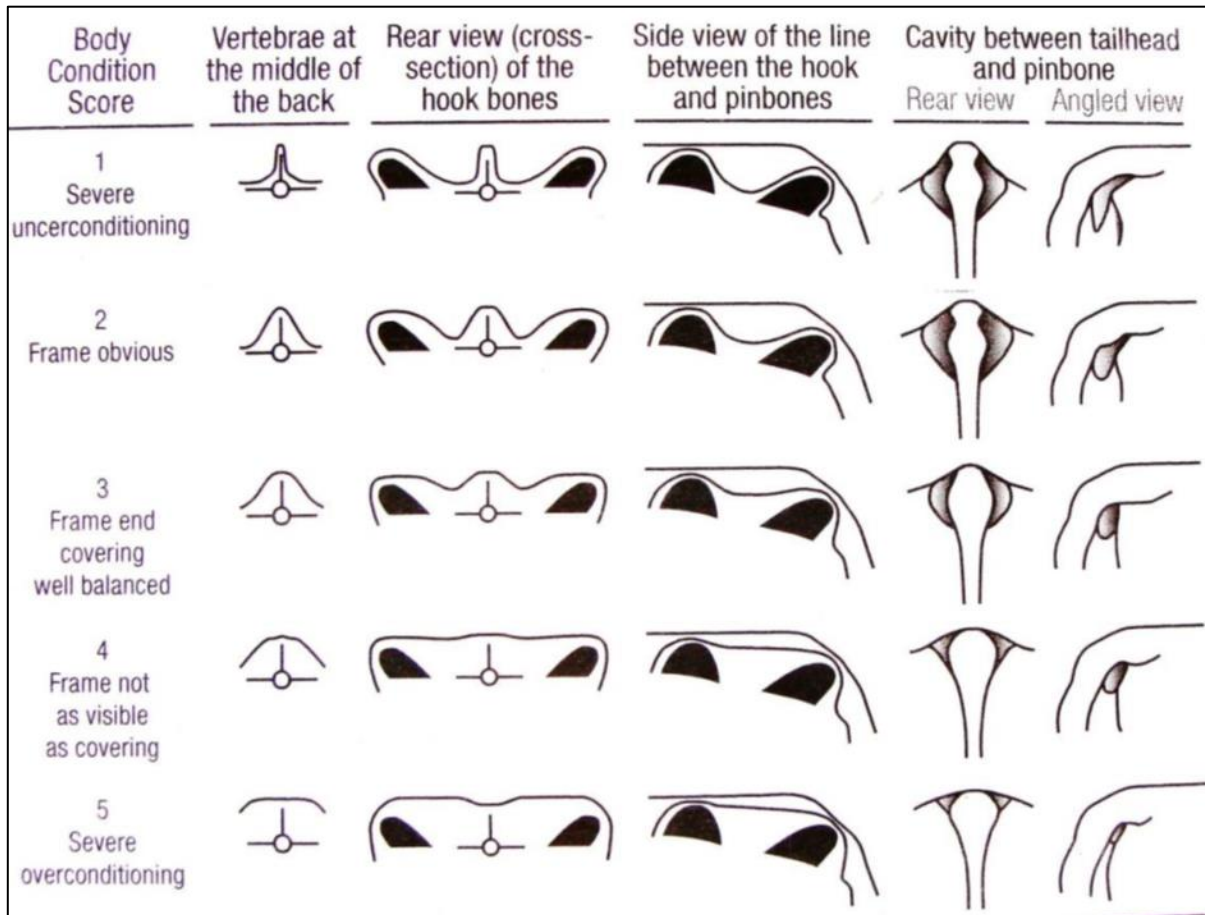


Fig 1: Five point scale to assess the body condition score in case of Kenguri sheep.

Table 1: Average body condition score

| Sl. No | Age group | Male | Female | p-value |
|--------|-----------------|------------------|-----------------|---------|
| 1. | 0-6 months | 3.82 ± 0.18 | 3.18 ± 0.18 | 0.022 |
| 2. | 6-12 months | 3.43 ± 0.20 | 3.44 ± 0.17 | 0.953 |
| 3. | Above 12 months | 3.913 ± 0.02 | 3.54 ± 0.05 | 0.000 |

Non-significant ($p > 0.05$) **, significant ($p < 0.05$) *5% difference

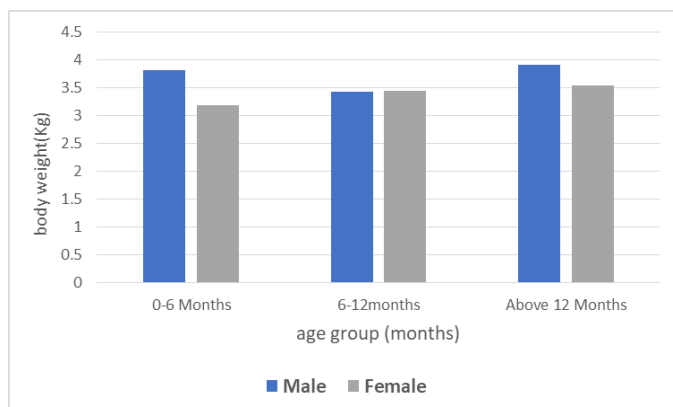


Fig 2: Average body condition score

3.2 Relationship of live weight with Body Condition Score

Assessment of Body Condition Score (BCS) gives a visual estimate of sheep's body fat reserves. BCS is helpful in determining the future feed requirement and the productive and reproductive performance of the animal. The relationship between body weight and BCS score is depicted in Table 2. The correlation coefficient for the age group of 0 to 6 months male was 0.85 and for female was 0.17, whereas for the age group 6 to 12 months male was -0.09 and female was 0.25 and for the age group above 12 months male was 0.18 and for female was 0.26.

In this study, the correlation coefficient of body weight with body condition score was found to be significant ($p < 0.05$) in 6 to 12 months of age group and non-significant in 0 to 6 months and above 12 months ($p > 0.05$).

Table 2: Correlation between BCS and body weight in Kenguri sheep

| Sl. No. | Age | Male | p-value | female | p-value |
|---------|-----------------|------|---------|--------|---------|
| 1. | 0-6 months | 0.85 | 0.01 | 0.17 | 0.61 |
| 2. | 6-12 months | 0.90 | 0.06 | 0.25 | 0.28 |
| 3. | Above 12 months | 0.18 | 0.073 | 0.26 | 0.007 |

Non-significant ($p > 0.05$) **, significant ($p < 0.05$) *5% difference

3.3 Body Condition Score

The present research revealed that the mean body weight of males was higher than the females in all age groups. The 6 to 12 months age groups were statistically non-significant ($p>0.05$). However, during 0 to 6 months and above 12 months age groups were statistically significant ($p<0.05$) at 5% difference level.

3.4 Correlation between of live weight with Body Condition Score

In this study, the correlation coefficient of body weight with body condition score was found to be significant ($p<0.05$) in 6 to 12 months of age group and non-significant in 0 to 6 months and above 12 months ($p>0.05$). The results are in agreement Ada *et al.*, (2004), Temoso *et al.* (2017) and Worku A (2019) ^[1, 3, 4] who observed that BCS has significant correlation with body weight. Where as Nsoso *et al.*, (2003) ^[2] conducted research on Body weight, body condition score and heart girth in indigenous Tswana goats during the dry and wet seasons in southeast Botswana studied that BCS has no effect on body weight or heart girth.

Table 3: Correlation between of live weight with Body Condition Score

| Age | sex | r_{xy} (correlation between BW and BCS) | <i>p</i> -value |
|-----------------|--------|---|-----------------|
| 0-6 months | Female | BCS BW BCS 1 0.17 BW 0.17 1 | 0.01* |
| | Male | BCS BW BCS 1 0.85 BW 0.85 1 | 0.61** |
| 6-12 months | Female | BCS BW BCS 1 0.4 BW 0.4 1 | 0.06** |
| | Male | BCS BW BCS 1 -0.89 BW - 0.89 1 | 0.28** |
| Above 12 months | Female | BCS BW BCS 1 0.26 BW 0.26 1 | 0.07** |
| | Male | BCS BW BCS 1 0.17 BW 0.17 1 | 0.007* |

*Significant at ($p\leq 0.01$) & ** Non Significant at ($p\geq 0.01$)

4. References

1. Ada M, Ceyhan A, Sezenler T, Ozder M, Koycu E. Farklı kondüsyon puanına sahip kıvrıcık koyunlarında aşım dönemi ek yemlemenin (flushing) kuzu verimi üzerine etkileri. Çukurova Üniversitesi Ziraat Fakültesi Dergisi. 2004;19(1):89-96.
2. Nsoso SJ, Aganga AA, Moganetsi BP, Tshwenyane SO. Body weight, body condition score and heart girth in indigenous Tswana goats during the dry and wet seasons in southeast Botswana. Livestock Research for Rural Development. 2003;15(4):27-34.
3. Temoso O, Coleman M, Baker D, Morley P, Baleseng L, Makgekgenene A, *et al.* Using path analysis to predict bodyweight from body measurements of goats and sheep of communal rangelands in Botswana. South African Journal of Animal Science. 2017;47(6):854-863.
4. Worku A. Body weight had highest correlation coefficient with heart girth around the chest under the same farmers feeding conditions for Arsi Bale sheep. International Journal of Agricultural Science and

Food Technology. 2019;5(1):6-12.