

Variation on Body Weight and Body Dimension of Buffalo in Kabaena Island, Bombana, Southeast Sulawesi

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VARIATION ON BODY WEIGHT AND BODY DIMENSION OF BUFFALO IN KABAENA ISLAND-BOMBANA, SOUTH EAST SULAWESI

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ABSTRACT

Kabaena island is one of the region in Bombana district, Southeast Sulawesi Province that has high population of buffalo, especially swamp buffalo. Buffaloes were kept by certain farmer or group of people from one generation to next generation. However, there were no available information relate to body weight and body dimension of this buffaloes. The objective of this research was to measure the body weight and body dimension of the buffalo and the data would be used as a basic data for developing the management of buffalo breeding and production in this area. The research was conducted in Central Kabaena and East Kabaena from July to August 2013. The buffalo were grouped on the basis of age (1-2 years and > 2 years old) and gender (male and female). The total number of buffaloes measured were 96 buffaloes. Variables measured consisted of body weight, head length, head height, shoulder height, hip height, hip wide, girth, and body length. Data were analyzed and presented in average and standard deviation, and coefficient of variation. The results showed that body dimensions of male young buffaloes (1-2 years old) were higher than female young buffaloes. However in adult buffalo (>2 years old), body dimension of female buffaloes tended to be higher than the male buffaloes. However in adult buffalo (>2 years old), body dimension of female buffaloes tended to be higher than the male buffaloes. While on the basis of coefficient of variation, it was revealed that coefficient of variation of body dimension of buffaloes in Kabaena island was still high (>10%) compared to the standard one (<10%), except for shoulder height and hip height.

Keywords: buffalo, coefficient of variation, body weight, body dimension, Kabaena

INTRODUCTION

Southeast Sulawesi province has considerable potential for buffalo production, because it has not only unplanted wide humid area but also the wide range of rice field (estimated 152394 ha, Southeast Sulawesi BPS, 2012) which use buffalo power in its production system. However, this potential was not correlate to the buffalo population number which was only 5,294 heads in 2010 (BPS Sultra, 2011), even during the period of 2005-2010 it decreased 6.65% per year. This is the serious threaten for the population of buffalo in Southeast Sulawesi.

Bombana district is one of the distribution area of buffalo in Southeast Sulawesi. The population of buffalo in this area was about 907 buffaloes or 36.40% of total population of buffalo in Southeast Sulawesi (BPS, 2012). Population of buffalo in this area was distributed both in mainland (Poleang) and island (Kabaena). The island has specific characteristics and relatively isolated, so it was expected could affect the genetic quality of livestock production, including buffalo. However, the data related to production traits such as live weight and body dimensions of buffaloes were unknown. Therefore, research has been carried out with aim to analyze the variation of live weight and body dimensions of buffalo in Kabaena island, Bombana, Southeast Sulawesi.

MATERIAL AND METHOD

The research was conducted in Kabaena Island covering Central Kabaena and East Kabaena from July-August 2013. Digital balance, measuring stick and measuring tape were used to measure the variables needed. The buffaloes were group on the basis of age and gender (1-2 yo, 23 heads, 12 buffalo bulls and 11 buffalo cows; >2 yo, 63 heads, 18 buffalo bulls and 45 buffalo cows). Variables measured were live weight, head length, head height, shoulder height, hip height, hip wide, shoulder wide, girth and body length. Data were analyzed and presented as a mean, standard deviation, coefficient of variation and explain descriptively.



RESULTS

Table 1. Live weight and body dimension of buffalo aged 1-2 years old in Kabaena Island, Bombana District, Southeast Sulawesi

Table 2. Live weight and body dimension of buffalo aged >2 years old in Kabaena Island, Bombana District, Southeast Sulawesi

DISCUSSIONS

The results showed that the average of live weight of buffalo cows were higher than buffalo bulls, both at age of 1-2 years (Table 1) and at age >2 years (Table 2). At age of 1-2 years the average weight of buffalo bull only 279.80±52.69 while buffalo cow reached 391.20±150.03kg. At age of >2 years the average weight for buffalo bull was 487.70±70.83kg, while buffalo cow reached 499.40±87.71. Live weight of buffalo bull in both age categories were still quite diverse, especially in category of age 1-2 years with a coefficient of variance (CV) 29.55% for buffalo bulls and 38.35% for buffalo cows. The average of body weight of buffaloes in this study were relatively different from statements of Skunnum and Chantalakhana (2002) that swamp buffaloes bulls aged 4-5 years had 450-650kg of live weight, and buffalo cows had 350-450kg in averages, but higher than swamp buffalo in China (250kg), and Myanmar (300kg) (Shackleton and Harestad, 2003).

The results also showed that body dimensions of buffalo bulls at age of 1-2 years were higher than buffalo cows (Table 1). But at age >2 years (Table 2) there was a tendency that body dimensions of buffalo cows were higher than buffalo bulls. Based on coefficient of variation, body dimensions of buffalo bulls and cows in Kabaena island were still quite high, both at the age of 1-2 years and >2 years, except for shoulder and hip heights, with coefficient of variation about <10%.

CONCLUSIONS

1. The averages of live weight of buffalo cows were higher than buffalo bulls at age of 1-2 years, even at age of >2 years.
2. Variation on live weight of both buffalo bulls and cows in Kabaena island were still high, especially the group of buffalo at age of 1-2 years with coefficient of variation about 29.55% for buffalo bulls and 38.35% for buffalo cows.
3. Variation on all aspects of body dimension of both buffalo bulls and cows in Kabaena island were still high, either buffalo at age of 1-2 years or >2 years, except for shoulder and hip height parameters with coefficient of variation less than 10%.

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