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QUANTITATIVE CHARACTERISTICS OF SABURAI GOATS AT WEANING IN TANGGAMUS REGENCY, LAMPUNG PROVINCE

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ABSTRACT

This study aims to determine the quantitative characteristics males and females of Saburai goats in Gisting District with Sumberejo District, Tanggamus Regency. This research was conducted in June - July 2019 in Tanggamus Regency. This study uses a survey method and the research sample is determined by *purposive sampling.* Testing data in this study usingtest*t*-. As an observation unit, there were 71 male and 79 female Saburai goats when weaning. The variables in this study were body length, shoulder height, chest circumference, chest width, ear width, ear length, and body weight. Data from observations and analysis of variances uses a 5% significance level. The results showed that the quantitative characteristics of male Saburai goats in Tanggamus Regency, body length (48.21± 3.13 cm), shoulder height (48.46± 3.31 cm), chest circumference (53.54± 2.53 cm), Chest width (15.89± 1.75 cm), ear width (7.32 ± 0.98 cm), ear length (13.82± 1.77 cm), body weight (20.31± 3, 42 kg). Quantitative characteristics ofSaburgoatsai femalein Tanggamus Regency, body length (45.29± 3.61 cm), shoulder height (44.35± 3.40 cm), chest circumference (49.54± 4.54 cm), width chest (15.00± 1.59 cm), Ear width (7.49 ± 1.59 cm), Ear length (13.37± 2.28 cm), Body weight (18.32± 3.32 kg). Comparison of quantitative characteristics of male and female Saburai goats in Gisting District was not significantly different ($P > 0.05$) with quantitative characteristics of male and female Saburai goats in Sumberejo District. From the results of this study concluded that the characteristics of the saburai goats in gisting and sumberejo were not different.

Keywords: Saburai goat, weaning quantitative characteristics, weaning weight

INTRODUCTION

Lampung Province is also a province with the highest goat population compared to other regions outside of Java. Its population reaches 1,297,872 heads (Badan Pusat Statistik, 2017). The Saburai goat is a family of goats established by the Minister of Agriculture of the Republic of Indonesia Number 359 / Kpts / PK.040 / 6/2015 as a local genetic resource in Lampung Province (Adhianto *et al*., 2015; Adhianto *et al*., 2019).

The Saburai goat has been designated as one of Indonesia's germplasm that must be maintained, improved and developed so that the population can provide many benefits for farmers and also in an effort to meet the needs of meat, both at local and national levels. Saburai goats have advantages including easy maintenance, high adaptability to various environmental conditions and high growth rates. Age of Sabe cempe weaning 3.92 months (Sulastri *et al.*, 2018; Adhianto *et al.*, 2019).

The Saburai goat, which is developed in the area where the seed is, is the goat from the selection process. Selection is an act to select goats with superior genetic quality in economic performance. One thing that can be observed is the quantitative nature of the Saburai goat itself. The quantitative nature of the Saburai goat that can be observed is body length, chest circumference, chest height, shoulder height, ear height, and ear width. Quantitative performance needs to be observed continuously to obtain certainty in the quality standards of the Saburai goat.

MATERIALS AND METHODS

Materials

This research was conducted from June to July 2019 at the Saburai goat development location Tanggamus, Lampung Province.

The instrument used in the study was a camera unit to document the observed goat kid, measuring tape, scales and stationery. The research material consisted of 71 male goat kids aged 3-4 months, and 79 female goat kids aged 3-4 months.

Method

The method used is a survey method. The research sample was determined by *purposive sampling.* Observations on the quantitative data of male and female Saburai goats when weaning aged 3-4 months at the study site.

The variables observed in this study were quantitative traits of male and female Saburai goats. Quantitative properties observed included measuring body length, shoulder height, chest circumference, chest width, ear width, ear length, and body weight.

RESULTS AND DISCUSSION

Quantitative characteristics are traits that cannot be grouped directly, but must be done by weighing, or measuring using a measuring instrument, and can be written in numbers. According to Mulliadi (1996) that body size with other body components is a biological balance so that it can be used to estimate the shape of the body from a specific characteristic of cattle.

Quantitative characteristics of Saburai goats obtained from research results in Tanggamus Regency can be seen in Tables 1.2 and 3.

Table 1. Quantitative Characteristics of Saburai goats in Tanggamus Regency.

No	Variable	Sex	
		Male	Female
1	Body length (cm)	48.21 ± 3.13	45.29 ± 3.61
2	Shoulder height (cm)	48.46 ± 3.31	44.35 ± 3.40
3	Chest circumference (cm)	53.54 ± 2.53	49.54 ± 4.54
4	Chest width (cm)	15.89 ± 1.75	15.00 ± 1.59
5	Ear width (cm)	7.32 ± 0.98	7 , 49 ± 1.15
6	Ear length (cm)	13.82 ± 1.77	13.37 ± 2.28
7	Body weight (kg)	20.31 ± 3.42	18.32 ± 3.32

Table 2. Performance quantitative Saburai male goat in District Gisting and Sumberejo

No.	variables	Gisting	Sumberejo	t-test,
one	body length (cm)	48.943.54,2.40 ±	47.92 ±	1.799^{tn}
2	High-shoulders (cm)	49.19 ± 1, 57	47.87 ± 4.16	1.690^{tn}
3	Bust (cm)	54.13 ± 2.42	53.05 ± 2.55	1.805^{tn}
4	chest width (cm)	16.28 ± 1.46	15.56 ± 1 , 92	1,740^{tn}
5	Ear width (cm)	7.38 ± 1.01	7.28 ± 0.97	0.394^{tn}
6	Ear length (cm)	13.97 ± 1.75	13.69 ± 1.79	0.653^{tn}
7	Weight body (kg)	21,16 ± 3,19	19,62 ± 3,48	1,927^{tn}

Remarks: tn = not significantly different between male Saburai goats in Gisting District and Sumberejo District.

Table 3. Quantitative Performance Saburai female goat in the District Gisting and Sumberejo

No.	variables	Gisting	Sumberejo	t-test,
one	body length (cm)	45.76 ± 3.96	44.85 ± 3.23 to	1.122^{tn}
2	High-shoulders (cm)	45, 05 ± 4.09	43.71 ± 2.48	1,781^{tn}
3	Chest circumference (cm)	50.03 ± 4.05	49.10 ± 4.96	0.907^{tn}
4	Chest width (cm)	15.11 ± 1.75	14 , 90 ± 1.45	0.563^{tn}
5	Ear width (cm)	7.53 ± 1.13	7.46 ± 1.19	0.241^{tn}
6	Ear length (cm)	13.39 ± 2.22	13.34 ± 2.35	0.103^{tn}
7	Body weight (kg)	18.92 ± 3.17	17.76 ± 3.40	1.574^{tn}

Remarks: tn = not significantly different between male Saburai goats in Gisting and Sumberejo Districts.

Body Length

The results showed that the average body length of male Saburai goats when weaning in Gisting District (48.94 ± 2.40 cm) was not significantly different from Sumberejo District (47.92 ± 2.40 cm) observed by Saburai goats females also obtained results that were not significantly different between Gisting District (45.76 ± 3.96 cm) and Sumberejo District (44.85 ± 3.23 cm). This can be caused by the two locations having similarities in the origin of livestock, but it can also be seen from the maintenance management, environmental conditions that are not much different between the Gisting District and Sumberejo District.

This can be caused by the two locations having similarities in the origin of livestock, but it can also be seen from the maintenance management, environmental conditions that are not much different between the Gisting District and Sumberejo District. According Siregar (1994) Animal growth is influenced by genetic and environmental factors affecting growth both in terms of quality and quantity of carcasses.

Data from the research results obtained are greater than the data of the Livestock and Animal Health Service Office of Lampung Province (2015) the body length of the male Saburai goat when weaning (47.86 ± 19.14 cm) female (44.31 ± 1.46 cm). The average body length ofSaburai goats post-weaning is 45.45 ± 3.78 cm. This shows that the results obtained are greater than the results of research by Candra (2011). This might be due to management maintenance, climate, and different environmental conditions at the time of data collection.

Shoulder Height

The results showed that the average shoulder height of Saburai goats at weaning time in District Gisting(49.19 ± 1.57 cm) did not differ from Sumberejo District (47.87 ± 4.16 cm) as well as Saburai female goats in the District Gisting (45.05 ± 4.09 cm) and Sumberejo (43.71 ± 2.48 cm). This is caused by the Saburai goats in the two sub-districts having different pedigrees but coming from the same grading up stage. According to Hardjosubroto (1994), that each individual will inherit each - each half from nature - the nature of the male parent and the parent.

The data of this study when compared with the data of Department of Animal Husbandry and Animal Health of Lampung Province (2015) the height of the shoulder of the male Saburai goat when weaning was lower (47.6 ± 18.09 cm) compared to this study (48.46±3.31 cm), as well as the female Saburai goats (44.07 ± 1.46 cm) while in this study (44.35±3.40 cm)

Chest circumference

The results of this study indicate that the average breast circumference of the Saburai goat during weaning at District Gisting(54.13 ± 2.42 cm) is not different from Sumberejo District (53.05 ± 2.55 cm), Likewise with female Saburai goats, Gisting District (50.03 ± 4.05 cm) and Sumberejo (49, 10 ± 4.96 cm), This is caused by the genetic of the Saburai goat resulting from the grading up, age, and temperature of the same environment which is thought to have caused the chest circumference of the male Saburai goats in the two districts showing results that were not significantly different.

Compared with the data of the Department of Animal Husbandry and Animal Health of Lampung Province, (2015) the chest circumference of the male Saburai goat when weaning (44.02 ± 18.05 cm) and thecircumference of breastthe female Saburai goat when weaning

(40.39 ± 1.46 cm), this shows the data on the chest circumference of Saburai goats when weaning in this study is larger. According to Devendra and Burn (1994), environmental factors greatly influence the weight and body measurements of goats. Results of research Smith Mangkoewidjojo (1988) showed that the ideal ambient temperature for growth is 18-30 goat,˚C goat healthy rectal temperature 38.5-39.7˚C (average 39.4˚C).

Chest width

The results showed that the average chest width of male Saburai goats at weaning time in District Gisting(16.28 ± 1.46 cm) did not differ from Sumberejo District (15.56 ± 1.92 cm), as was the case with goats Female Saburai in Gisting District (15.11 ± 1.75 cm) and Sumberejo (14.90 ± 1.45 cm). The chest width of the Saburai goats in the Gisting and Sumberejo Districts is not significantly different because the implementation of maintenance management or implementation of the Saburai goats in the two districts is the same. In addition, the temperature and humidity in the two districts are the same. According to Sugeng (2002) prowth is influenced by several factors, such as genetics or heredity and environmental factors such as climate and execution management.

Ear Width

The results showed that the average ear width of male Saburai goats at weaning time in District Gisting(7.38 ± 1.01 cm) did not differ from Sumberejo District (7.28 ± 0.97 cm), as did Saburai goats females in Gisting District (7.53 ± 1.13 cm) and Sumberejo (7.46 ± 1.19 cm). This is caused by the similarity of the origin of livestock and comes fromstage *grading up* the same. Based on data from the Department of Animal Husbandry and Animal Health of Lampung Province, (2015) the ear width of the male Saburai goat when weaning (7.76 ± 1.47 cm) and the ear width of the female Saburai goat (7.68 ± 1.46 cm), this shows the ear widths of male and female Saburai goats in this study were smaller.

Ear Length

The results showed that the average ear length of male Saburai goats at weaning time in District Gisting(13.97 ± 1.75 cm) did not differ from Sumberejo District (13.69 ± 1.79 cm), as did goats Female Saburai in Gisting District (13.39 ± 2.22 cm) and Sumberejo (13.34 ± 2.35 cm). This is caused by the similarity of the origin of livestock and the results of the same grading up stage so as to produce nearly the same breeds.

The data in this study were compared with the data of the Department of Animal Husbandry and Animal Health of Lampung Province, (2015) the length of male Saburai goat ears when weaning (14.77 ± 3.10 cm) and the length of the female Saburai goat ears when weaning (14.48 ± 1, 46 cm) this shows that the ear lengths of male and female Saburai goats in study thiswere shorter than the data of the Animal Husbandry and Animal Health Service of Lampung Province (2015).

Body Weight

The results of the study showed that the body weight of the Saburai goat at weaning time in District Gisting (21.16 ± 3.19 kg) was not different from Sumberejo District (19.62 ± 3.48 kg)

and Saburai female goat District of Gisting (18.92± 3.17kg) and Sumberejo (17.76± 3.40kg) showed that in the two sub-districts of the Goat seed sources Saburai goat weights were not significantly different. This is caused by livestock raising systems and feed management which are not much different, resulting in an average body weight that is not different in the two sub-districts of Saburai goat breeding sources.

In this study the body weight of male and female Saburai goats from the two districts was greater than the data of the Department of Animal Husbandry and Animal Health of Lampung Province, (2015) the body weight of male Saburai goats when weaning (19.67 ± 6.88 kg) and female goats (18.56 ± 1.46 kg)

Things that affect body weight gain are genetic and environmental factors. Genetic factors are factors inherited by their parents and environmental factors include the influence of climate, health, food, and management. Furthermore, it is stated that these two factors cannot work separately but influence each other. If cattle with low genetic potential are in an adequate environment, productivity will increase, if the genetic potential of livestock is increased. Conversely, if livestock have high genetic potential in an inadequate environment then their productivity cannot reach as expected (Bradford, 1993).

CONCLUSION

The quantitative characteristics of male and female Saburai goats when weaning in Gisting District are not different from the quantitative characteristics of male and female Saburai goats when weaning in Sumberejo sub-district.

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