



## Percentage of Male Peranakan Ettawa Goat Non-Carcass Given Different Local Feed

### AUTHORS INFO

#### Suparman

Fakultas Pertanian, Perikanan dan Peternakan,  
Universitas Sembilanbelas November Kolaka  
[suparman77ptk@gmail.com](mailto:suparman77ptk@gmail.com)  
+6282345330077

### ARTICLE INFO

e-ISSN: 2548-3803

p-ISSN: 2548-5504

Vol. 3, No.1, June 2018

URL: <http://dx.doi.org/10.31327/chalaza.v3i1.608>

© 2018 CJAH All rights reserved

### Abstract

This study aims to see the percentage of non-carcasses of male Peranakan Ettawa goats as many as six heads fed different local feed, analysis study was using analysis of variance using Completely Randomized Design (CRD) and the parameters measured in this study were non-carcass percentage including skin, head, legs, liver, spleen, lung, trachea, heart, testis, omental fat, and tail. The average of noncore rate obtained during P1 (100% mulberry) research was 70,58%, P2 (50% mulberry and 50% Gamal) was 72,25, and P3 (100% Gamal) was 62,305. Based on the analysis of variance, the result showed that different local feeding at 100% level in this study also had no significant effect ( $P < .05$ ) on the increase of non-carcass weight of male Peranakan Ettawa goat.

**Keywords:** non-carcass, the male Peranakan ettawa goat, and local feed.

### A. Introduction

Goat is a medium-sized ruminant animal, which is generally cattle that is not too difficult in its maintenance because the type of feed given is quite varied such as turn leaf, Lamtoro, jackfruit and others. Intensely maintained goat productivity could get support by proper forage feeding as well as concentrates with appropriate composition, disease management, post-harvest handling and marketing and goat breeds and age. Goat productivity can be from measurement by weight gain and weight and percentage of carcass and non-carcass produced. Factors affecting the body and carcass components are livestock, ration or feed, age, and sex. One of the factors that influence the percentage of some carcass (offal) is gender.

Ettawa Peranakan goats fed with good quality will produce a high body weight so that the pressure of the pieces obtained is also high. High cut loads will affect carcass and non-carcass weight on Ettawa Peranakan goat. Some factors that may affect the non-carcass production of livestock are the nation, age, gender, growth rate, cutting weight and nutrition (Berg & Butterfield, 2005).

The main expected result from beef cattle is the meat that is part of the carcass. In Indonesia, in addition to non-carcasses still have a high economic value, because some components of non-carcass element consumed by the community.

By this thought, it is necessary to research the percentage of non-carcasses on male Ettawa Peranakan goat fed different local feed. The purpose of this study was to determine the rate of non-carcass of male Ettawa Peranakan goat fed with separate local feed. The benefit of this research is to give information about the effect of different local feeding in the form of Gamal leaves and mulberry leaves to the percentage of the non-carcass component produced by male goat Ettawa.

## B. Methodology

### 1. The material

The material used in this research is Ettawa Peranakan goat with six tail with six month-12 month age range. The elements used are forage (Gamal leaf, mulberry leaf), water, and medicine.

The tools used in this study are individual cages, feeding places, drinking places, machetes, digital scales, scopes, buckets, basins, tape meters, painters, hacksaws, knives, swords, and table cutting.

### 2. Research procedures

The research method used in this research is Completely Randomized Design (CRD) (Steel & Torrie, 1991). In this study consisted of 3 treatments and three replications for each feed treatment. The therapies were (P1) with 100% mulberry diet, (P2) with 50% mulberry + 50% Gamal, and (P3) feed with 100% Gamal.

The action consists of 3 treatments and 2 replicates for each feed, namely:

1. P1 = 100% Murbei
2. P2 = 50% Murbei and 50% Gamal
3. P3 = 100% Gamal.

### 3. Parameters of Research

The parameters measured in this study are:

- a. Cut weight (final weight)
- b. Non-carcass loads include skin, head, legs, liver, spleen, lungs, trachea, heart, testis, omental fat and tail
- c. Counting percentage of non-carcass weight.

### 4. Analysis data

The study was prepared under Completely Randomized Design (CRD). The mathematical model by using the following formula (Steel & Torrie, 2006):

$$Y_{ij} = \mu + P_i + \epsilon_{ij}$$

The explanation:

- i : 1, 2, 3, ....., p  
 j : 1, 2, 3, ....., u  
 Y<sub>ij</sub> : observation of i<sup>th</sup> treatment and the j<sup>th</sup> repeat  
 μ : General Average  
 P<sub>i</sub> : the effect of the i<sup>th</sup> treatment  
 ε<sub>ij</sub> : error of treatment i and j<sup>th</sup> repeat

Knowing the effect of treatment on the measured variable, so the data obtained were analyzed by linguistic analysis and statistical analysis if the therapy showed a real impact, then it was recommended with turkey (real smallish different) (Steel & Torrie, 2006).

## C. Result and Discussion

### 1. Cutting weight

Based on the outcome of research, the mean of reducing weight on goat of male Peranakan Ettawa was obtained P1 for 10537.5 gram with mulberry 100% feed, for P2 treatment mean of cut weight of 10795 gram with 50% mulberry and 50% Gamal, mean-weight cut on P3 with 100% Gamal feed of 12945 grams (Table 1).

**Table 1. Average cutting weight on Peranakan Ettawa male goats**

Age Group (Year)	Frequency (Man)			Sig
	P1	P2	P3	
Cutting Weight	10537.5	10795	12945	
Percentage of Non-Carcasses (%)	70.575	72.25	62.305	1.13 <sup>ns</sup>

Description: \* = Real Effect ( $p > .05$  or  $p > 5\%$ ); \*\* = Very Significant Impact ( $P > .01$  or  $P > 1\%$ ); ns = No significant effect ( $P < .01$  or  $< 1\%$ )

Source: Data Processed, 2016

The highest weight of cutting weight was on P3 treatment with the weight of 12945 gram to feed 100% Gamal, while the mean of lowest cutting weight was on treatment of P1 with the cut weight of 10537.5 gram. However, the significant level of the male is goat weights 1.13. It shows that local feeding is different at 100% level which has no significant effect on the increase of male goat weight of male Peranakan Ettawa. It means that each type of feed consumed does not affect the cutting weight of the male Ettawa Peranakan goat, can be seen in Figure 1.

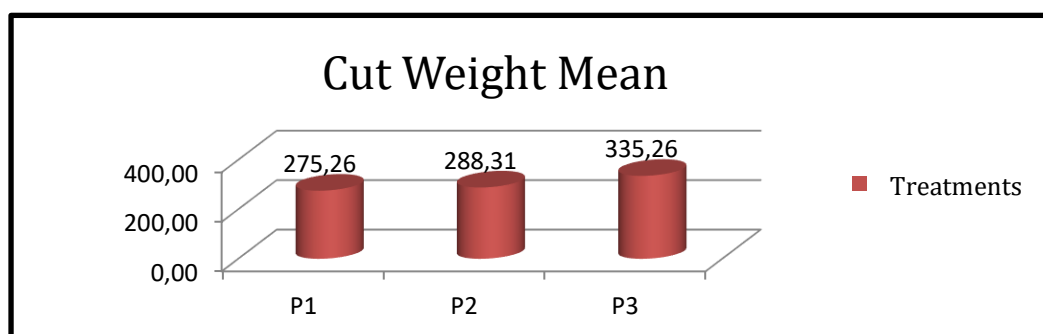


Figure 1. Mean Weight Cut of Male Peranakan Ettawa Goat.

One of the factors affecting cutting weight on a male Ettawa Peranakan goat is the consumption of different local feed. Their growth also influences the cut loads on male Ettawa Peranakan goats due to the use of dry matter feed. It is reinforced by the statement (Berg & Butterfield, 2005) that factors that may affect the non-carcass production of livestock are growth and nutrition.

## 2. Non-Carcass Weight

Ettawa male Peranakan goats with different local feeds had a significant effect ( $p > .05$ ) on carcass weight at each treatment. Non-carcass weight obtained is in line with the weight of the resulting cut, the higher the mass of reduction, then the non-carcass mass produced higher also. However, the significant level of non-carcass weight on male Peranakan Ettawa goat was 0.75, then the non-carcass weight result in this study had no significant effect with different local feeds, i.e., mulberry and Gamal feed.

The average non-carcass weight can be from by the distribution of non-carcass weight (skin, head, legs, liver, spleen, lungs, trachea, heart, testis, omental fat, tail) can be seen in Figure 2.

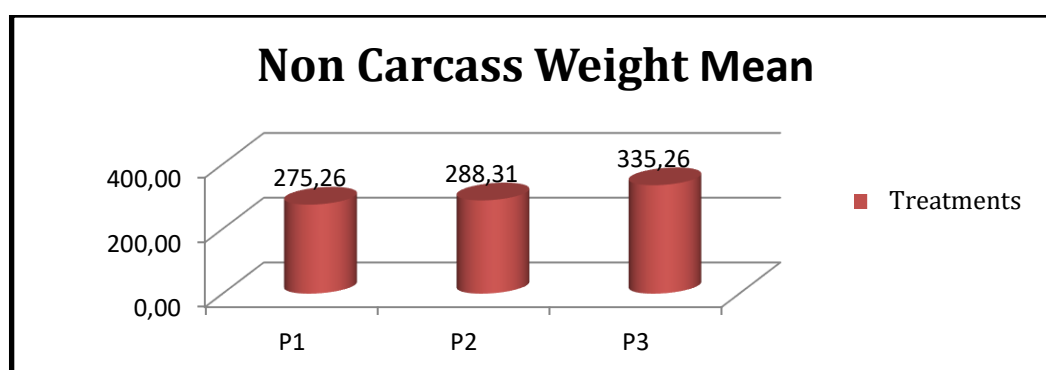


Figure 2. Mean of non-carcass weight on male Peranakan Ettawa goats.

From Figure 2, it can be seen that the average non-carcass weight of the highest male Peranakan Ettawa goat is P3 treatment with weight 335.26 gram for goat treatment of 100% Gamal. Meanwhile, the lowest percentage of non-carcass weight is 275.26 gram for goat treatment P1 with 100% mulberry feed.

Factors affecting non-carcass weight on male Peranakan Ettawa goat are different feed consumption with dry material feed. It is reinforced by the statement (Berg & Butterfield, 2005) that factors that may affect the non-carcass production of livestock are growth and nutrition.

### 3. Percentage of Non-Carcass

The highest rate of non-carcass weight was in P2 treatment. For more details can be seen in Figure 3.

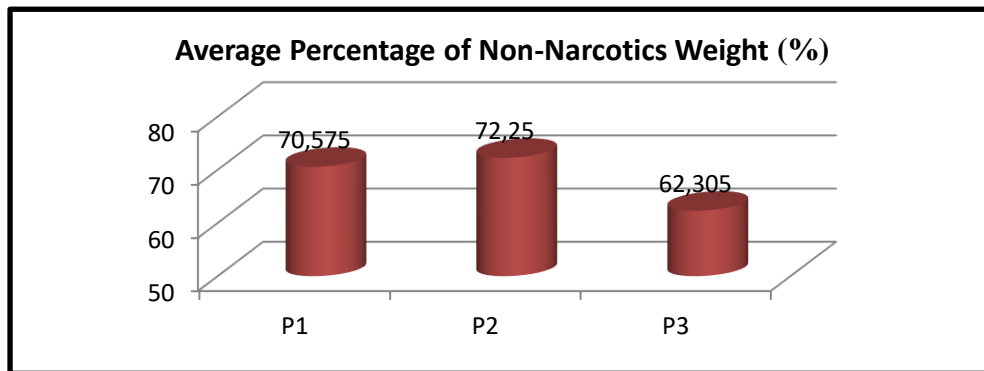


Figure 3. Average percentage of non- carcass weight on Male Peranakan Ettawa Goats.

Based on the result of research, the percentage of a carcass part of male Ettawa Peranakan with different feed showed significantly less than 5.14 (for  $P < .05$ ). It means that the rate of non-carcasses of male Peranakan Ettawa goats in all three treatments has an unstable ( $p < .05$ ) effect with different local feeds, i.e., 100% mulberry feed, 50% mulberry + 50% Gamal, and 100% Gamal. Non-carcass weight obtained is in line with the weight of the resulting cut, the higher the importance of reduction, then the non-carcass mass produced is also higher.

Hudallah, Lestari, & Purbowati (2007) and Hammond (2013) states that the more food substances consumed, the higher daily weight gain (DWG) so that the effect on the weight of the pieces obtained.

### 4. Non-Carcass Organ

Noncattle carcasses are the result of livestock cutting consisting of head, skin, internal organs, lower legs of the carpal joint and forefoot, tarsal bones or rear legs (Soeparno, Indratiningsih, Triatmojo, & Rihastuti 2006).

#### Skin

Percentage of carcass weight can be from a division of carcass weight (skin, head, feet, liver, spleen, lungs, trachea, heart, testis, omental fat, tail). The highest percentage of goat skin weights was 952.5 grams for P3 treatment goat with 100% Gamal feed. The lowest weight of goat skin was 695 grams for goat treatment P1 with 100% mulberry diet.

From the result of analysis of the diversity of treatment giving concentrate with different local feed give a real effect ( $p > .05$ ) to mean of skin weight. It is supported by Soeparno et al. (2006) statement that the treatment of nutrients and pastoral species in livestock affects the importance of the skin at the same weight. It means that different local feeding between mulberry and Gamal feeds may change skin weight in male *Peranakan Ettawa* goat.

#### Head

Based on the results of this study, the average non-carcass weight of goat Peranakan Ettawa male is the highest percentage of goat head weight is 1.145 gram for P3 goat treatment with 100% Gamal feed and the lowest rate of goat head is 1.050 gram for goat treatment P2 with feed 50% mulberry and 50% Gamal.

The result of diversity analysis of concentrate treatment that is different from local food did not give a real effect ( $p > .05$ ) to the weight of head which kept intensive. But in this study, the importance of the head was not significantly different because of the constrained

concentrate. It is by the opinion of Gailis & Mahgoub (2008) states that the type of feed does not affect the weight of the head and gastrointestinal fat.

### **Feet**

The highest weight of goat leg is 542,5gram for P3 treatment goat with 100% Gamal feed. The lowest weight of goat legs is 401.5 grams for goat treatment P1 consisting of the front and rear legs.

Different treatment of different natural feeding can have a significant effect ( $p > 0.05$ ) on foot weight. It is by the opinion Soeparno et al. (2006) which states that the nutritional treatment is having a different impact on the non-carcass weight externally, especially goat legs.

### **Liver**

The highest weight of goat liver was P3 with weight 312,5 g with 100% Gamal feed. The lowest percentage of goat liver weight was 206 g for goats treated P1 with 100% mulberry diet.

Treatment of concentrate that is different natural food give a real influence ( $p > .05$ ) to the weight of liver. It is caused by providing the same focus. By the opinion Soeparno et al. (2006) which states that the nutritional treatment influences internal non-carcass weight like the liver.

### **Limfa**

The highest goat lamb weight was 41 grams for a P2 treated goat with 50% mulberry and 50% Gamal. The lowest weight of goat lamb was 22 grams for P1 treatment goat with 100% mulberry diet.

The result of treatment of concentrate treatment that is different natural food did not give a real effect ( $p > .05$ ) to spleen weight. It is due to the nutrient content contained in each concentrate. While the opinion Soeparno et al. (2006) which states that the consumption of high nutrients will reduce the weight of the spleen.

### **Lung and Trachea**

The highest weight of goat lung and tracheal goats was 150 grams for a P3 treated goat with 100% Gamal feed. He lowest weight of lung and the tracheal goat was 130 grams for a P2 treated goat with 50% mulberry and 50% Gamal. The result of treatment of concentrate giving that is different natural food did not provide significant effect ( $p > .05$ ) to the lungs and trachea weight. The reason is a mixture of nutrients contained by mulberry and Gamal feed. Opinion Soeparno et al. (2006) states that the consumption of different nutrients will reduce the weight of lungs and trachea.

### **Liver and Fat**

The highest mean weight of heart and goat fat was 87.5 grams for P3 treated goat on 100% Gamal feed. While the lowest weight of heart and goat fat is 62.5 grams for goat treatment P1 with 100% mulberry diet

The results of concentrate treatment analysis that is a different local feed of mulberry and Gamal give a real effect ( $p > .05$ ) to the weight of heart and fat. It is due to the nutrient content contained in each concentrate is the same. It is by the opinion Soeparno et al. (2006) which states that the nutritional treatment affects the non-carcass weight internal like a heart.

### **Testes**

The highest mean genitals weight of goats was 77.5 grams for a P1 treated goat with 100% mulberry diet. The lowest weight of goat genitals was P3 for P3 treatment goat with 100% Gamal feed. The result of mulberry concentration and Gamal concentrate treatment did not give significant effect ( $p > .05$ ) to test weight. The is due to the administration of three different concentrates. Susilawati, Suyadi, Nuryadi, Isnaini, & Wahyuningsih (1993) states that the importance of a testis is affected by age, type of livestock, and food conditions

### **Tail**

The highest weight of goat tail was 55 g for a P3 treated goat with 100% Gamal feed. The lowest weight of goat tail was 28.5 g for goat treatment P1 with 100% mulberry diet. Different feeding concentrates of mulberry and Gamal gave a significant effect ( $p > .05$ ) on the percentage of tail weight. It is due to the nutrient content contained in each concentrate is the same. It is by the opinion of Soeparno et al. (2006) which states that the nutritional treatment affects the non-carcass weight on the Peranakan Ettawa goat tail.

### **Gastric Weight, Oesophagus, and Contents of Abdomen**

The average weight of Gastric + Oesophagus + highest goat content was 2932.5 g for P3 treated goat with 100% Gamal feed. While the lowest weight of goat tail was 2351,5 g for goats managed P1 with 100% mulberry feed.

The result of the analysis of feed concentrate treatment was different between mulberry and Gamal feed gave a real effect ( $p < .05$ ) to gastrointestinal weights, i.e., stomach and esophagus. It is by the opinion Soeparno et al. (2006) which states that the nutritional treatment affects the stomach, throat, and contents.

### **Gut**

The highest intestine weight on goats was 1.824 grams for treatment of P3 goat with 100% Gamal feed. The lowest intestine rate is 1.559.5 grams for therapy on goat P1 with 100% mulberry diet.

The result of feed treatment concentration analysis was different between mulberry and Gamal feed gave a real effect ( $p > .05$ ) to the percentage of intestinal gastrointestinal weight. It is due to the nutrient content contained in each concentrate is the same. It is in the opinion of Basuki (2000) which states that the rate of growth of internal organs between one with another is different and also influenced by nutrients.

### **D. Conclusion**

Based on the results and discussion it can be concluded that different feeding at 100% level in this study has no significant effect ( $p > .05$ ) on increasing percentage non-carcass of male Peranakan Ettawa goat. It means that each type of feed consumed no considerable impact on the percentage of non-carcass in male Peranakan Ettawa goats.

### **E. References**

- Basuki. (2000). *Pengantar Ilmu Peternakan Tropik*. Yogyakarta, Indonesia: BPFE, pp. 185 –187.
- Berg & Butterfield. (2005). *New Concepts of Cattle Growth*. Sydney, Aus: Sydney University Press.
- Gaili, E. S. E. & Mahgoub, O. (2008). Differences in Body Composition of Sudan. Desert Sheep. *Wed. Rev Anim. Prod*, 17, pp. 27-30.
- Hammond, J. C. (2013). Dried Cow Manure and Dried Rumen Contents as a Partial Substitute for Alfalfa Leaf Meal. *Poultry Science*, 23, pp. 471-476.
- Hudallah, C. M. S., Lestari, E., & Purbowati. (2007). *Persentase Karkas dan Non- Karkas Domba Lokal Jantan dengan Metode Pemberian Pakan yang Berbeda*. Di dalam Darmono dkk, penyunting. *Akselerasi Agribisnis Peternakan Nasional melalui Pengembangan dan Penrapan IPTEKS Prosiding Seminar Nasional Teknologi*.
- Soeparno, Indratiningsih, Triatmojo, S., & Rihastuti. (2006). *Dasar Teknologi Hasil Ternak. Jurusan Teknologi Hasil Ternak*. Yogyakarta: Indonesia: Fakultas Peternakan, Universitas Gadjah Mada.
- Steel, R. G. D. & Torrie, J. H. (1991). *Prinsip dan Prosedur Statistik Suatu Pendekatan Biometrik*. Terjemahan: Sumatri, B. Jakarta, Indonesia: Gramedia Pustaka Utama.
- Susilawati, T., Suyadi, Nuryadi, Isnaini, N., & Wahyuningsih, S. (1993). *Kualitas Semen Sapi Fries Holland dan Sapi Bali Pada Berbagai Umur dan Berat Badan*. Malang, Indonesia: Laporan Penelitian. Fakultas Peternakan Universitas Brawijaya.