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Percentage of Local Sheep Carcases: Feed by Fermented Cassava Peel

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Abstract. This study aimed to determine the effect of giving various doses of fermented cassava peel by local microorganisms (MOL) on the percentage of carcasses of local male sheep. The research was carried out at Mr. Praditya Raharja's Ranch, Jalan Bunga Rinte, Simpang Selayang, Medan, from December 16, 2019 to March 8, 2020 using a completely randomized design (CRD) with 4 treatments and 5 replications. This study used 20 male local sheep with an average initial body weight of 12.59 ± 1.22 kg. The treatments were: P0 (without fermented cassava peel in the ration), P1 (25% fermented cassava peel in the ration), P2 (50% fermented cassava peel in the ration), and P3 (75% fermented cassava peel in the diet). ration). The parameters studied were final weight, slaughter weight, empty body weight, and carcass percentage.

The results showed that the application of cassava peel fermented by MOL in the ration had no significant effect (P>0.05) on the final weight (P0=26.17 kg/head, P1=23.34 kg/head, P2=24.50 kg/head, P3=23.43 kg/head), slaughter weight (P0=26.10 kg/head, P1=22.67 kg/head, P2=24.23 kg/head, P3=22.38 kg/head), body weight empty (P0=18.81 kg/head, P1=17.20 kg/head, P2=18.37 kg/head, P3=16.64 kg/head), carcass weight (P0=11.31 kg/head , P1=9.55 kg/head P2=10.15 kg/head, P3=9.27 kg/head), and carcass percentage (P0=60.17%, P1=55.16%, P2=55, 17%, P3=55,70%). The conclusion of this study was that giving fermented cassava peel to sheep still had a positive effect, as it did not reduce the body weight of the sheep's carcass and the percentage of carcass produced was more than 50%.

Keywords: cassava peel, empty body weight, fermentation, final weight, slaughter weight

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1. Introduction

Cassava peel is a waste product from the processing of food products made from cassava. [1] noted that in North Sumatra there were 1,619,495 tons of cassava production in 2015. From this cassava production, 259,119.2 tons of cassava peel waste was generated (16% conversion of cassava peel from cassava weight).

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The abundant availability of cassava peels is a promising potential to make cassava peels as an alternative to animal feed from waste. [2] stated that cassava peel can be an alternative feed ingredient because it is easy to obtain and guaranteed availability, and has a crude protein content of 5.24%, crude fiber 10.39%, crude fat 1.05%, and high levels of crude protein. 11.33% water, and 4.31% ash content. [3] stated that cassava peel contains cyanide acid of 234.4 mg/kg.

One effort that can be made to eliminate or eliminate anti-nutritional substances is through fermentation technology using local microorganisms (MOL) obtained from the material (substrate) itself.

Local microorganisms (MOL) are fermented solutions containing various microorganisms, both bacteria, fungi and yeast that live in a consortium and synergize with each other [4]. Microorganisms can be exploited from the environment (plants, animals, soil, water, mud etc.). Microorganisms (microbes) originating from their own substrate have a high ability to degrade the substrate [4]. Cassava peel fermentation with MOL can increase protein content and reduce crude fiber [4] and reduce cyanide acid content from 234.4 mg/kg to 38.53 - 86.47 mg/kg [3]. Giving cassava peel fermented with MOL can increase ration consumption, body weight gain and income over feed cost (IOVC). Fermented cassava can be given in rations up to 50% [4].

Based on the explanation above, the writer is interested in conducting research related to the effect of giving fermented cassava peel with MOL on the percentage of sheep carcass.

2. Materials and Methods

This research was carried out for 12 weeks starting from December 16, 2019 to March 8, 2020 at Jalan Bunga Rinte, Medan Tuntungan District, Medan City.

The study used 20 male local sheep with an average initial body weight of 12.59 ± 1.22 kg. The feed ingredients used were field grass and concentrate with compositions such as soybean meal, BIS, rice bran, corn bran, cassava, molasses, ultra-mineral, and urea. Local microorganisms (MOL) based on cassava peel. Drugs in the form of kalbazen, antibloat and vitamins. Clean water to meet drinking water needs is provided on an ad libitum basis.

The study was carried out experimentally using a completely randomized design (CRD) with 4 treatments and 5 replications. The treatments were given as follows:

P0 = without fermented cassava peel in ration

P1 = 25% fermented cassava peel in ration

P2 = 50% fermented cassava peel in ration

P3 = 75% fermented cassava peel in ration

Research Parameters

1. Final Weight (Kg /head)

Final weight is the body weight of cattle before fasting [10].

2. Slaughter Weight (Kg/head) Slaughter

weight is body weight after being fasted for 12 hours just before the lamb is slaughtered [5].

3. Empty Body Weight (Kg/head)

Empty body weight is the slaughter weight of livestock minus the total contents of the digestive tract and bladder *(urine)* [5].

4. Carcass Weight (Kg/head)

Carcass weight of sheep is body weight of livestock after slaughter minus blood, head, tail, legs, skin, digestive tract, urinary bladder, genital organs, heart, trachea, lungs, liver and spleen [5].

5. Carcass Percentage (Kg/head)

Carcass percentage was calculated by dividing carcass weight by empty body weight and then multiplied by 100% [5].

Data

Analysis Data analysis was carried out after the research was completed and all required data had been obtained. The data obtained from the research results were analyzed by analysis of variance based on a completely randomized design (CRD) to determine the effect of treatment on the observed variables. If the data obtained are very real or real, then it is continued with Duncan's test.

3. Result and Discussion

Final weight The

average final weight of male local sheep fed cassava peel fermented feed up to 75% ranged from 23.34-26.17 kg/head. This final weight was higher than research by [6] on the use of cassava peel 0-60% in the ration which resulted in an average final weight of 21.31 kg.

Based on analysis of variance, the treatment had no significant effect (P>0.05) on the final weight of the sheep. It appears that the final weight of the feed is influenced by ration consumption. This is because the consumption of sheep rations fed cassava peel fermented feed has no significant effect [6].

Slaughter Weight The

Results showed that the slaughter weight value of male local sheep fed cassava peel fermented feed ranged from 22.38-26.10 kg/head. This average slaughter weight is greater than [7] study. The use of fermented cassava peel flour with Starbio in the ratio resulted in an average slaughter weight of 12.99-16.18 kg/head. The addition of 0-60% cassava peel without fermentation resulted in an average slaughter weight of 19.83 kg [7].

The results of the analysis of diversity in the treatment P_0, P_1, P_2, P_3 had no significant effect (P>0.05) on the slaughter weight of male local sheep. Slaughter weight was not significantly different due to ration consumption which was not significantly different according to research [8].

The application of cassava peel flour did not give a significantly different effect on the cutting weight. This indicated that the administration of fermented cassava peels up to 75% in the ration had no effect on the contents of the sheep's digestive tract, resulting in no difference in slaughter weight.

[9] which states that the same amount of feed nutrient consumption will produce the same slaughter weight. Slaughter weight is also influenced by the level of ration consumption. [9] stated that feed consumption is an important factor for determining basic living needs and production because by knowing the level of feed consumption it can determine the levels of nutrients in the feed for the necessities of life and the need to reproduce for livestock will increase the slaughter weight of livestock.

[10] stated that the provision of high-quality rations in sufficient quantities will increase live weight gain resulting in high slaughter weight, so that the carcass weight produced is also high. The nutritional content of the feed used is not much different, as well as the protein and energy content of each ration used. This causes the resulting cutting weight to be not significantly different.

Empty Body Weight

The average empty body weight value of male local sheep using fermented cassava peel feed was up to 75% in the ratio ranging from 16.63-18.81 kg/head. The average empty body weight in this study was greater than that of [3] study, which resulted in an average empty body weight of 12.90-16.18kg/head when given fermented cassava peel flour in the ration.

The results of the analysis showed that the administration of fermented cassava peel gave no significant effect (P>0.05) on empty body weight. This is presumably because the feed given to the treatment has almost the same quality to be digested by livestock. This is in accordance with the statement of [11], the same amount of nutritional consumption will produce the same slaughter weight of local male sheep. The slaughter weight of the local ram will affect its empty body weight.

Carcass Weight

The results showed that the average carcass weight value of male local sheep using cassava peel fermented feed was up to 75% in the ratio ranging from 9.27 to 11.31 kg/head. The final average weight of this study was higher than that of study [3] on the use of fermented cassava peel flour with starbio in rations which resulted in an average carcass weight of 5.22-6.23 kg/head.

The results of the analysis of variance showed that the application of fermented cassava peel had no significant effect (P>0.05) on carcass weight. This was due to the final weight, weight, cut, and empty body weight which had no significant effect.

Carcass Percentage

The average carcass percentage value of male local sheep using cassava peel fermented feed (P0, P1, P2, P3) ranged from 55.16 -60.17%. The average carcass percentage in this study was greater than [3] study on the use of fermented cassava peel flour in the ration which produced an average carcass percentage of 51.78%-54.40%.

[12] stated that carcass is an important factor to assess the production of beef cattle, because it is very closely related to live weight where as the live weight increases, the carcass production will also increase. Changes in carcass weight were caused by changes in carcass composition consisting of muscle, fat, and bone. Carcass meat composition changes according to genetics, nutritional content of feed, and environmental influences [12]. Changes in the chemical composition of the carcass will affect the carcass weight, and the carcass weight will affect the carcass percentage.

The relationship between the nutritional content of the ration and the amount of ration consumed was that the rations containing high energy tended to increase the fat composition of the carcass compared to the rations with low energy. This is in accordance with [11] statement that limiting energy consumption will reduce fat, even though bone and muscle tissue growth may still take place.

Based on the results of the study, it was found that the use of fermented cassava peel feed on male local sheep had no significant effect (P>0.05) on the carcass percentage of male local sheep. Carcass percentage has many influencing factors including carcass weight, livestock condition, breed, feed and non-carcass. This is in accordance with the statement of [5] which stated that the factors affecting carcass were carcass weight, livestock condition, breed, ration, age, sex, proportion of non-carcass parts, and castration.

Table 1. Recapitulation of Research Results

Treatment	Parameters				
	Weight Final (kg/head)	Weight Cut (kg/head)	Body Empty (kg/head)	Weight Carcass (kg/head)	Percentage Carcass (%)
P0	26.17	26.1	18.81	11.31	60.17
P1	23.34	22.67	17.2	9.55	55.16
P2	24.5	24.23	18.37	10.15	55.17
P3	23.43	22.38	16.64	9.27	55.7

4. Conclution

The conclusion of this study is that fermented cassava peel can be given to sheep up to 50% in the ration without reducing the carcass body weight of the sheep and the percentage of carcass produced is more than 50 %.

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