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Utilization of Vegetable Waste to Performance and Income Over Feed Cost of Hair Sheep

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ABSTRACT
The study aims to determine the effect of fermented vegetable waste in rations on performance (additional feed income) and income on feed cost (IOFC) of hair sheep. This research was conducted at Animal Biology Laboratory, Animal Husbandry Study Program, Faculty of Agriculture, University of North Sumatera, from June to September 2016. This study used 20 local sheep with initial weight 13.4 ± 1.2 kg. The design used in this study was Completely Randomized Design (RAL) with 5 treatments and 4 replications. Treatment consists of P0 (100% grass without fermented vegetable waste + concentrate), P1 (75% grass and 25% fermented vegetable waste + concentrate), P2 (50% grass and 50% vegetable waste + concentrate), P3 (grass 25% And vegetable waste 75% + concentrate) and P4 (100% fermented vegetable waste + concentrate). The parameters observed were performance (additional food income) and income on feed cost (IOFC). The results of the diversity analysis showed that the utilization of fermented vegetable waste gave no significant effect (P> 0,05) to PBB. but may affect feed conversion and feed consumption. IOFC sheep hair sheep highest on P3 treatment of Rp 204.428,6. The conclusion of this research is the utilization of fermented vegetable waste with Effective Microorganism 4 (EM4) at the level of 75% as local sheep feed material and can be used as alternative feed ingredient for Sheep Sheep Hair Sheep.

INTRODUCTION

Market one of the producers of waste in the form of organic and inorganic production of vegetable waste can reach 2-3 tons per day. One of the wastes produced can be agricultural waste that is underutilized, such as vegetable carrots, cabbage, chicory, soup leaves, celery leaves. Besides having the potential of alternative food waste vegetables have some shortcomings as alternative feed, among others, has high water content (91.56%) which causes rapid rot so that its quality as fast feed decreases.

Therefore, organic market waste can not be given directly to livestock need to be processed first to maintain its quality. Processing by fermentation has been able to preserve and maintain the quality of organic waste as feed ingredients (Muktiani et al., 2006). The result of proximate analysis showed that traditional market vegetable waste contained crude protein content 12,64 - 23,50% and crude fiber content 20,76 - 29,18% (Muktiani et al., 2007).

Based on the description above, the authors are interested to examine the extent to which the influence of fermented vegetable waste on the performance (consumption, body weight gain and feed conversion) and Hair Sheep Sheep Income Over Feed Cost (IOFC).

METHODS

Place and time of research The research will be conducted at Animal Husbandry Laboratory of Animal Husbandry Program of Faculty of Agriculture, University of Sumatera Utara. The study lasted for three months starting from June 2016 to August 2016.

The material used is local sheep as much as 20 tail, feed ingredients consist of field grass, fermented vegetable waste and concentrate as reinforcing feed, rodalon as disinfectant as well as medicines such as worm medicine (Kalbazen) and anti bloat for the medicine of bloating. The tool used is a cage of 20 units with a size of 1 mx 0.5 m, where to feed and drink as many as 20 units, white plastic as a place of fermentation, thermometer to know the temperature inside and outside the cage, the scale of capacity 50 kg with sensitivity 2 k g to weigh the weight sheep, scales with a capacity of 2 kg with a sensitivity of 10 grams for weighing feed, cage cleaner, cage lighting, oven to dry feed ingredients, chopper machine to chop corn chobot, grinder to smooth feed material and stationery to write data

The research method used is experimentally sing a completely randomized design (RAL) consisting of 5 treatments and 4 replications. The treatment provided is as follows: P0: 100% grass without fermented vegetable waste + concentrate P1: 75% grass and 25% fermented vegetable waste + concentrate P2: 50% grass and 50% fermented vegetable waste + concentrate P3: 25% grass and 75% fermented vegetable waste + concentrate P4: Waste of fermented vegetables 100%

Parameters Observed
Average Daily Gain (g/head) The weight gain is calculated by dividing the body weight difference (the final weight - the initial weight) by the length of the weighing day. Conducted for once in two weeks, expressed in grams per head per day. UNH = final weight - initial weight (g / tail) long maintenance (days) Feed Consumption (g / head) Feed consumption is calculated daily based on the amount of feed given minus the remaining feed. Consumption can be formulated as follows: Feed Consumption = Feed provided (in% BK) - The remaining feed (in% BK). Feed Conversion is the conversion of feed per day with an average rate of per body weight per head production per day. Feed conversion = Feed consumed (g / day) PBBH (g / day) IOFC Income Over IOFC can be calculated using a cost acceptance approach issued during the study. IOFC = (The final weight of sheep - the weight of the sheep's sheep x the selling price of sheep / kg) - (Total feed intake x feed price / kg).

RESULT AND DISCUSSION

Results of research on the effect of vegetable waste use performance and income feed feed sheep rate shown in table 1.

Table 1. Recapitulation of Research Result

Treatment	Parameter			
	Average Daily Gain (g/head/day)	Consumption (g/head/day)	Feed Conversion	IOFC
P0	**92,62a**	**201,45e**	**2,398b**	**Rp. 177.919**
P1	**71,42a**	**274,77d**	**3,89b**	**Rp. 122.303**
P2	**106,25a**	**379,17e**	**3,77b**	**Rp. 176.942**
P3	**128,92a**	**478,50b**	**3,81b**	**Rp. 204.429**
P4	**114,94b**	**567,82a**	**5,33a**	**Rp. 145.981**

Description: a distinctly different superscript in the same column indicates a very different effect (P<0,01)

Average Daily Gain

From table 1 can be seen. There was no significant effect on the significance (P> 0.05) on weight gain. At treatment P1 (75% grass and vegetable waste concentrate + fermentation 25%) showed lower result than treatment of P0, P2, P3 and P4. This is because at the time of the occurrence of temperature changes in the environment that could affect the appetite of livestock. This is in accordance with the statement (Hardjosworo and Rukmiasih, 2000), which states that livestock health also greatly affects feed consumption.

Feed Consumption in Dry Material

From Table 1 it can be seen that the diversity analysis shows that the utilization of fermented vegetable waste has a very real effect (P <0.01) on Sheep Hair Sheep consumption. It is suggested that feed consumption is influenced by the aroma, color and texture of the feed given. The feed used in this study is fermented vegetable waste which has a fragrant aroma and so can improve the palatability of the sheep studied. This is in accordance with the statement of Church (1988) which states that the amount of feed consumption is influenced by several factors such as palatability, feed digestibility, feed flow rate, and protein status. From the results of further tests duncan showed that each treatment is significantly different. The treatment of P0 was significantly different from P1, P2, P3 and P4. This is because feeding in accordance with the needs do not give a different effect on feed consumption by the livestock itself. This is in accordance with the statement of Andiwinarti et al., (1999) which states that the same amount of feed consumption will produce the same weight of cut, in addition to the weight of the weight is also empty so that the livestock needs will be met equally.

Feed Conversion

From Table 1 it can be seen that the diversity analysis indicates that the utilization of fermented vegetable wastes is real (P<0,05) to feed conversion. This is due to the fact that the basic necessities of life, the need for growth, food, livestock production must be met in accordance with which the cattle consume forage and concentrate. This is in accordance with the statement Martawidjaja (1998) which states that the quality of feed determines the conversion of feed. A good quality feed can produce a high body weight gain. The use of feed will be more efficient when the amount of feed consumed is low, however resulting in high body weight gain.

Income Over Feed Cost (IOFC)

From the calculation of income over feed cost (IOFC) sheep hair sheep the highest value is on the P3 (25% grass and 75% vegetable fermentation + concentrate) 204,428,6. The difference in IOFC value in each treatment is influenced by the difference between the price of sheep / kg sold and the ration cost (total consumption multiplied by the ration price) incurred during production is very different,

resulting in different IOFC values in each treatment. This is in accordance with the statement Prawirokusumo (1990) Mellisa disitasi (2010) income over feed cost is influenced by the amount of income with feed costs incurred during conducting business activities.

CONCLUSIONS

The use of fermented vegetable waste does not affect weight gain but may affect feed consumption, feed conversion and IOFC of hair sheep.

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