THE EFFECT OF GIVING BIOPLUS TO RABBITS SKIN PRODUCTION

Husmy Yurmiati, Deni Suryanto, Khairul Razki

Faculty of Animal Husbandry, Padjadjaran University, West Java, Indonesia
e-mail: husmyyurmiati@gmail.com

Abstract

Bioplus is content solutions of chosen rumen which contains microbe of crude fiber digestive and good for ransom which increase livestock production and food efficiency. And hopefully good increasing of the weight will affect the rabbit's skin production. The output of this research is to know the effect of bioplus and look for an appropriate dosage which give the highest skin production to the rabbit. Experimental research was done with Completely Randomized Design. Treatment of five level of bioplus dosage (B1 = 0%, B2 = 0,15%, B3 = 0,20%, B4= 0,25%, B5 = 0,30%) were repeated for 4 times, per each. The number of rabbit for this experiment is 20 in wean age, with an average weight of 1083,24 g. The variables are skin's weight (g), skin's thick (mm), and skin's wide (cm2). The conclusion of the research is rabbit's skin production is very influenced by bioplus giving. Skin production (weight = 147 g, thick = 0,94 mm, wide=1031,05 cm2) is from bioplus 0,20% of rabit's weight.

Key words: Rabbit, Skin, Bioplus

INTRODUCTION

New Zealand White Rabbit hybrid had two function as skin and meat producer. The skin was white, thick and interested by consumer. To produce good skin, some factors such as food, maintenance, slaughtering age, sex and maintenance output would give the effect. But the most influential was food quality and quantity. But the limited ability of the rabbit to digest the food was important as well.

Rabbit had an ability to digest low crude fiber compared to ruminants, but fiber was one of main component to rabbit ransom. It was 33,5% NDF [2] or around 35 – 40 % NDF [5]. Fibers helped to launch feces, avoid the accumulation of feces in the cecum which would reduce the input of food and finaly disturb the growth [3]. Nevertheles, rabbit was very efficient in using food because of koprophagi. To improve digestive power from the food, feed additive was needed. It would help the digestive power, such as bioplus. According to [9] bioplus was selected rumen solution which contained digestive microbes of coarse fiber from celolotic group, which were bacteria, protozoa and fungi. Then bioplus could increase livestock growth rate, balance the type and enzyme activity in rumen to gain better coarse fiber digestion, and increase energy availability energy of livestock which made weight growth and improved carcass quality, reduced the smell of feces, and reduced diarrhea, bioplus could reduce polution of NH3 slurry of pig feces, but didn't have effect to H2S polution and mercaptan without affecting pig growth. Another advantage was increasing feed efficiency to local goat.

According to [1], caecum and colon in rabbit had function as fermentative digestion with bacteria help like rumen in ruminant. Hoping with bioplus giving to rabbit would improve the growth which would give the wide consequence, high thick and weight skin production, it was in the same manner as [4] which said that skin was a heavy single organ, about 10 percent of the weight. Then, the growth and development of skin were not separated from the whole body growth of the livestock.

Livestock skin had a very complex structure and the growth process was strongly connected with weight, thick and body surface area. Overall, livestock growth

measured with weight gain, changes in bodt shape and composition. These changes would increase skin production and skin surface [7]. From the description above, the aim of this research was to learn and know the best level ini giving of bioplus to produce the highest weight, thick and skin area.

MATERIALS AND METHOD

This research used experiment and completely randomized design with 5 treatments level of bioplus giving (B1 = 0%, B2 = 0,15 %, B3 = 0,20 %, B4 = 0,25 % and B5 = 0,30 % Bioplus) from weight. Each was repeated four times, so the number of New Zealand White rabbit hybryd was 20 and caging individually. Average first weight was 1083,24 gram with coefficient of variation 11,41 %. Feed and drinking water provided adlibitum, with protein 18,81% and digestible energy 2506,49 Kkal. Liquid bioplus was injected into the cecum at the beginning of the research. Measured variable was weight skin (gram), thick skin (mm), and skin area (cm2). Data was analyzed statistically with analysis variance. To examine the average between the treatments used Duncan test [6]. The tools to measure variable were tape measure, micrometer screw link, and O'Haus analytic scales. To get skin sample, kosher method of slaughtering was processed and to calculate the skin area used Hegeunaeur method [11].

RESULT AND DISCUSSION

The result about bioplus giving to weight, thick and skin area of New Zealand White rabbit hybrid can be seen in Table 1.

Table 1. The average of weight, thick and skin area of the rabbits and Duncan Test

Variable	Bioplus Treatment				
	0%	0,15 %	0,20 %	0.25%	0,30 %
Weight Skin (g)	133,10 a	144,01 b	147,15 b	145,85 b	142,12 b
Thick Skin (mm)	0,51 a	0,88 b	0,94 b	0,92 b	0,81 b
Skin Area (cm2)	883,81 a	1007,26 b	1031,05 b	1025,90 b	976,18 b

Description : Value which is followed by same letter to the row showed not significantly different.

Table 1 showed that bioplus injection could increase weight, thick and skin area of New Zealand White hybrid rabbit. Bioplus injection 0.15% from weight was significantly **(P<0,05%)** folowed by the increasing of weight, thick and skin area if compared with the rabbit without bioplus injection. The effect of bioplus injection to the weight, thick and skin area increasing because of the increasing of rabbit growth if compared with rabbit without bioplus giving. This increasing growth is because of digestive power increased, better ransum efficiency to synthesize protein and fat. According to [9]**,** bioplus had function in increasing digestive power, ransum efficiency, protein and fat synthesize. In dairy cows, bioplus affix could increase the protein of milk of dairy cows [10]. On sheep, which was researched by [8], bioplus could increase ransom efficiency on sheep which given with low quality ransom. It means microbe in bioplus which was injected to caecum of rabbit was well adjusted with the environment of caecum and producing sinergetic effect so it could increase rabbit growth and development, which finally would be followed with increasing the skin area. Growth and development of the skin was not out from the weight growth. Skin was woven product of living cells and skin development, especially the thickness, was closely related with the growth [7], so that weight growth would be followed with weight, wide and thick of skin increasing because skin was the widest organ which covered the body and it weight was 10% heavier than the body weight [4]**.**

According to [7]**,** body weight had positive correlation with skin weight. Spesifically to rabbit which differences in growth rate would cause differences in skin thickness increase [11]

Perhaps bioplus in rabbit caecum helped to increase protein and fat synthesize in digest, and those substance used fot growing

and developing the body and the test for growing skin. With the increasing of protein and fat synthesize, skin protein and fat will also increase and it make the skin more thick.

Concentration increasing of bioplus injection from 0.15% into 0.20%, 0.25% and 0.30% are not followed by the increasing of weight, thick, and skin area of the rabbit significantly, even there is decreasing on them, specially in bioplus injection 0.25% and 0.30%. That decrease is because of competition between microbe in caecum with microbe from bioplus, so that it will decrease digest power and affect the body and skin growth.

Livestock growth was measured with weight gain, changes in body shape and composition, with those changes skin will be heavy, and body area will grow and make skin area thick and wide.

Bioplus in rabbit caecum helped to increase synthesis of protein and fat. Both susbstance used for growth and development of body and skin. Hopefully, the increase of synthesis of protein and fat will cause the increase of skin protein, such as collagen, retikulin and fat. Those factors determine the thickness of the skin.

CONCLUSIONS

The conclusion of the research is rabbit's skin production is very influenced by bioplus giving. Skin production (weight = 147 g, thick = 0,94 mm, wide=1031,05 cm2) is from bioplus 0,20% of rabit's weight.

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