Percentage of Carcas And Non Carcasse of Free-Rain Chicken With The Addition of Lysine In The Rational

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ABSTRACT

This study aims to assess the carcass and non-carcass quality of free-range chickens aged 3-16 weeks. This research used 80 free-range chickens divided into 20 plots. The design used was a completely randomized design (CRD) with 4 treatments and 5 replications, each replication consisting of 4 free-range chickens aged 2 weeks. Treatment consisted of P0 (ration without lysine); P1 (ration + lysine 0.05%); P2 (ration + 0.15% lysine) and P3 (ration + 0.25% lysine). The results of this study showed that the average carcass weight for treatments P0, P1, P2 and P3 was 73.88; 60.20; 61.20 and 65.05, while the average non-carcass weight was 34.83; 38.16; 32.42 and 35.60. From the research results, it was found that the addition of lysine had a very significant effect (P<0.01) on carcasses, and a significant effect (P<0.05) on non-carcasses.

Keywords: Free range chicken, carcass, lysine

ABSTRAK

Penelitian ini bertujuan untuk menilai kualitas karkas dan non karkas ayam buras umur 3-16 minggu. Penelitian ini menggunakan 80 ekor ayam buras yang dibagi kedalam 20 plot. Rancangan yang digunakan adalah rancangan acak lengkap (RAL) dengan 4 perlakuan dan 5 ulangan, setiap ulangan terdiri dari 4 ekor ayam buras umur 2 minggu. Perlakuan terdiri dari P0 (ransum tanpa lisin); P1 (ransum + lisin 0,05%); P2 (ransum + lisin 0,15%) dan P3 (ransum + lisin 0,25%). Hasil penelitian ini menunjukkan rataan bobot karkas untuk perlakuan P0, P1, P2 dan P3 sebesar 73.88; 60.20; 61.20 dan 65.05, sedangkan rataan bobot non karkas yaitu 34.83; 38.16; 32.42 dan 35.60. Dari hasil penelitian diperoleh bahwa penambahan lisin berpengaruh sangat nyata (P<0.01) terhadap karkas, berpengaruh nyata (P<0.05) terhadap non karkas.

Kata Kunci: Ayam Buras, Karkas, Lisin

1. Introduction

Free-range chicken is a type of local poultry that has long been known and kept in remote parts of the archipelago. Free-range chickens have a large role in supporting the economy, especially in rural areas. For Indonesian people, free-range chickens are nothing new. The term "free-range chicken" was originally the opposite of the term "purebred chicken", and this term refers to chickens that are found roaming freely around the village. However, since a program of purification, breeding and formation of several local chickens has been carried out, several strains are currently known.

superior village chickens or known as superior local chickens. These chickens have been selected and raised with improved cultivation techniques (not just kept out and left to find their own food).

Even though broiler chickens are often found in traditional and modern markets, free-range chicken meat is still in demand by many consumers. Whether we admit it or not, consumer appetite for free-range chicken is very high. This can be seen from population growth and demand for free-range chicken which is increasing from year to year. This can be seen from the increase in free-range chicken production from year to year, where in 2001 - 2005 there was an increase of 4.5% and in 2005 - 2009 free-range chicken consumption increased from 1.49 million tons to 1.52 million tons. Considering this potential, it is necessary to seek solutions to increase population and productivity.

However, the weaknesses of free-range chickens are low productivity and slow growth, so they require more rations than broiler chickens, so the ration conversion rate is greater (low ration efficiency). Ration is a factor that greatly influences chicken productivity. To gain just one kilogram of body weight, free-range chickens need a ration of more than 2.8 kg, while broiler chickens only need 1.7 kg. Efforts that can be made are to improve the ration through protein quality. Good quality protein has adequate and balanced amounts of amino acids. If there is a lack of essential amino acids in the ration, the result is that the utilization of other amino acids is disrupted.

Until now, the complete standards for nutritional needs and food substances, especially the amino acid requirements for free-range chickens, are not yet known. Therefore, the formulation and structure of free-range chicken rations is currently not standardized and still refers to the needs of laying hens. When preparing free-range chicken rations, they usually only focus on the need for crude protein and metabolic energy without paying attention to the amino acid balance. Essential amino acids cannot be synthesized by the body of livestock, especially poultry, so they must be available in the ration. For example, the amino acid lysine, although used in rations in small amounts, is very important in the successful growth of chickens (poultry). Chickens need lysine content for growth in relation to the fat metabolism process in the formation of good meat with low fat deposition.

The nutrient balance of the ration, especially the essential amino acids consumed, can influence the increase in body weight of chickens. The increase in body weight which is supported by the low fat mass of meat is a sign that chickens have good productivity. Breast meat is a carcass cut that is popular with people because of its thick meat. Considering that there are not many studies regarding the need for amino acids (Lysine) in free-range chickens, I have therefore carried out research to determine the correct content of the amino acid lysine in free-range chicken rations, so that it can increase live weight and carcass percentage.

2. Methods

This research method is an experimental method using a non-factorial completely randomized design (CRD) with 4 treatments and 5 replications. The formula for finding experimental repetitions according to Hanafiah (2014) is as follows:

$$\mathbf{(t - 1)\ (r - 1) \geq 15}$$

Keterangan:
t : treatment
r : repitation

t (r-1) ≥ 15
4 (r-1) ≥ 15
4r – 4 ≥ 15
4r ≥ 15+4
4r ≥ 19
r ≥ 19:4 = 4.75
The treatment in the research is as follows:

P0 = Basal Ration L-Lysine 0%
P1 = Basal Ration with L-Lysine 0.05%
P2 = Basal Ration with L-Lysine 0.15%
P3 = Basal Ration with L-Lysine 0.25%

The composition of starter (0-8 weeks) and grower (8-22 weeks) ration formulations is as in Tables 1 and 2 below:

Table 1. Composition of Starter Ration Formulation (0-8 weeks)

Ingredients	%
Composition	
Corn	59
Soybean Meal	9
Meet Flour	11
Rice bran	11
B.i.s	6
Vegetable oil	2
Salt	1
Maxcar	1
Total	100
Nutritional content	
CP (%)	17.77
ME (Kkal/kg)	2888
CF (%)	3.8
CF (%)	5.3
Ca (%)	1.1
P (%)	0.9
Lysine (%)	0.7

Table 2. Composition of Grower Ration Formulation (8-22 minggu)

Bahan	%
Composition	
Corn	59
Soybean Meal	7
Meet Flour	7
Rice bran	13

Bahan	%
B.i.s	11
Vegetable oil	1
Salt	1
Maxcar	1
Total	100
Kandungan Nurtisi	
PK (%)	15.83
EM (Kkal/kg)	2813
SK (%)	4.3
LK (%)	5.4
Ca (%)	0.7
P (%)	0.8
Lisin (%)	1.1

3. Results and Discussion

The research results of the effect of adding Lysine on the Percentage of Non-Carcass Carcass and Abdominal Fat can be seen in Table 3 below.

Table 3. Recapitulation of the Percentage of Carcass, Non-Carcass and Abdominal Fat in the Livestock Chicken Diet During the Research

Parameter	Treatments			
	P0	P1	P2	P3
Carcass	73,88^{A}	60,20^{A}	61,20^{A}	65,06^{A}
Non Carcass	34,83^{a}	38,16^{a}	32,42^{a}	35,60^{a}

Note: Superscripts in capital letters on the same line indicate a very significant effect (P<0.01). Superscripts with lowercase letters on the same row indicate significantly different effects (P<0.05).

From the research results, it was found that the addition of lysine had a very significant effect (P<0.01) on the carcass, and a significant effect (P<0.05) on non-carcass and abdominal fat.

Carcass percentage can increase due to high digestion of feed and absorption of feed nutrients in free-range chickens even though there is a decrease in protein intake. Good feed efficiency can occur because this treatment causes an increase in the absorption surface of the jejunum epithelial cells, a large absorption surface can increase the digestibility of amino acids, starch, fats and vitamins in the feed even though there is a decrease in the level of feed protein.

Based on Table 3, the highest average is found at P0 at 73.88, while the lowest average is at P1 at 60.20. The higher the carcass weight, the lower the level of fat in free-range chickens and the lower the carcass weight, the higher the level of fat in free-range chickens. Carcass production is closely related to body weight. Apart from body weight factors, carcass weight also influences genetics or strain, age, ration quality, management and animal health (Soeparno, 2006).

Based on Table 6, the highest average is found in P1 at 38.16, while the lowest average is in P2 at 32.42. When adding lysine to the basal diet, significant differences can be seen, this is because the non-carcass weight between treatments is not the same, resulting in different non-carcass percentages.

According to Resnawati (2010), small body weights in free-range chickens generally have a greater percentage of body weight wasted (such as legs, head and neck and viscera) compared to chickens with large body weights. Based on Table 3, the average non-carcass percentage of free-range chickens is in the range of 33 - 37% g/head. This is in accordance with Murtidjo (2003) who stated that the percentage of non-carcass parts in chickens with the carcass percentage for males being 64.6%, head and neck 6.5%, feet 3.3%, liver 2.6%, gizzard 4, 4%, heart 0.6%, intestines 6.6%, blood 5.4%, and feathers 6.0%. For females carcass 71%, head and neck 4.8%, feet 4.5%, liver 3.1%, gizzard 5.6%, heart 0.6%, intestine 0.5%, blood 4.2% and feathers 9.6%.

As for the results obtained, the researchers concluded that by using 0.25% lysine, the body weight growth of free-range chickens was very good. This agrees with Harisshinta (2009), who stated that non-carcass weight is one third of live weight. Non-carcass weight is directly proportional to carcass weight and live weight, the higher the live weight, the higher the non-carcass weight.

4. Conclusion

The conclusion of this research are The addition of lysine to free-range chicken rations was very significant ($P<0.01$) on carcass percentage. The addition of lysine to the free-range chicken ration had no significant effect ($P>0.05$) on the non-carcass percentage of free-range chickens.

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