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Technology on Biosciences and Social

“Industry based on Knowledges”

17th-19th November 2016, Convention Hall, Andalas University

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Animal Science Faculty of Andalas University
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Organized by:

Animal Science Faculty of Andalas University
and
Alumbi Center of Universiti Putra Malaysia

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Evaluated the Effect of Fermented Palm Sludge on Burgo Chicken Performance

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Abstract

Bengkulu has a potential source of feed material as well as its availability is met throughout the year, and has been tested to animals is the oil sludge. Oil sludge can be obtained with the cheap price and the protein content is high enough. This research was aimed to evaluate the effect of fermented palm sludge (FPS) with *Neurosporas* on burgo chicken performance. It was doing on 21 Desember 2014 until 15 February 2015 in Pagar Dewa, Kecamatan Selebar, Kota Bengkulu. This used 16 burgo chickens age 8-9 month that groups in 4 treatments with 4 samples that placed in individual cage. Treatments were P0 (diet control), P1 (diet with 5% FPS), P2 (diet with 10% FPS) and P3 (diet with 15% FPS). Result showed that FPS did not improve ration consumption, did not reduce egg production per centation (%), did not reduce egg production (gram), did not reduce egg massa production (gram) and did not improve ration conversion ($P > 0.05$). The conclusion is fermented palm sludge until 15% in diet do not improve ration consumption, did not reduce egg production per centation (%), do not reduce egg production (gram), do not reduce egg massa production (gram) and do not improve ration conversion of burgo chicken. So, fermented palm sludge can use as diet until 15% and do not reduce performance of burgo chicken

Keywords: Fermented palm sludge, Burgo chicken

1. Introduction

Eggs are farm products that contribute to the achievement of adequate nutrition in the community. An egg obtained adequate nutrition perfect because eggs contain nutrients that are very good and easily digested by the body [1]. Lately symptoms of back to nature into something interesting. Upper middle class people who originally liked everything based technology is now starting to change to the situation that all natural. Demand for eggs and chicken eggs increased apparently participated affected by the phenomenon. Public perception of the chicken is the original chicken reared

traditionally and is not given feed containing chemicals. Potential local chicken, which can be developed in the area of Bengkulu is burgo chicken that has huge potential and has a characteristic that is different from the other chickens [2]. Hen burgo can lay 20-25 point range in the period [3]. Lapse of time laying the average of 10 days, it is much faster than domestic poultry in general, which has an interval of spawning an average of 18 days.

In other side, Bengkulu has a potential source of feed material as well as its availability is met throughout the year, and has been tested to animals is the oil sludge. Oil sludge is a waste generated from extortion

palm fruit that has been through various processes to produce crude palm oil (CPO) or commonly known as crude palm oil [4]. Oil sludge can be obtained with the cheap price and the protein content is high enough. Protein content in the sludge of oil that has been fermented using a mold *Neurospora sp* increased from 13.57% to 23.45 [5]. The granting of oil sludge fermentation (LSF) of 15% does not give negative effects to birds, especially for the performance of domestic poultry [6]. Expected use of oil sludge that has been fermented with *Neurospora sp* could be expected to improve the performance of chicken burgo.

This study aimed to evaluate the effect of oil sludge that has been fermented with *Neurospora sp* against burgo chicken performance.

2. Material and Methods

It was doing on 21 Desember 2014 until 15 February 2015 in Pagar Dewa, Kecamatan Selebar, Kota Bengkulu. This used 16 burgo chickens age 8-9 month that groups in 4 treatments with 4 samples that placed in individual cage. Treatments were P0 (diet control), P1 (diet with 5% FPS), P2 (diet with 10% FPS) dan P3 (diet with 15% FPS), and used analysis of Completely Randomized Design (RCD). When a result is significant, it continue to Duncan's Multiple Range Test (DMRT) to analysis means test.

3. Result and Discussion

3.1 Feed Consumption

Based on the research results feed intake during the study had no significant ($P>0.05$). The use of oil sludge fermentation at the level of 15% in hen burgo not increase feed intake. It is the same with research (Sari et al., 2012), the use of LSF as much as 15% in laying chicken does not increase feed intake compared with control treatment.

Chicken consume rations is none other than to meet the basic needs of life, growth

and reproduction. Feed intake is strongly influenced by the environment and the balance of nutrients, the quality of rations, breeds, rate of growth, body weight and level of production. In selecting a feed, the chicken will use his instincts to choose the feed that is, if the feed contains enough nutrients then the level of palatability of the chicken was high on the contrary, if the feed is less containing nutrients required for the necessities of life, the chickens will continue to consume feed that meets every aspect of their daily needs. Increasing and decreasing feed intake is influenced by energy content, of this study on the energy content of the ration so that the same relative feed consumption showed no significant.

Average consumption of hen burgo rations grams/head/day during the study are shown in Table 1.

3.2 Percentage of Egg Production

The influence of the use of FPS against the percentage of egg production during the study showed no significant ($P>0.05$), this can be seen in Table 1. The use of oil sludge fermentation to the extent of 15% did not increase egg production, but also does not reduce the percentage of egg production in burgo chicken. The use of sludge oil to the extent of 15% in laying chicken showed no negative symptoms [4]. The use of FPS is not optimal to increase egg production due to FPS deficiency in amino acids lysine and mentionin [5].

Although the treatment effect was not significant ($P>0.05$) on the percentage of the average production during the study, but it can be seen that the percentage of egg production related to feed intake (Table. 1). In each treatment P0: 49.56 g/head/week (42.86), P1: 43.52 g/head/week (23.21), P3: 42.28 g/head/week (28.57). The number of low feed intake can cause a drop in egg production and feed intake otherwise high can increase the amount of egg production [9].

Table1. The result in this research

Variables	Treatments			
	P0	P1	P2	P3
Feed Consumption (g/head/day)	53.46±4.34	53.62±9.19	55.46±6.32	60.91±12.82
Percentage of Egg Production (%)	51.34±9.82	45.09±16.00	41.07±10.00	51.34±16.58
Egg Production (grain/head)	28.75±5.50	25.25±8.96	23.00±5.60	28.75±9.29
Production of Egg Mass (g/head)	765.96±134.49	734.08±288.78	648.01±181.72	810.90±264.79
Feed Conversion	3.98±0.61	4.47±1.37	4.96±0.84	4.41±0.92

3.3 Egg Production (Grain)

Results of analysis of variance showed that the use of FPS against egg production (grain) during this research not significant ($P > 0.05$). According to [10] ration quality and environmental conditions greatly affect the number of eggs produced. Rations with low protein content are not capable of supporting high egg production. The protein content of the ration in this study are relatively the same, so do not reduce the production of eggs. In this research use of oil sludge fermentation at 5%, 10%, and 15% do not reduce the production of eggs.

Maintenance aspects affect performance both in terms of consumption, production and reproduction. The chickens are kept intensively necessities of life governed by the breeder, unlike chickens are reared extensively dependent to ambient conditions both feed and place of residence. In this study burgo chickens can produce 23-28 eggs per period, it agrees with [11] which suggests that the maintenance of burgo intensive chicken can increase the amount of egg production per period.

3.4 Production of Egg Mass

Results of analysis of variance totaling mass production of chicken eggs burgo do not affect the provision of FPS to the extent of 15% during the study (Table 1). An important factor influencing the size of the egg is protein and amino acids, about 50% of dry matter so that eggs contain protein provides amino acids in protein synthesis is very necessary for the production [12]. According to [13], linoleic acid content contained in the

ration able to sustain the weight of eggs produced by laying hens. The balance of amino acids and linoleic acid contained in the study, is quite balanced rations that do not cause a decrease in egg mass production.

3.5 Feed Conversion

Feed conversion was calculated to add the feed consumed divided by the total weight of eggs produced. Based on the study results during burgo chicken feed conversion in treatment P0, P1, P2 and P3 during the study showed no significant ($P > 0.05$). [14] explains that the feed conversion rate is the number of ration consumed a chicken in a certain time to form a meat or eggs. Factors affecting feed conversion rate among other strain, feed quality, state of the cage and gender. Based on this study feed quality is relatively the same, so do not improve feed conversion and also does not reduce the value of feed conversion [12]. Use of FPS to the extent of 15% does not improve the feed conversion but the use of LSF to some 15% also does not reduce the value of feed conversion, so the use of LSF in burgo chicken feed could be used to the extent of 15%.

Conclusion

It can be concluded that the use of oil sludge fermentation in the ration to the extent of 15% does not decrease feed consumption, egg production and feed conversion burgo chicken. Utilization of oil sludge fermentation can be used as chicken feed burgo to the extent of 15% without lowering the production performance of burgo chicken.

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