

Effect Of Lysine On Growth Development Of Chicks By Supplying Food Prepared From Locally Available By Products.

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Abstracts: Deficit of high quality animal feed is an important obstacle for raising poultry farm. So, a mixture of animal and vegetable protein mixed with vitamin (lysine) which is an enriched feed for chicks. The percentage of proteins, fat, fiber, ash, and moisture were 28.35%, 3.78%, 9.33%, 18.06% and 11% in our prepared feed, where 19%, 6%, 5%, 8% and 13% in market's food. The chicks gain weight after 90, 135 and 180 days were $3.43.89 \pm 8.93$, 557.44 ± 13.27 and 673.5 ± 9.87 by supplied our own product where as 287.00 ± 16.00 , 519.88 ± 15.43 and 631.16 ± 5.44 were in chicks by supplied market's food. DGC (Daily growth coefficient), SGR (Specific growth rate), PCR (Food conversion ratio) and SGI (specific growth index) were 2.44, 244.44, 40.09 and 0.613 in chicks supplied by our own food whereas the parameters were 2.16, 216.66, 53.96 and 0.969 in chicks supplied by the market's food respectively.

Key Words: Chickens, shrimp shell, antibiotics, balanced and nutrient diets

I. Introduction

Poultry farming plays an important part in the rural economy and providing a ready and additional source of income to the farmers. Feed, is the most expenditure item and the cost of feed represents than half of the total expenditure on raising poultry. So, care is needed in selecting a mixture of animal and vegetable proteins food for egg production.

In our country, deficit of high quality of animal feed exists. A huge quantity of shrimp shells are carelessly dropped else where from different fish processing plants and Chinese Restaurants especially in the Southern districts of Bangladesh. This shrimp shells are sources of protein, calcium, phosphorus and minerals. The aim of this research work is to prepare protein, vitamin, mineral enriched poultry feed from indigenous and available sources like shrimp shell.

This prepared poultry feed is cheap and available locally. This balanced feed is one, which contains nutrients in proper proportions. Chickens needs to eat a balanced, nutrients rich diet so they can experience optimal growth, weight gain, egg production and immunity from various poultry disease (Quentin *et al.*, 2005).

Modern livestock production systems use antibiotics and other antimicrobials to prevent or treat diseases in animals. These antibiotics improved weight gain and feed utilization in broiler chickens and turkeys, pigs, calves, beef, cattle and replacement dairy heifers. (Kim. 2005).

II. Materials And Methods

Freshly collected shrimp shells (100gm) were washed, sundried and thoroughly grounded in blender, produced 400gm powder. Powder obtained from shrimp shells was sieved through a 35-mesh sieve. Then mustard cake (200g), rice bran (150g), wheat bran (200g) common salt (25g), crushed oyster shell (25g) and vitamin (Lysine 0.0000005) were admixed together with the powder and finally grounded well. It produces 1000g or 1kg enriched poultry feed. A comparative trial was made on 14 chickens from starting the supplying of prepared own food and market food up to 180days. Weight of the hens was taken after 45 days interval. The prepared food (300 gm) were moistened with some water then supplied to each hen thrice time daily.

Protein level ($N \times 6.25$) was determined by the Kjeldahl method after an acid digestion using an Auto Kjeldahl system (1030* Auto analyzer, tecator, Hoganos, Sweden). Fat level was determined by the ether extraction method by Soxtec system HT (Soxtec system HT₆, Tecator, Hoganos, Sweden). Moisture and ash were analyzed after AOAC method.

III. Results And Discissions

Table-1 shows the comparative study of the prepared food and other poultry feed available in market. It shows that prepared food is more rich then the food from market. The protein and fiber percentage of our prepared food are 28.95% and 9.33% whereas the percentage of protein and fiber are 19% and 5% in market food. The fat percentage is greater in market food (6%) then the prepared food (3.78%).

Table-2 shows proximate composition of different feed ingredients used in prepared our own poultry feed. The protein percentage of mustard cake is highest (27.46%) then rice bran (12.3%), wheat bran (10.09%) and oyster shell (1.86%). The percentage of crude fiber of mustard cake is also highest (10.09%) then other

ingredients. Table-3 shows comparative trial report between supplied own product and supplied from market product. The mean of the weight of the chicks which feed on our supplied own food were 343.89 ± 8.93 (after 90 days), 557.44 ± 13.27 (after 135 days) and 673.5 ± 9.87 (after 180 days) whereas the total mean and weight of the chicks which feed on market food were 287 ± 16 (after 90 days), 519.88 ± 15.43 (after 135 days) and 631.16 ± 5.44 (after 180 days). The results obtained from supplied own food after 90, 135 and 180 days are highly significant at 0.05% and 0.001% level of t-test. Table-4 shows the weight gain of chicks by supplied own prepared food is (440gm) and (390gm) in chicks by supplied the market food. The daily growth co-efficient (DGC), specific growth rate per day (SGR) and food conversion ratio (FCR) were 2.44, 244.44 and 40.09 in trial - A i.e. our prepared food and 2.16, 216.66 and 53.96 in trial - B i.e. on market food. The specific growth index (SGI) in prepared food was 0.61 and 0.96 in market food. The use of lysine (antibiotic) in our prepared own food effects the food rich and healthy and for growth improvement. Quentin *et al* (2005), Patience (1990), Lehmann *et al* (1996), Han *et al* (1994), Rezaei (2004) and Prescott *et al* (2000) used lysine and found good results i.e. lysine level increases live performance and breast yield in male broiler. Morris *et al* (1987), Kidd *et al* (1998), Kerr *et al* (1999) and Garu (1984) also works on lysine which effect protein concentration on response to dietary lysine by chicks.

IV. Conclusion

It is concluded that the prepared food is a rich, balanced feed for chicks than other markets' food which can easily prepared from by products available in our country where shrimp shell act as a source of animal protein, mustard cake as vegetable protein, rice bran, wheat bran are as food grain, oyster shells serve as calcium supplement, vitamin and common salt are as minerals.

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Table -1. Comparative study of the own prepared food and other poultry feed available in market.

Name of the parameters	Chemical composition of our prepared poultry feed	Chemical composition of poultry feed available in market.
Protein (%)	28.95	19
Fat (%)	3.78	6
Fibre (%)	9.33	5
Ash (%)	18.06	8
Moisture (%)	11	13

Table -2. Proximate composition of different feed ingredients.

No.	Feed ingredients	Protein (%)	Dry matter (%)	Total ash (%)	Crude fibre (%)
1.	Mustard cake	27.46	86.72	7.13	10.09
2.	Rice bran	12.3	87.5	13.38	12.61
3.	Wheat bran	10.09	81.15	5.18	9.51
4.	Oyster shell	1.86	97.17	86.03	-

Table-3. Comparative trial report between supplied own product and supplied market product.

	Supplied own product	Supplied market product
Initial wt. of the Chicks	250	250
After 90 days	343.89 ± 8.93	287 ± 16
After 135 days	557.44 ± 13.27	519.88 ± 15.43
After 180 days	673.5 ± 9.87	631.16 ± 5.44

Table- 4. Daily growth co-efficient (DGC) , Specific growth rate (SGR), Food conversion ratio (FCR) and Specific growth index (SGI) of chickens under two diet.

Parameters	A	B
Initial wt. (gm.)	250	250
Final wt. (gm.)	690	640
Weight gain (gm.)	440	390
Weight gain (%)	176	156
Daily growth co-efficient (DGC)	2.44	2.16
Specific growth rate (SGR)	244.44	216.66
Food conversion ratio(FCR)	40.09	53.96
Specific growth index (SGI)	0.61	0.96