



STUDY OF GROWTH AND DEVELOPMENTAL PARAMETERS AFTER SUPPLEMENTATION OF FORMULATED FEED TO CHICKS OF POULTRY BIRDS

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ABSTRACT:

The present study was carried out to evaluate importance of bivalve molluscs as poultry supplementation. For this evaluation a poultry birds were provided different experimental formulation of whole crushed bivalve molluscs *Lamellidens marginalis* (L) along with shell and all white grain such as rice, wheat, maize, sorghum. The effects of these formulations were analyzed by growth parameter of growing chicks of poultry birds.

Growth rate of experimental chicks on weight gain basis was recorded which were kept in different cages named as experimental and control groups for 30 days of experiment in the laboratory condition, which were observed day-by-day intervals. The comparative study of growth and development respect to the supplementation provided food for growing chicks of poultry birds. Simultaneously reading was taken on the basis of weight gain along with health of growing chicks in the cages, were setup in the laboratory condition. This study showed significant results in growth and development performance in chicks of poultry birds.

Keywords: Chicks of Poultry birds, *Lamellidens marginalis* (L), Feed formulation, Weight gain

INTRODUCTION:

Requirement of nutrients differs which depends upon the type and age of poultry as well as the purpose for which they are fed. In India, poultry requirement has been compiled by the Bureau of Indian Standards, New Delhi. But many farmers, feed manufacturers and research workers still prefer to use the requirement given by NAS-N.R.C. (U.S.A.) 1977.

Nutrient requirements for poultry before the evaluation of supplementary feeds for poultry bird, it is necessary to know about the nutrients requirements for poultry according to purpose for which they have been developed. Those intended for the

production of eggs for human consumption have a small body size and are prolific layers, whereas those used as broilers have rapid growth rates and large body size. The manipulation of energy intake is not easy for nutrient requirement for poultry birds, since the pullet appears to have a fairly precise innate ability to regulate its energy intake regardless of dietary energy level, (Waldroup, 2001).

Therefore there is foremost need to develop such a formulation of poultry feed which will be economically affordable to the poor farmers and businessman. Further it should constitute a perfect mixture of Macro and Micro nutrients which should be easily available of cheaper cost.

The given study is undertaken to test contain formulations which are prepared by using the various concentration of different components of putting raw material available easily in the market. So here it is an attempt to test the formulation of feed for chicks with an additive of molluscan crush of whole animal flesh and shell in normal conventional white grains, containing Bajara, Cajanus-cajan, wheat, rice bran, maiz, pea beans, sorghum, etc. This study focuses on the benefit of this formulated feed on maintain growth and development of chicks of poultry bird.

LITERATURE:

The poultry management specialist requires operations research methods, to determine the optimal brooding and rearing practices necessary to grow chick at the lowest cost efficiently. The nutritionists therefore, try to develop diets, which maximize chick growth while minimizing the cost.

Some experimental outlines shows formulation of feed for poultry birds, the feed is important through practical point of view in order to provide a substitute for proteins of animal origin, as well as to use a troublesome material, the municipal organic waste as a new resource of high quality proteins for animal nutrition particularly for poultry birds, (Ocio *et al.*, 1979).

For growing birds, feed is eaten in a very short period of time (30 minutes - 2 hrs depending upon age and frequency of feeding) and so choice of feeding time has a little real effect on other daily activities. In fact feeding and drinking are the major activities of the immature bird, (Petrean, 2011).

Effect of blending dietary oils on growth performance total and individual fatty acid absorption by the growing chicks; by using supplementation as canabra oil (6.1% erucic acid) was blended with sunflower. Results indicate significant differences ($P < 0.05$) in final body weight, weight gain, feed consumption and feed conversion ratio among chicks fed various oils and oil blends, among the canola-sunflower blends in which fatty acid absorption from the 7:3 and 5:5 blends was superior to that from the unblended oils [except soybean oil], (Crick *et al.*, 1988). Blending rapeseed (high or low erucic acid) with animal fat or saturated fatty acids causes synergistic interactions which increase energy utilization, (Muztar *et al.*, 1981), fat utilization, (Slinger, 1980) and body weight gain, (Hulan *et al.*, 1984; Farnworth and Kramer, 1983).

MATERIALS AND METHODS:

Feeding with Experimental Formulation- After 3 days of acclimatization they were transferred into 5 different groups containing 5 chicks in each cage of birds. These five groups are as follows.

1. Group – I : Control group
2. Group – II : Poultry Farm recognized food
3. Group – III : Experimental – I (10 %)
4. Group – IV : Experimental – II (20 %)
5. Group – V : Fish meal – (10 %)

Above groups were fed with different supplementary feed from 3rd day of feeding to the 30th day of rearing done in the laboratory.

During the period of 30 days, constant feeding to all chicks was done and development of chicks was observed, such as their behaviors in group, consumption

of formulated feed, consumption of water etc.

OBSERVATION AND RESULTS:

This study revealed that to evaluate importance of bivalve molluscs as poultry supplementation. For this evaluation a poultry birds were provided different experimental formulation of whole crushed bivalve molluscs *Lamellidens marginalis* (L) along with shell and all white grains. The effects of these formulations were analyzed on the basis of growth and development of chicks of poultry bird.

Growth rate of experimental chicks on weight basis was recorded which were kept in different cages named as experimental and control groups for the comparative study of growth and development respect to the supplementary provided food.

CONCLUSION:

This study showed that the significant maintenance of growth and development of chicks of poultry birds after provided supplementation of bivalve mollusks whole animal dried crush and shell crust as showed excellent effect on growing at a level of 10% or 20% formulated feed groups chicks showed without any adverse effect on the body of chicks. This result indicates that molluscan diet did not negatively affect on dietary nutrients at this dietary inclusion level.

To develop such a formulation of poultry feed which will be economically affordable to the poor farmers along with small scale industry purpose. Further, it should constitute a perfect mixture of Macro and Micro nutrients which could be easily available at cheaper cost.

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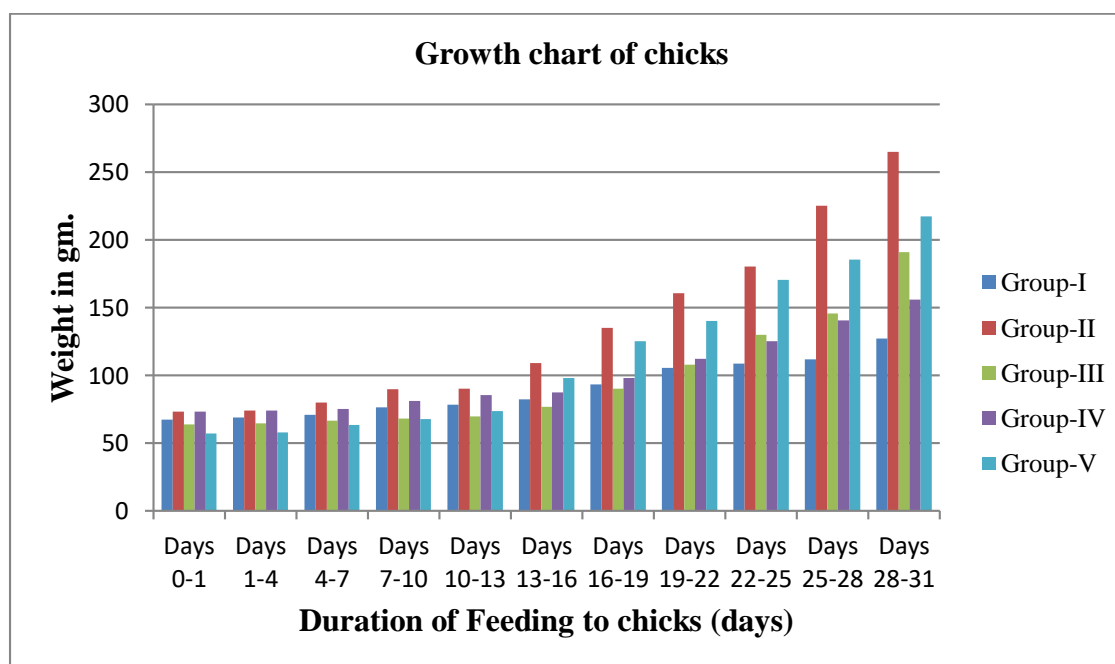
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Table – 1-The growth chart indicates weight of the chick's during the growth

Duration of Feeding to chicks (days)	Weight in Grams				
	Group-I (Control)	Group-II (Poultry Farm recognized food)	Group-III(Exp.-I – 10%)	Group-IV(Exp.-II– 20%)	Group-V (Fish meal)
1.	67.50	73.10	63.80	73.40	57.20
4.	68.90	73.90	64.50	74.10	58.10
7.	70.80	79.80	66.50	75.40	63.40
10.	76.30	89.80	68.20	81.10	67.90
13.	78.30	90.20	69.80	85.30	73.80
16.	82.20	109.10	76.80	87.60	98.20
19.	93.20	135.00	90.40	98.10	125.10
22.	105.70	160.80	108.10	112.30	140.20
25.	108.70	180.20	130.10	125.40	170.60
28.	111.90	225.00	145.80	140.50	185.30
31.	127.30	265.00	190.80	155.90	217.10

*The weight of chicks was taken by using single pan balance.



*Above values in different bar diagram showed in wt/gm