

## **Effect of Herbal Methionine Supplementation on Feed Intake, Weight Gain and Feed Conversion Ratio of Broiler Chicken**

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### **Introduction**

The broiler industry has developed all over the world during past few decades and the production of poultry meat and other products have been significantly increased in Sri Lanka within last few years. The requirement of nutrients for broilers is higher than the other livestock animals. One of the most important areas is amino acid nutrition. Of the essential amino acids required for poultry, methionine is usually first limiting in diets based on maize and soya bean meal. It is more economical to add methionine than more soya bean meal or other natural protein to meet the requirement (Halder and Roy, 2007).

Methionine is an indispensable amino acid, must be supplied in the diet of the chicken, as the poultry birds are unable to synthesise it in the amounts necessary to sustain life and growth. The supplementation of broiler feeds with this amino acid is very common in the poultry industry. However, synthetic Methionine is metabolized into highly toxic compounds such as methyl propionate, trimethylamine there by adversely altering the performance of poultry birds (Halder and Roy, 2007). Recently the use of synthetic Methionine has been questioned and their use is becoming restricted in many regions of the world. Therefore, there is renewed interest in developing natural alternative supplements to maintain animal performance and well being. Herbal Methionine is a unique poultry feed supplement, which contains Methionine in a natural and bio active form as a readily digestible composition along with the enzyme activity (Kanduri and others, 2011).

Herbal Methionine as a source of 'active Methionine' is claimed to be effective in its optimum activity for proper broiler accretion and other functions in poultry birds so that they can reach better growth and performance potential (Halder and Roy, 2007). Methionine deficiency leads to poor Feed Conversion Ratio (FCR) and retarded growth in chicken. In this experiment a comparative study on the performance of commercial broiler chicks (Hubbard Flex) fed a ration with DL- methionine and fed with herbal methionine was carried out.

### **Methodology**

Six hundred and thirty day old, commercial broiler chicks (Hubbard Flex) were randomly divided into three experimental groups. Each group consisted of three replicates and each replicate consisted 70 chicks. The control group ( $T_0$ ) was offered a basal diet without methionine, Treatment group one ( $T_1$ ) was fed with basal diet formulated with synthetic methionine and treatment group two ( $T_2$ ) was fed with basal diet formulated with herbal methionine.

Broiler starter was given from 2<sup>nd</sup> day to 28<sup>th</sup> day of the experiment and broiler finisher was given from 28<sup>th</sup> day to 35<sup>th</sup> day of the experiment. Water was given at ad libitum. Average

body weight gain, FCR and feed intake of all groups were measured on weekly basis. Data was analyzed according to linear model of ANOVA incorporated in Minitab 14.

## Results and Discussion

### Body weight gain

According to the results, treatment group T<sub>2</sub>, the ration with herbal methionine had the highest body weight gain ( $p < 0.05$ ) compared to other groups. Control group T<sub>0</sub> was the lowest performing group (Figure 1).

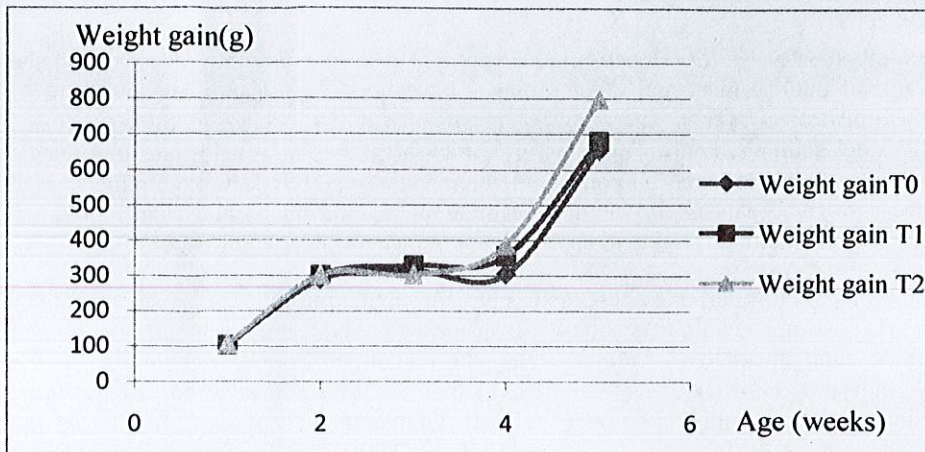


Figure 1. Comparison of weekly body weight gain of each treatment group

### Feed Conversion Ratio

When FCR value is considered treatment group T<sub>2</sub>, the ration with herbal methionine had the highest performance ( $p < 0.05$ ) with lower numerical value. Control group had the lowest performance (Figure 2).

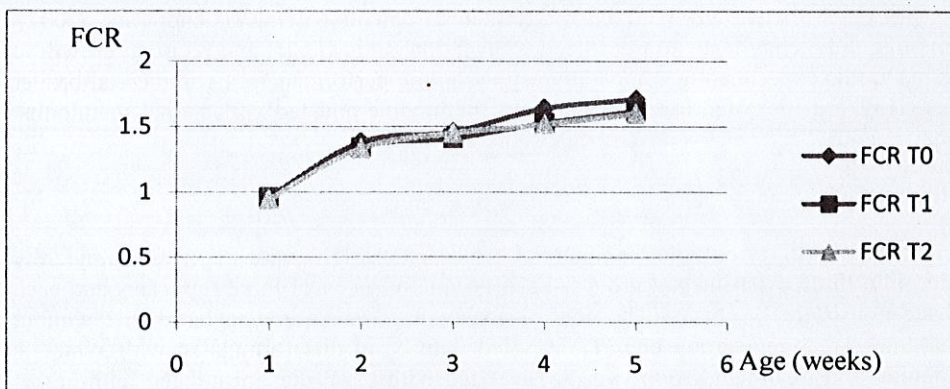


Figure 2. Comparison of weekly FCR of each treatment groups

### **Feed intake**

There was no significant difference ( $P > 0.05$ ) among treatment groups when considering feed intake. All groups have taken same amount of feed.

### **Conclusion**

Based on findings it can be concluded that adding herbal methionine in the ration of broiler gave good effect on feed intake, body weight gain and FCR. The herbal methionine can replace synthetic methionine more efficiently with sustained and higher level activity. Thus, supplementation of herbal methionine has a positive influence on the performance of the broiler chicken when compared to synthetic DL methionine. Therefore, synthetic methionine can be replaced by the herbal methionine.

### **References**

- Halder, G. and Roy, B. 2007. Effect of Herbal Methionine on Performance, Cost Benefit Ratio, Meat and Feather Quality of Broiler Chicken. *International Journal of Agricultural Research*, 2(12):987-996
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