**EFFECT OF REPLACING DL-METHIONINE WITH HERBAL METHIONINE ON THE PRODUCTION PERFORMANCE OF COMMERCIAL BROILER CHICKEN**

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**Backround**

Methionine is essential and the first limiting amino acid in the poultry diet. Apart from highly costly, the synthetic methionine is metabolized into highly toxic compounds such as methylpropionate*,* thereby, adversely altering the performance of poultry birds. A natural alternative to synthetic methionine is a herbal source. It is a polyherbal formulation comprising the blend of herbs that mimics the activity like that of methionine.

**Objective**

To investigate the effect of replacing DL-methionine by herbal methionine on the production performance of broilers.

**Materials and methods**

300 commercial broilers (Cobb-400) were randomly allotted in to five treatments each with six replicates of 10 broiler chicks each and fed with one of the following experimental diets viz., Control(T1), basal diet was supplemented with DL Methionine at the rate of 2 Kg/tonne of feed (T2), DL Methionine 1.50 Kg + Methiorep 0.50 Kg/tonne of feed (T3), DL-Methionine 1Kg + Methiorep 1Kg/tonne of feed (T4), Synthetic DL Methionine 0.50 Kg + Methiorep 1.50 Kg/tonne of feed (T5). The experiment was carried out for 35 days. The birds were provided with standard broiler diets (as per BIS 2007) and water *ad libitum*. Data on biweekly body weight, weight gain, feed consumption, feed conversion ratio (FCR), livability, carcass traits, serum methionine and cystein level recorded in the biological experiment were subjected to one way analysis of variance (ANOVA). The economic efficiency was also worked out.

The result revealed that the replacement of DL-methioinine by herbal source at the rate of 50 % significantly (P<0.01) increased growth rate and the feed intake. The feed efficiency was significantly (P<0.05) better in 50 and 75 % replacement groups. Mean total cholesterol, low density cholesterol, serum tri glycerides were significantly (P<0.05) reduced by the herbal source at 50% level replacement, whereas high density cholesterol was significantly (P<0.05) increased at that level. Livability and carcass traits were not affected by the treatments. The serum methionine and cystein amino acid level in broilers fed with herbal source was significantly (P<0.05) increased. The net profit was increased in herbal source from 2.12 to 3.59 INR per kg of live weight. The result of the present study indicated that DL-methionine can be replaced with herbal source at the level of 50% in broiler diets and the replacement had positive effect on the growth performance of broilers.

**Key words**: Broilers, herbal methionine, serum methioinine, serum cystein