

## **NUTRITIONAL EVALUATION OF MUNGBEAN SEEDS (*Vigna radiate*) IN BROILER DIETS**

**Hemid, A.A.<sup>1</sup>; M.M. EL- Moniary<sup>2</sup> and A.H. Abd El-Gawad<sup>2</sup>**

<sup>1</sup> Poultry Production Dept., Fac. Agric., Ain-Shams Univ., Cairo, Egypt.

<sup>2</sup> Animal Production Dept., National Research Centre (NRC), Dokki, Cairo, Egypt.

### **ABSTRACT**

This study aimed to investigate the nutritional value of new variety (Kawmi-1) of mungbean seeds ( MBS ) as an alternative protein source in poultry diets. The chemical analysis included nutrients composition and essential amino acids content. Chemical score (CS) and essential amino acids index (EAAI) values were calculated from the amino acids pattern. Total protein efficiency (TPE) determination was carried out as a biological method to evaluate protein quality.

The results of proximate analysis recorded values of: 9.53 % Moisture, 25% CP, 1.53% EE, 3.01 % CF, 3.06% Ash, 0.14% Ca, 0.59% P and 57.87% NFE. Mungbean seeds (MBS) protein appeared to have balanced essential amino acids pattern. The chemical score value indicated that the first limiting amino acid was methionine. EAAI for MBS protein recorded 64.3 % calculated based on whole egg protein. TPE value for MBS was improved significantly ( $p < 0.05$ ) by adding complementary level of methionine to achieve SBM with no significant difference (2.28 vs. 2.29 for "MBS+methionine" and SBM treatments, respectively). It could be concluded that MBS is a promising poultry feedstuff as an alternative source of protein.

To evaluate the effect of feeding diets comprise different levels of mungbean seeds at expense of soybean meal protein on growth performance of broiler chicks, two hundreds and forty day-old Arbor-Acres broiler chicks were randomly divided into four experimental treatment groups with three replicates each. The different experimental diets including 0, 20, 30, and 40 % MBS at expense of soybean meal protein were maintained iso-nutritive.

At the end of 28 days of age, weight gain and feed conversion values of chicks fed MBS diets were approximately similar to those recorded by chicks fed control diet. At the end of experiment (7 weeks), the values of weight gain, feed conversion, protein and energy utilization and performance index of birds fed the MBS diets had also no significant differences compared to those fed the control diet.

Accordingly, it could be concluded that mungbean seeds could be used safely in broiler diets as promising source of plant protein up to 40% of soybean protein.

**Keywords:** broilers, mungbean seeds, soybean meal, protein evaluation, growth Performance.