

EFFECTS OF GRADED LEVELS OF DIETARY WHEAT GLUTEN AND LYSINE CONCENTRATION ON PERFORMANCE OF BROILER CHICKENS

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INTRODUCTION

Due to the high cost of soybean meal in Iran, substitution with a suitable ingredient is inevitable. Wheat gluten as a source of protein with the well balanced amino acids accounted as an appropriate substituent for soybean meal in the broiler chickens diet (1). Since the corn gluten is deficient in lysine, the synthetic lysine should be added in broilers diet to compensate the lysine deficiency and finally lower the feed cost (2). Therefore, this experiment was conducted to investigate the Effects of lysine concentration and graded levels of wheat gluten in diet on performance of broiler chickens.

MATERIALS AND METHODS

A total of 600 one day old broiler chicks (Ross 308) in a completely randomized design with factorial arrangement (2*4) with 8 treatments and five replicates were used in this experiment. The 8 dietary treatments consisted of two levels of lysine (85% and 100%) and four levels of wheat gluten (0, 4, 8 and 12) during 0 to 21 days of age and 4 different levels (0, 7, 11 and 15) from 22 to 42 days of age. During the experimental period (0-42 days), performance traits including body weight gain, body weight, feed intake and Feed Conversion Ratio were evaluated.

RESULTS AND DISCUSSION

In this experiment graded level of wheat gluten had a significant effect on performance of the chickens ($P < 0.05$) in the way that the highest body weight gain, body weight, feed intake and lowest FCR were related to the groups fed by high level of wheat gluten (11% and 12%). Also highest body weight gain, feed intake and FCR were related to the chickens fed by high level of lysine concentration (100%), similar to the results of Dozier et al (3). In conclusion, corn gluten could favorably substituted in diet and the performance improved by increasing levels of lysine.

KEY WORDS: Broiler, Wheat gluten, Lysine, performance

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The 1st International Conference on New Ideas in Agriculture
Islamic Azad University Khorasgan Branch
26-27 Jan. 2014, Isfahan, Iran

