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Development of the use of pellet in broiler chickens farms in Lorestan province

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Abstract

This experiment was conducted with the aim of developing the use of pellet in broiler chicken farms in Lorestan province using two diet of pellet and mash on broiler performance of male and female Ross 308 broiler chicks. This experiment is based on test t-test for independent samples, was analyzed each experimental group consisted of 480 chicks This experiment was conducted over a period of 42 days. The measured traits included Weight gain, feed consumption, feed conversion ratio, survival percent, feed cost per kilogram weight gain, production index and morphological traits of broilers intestine. The results showed that there was a statistically significant difference in the total period among weight gain, feed intake, feed conversion ratio, survival percentage, survival percent, feed cost per kilogram weight gain and production index ($P < 0.05$). So that feed intake as pellet and weight gain of pellet form ration was higher than of mash form and resulting better feed conversion ratio for pellet form. The highest FCR was found in the mash treatment with 1.09 and the lowest FCR in chickens fed with pellet treatment with 1.59. Overall, the total period was the highest production index in broiler chickens fed with pellet treatment and the lowest production index was observed in mash treatment. The results of the morphological traits of the intestine showed that pellet diet had the highest the ratio of villus height to the crypt depth in jejunum and the lowest level of mash treatment was observed ($P < 0.05$). Although the effect of pellet on the components of carcass was not significant, most of the indicators indicated that the use of pellet has improved the carcass status. The results showed that the effect of experimental treatments on serum cholesterol, triglyceride, HDL and LDL was significant. From the viewpoint of ascites, there was a significant difference between treatments ($P < 0.05$). Feeding from the pellet diet during the whole period with 42.78% had the highest number of birds in the high ascites index (susceptible to ascites). Pellet treatment had the highest activity of amylase and lipase enzyme activity. The highest litter moisture and nitrogen content were observed in pellet treatments and the lowest amount was observed in mash treatment. The highest total count was observed in pellet treatment (3.16 cfu/g) and the lowest amount in mash treatment (3.7 cfu/g). The results showed that the high of the ratio of villus height to the crypt depth in jejunum resulting from the use of pellet ration due to increase the weight gain and the amount of consumption and

finally, the FCR and production index were improved. According to the results, the broiler chickens fed with pellet treatment the lowest feed production cost per kg live weight and the mash treatment had the highest. The final result is that the use of pellet treatment had the highest production index in broiler chickens, which reduced the FCR rate and increased weight gain throughout the whole breeding period.

Key words: pellet, mash, performance, intestine morphology traits, broiler