



University of Zabol
Graduate school
Faculty of Agriculture
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**The Thesis Submitted for the Degree of M.Sc
In the field of Animal Nutrition**

Effect of Different Levels of Probiotics and Heat Stress on Performance and Carcass Characteristics of Broiler Chicks

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Abstract

This study was performed to evaluate the effect of different levels of probiotic and heat stress on performance, carcass characteristics and some blood parameters in broilers. 192 day-old Ross 308 broiler chicks were divided into two groups (2×3 factorial method), two heat levels (normal and heat stress) and three levels of Protexin probiotic (0, 150 and 250 mg/kg). Four replicates were performed per each treatment. The results showed that probiotic had no significant effect on average daily gain of broilers from 2 to 6 weeks ($P>0.05$). Normal heat and thermal stress did not have significant effect on average daily gain ($P>0.05$). Broilers fed with probiotic had significant differences in feed intake and feed conversion during the period in weeks 2, 3, 4, 5 and 6 ($P>0.05$). However, within the third week, with linear increase in feed intake and addition of various levels of Protexin daily feed, feed conversion ratio (FCR) and daily food consumption was observed to be increased compared to control group, ($P=0.097$). Different levels of probiotic and rearing conditions (normal and heat) did not cause a significant increase in the relative weight of carcass components on day 42 of age ($P>0.05$). The relative weights of hearts of the birds under heat stress were significantly reduced ($P<0.05$), however, those of birds in conditions higher than normal, were reduced ($P>0.05$). Broiler diets supplemented with 0.15 probiotics significantly reduced serum cholesterol levels compared to those of the zero level of probiotic. Components of lipid metabolites in birds under heat stress were increased except for HDL. According to the results of this study, the use of probiotics in heat stress conditions have more positive effects on performance in broiler chickens as well as decreased levels of the metabolites of cholesterol compared to those of normal heat conditions.

Keywords: Probiotics, Heat stress, Performance, Broilers.