



University of Zabol
Graduate School
Department Of Animal Science

**Thesis Submitted for the Degree of M. Sc (in the field of
Animal nutrition)**

Title:

**The effects of different levels barley with β -
glucanase on performance and carcass
characteristics of Japanese quail**

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Abstract

To study of different levels barley supplemented with β -glucanase enzymes instead of corn grain on performans and carcass characteristics, 480 quail chicks in the factorial design (4 \times 2) with 8 nutritional groups including two levels of β -glucanase (0 and 0.05 %) and 4 levels of barley (0, 7.5, 15 and 22.5%) with 4 replicates (each replicate include of 15 chicks) was selected. Results showed that by increasing barley levels, effects of that on daily weight gain, daily feed intake and feed conversion ratio significantly increased ($P<0.01$). Enzyme supplementation significantly improved average daily weight gain, daily feed intake and feed conversion ratio ($P<0.01$).The relative gizzard, liver and intestine weight and the intestine length was significantly increased ($P<0.05$). But with increasing barley levels; however, enzyme supplementation significantly decreased the relative weights of gizzard, liver and intestine and also intestine length ($P<0.01$). Increased levels of barley significantly increased relative weights of the body and thigh ($P<0.05$). Enzyme supplementation significantly increased the relative weight of the body ($P<0.01$) and thigh ($P<0.05$). The results of this study indicated that barley levels along with enzyme improved performance of quail chicks.

Keywords: Barley, β -glucanase, performance, carcass characteristics, Japanese quail.