



University of Zabol
Graduate school
Faculty of Agriculture
Department of Animal Science

**The Thesis Submitted for the Degree of Master Science
In the Field of Animal Nutrition**

Title:

**Effect of different levels of pearl millet on performance,
intestine microbial flora and morphology intestine, immune
system and blood biochemical indices of Japanese quail**

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Abstract

The aim of current study was to evaluate the effects of replacing pearl millet with corn on performance, carcass attributes, immune function, microbial population and meat quality of growing Japanese quails. 360 Japanese quails 7 old days were tested in a completely randomized design with 6 experimental groups (0, 10, 20, 30, 40 and 50% corn replacing pearl millet). each treatment consisted of 5 replicates containing 12 birds. The results showed that at the end of the experiment, the effect of different treatments on Japanese quail was significant ($P < 0.05$). relative weight of heart, liver and pre-stomach was not affected by different treatments, but the relative weight of gizzard was affected by replacing millet instead of corn in the diet ($P < 0.05$). replacing millet instead of corn in the diet did not change the immune response in SRBC injection of sheep. the results showed that there was no significant difference in malondialdehyde level in fresh meat of Japanese quail ($P > 0.05$), but with increasing meat storage time frozen, the amount of malondialdehyde produced increased Significance ($P < 0.05$). Pearl millet, as compared to control treatment, reduced the number of bacterial bacterial cells significantly ($P < 0.05$). the total number of coliforms and also the total microbial population were not affected by experimental treatments. Finally, all characteristics related to intestinal morphology were affected by experimental treatments and millet level ($P < 0.05$).

Keywords: Pearl millet, Japanese quail, Weight gain, Conversion factor, Safety, Shelf life