Effect of Dietary Mannan Oligosaccharides Supplementation Level on The Carcass Characteristics, Meat Quality and Intestinal Microbial Ecology of Japanese Quail (Coturnix Japonica)

Sh. M. S. Abd-Allah and Sh. M. Abdel-Raheem

Abstract:

The effect of different levels of mannan oligosaccharides (MOS) as a dietary supplement on carcass characteristics, meat quality and intestinal microbial ecology of growing Japanese quail (Coturnix japonica) was the main objective of the present experiment. A total of one hundred 1-day-old Japanese quails were randomly divided into 4 experimental groups (25 birds/ each treatment) with 3 replicates (8 birds in two replicates and 9 birds in one replicate) in each group. The birds of experimental groups were fed on four dietary treatments: 1) a basal diet without supplementation (control); 2) a basal diet with 1 g MOS/kg diet (low MOS); 3) a diet with 3 g MOS/kg diet (medium MOS); and 4) a diet with 5 g MOS/kg diet (high MOS). The experimental period extended for 42 days. The data revealed that, birds fed diets containing medium MOS level (3 g/kg feed) recorded significant (P 0.05) between the treated groups. A significant increase in lactobacilli counts were detected in duodenum and jejunum of MOS supplemented groups diet. Birds fed medium MOS supplemented diet showed the highest lactobacillus counts. From the results of the current study, it could be concluded that medium level (3g MOS/Kg feed) of mannan oligosaccharide improve the carcass characteristics, meat quality and intestinal microbial ecology of growing Japanese quails by increasing the growth of beneficial microbes and reduction of potential pathogens.

Keywords:

Mannan oligosaccharides, Carcass characteristics, Meat quality, Intestinal microbial ecology, Japanese quails.

Published In:

Assiut Veterinary Medical Journal, Vol. 58, No. 135, 41 - 49