

## عنوان مقاله:

Effects of black cumin (*Nigella sativa* L.) seed on growth performance, blood parameters, liver oxidant/anti-oxidant levels and fatty liver syndrome in quails

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## خلاصه مقاله:

This research aimed to evaluate the effect of different doses of black cumin (*Nigella sativa* L.) seed (BCS) on growth performance, blood parameters, liver oxidant/anti-oxidant levels and fatty liver syndrome in quails. Four hundred and thirty-two unsexed (male and female) three-day-old Japanese quail (*Coturnix coturnix japonica*) chicks were divided into four treatment groups (108 chicks per group) with six replicates (18 chicks per replicate). Control and experimental groups were fed for 35 days with basal quail feed including 0.00, 0.50, 1.00 and 2.00% BCS supplement, respectively. At the end, a total of 96 quails, 24 from each group (12 females and 12 males) were slaughtered. The BCS-addition did not affect the growth performance in the experimental groups compared to the control group. Addition of BCS to the diet significantly decreased serum aspartate aminotransferase, lactate dehydrogenase and urea amounts compared to the controls. Whereas, cholesterol decreased significantly with the addition of only 1.00% and low-density lipoprotein with the addition of 0.50 and 1.00% BCS compared to the controls. Liver glutathione levels significantly elevated in 0.50 and 1.00% BCS fed groups; while, glutathione peroxidase levels significantly decreased in 1.00 and 2.00% BCS fed groups. Adding 1.00 and 2.00% BCS to the feed reduced fatty liver incidence in male quails. It is concluded that adding 0.50 and 1.00% BCS positively affects the blood and liver parameters; therefore, BCS may be suggested as an anti-oxidant source to help protect hepatocytes against tissue damage as it has a significant effect on maintaining oxidant and anti-oxidant balance.

## کلمات کلیدی:

Anti-oxidant defense system, Fatty liver, growth, malondialdehyde, Vitamin C

