



Tropentag, September 16-18, 2015, Berlin, Germany

“Management of land use systems for enhanced food security:  
conflicts, controversies and resolutions”

## ***Nigella sativa* Seeds Effects on Growth, Blood Parameters, Carcass Quality and Antibody Production in Quails**

BORHAN SHOKROLLAHI, BEHZAD SHARIFI

*Islamic Azad University, Sanandaj Branch, Dept. of Animal Science, Iran*

### **Abstract**

*Nigella sativa* seeds (NSS) had been used by the ancient Egyptians and Greek physicians to treat headaches, asthma, allergies and improve immunity. NSS has shown many other pharmacological effects such as antibacterial, antitumor, anti-inflammatory, reliever and hypoglycemic. Pharmacological and therapeutic effects of this herb are so large that it is mentioned as a miraculous plant. NSS utilisation has displayed some effects on broiler performance layer performance and egg quality. For evaluating the effects of different levels of NSS in quail rations on performance, some blood parameters, carcass quality and antibody production to sheep red blood cells (SRBC), totally, 240 one-day old quails were allocated to one of 4 diet treatments (with 4 replicates of 15 quail chicks each) in 4 levels of NSS (basal diet with 0% (control), 0.5% (treatment 1), 1% (treatment 2) and 1.5% (treatment 3)) for 6 weeks. Body weights of broilers were measured weekly, feed intake was measured for different periods and FCR was calculated accordingly. At 42 days blood samples were collected for biochemical and hematological analysis. 2 birds per replicate were slaughtered for determination of carcass and organ weights at 28 and 42 days. Intramuscular injections of SRBC were performed at 14 and 28 days of age and blood samples were taken for measuring antibody titers 7 and 14 days after SRBC injections. Dietary treatments affected feed intake at 0–21 days, but did not in 21–42 days or 0–42 days. Cholesterol and triglyceride levels were statistically decreased by 1% or 1.5% of NSS ( $p < 0.05$ ). HDL and RBC significantly increased in chicks given NSS. The levels of albumin, total protein, HDL, VLDL, Hb and PCV and the relative weight of internal organs and carcass were not significantly affected by the NSS. The relative weight of bursa and antibody titers to SRBC increased at 42-days. It is concluded that NSS had beneficial effects on weight gain, FCR and health of quail chicks.

**Keywords:** Antibody production, blood parameters, carcass quality, growth, *Nigella sativa* seeds, Quail