

Immunomodulation of black seed in two strains of laying hens

Hanan Al-Khalaifa

Kuwait Institute for Scientific Research, Kuwait

The current study investigated the effect of different levels of dietary black seed on the immune status of different strains of laying hens. A total of 600 pullets were used, 300 from Hy-Line Variety W-98 white and 300 from Hy-Line Variety brown. The white and brown pullets were divided into five groups, 60 pullets each, which was divided into three replicate (n=3), each replicate includes 20 pullets. The first group received a regular diet with no black seed (T1, control group). The second group received a diet containing 1.5% black seed from 28 wk of age until 70 weeks of age (T2). The third group received a diet containing 3.0% black seed from 28 wk of age until 70 weeks of age (T3). The fourth group received a diet containing 1.5% black seed from 16 weeks of age until 70 weeks of age (T4). The fifth group received a diet containing 3.0% black seed from 16 weeks of age until 70 weeks of age (T5). The immune parameters used were antibody titers, cell-mediated immune response and white blood cell counts (WBCs). Results showed that feeding layer chickens on 1.5 or 3.0% black seed increased the total WBCs in both laying strains, and the difference was significant for the white hens ($P<0.02$). Black seed generally enhanced cell-mediated immune response and antibody titer, however, this effect was not significant. In conclusion, black seed dietary supplementation could be used to enhance the immune status of laying chickens.

Biography

Hanan Al-Khalaifa graduated as honor student from Kuwait University with Zoology as major and Microbiology as minor. She joined KISR in 1996 as a Research Assistant and was promoted to get her MSc in Immuno-Parasitology from University of Manchester in 2003 and Ph.D. in Immunology from University of Reading in 2010, united Kingdom. She was the leader of three client funded projects, and three general activities. She participated in eight client-funded and in-house projects. Dr. Hanan authored and co-authored 25 refereed articles. She also authored and co-authored 20 papers presented in international conferences and 7 progress and final in-house KISR (Kuwait Institute for Scientific Research) reports.

hkhalifa@kisir.edu.kw