

The Effect of Different Levels of *Citrus Sinensis* Peel Extract on Immune System and Blood Parameters of Broilers

Nariman Miraalami, Abbas Ebrahimi, Zohreh Pourhossein, Ali Ahmad Alow Qotbi

Abstract— The experiment was conducted to evaluate the effects of different levels of *Citrus Sinensis* Peel Extract (CSPE) on the blood parameters of broilers. Four hundred Ross 308 strain day old broiler in a completely randomized design with five treatments (four replicates per treatment and each replicate had 20 chicks) were categorized. Each treatment used either regulatory diet including 1000 ppm and 1250 ppm CSPE in the drinking water and in two periods of 1st to 21st day and 1st to 42nd day and base diet without any additive for six weeks. Data analysis was performed using SAS software and mean comparison was conducted by Duncan method. The mean titer of Newcastle Disease (ND) in days 7 and 14 was not significantly different ($p>0.05$). While the mean of ND titer on days 28, 35 and 42 was significantly different ($p<0.05$). The mean of Avian Influenza (AI) titer on days 4, 14, 28 and 42 was significantly different ($p<0.05$). The results determined that using different levels of CSPE has significant effects on blood parameters ($P<0.05$) but the triglyceride concentration in the experimental treatment was not significantly different ($P>0.05$). The results determined that cholesterol, Low Density Lipoprotein (LDL), High Density Lipoprotein (HDL), Low Density Lipoprotein (VLDL) and LDL/HDL at the rearing period was significantly influenced by experimental treatments ($P<0.05$).

Keywords— Blood parameters, Broilers, *Citrus Sinensis* Peel Extract, Immune System.
