

# ANIMAL HEALTH & VETERINARY MEDICINE

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## Effect of different levels of nanomicelle curcumin on serum biochemical and immunology parameters of laying hens

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This study was conducted to investigate the effect of different levels of dietary nanomicelles curcumin on serum biochemical parameters and immune system of laying hens. For this purpose, a total of 160 laying hens of Hy-Line strain were used in a completely randomized design, including 4 treatments with 4 replicates of 10 hens each. Birds were 60 weeks old and experiment period was 8 weeks. Dietary treatments were a basal diet without nano curcumin (control) and diets containing 400, 800 and 1200 mg nanomicelles curcumin per kg. The evaluation of serum biochemical parameters was conducted in week 4 and 8. Serum immunology factors were also evaluated after SRBC injection (in week six) and blood sampling in seventh and eighth weeks of trial period which improved immune system ( $P < 0.05$ ). By investigating serum biochemical parameters in the middle of experiment it was revealed that ALT and AST concentration significantly decreased ( $P < 0.05$ ) under the effect of low-dose nano curcumin. Concentration of cholesterol, LDL and HDL: LDL ratio were affected by nanomicelle consuming levels ( $P < 0.05$ ) at the end of experiment. Level of 400 mg of nano curcumin showed best immune response compared to control and levels of 800 and 1200 mg. The results of this study generally showed that using different levels of nano curcumin specifically in the low level (400 mg) reduced lipids profile of serum and improved hepatic enzyme activities and immunity system in the final weeks of the experiment.

### Biography

Hasan Kermanshahi has completed his PhD in Saskatchewan University and has been working as a Professor for more than 20 years in Ferdowsi University of Mashhad, Iran. He has published more than 115 papers in reputed journals.

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