## عنوان مقاله:

Effect of dietary zinc oxide and phytase on the plasma metabolites and enzyme activities in aged broiler breeder hens

## محل انتشار:

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## خلاصه مقاله:

BACKGROUND: It has been shown that zinc has an effect onphysiological responses in animals and birds. On the otherhand, dietary phytase in poultry results in increased availabilityof zinc. OBJECTIVES: This study was conducted to investigatethe effects of zinc oxide (ZnO) and Escherichia coli-derived6-phytase supplemented diets on the plasma metabolites andenzyme activities of broiler breeder hens from 60 to 72 weeksof age. METHODS: A total of 128 breeder hens were randomlyassigned to eight dietary treatments, with four replicates of fourhens each. Blood concentration of Zn, Ca, P, total protein, cholesterol,triglyceride (TG) and high density lipoprotein (HDL),and plasma activities of aspartate aminotransferase (AST), alanineaminotransferase (ALT), alkaline phosphatase (ALP),and lactate dehydrogenase (LDH) were measured. RESULTS:Results showed that supplementary ZnO increased plasma Zn,Ca, P, HDL, and total protein ($p<0.01$) concentrations, as wellas enzyme activities of LDH, ALT and AST ($p<0.01$). Also, aZnO-supplemented diet resulted in a decrease in plasma cholesteroland TG ($p<0.01$) levels. Adding phytase to the diet increasedplasma (P) and HDL contents ($p<0.01$). The interactiveeffect of phytase × ZnO × period on the plasma levels of Zn, P,total protein, HDL, total cholesterol, and the enzymatic activityof LDH, ALT and ALP was significant. CONCLUSIONS: It isconcluded that supplementary ZnO and phytase may improvemetabolism and .enzymatic activity of aged broiler breederhens

## کلمات کلیدی:

enzyme, hen, metabolite, phytase, zinc