

Thiti Jeenyim 2014: The Supplementation of 1, 25-(OH)<sub>2</sub> D<sub>3</sub> glycoside in Combination with Dietary Calcium and Phosphorus Level on Broiler Performance and Bone Characteristics. Master of Science (Animal Nutrition and Feed Technology), Major Field: Animal Nutrition and Feed Technology, Department of Animal Science. Thesis Advisor: Assistant Professor Yuwares Ruangpanit, Ph.D. 109 pages.

The experiment was conducted to study the effect of supplementation of 1, 25-(OH)<sub>2</sub> D<sub>3</sub> glycoside in combination with 3 levels of dietary Ca and P on broiler performances and bone characteristics. The experimental design was 2x3 Factorial in CRD. Factor 1: Supplementation and non-supplementation of 1, 25-(OH)<sub>2</sub> D<sub>3</sub> glycoside. Factor 2 : 3 level of calcium and phosphorus in corn-soy basal diet including, normal level of Ca and P, medium level of Ca and P (reduce Ca and P = 0.15 and 0.10% from normal level) and low level of Ca and P (reduce Ca and P = 0.3 and 0.2% from normal level). Two thousand and one hundred, Ross 308, day old chicks, were divided to 6 dietary treatments with 7 replications per treatment and 50 birds per replication. Experimental diets were formulated according to the recommendation of breeder guide. All birds were raised in an evaporative cooling house with feed and water provided Ad-libitum. The study was conducted for a period of 39 days. There was no significant interaction and significant main effect on live performances, carcass yields and black bone disease of broiler (P>0.05). However, there was a significant interaction effect on serum Ca and P, tibia ash, tibia Ca and P and bone breaking strength (P<0.01). The supplementation of 1, 25-(OH)<sub>2</sub> D<sub>3</sub> increased serum Ca and P (P<0.01) in all diets. The highest serum Ca and P was found in broiler fed diet containing normal level of Ca and P with 1, 25-(OH)<sub>2</sub> D<sub>3</sub> glycoside supplementation. However, there was no significant different in alkaline phosphatase among dietary treatments (P>0.05).

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Thesis Advisor's signature