

Songpol Laucha 2009: Supplementation of Crude Extract from *Curcuma longa* L. in Laying Hen Rearing under Different Cage Density. Master of Science (Animal Nutrition and Feed Technology), Major Field: Animal Nutrition and Feed Technology, Department of Animal Science. Thesis Advisor: Assistant Professor Ornprapun Songserm, Ph.D. 72 pages.

The effect of supplementation of crude extract from *Curcuma longa* L. in layer hen rearing under different cage density was conducted using 3 x 2 factorial designs. There were two factors of interest, namely the level of crude extract from *Curcuma longa* L. containing 0, 50 and 100 ppm. of curcuminoid and the cage density of laying hen with 2 and 3 hens per cage (space density were 600 and 400 cm²/hen, respectively). Three hundred, 18 weeks old, Hisex Brown pullets were separated into 5 replicates with 4 cages each. The egg production and quality were recorded for 5 periods with 28 days per period. The result showed that the higher cage density of laying hen significantly decreased daily feed intake per hen, hen-day egg production, hen-housed egg production, livability and egg mass (P<0.05) but had no effect on body weight gain, feed conversion ratio, feed intake per dozen eggs, egg quality, serum TBARs and cholesterol levels in serum and egg yolk. Furthermore, supplementation of crude extract from *Curcuma longa* L. in diets was found to improve egg yolk color and decrease serum TBARs of the hen (P<0.01), but had no effect on egg performance, egg quality and cholesterol levels in serum and egg yolk.

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Thesis Advisor's signature

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