Pavinee Thomawong 2007: Effects of Corn Particle Size in Layer Diet on Laying Performance and Egg Quality under High Stock Density Condition. Master of Science (Animal Nutrition and Feed Technology), Major Field: Animal Nutrition and Feed Technology, Department of Animal Science. Thesis Advisor: Assistant Professor Seksom Attamangkune, Ph.D. 54 pages.

An experiment was conducted to determine the effect of corn particle size in layer diet on laying performance and egg quality using Completely Randomized Design (CRD). Six hundred - Romann Brown laying hens, 30 weeks of age, were randomly assigned into 3 dietary treatments, including: 1) ground corn grinded by the hammer mill with 3 mm diameter die screen (638 micron), 2) ground corn grinded by the hammer mill with 10 mm diameter die screen (870 micron) and 3) ground corn grinded by the rollor mill with the distance of 1.8 cm between the rolls (1079 micron). Each treatment consisted of 5 replications with 40 hens per replication. All hens were kept in wire battery cage with 4 hens per cage in evaporative cooling system house for 5 periods of experiment. The results from the experiment indicated that hens fed rolled ground corn had higher feed intake than the other groups ($P<0.05$). Feed consumed per dozen eggs of hens fed 10-mm hammer mill ground corn group had lower than the other groups. Feed consumed per dozen eggs of hens fed 10-mm hammer mill ground corn was not differed from the 3-mm hammer mill ground corn ($P>0.05$), but was significantly lower than that of the rolled ground corn group ($P<0.05$). Hens fed rolled ground corn had higher coefficience of variation of egg weight than the other groups ($P<0.05$). There were no significantly difference in egg production, egg weight, egg mass and % livability among dietary treatments ($P>0.05$). The haugh unit of hens fed rolled ground corn tended to lower ($P=0.1897$) than the other groups. Hens fed 10-mm hammer mill ground corn and rolled ground corn had higher yolk color score than that of hens fed 3-mm hammer mill ground corn group. However, hens fed rolled ground corn showed the highest coefficience of variation of yolk color score ($P<0.05$).

_____ _____ ___ / ___ / ___

Student's signature Thesis Advisor's signature