

Duangkhae Sutthikoed 2010: Behavioural Expression, Production Performance and Physiological of Laying Hens in Different Density Cages and Furnished Pens. Master of Science (Agriculture), Major Field: Animal Science, Department of Animal Science. Thesis Advisor: Assistant Professor Jamroen Thiengtham, Ph.D. 85 pages.

A behavioral expression and production performance of laying hens in different housing systems was examined using 600 Hisex Brown hens (aged of 19 wks). They were kept in 3 different housing groups as following: 1) in closed house with 3 hens/cage and 2) with 4 hens/cage 3) in opened house with slatted floor and furnished pen system. The result showed that hens in housing system 1 and 2 spent displayed higher time for standing, sitting, eating, drinking and preening during sampling periods than those of furnished housing system ($P<0.05$) but with aggressive need than. The hens in cages also had significantly higher body weight, feed intake and egg weight but lesser feed consumption per kilogram of egg produced and mortality rate. While quality of egg is significantly higher it egg yolk weight, egg albumen weight, yolk color, eggshell weight and thickness but Haugh unit and albumin height not significantly and hens in conventional cages had percentage of cracks eggs and egg dirtiness higher than furnished pen system ($P<0.05$). In addition, ovary weight, oviduct tract, internal organ and gastrointestinal tract is calculate percentage per body weight not significant In addition, the hens in furnished pen had significantly higher hematocrite (%) than in 4 hens/cage ($P<0.05$). Blood glucose of hens in the furnished pen group was significantly higher than those in the other two groups ($P<0.05$). The levels of triglyceride and H/L ratio were not significantly different among treatments ($P>0.05$). This study demonstrated the effect of raising hens in improved furnished pen system on some behavioral expression and eggs quality, but not egg production. It also showed some effect on bone strength. But, as opened housed system, heat stress effect on hens may be of concern.

Student's signature

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