

KSUC-PI-006

Effect of metabolizable energy and balance essential amino acids with reduced crude protein levels on egg production performances and egg albumen of brown laying hens

K.Soisuwan^{*} and N.Chauychuwong

Department of Animal Science, Faculty of agriculture, Rajamangala University of Technology Srivijaya, Nakhon Si Thammarat Campus Thungsong, Nakhon Si Thammarat, Thailand 80110

^{*}Corresponding author: ksoisuwan52@gmail.com

Abstract

An experiment was conducted to determine the influence of dietary metabolizable energy and balance essential amino acids with reduced crude protein levels on egg production performances and egg composition of brown laying hens. The experiment was designed as a 2x2x3 factorial arrangement with 2 dietary energy levels (2,800; control and 2,900 kcal of ME/kg) and 2 levels of digestible lysine – methionine ratio (0.75:0.68; control and 0.85:0.77%) and also with 3 levels of crude protein levels (15, 16 and 17; control; %). This experiment lasted 16 wks. Isa Brown hens (n=540) in 28 weeks of age were randomly divided into 12 treatments (5 replicates of 45 hens per treatment). Performances and egg composition were evaluated in 28-d intervals from the 28 to 45 weeks of age. The results shown that increasing dietary metabolizable energy and crude protein levels did not improve performances and egg composition. However, increased digestible lysine-methionine ratio from 0.75:0.68% to 0.85:0.77% improved egg mass, feed conversion ratio and albumen percent. The results of this experiment had been concluded that the levels of 2,800 kcal of ME and 15% protein and also with 0.85: 0.77% of digestible lysine-methionine ratio were sufficient for brown laying hens without decreasing their performances and egg composition.

Keywords: Metabolizable energy, Crude protein, Digestible lysine-methionine ratio, Performance, Egg composition