Effects of methionine supplementation in low-protein diet on production, reproductive organs, abdominal fat and liver composition of laying-hens raised in closed house system

Taweesak Silpasorn¹, Chaiyapoom Bunchasak², Seksom Atamangkoon²

Abstract

Feeding 14% CP diet with 0.26, 0.30, 0.38 and 0.44 % Met to laying-hens raised in closed house system were compared to 16 % CP with 0.38 % Met diet (control group). The results showed that egg production, egg mass and feed conversion of the hen fed 14 % CP with 0.26 % Met group was significantly worse than the other groups (P<.01); however these were significantly improved when Met 0.44 % was supplemented. Percentage of yolk of hens fed 14 % CP with 0.26 % Met was higher than the other groups and their ovary and oviducts size were small. However, these reproductive organs were improved when 0.44 % Met was supplemented. Liver weight and its protein content of hens fed 14 % CP with 0.26 % Met were significantly higher than those of the other groups, On the other hand, liver lipid content and abdominal fat pad of the 14 % CP with 0.26 % Met were lower than the other groups. Interestingly, supplementations of Met into 14% CP diet reduced protein content in liver, while increased lipid liver and abdominal fat pad equal to those of the control.

It is concluded that dietary 14% CP with 0.44 % Met has potential as good as the control.

¹Graduate student, Dept Animal Science, Kasetsart University
²Dept Animal Science, Faculty of Agriculture, Kasetsart University