Third National Congress of Recycling and Reuse of Renewable Organic Resources in Agriculture
Islamic Azad University, Khorasgan Branch (Isfahan)
Agricultural Faculty, Waste and Wastewater Research Center
13-15 May 2008

A survey of Marigold petal effect on yolk color and egg production in leghorn laying hens in comparison with commercial pigment

A. Maddahian[1] , E. Rowghani[2], M. Arab Abousadi [3]
1. M.Sc. of Kerman Agricultural Research Center
2. Associate Professor of Shiraz University
3. Assistant Professor of Shiraz University

This experiment was conducted to evaluate the effect of marigold petal (MP) on egg yolk color in comparison with commercial pigment (CP) in Hy-Line Leghorn laying hens. 100, 25 week-old hens were divided into 5 experimental treatments. Each treatment included 4 replicates for 4 weeks. Experimental treatments included control diet without pigment, 0.4, 0.8 and 1.2% MP and 0.6% CP in diet. Performance characteristics of hens including egg weight, yolk weight, daily feed intake, feed conversion ratio and egg production percentage were measured. The assessment of yolk color was performed using Roche Fan scale. The results were analyzed by SAS software, and means were compared with Duncan's multiple rang test. Egg weight ,yolk weight, daily feed intake, feed conversion ratio and egg production percentage indicated no significant differences, but yolk color were different ($P<0.01$) among the treatments. The highest yolk color was obtained in CP (9.57 Roche Fan), and the lowest yolk color was in control diet (5.54 Roche Fan). The 0.8 and 1.2% MP did not show any significant difference but were different ($P<0.01$) with 0.4% MP in diet. Generally, this study indicated that: MP is an effective substance on egg yolk color and it can be used as a part of xanthophylls in diet instead of commercial pigment .

Keywords: Marigold petal, Yolk color, Xanthophyll, Roche fan

[1] Corresponding author E-mail: ali_maddahian@yahoo.com