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Farmers’ and academia’s views”

Effect of *Ocimum gratissimum* on egg quality of laying hens

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Abstract

Eggs are a source of good quality protein for human consumption. It is considered a complete protein because it contains all the essential amino acids required for human growth and development. *Ocimum gratissimum* (*lyn*) is a medicinal plant with biological and physiological properties useful to both humans and animals. Egg quality such as shell thickness, yolk colour is of benefit to both farmers and consumers of eggs. This study was designed to determine the effect of *O. gratissimum* on egg quality of eggs from laying hens when consumed as an aqueous extract or as a component of feed. A total of sixty bovan brown laying hens (22 weeks old) were randomly distributed to three treatment groups having five replicates and four birds per replicate. Birds in treatment 1 (T1) served as the control group while birds in treatment 2 (T2) were administered 1 ml bird⁻¹ freshly prepared *O. gratissimum* extract twice a week. Birds in treatment 3 (T3) were fed a standard commercial layer’s diet supplemented with *O. gratissimum* chaff at an inclusion level of 50 g kg⁻¹ DM of complete feed. A commercial layer’s diet was given to all the birds in the respective treatment groups. The experiment was designed as a completely randomised design and lasted eight weeks. Eggs were collected from each replicate on a daily basis; however, egg quality analysis was randomly carried out on day 56 of the experiment. Egg quality determined were; egg width, shell thickness, albumen weight, albumen height, yolk weight, yolk height and yolk colour. Each variable was measured using appropriate method. Data collected was subjected to a one-way analysis of variance and significant means separated using Duncan’s multiple range test. The results showed that there were numerical differences in all the variables measured except yolk colour, however, these differences were not statistical different ($p < 0.05$). Yolk colour was significantly improved ($p < 0.05$) by administering 1 ml bird⁻¹ of aqueous *O. gratissimum* extract. A value of 8.70 was obtained in (T1), 10.28 (T2) and 6.87 (T3); respectively. Administrating 1 ml bird⁻¹ of *O. gratissimum* extract improved yolk colour of laying hens.

Keywords: Egg quality, laying hens, *Ocimum gratissimum*, yolk colour