

Evaluation of Egg Quality Traits of Japanese Quails (*Coturnix coturnix japonica*) Fed on Enzyme Supplemented Diets Containing Poultry Offal Meal

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Abstract

Two feeding trials were conducted to determine the replacement value of poultry offal meal (POM) for soybean meal (SBM) and to assess the effect of supplementation of POM by two dietary enzymes (SSF and Lipase) on egg quality traits of Japanese quails. Unsexed Japanese quails (13 days old; N=200) were randomly assigned to twenty (20) groups of ten (10) birds each. In experiment I, POM was incorporated at the rate of 0.0, 2.5, 5.0, 7.5 and 10.0% in the grower and breeder diets and fed until 15 weeks of age. In experiment II, the effect of dietary enzymes on the egg quality traits of Japanese quails fed diets containing 0.0, 5.0 and 10.0% was studied. Three grower and layer diets containing 0.0, 5.0 and 10.0% POM without enzymes and two diets of 5.0 and 10.0% POM supplemented with SSF and Lipase at 200 ppm were prepared and fed until 16 weeks of age. The grower and layer diets were isocaloric, having metabolizable energy of 12.13 MJ/kg and 12.34 MJ/kg and were isonitrogenous containing crude protein of 17 and 18%, respectively. The major egg quality traits were assessed and the eggs from the experiment I were evaluated for sensory qualities. The results of the experiment I concluded that, 2.5% POM is the best for external quality traits and POM can be included in quail rations up to 10% without having any detrimental effect on internal traits. The sensory data revealed that, the inclusion of POM in quail rations up to 10% does not cause any detrimental effect on consumer's preference. The results of the experiment II suggest that, inclusion of enzymes did not improve external quality traits. Only the albumen index was improved in enzyme-supplemented diet containing 10% POM.

Keywords: dietary enzymes, egg quality traits, Japanese quails, poultry offal meal, soybean meal