

## Egg Yolk and Serum Cholesterol Reducing Effect of Garlic and Natural Cocoa Powder Using Laying Birds as Model

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**Abstract :** A total of 144 Shaver Brown Layers in their sixteenth week of lay were used in a twelve weeks study to evaluate the egg yolk and serum cholesterol of the birds when fed varying dietary combinations of garlic and natural cocoa powder. The birds were randomly assigned into nine dietary treatments with 16 birds per treatment. Each bird was housed separately in a cage measuring 45 cm x 35 cm in an open sided battery cage house typical of the tropics. A standard poultry mash diet with 16.5% CP and 2800 KcalME/kg was formulated as the basal ration which also served as the control diet. Garlic and natural cocoa powder were incorporated in varying combinations (50 g or 100 g/100 kg of feed) in the remaining eight treatments. Weekly data of egg weight, egg length, egg diameter, yolk weight, albumen weight and hen day egg production were kept. Egg yolk and serum cholesterol levels were determined using a Randox kit. Results showed that birds receiving garlic and natural cocoa powder had significantly ( $P<0.05$ ) reduced egg and albumen weight as compared to control birds. Hen day production of the birds was also significantly higher than control birds. Egg yolk and serum cholesterol of birds receiving the garlic and natural cocoa powder were significantly ( $P<0.05$ ) lower than the control. Serum cholesterol levels showed decline in the birds receiving garlic and natural cocoa powder. The least yolk cholesterol level of 160 mg/dl was observed in birds receiving 50g garlic and 50 g natural cocoa powder (Treatment 5). Control birds had an egg cholesterol level of 245.45 mg/dl. It was concluded that incorporating garlic and natural cocoa powder in the diets of laying hens can result in a significant reduction in the egg and serum cholesterol levels.

**Keywords :** egg, serum, cholesterol, garlic

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