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## FEED FORMULATION RATIIONS FOR LAYERS USING TWO-LEVEL FACTORIAL DESIGNS.

Abstract.

Research has shown that about 80% of total cost of poultry production is incurred on poultry feeds. A farmer who manages to bring down this cost to about 60% to 50% will make good returns in the poultry business. In general the main objective of a firm is to maximize production thereby a good measure must be taken in formulating ration for poultry birds (chicks , broiler starter, broiler finisher, growers and layers) to ensure optimum use of resources which in turn ensure reduction in the total cost of production. If feed rations are right, the broilers will grow fast, and the layers will increase egg production at least 1 egg after every 27 hours i.e. approximately 26 eggs per hen in 30 days. To improve on the feed quality and cut down cost incurred on feeds farmers should make their own poultry feeds. The aim of layer diets must supply protein, carbohydrates, fats and minerals to optimize egg production, to safeguard health and maintain the desired bodyweight. This study employs the use of two-level factorial design to develop a regression model for determining optimal egg production in layers. The study uses the three main feed nutrients ; carbohydrates ( 80% to 85%), proteins (13% to 15%) and minerals (1.5% to 2.5%). The design points were replicated twice and the average number of eggs per hen in 30 days were used. The analysis of variance table showed the main effects carbohydrates, protein and minerals are significant, carbohydrates and proteins, carbohydrates and minerals interactions were also significant. A plot of residuals versus the predicted values appeared satisfactory so we have no reason to suspect problems with validity of our conclusions.

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