# Replacement value of palm kernel meal for maize on growth, egg quality, and economic parameters of local duck hens

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Abstract
A research was conducted to evaluate the effect of replacing maize with palm kernel meal (PKM) in the diet on the performance of duck hens. Five treatment diets were formulated in which PKM replaced maize at 0, 25, 50, 75 and 100% using a completely randomized design in three replications. The study lasted 8 weeks during which growth performance was evaluated from 16 to 20 weeks of age and economics of production and egg quality traits assessed from 20 to 24 weeks of age of the ducks. With the exception of mortality, significant differences ($P<0.05$) occurred in other growth parameters examined. The average daily weight gain of birds fed 0% PKM were significantly higher ($P<0.05$) than others. There was insignificant difference ($P>0.05$) in the feed intake of ducks fed 0, 25, and 50% PKM, which were higher ($P<0.05$) than 75% PKM, and that of 100% PKM was the least ($P<0.05$). The feed conversion efficiency of birds fed 100% PKM was not significantly different ($P>0.05$) from that of 0% and 75% PKM but was better than 25% and 50% PKM. The cost per egg produced was least in 50% PKM (N 9.17) but highest in 100% PKM (N20.63/g). The gross marginal profit of ducks fed 50% PKM (N 445.87/hen) was not significantly different ($P>0.05$) from that of 25% PKM (N 359.20/hen) but was significantly higher ($P>0.05$) than others. There was no significantly difference ($P>0.05$) in the hen day egg production, egg weight, egg length, egg width, yolk width and albumen height of birds fed all the treatment diets. The shell thickness and yolk height of buds feed 25% PKM and 50% PKM were not significantly different ($P>0.05$) from each other but that of 50% PKM was higher ($P<0.05$) than others. From 16 to 20 weeks of age, duck hens can be fed with diets in which PKM replaces maize up to 100% whereas for the laying period (21-24weeks), diets with replacement of maize with 50% PKM were most satisfactory.

**Keywords:** Palm Kernel Meal, Maize, Duck, Replacement

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