

THE EFFECT OF SUPPLEMENTATION OF *MORINGA OLEIFERA* (LAM) LEAF MEAL IN LAYER CHICKEN FEED

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ABSTRACT

The purpose of this study was to investigate the effect of supplementing *Moringa oleifera leaf* meal (MOLM) at different levels in layers feed with the aim of assessing its potential on egg production. Layers mash was formulated using raw materials obtained from local feed manufacturers and MOLM was included in the various diets at levels of 0%(D1), 1.25%(D2), 5%(D3), 7.5%(D4), 10%(D5). Diet 1(D1) was added Canthacol® at a rate of 1g per kg of feed while diet 7(D7) was a commercially prepared feed. Twenty eight(28) thirty weeks old layers birds were selected from a flock and randomly allocated to seven(7) treatment groups designated as D1,D2,D3,D4,D5,D6 and D7 with 2 replicates of two birds each and the diets feed introduced. The feed intake, weight gain, egg production, egg yolk color, egg weights, levels of protein in egg, egg yolk color acceptability were determined. Commercial eggs were obtained from random selected major supermarkets and their egg yolk color also determined. The egg yolk color in the various treatments ranged between 6 and 15 using the Roche yolk color fan and the intensity of yellow color increased with increased levels of MOLM. There

was statistically significant differences in the egg yolk colour between the various treatments depending on the levels of MOLM in the diets. However, there was no statistically significant difference in acceptability of the egg yolk color of cooked eggs by consumers. There is need to investigate further the factors responsible for the yellowing of the eggs and the possibility of utilization of MOLM in commercial layers feed production.

INTRODUCTION

Livestock performance largely depends on nutrition and environmental factors. One of the nutrients that is key to animal production is protein, whose supplementation is very important for improvement of livestock performance. For many years, the main sources of protein have been soya bean meal and fish meal. These two sources are however not always available to farmers because high demand from rapidly growing human population. Prices of these two commodities have also escalated in the recent past. It has therefore become necessary to look for alternative feed sources that need to be identified and evaluated.

Chicken feed should ideally comprise cereals but this is not possible because there is no surplus of cereals in low income food deficit countries (Gueye and Branckaert, 2002). As such, there need to use other feed resources that can make chicken perform at the same level as when fed on conventional feeds.

Some tropical legume browse plants act as cheap sources of protein but their extensive use is restricted by high crude fibre and antinutritive compounds (Nuhu, 2010). In the recent past, there has been great interest in the use of Moringa (*Moringa oleifera*) as a source of protein for livestock (Makker and Becker, 1997). The leaves of Moringa have components that make them suitable for replacement for soya bean meal or fish meal in non-ruminant diets (Nuhu, 2010). Large amounts of Moringa forage can be obtained from easily established plots in the field without expensive inputs. Moringa is also a perennial plant that can be harvested several times in a year.

Although Moringa leaf meal has very high crude protein, there is not enough information on how it be used as an alternative supplement for laying chicken.