



Tropentag, September 17-19, 2013, Stuttgart-Hohenheim  
“Agricultural development within the rural-urban continuum”

## Effect of Feeding Graded Levels of *Moringa stenopetala* Leaf Meal on Carcass Traits and some Serum Biochemical Parameters of Koekoek Chickens

ABERRA MELESSE<sup>1,3</sup>, YOSEPH GETYE<sup>2</sup>, KEFYALEW BERIHUN<sup>3</sup>

<sup>1</sup>University of Hohenheim, Inst. of Animal Nutrition, Germany

<sup>2</sup>Debre Berhan University, Dept. of Animal Science, Ethiopia

<sup>3</sup>Hawassa University, School of Animal and Range Sciences, Ethiopia

### Abstract

The productivity of poultry in developing countries has been grossly limited by the scarcity and consequent high prices of conventional protein sources. The aim of the present study was to evaluate *Moringa stenopetala* leaf meal (MLM) as alternative cheap feed ingredient in the diets of poultry and its effect on the carcass characteristics of Koekoek chickens by replacing soybean meal. The feeding trial was a completely randomised design consisting of five dietary treatments with four replications. Ten unsexed day-old chicks of Koekoek breed were randomly assigned to each of the four replicates. The dietary treatment diets were the control diet (T1) and diets containing MLM at the levels of 50 g kg<sup>-1</sup> (T2), 80 g kg<sup>-1</sup> (T3), 110 g kg<sup>-1</sup> (T4) and 140 g kg<sup>-1</sup> (T5) replacing the soybean meal in the control diet. The results indicated that chickens fed on T3, T4 and T5 diets had significantly ( $p < 0.01$ ) higher weights of dressed carcass, thighs, drumsticks and wings than those of the control diet (T1). Significantly ( $p < 0.01$ ) higher slaughter weight was obtained from chickens fed T3 and T4 diets than those of T1. Chickens fed T4 and T5 diets had significantly ( $p < 0.01$ ) higher dressing and breast yields than other treatment diets. Weights of slaughter, dressed carcass, thighs, drumsticks, wings, liver, heart and gizzard were higher ( $p < 0.01$ ) in male birds, while female chickens had significantly higher breast yield than males. The values of liver, heart and gizzard were not affected by the inclusion rates of MLM diets. The levels of total serum protein and triglyceride increased ( $p < 0.05$ ) in MLM fed chickens as compared to those of control diet. The activity of serum alanine transaminase and concentration of serum urea reduced ( $p < 0.05$ ) in chickens fed T3 and T4 diets. In conclusion, the substitution of soybean up to 140 g kg<sup>-1</sup> MLM could be an alternative feeding strategy in rural and peri-urban chicken production practices in *Moringa* growing tropical regions of the developing nations by replacing expensive protein feed sources. The results obtained from this study further suggested that dietary *Moringa* leaf meal has no deleterious effects on some physiological indices studied.

**Keywords:** Biochemical parameters, carcass traits, Koekoek chicken, *Moringa stenopetala* leaf meal