



Tropentag, October 5-7, 2011, Bonn

“Development on the margin”

## Comparison Between Mubende and Boer × Mubende Crosses for Biometric Measurements and Weight-for-Age in Uganda

B.M. BABIGUMIRA, ESAU GALUKANDE, HELEN NAKIMBUGWE, W. KIFUDDE, DANIEL N.K SEMAMBO

*National Animal Genetic Resources and Databank (NAGRC & DB), Uganda*

### Abstract

Goat farming is considered pivotal in strategies directed toward improved rural livelihoods in Uganda. However, goat farming in Uganda faces two challenges, (1) low productivity of indigenous genotypes and (2) missing performance and pedigree data of indigenous and crossbred goats. The aim of this study was to compare the performance of Mubende and Boer × Mubende crosses for biometric measurements (heart girth (HG) and Body length (BL), scrotal circumference (SC)) and weight-for-age. A total of 819 goats that comprised Mubende (n = 296), the first (F1; n = 299), second (F2; n = 145) and third filial (F3; n = 79) generations were randomly selected from over 2000 randomly breeding goats at Ruhengyere and Sanga Field Stations, Kirihura district, Uganda. The goats were aged using their teeth and assigned to five age groups (0–1, 1–2, 2–3, 3–4 and >4 year(s) old). Based on population means, the F3 weighed heavier than F2, F1 and Mubende by 7.91 kg, 11.3 kg and 15.5 kg. Based on age group means only F3 aged 1–2, 2–3 and 3–4 year(s) weighed heavier than the F2 by 8.6, 8.3 and 0.6 kg while 0–1 and >4 year(s) old weighed lighter by -2.6, -3.2 kg. The F3 weighed heavier than the F1 in all age groups. The F2 aged 0–1, 3–4 and >4 year(s) weighed heavier than the F1 by 4.5, 4.7 and 3.5 kg with 1–2 and 2–3 weighed lighter by 3.9 and 5.1 kg. All the crosses weighed heavier than the Mubende across all age groups the greatest differences in LWT occurring between the Mubende and either the F3 or F2. The F2 had the lowest average BL (41.2 cm) and SC (15.5 cm). Two equations were derived to estimate body weight based on HG ( $R^2 = 0.78$ ) alone and both HG and BL ( $R^2 = 0.78$ ). The LWT correlations with HG, BL and SC were 0.86, 0.73 and 0.79. These results provide more information on the growth related traits of the Mubende and its Boer crosses and give justification for genetic improvement of the Mubende for meat production using the Boer goat.

**Keywords:** Goats, Uganda