Growth and Egg Production Performances of Indigenous Chicken Hybrids in Kenya

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The study aimed at evaluating growth and egg performances of two synthetic chicken linesKC1 and KC2 developed in KALRO-Naivasha. Body weight was measured on 684 birds every four weeks from hatch to week 20 and subjected to Gompertz-Laird function to model growth curves. Egg production data at group level was recorded from 25 groups (10 birds/group) on weekly basis from age at first egg to 60 weeks of age and subjected to segmented polynomial and persistence models to model laying curves. A general linear model was fitted to determine the effect of KC line on curve parameters. Results indicate significant variation ($p<0.05$) in curve estimates between the two KC lines. On growth, KC1 had a higher modelled hatch weight (24.63g) accompanied by lower initial growth rate (0.77g/d) and decay rate (0.18g/d) resulting in higher asymptotic weight (1,775g) at an earlier age (28weeks) compared to KC2. Regarding egg curve estimates, KC1 matured earlier (23weeks) but KC2 took a shorter time (8weeks) to attain higher peak production (81%). KC1 maintained peak for a longer time (6weeks) and thereafter gradually declined in production (-0.28egg/day). It was concluded that the KC1 and KC2 would be suitable for would be suitable for meat eggs production while KC2 The differences in growth and egg curves between the two KC lines indicate that KC1 would be best suited for meat production given the high growth rate (9.02g/d) while KC2 would be suitable for egg production as supported by high cumulative egg number at 44 weeks into production (247eggs/hen).This information could therefore be utilized in developing the KC lines into specialized breeds.

Keywords: Egg production; growth; synthetic chicken