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African Journal of Agricultural Research Vol. 3 (12), pp. 843-851 December, 2008
 Available online at <http://www.academicjournals.org/AJAR>
 ISSN 1991-637X © 2008 Academic Journals

Full Length Research Paper

On station and on-farm evaluation of two Tanzania chicken ecotypes for body weights at different ages and for egg production

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Accepted 24 November, 2008

Abstract

A study was carried out to evaluate genetic potential of two chicken ecotypes of Tanzania viz. *Kuchi* and *Medium* managed both under intensive and extensive management systems. Traits studied under intensive conditions included body weights at 8 (Bwt8), 12 (Bwt12), 16 (Bwt16), and 20 (Bwt20) weeks of age, age at sexual maturity (AFE), egg number in the first 90 days after sexual maturity (EN-90), egg weight (EW), eggshell thickness (STH), egg shape index (ESI), while under extensive management it involved only body weights at various ages. There were significant differences between ecotypes with respect to body weights ($P < 0.001$), EW ($P < 0.05$) in favour of *Kuchi*; and EN-90 ($P < 0.05$), AFE ($P < 0.05$) in favour of *Medium* ecotype. However, differences between ecotypes with respect to STH and ESI were not significant ($P > 0.05$). Bwt8, Bwt12, Bwt16 and Bwt20 under intensive management averaged over both sexes for *Kuchi* and *Medium* ecotypes were 490 and 404 g; 954 and 776 g; 1394 and 1183 g and 1647 and 1447 g, respectively. Corresponding body weights under extensive management were 348 and 273 g; 685 and 581 g; 974 and 845 g; 1188 and 1046 g, respectively. Average AFE, EN-90, EW, and ESI under intensive managements for *Kuchi* and

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Medium ecotypes were 173 and 168 days; 45 and 49 eggs; 45 and 42 g; 75 and 74%, respectively, while average STH in both ecotypes was around 37 μ . From these results, it was concluded that *Kuchi* was superior to *Medium* ecotype in terms of body weights and converse was true for most of egg production and related traits, and further that their performance can further be improved by improving both management system and improving their genetic potential through within ecotype selection. Since *Kuchi* ecotype was superior to *Medium* ecotype in terms body weights and opposite was true for *Medium* ecotype in terms of most egg production and related traits. Therefore, *Kuchi* ecotype could be good starting genetic material for further improvement in body weight, and *Medium* ecotype in egg production traits.

Key words: Body-weights, egg-traits, chicken-ecotype.

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