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“Can agroecological farming feed the world?  
Farmers’ and academia’s views”

## Carcass yield of giant african snails of the species *Archachatina marginata* bred in captivity (Swainson 1821)

YOUSOUF TOUKOUROU, CHADRAC TSRIGBIDZI, EDOUARD OGBOLO

*University of Parakou, Fac. of Agronomy, Dept. of Sciences and Techniques of Animal and Fisheries Production, Benin*

### Abstract

The carcass yield of giant African snails, *Archachatina marginata*, subjected to a restrictive diet for 70 days and then refed for 70 days, was evaluated. The objective was to determine the ability of the species to compensate for growth retardation. The study took place at the application farm of the Faculty of Agronomy of the Parakou’s University between August 15, 2019 and January 22, 2020. A total of 90 snails, with an average live weight of  $52.48 \pm 9.03$  g, were randomly divided into three batches of 30 subjects in semi-buried enclosures made of cement block and fine-mesh wire netting. Three mealy rations containing 20.26 %, 17.18 % and 14.43 % crude protein and 2976 kcal, 2540 kcal and 2089 kcal of metabolisable energy per kg of dry matter were distributed ad libitum to batches I (control), II and III respectively. At the end of each feeding period, 8 snails from each batch were randomly selected and slaughtered. The feed consumption indices as well as the carcass yields were respectively  $1.94 \pm 0.51$ ;  $3.44 \pm 1.07$  and  $4.31 \pm 1.03$  ( $p < 0.05$ ) as well as  $38.70 \pm 3.12\%$ ;  $30.35 \pm 2.03\%$  and  $28.30 \pm 1.26\%$  ( $p < 0.05$ ) respectively for batches I (control), II and III at the end of the feed restriction period. After the refeeding period where all the batches of snails were fed at the same level as the control batch, these values were respectively  $2.55 \pm 0.35$ ;  $1.65 \pm 0.14$  and  $1.60 \pm 0.14$  ( $p < 0.05$ ) as well as  $40.44 \pm 4.00\%$ ;  $37.48 \pm 2.56\%$  and  $36.55 \pm 1.75\%$  ( $p < 0.05$ ) respectively for batches I, II and III. It appears from this study that temporary feed restriction followed by refeeding significantly improved feed efficiency in *Archachatina marginata*. The carcass yield, despite a remarkable increase, could not be fully compensated.

**Keywords:** *Archachatina marginata*, carcass yield, feed efficiency, feed restriction, Republic of Benin