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Feed Restriction and Compensatory Growth of Giant African Snails of the Species *Archachatina Marginata* (Swainson, 1821)

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Abstract

Giant African snails of the species *Archachatina marginata* were subjected to a feed restriction for 70 days which preceded a re-feeding phase also of 70 days. The objective was to study in this species the ability to compensate for growth retardation induced by temporary dietary restriction. The study is carried out at the application farm of the Faculty of Agronomy of the University of Parakou between August 15, 2019 and January 22, 2020. In total, 90 snails, weighing on average 52.48 ± 9.03 g with an average shell length of 6.83 ± 3.38 cm, were randomly distributed into three lots of 30 subjects in semi-buried enclosures, made of cinderblock and fine mesh wire mesh. Three 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 lots 1 (control), 2 and 3 respectively. The snails showed at the end of the feed restriction period an average shell length of 8.1 ± 0.54 cm, 8.11 ± 0.43 cm and 8.13 ± 0.5 cm ($p > 0, 05$) for an average live weight of 79.6 ± 7.3 g, 68.86 ± 11.22 g and 66 ± 10.66 g ($p < 0.05$) respectively for lots 1, 2 and 3. At the end of the re-feeding phase, the shell length was 8.81 ± 0.51 cm, 8.80 ± 0.25 cm and 8.79 ± 0.46 cm ($p > 0.05$) for an average live weight of 92.59 ± 3.32 g, 88.5 ± 5.44 and 86.63 ± 7.3 g ($p < 0.05$), respectively for lots 1, 2 and 3. It emerges from this study that the weight loss observed during a feed restriction could not be fully compensated after a certain period of re-feeding in *A. marginata*, despite a remarkable increase in weight

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