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Effect of source and amendment rate of rearing substrate on the growth and yield of *Archachatina marginata*

Authors:
Aman Jean Baptiste[1], Adou Coffi Franck Didier[2], Karamoko Mamadou [1] and Otchoumou Atcho[1]

Institution:
1. Nangui Abrogoua University, UFR-Science of Nature, Laboratory of Biology and Animal Cytology / Animal Productions Research Center, 02 BP801 Abidjan 02.

2. Ecole Normale Supérieure, Cocody, Abidjan, Department of Science and Technology
08 BP 10 Abidjan 08, Ivory Coast.

Corresponding author:
Aman Jean Baptiste

ABSTRACT:

Several studies have shown that successful breeding of molluscs requires a calcium-rich substrate. Therefore, this study was devoted to the search for a source of calcium and its suitable rate for the amendment of breeding substrates of *Archachatina marginata*. As a result, substrates were made by modifying the soil with either oyster shells or bone powder at different rates (0%, 5%, 10%, 20%, 30% and 40%). On these substrates, spat were raised for 20 months. During breeding, their growth performance was recorded and compared by source and by rate of amendment. At the end of the 20 months, 30 snails on each substrate, saw their soft tissues eradicated from their shells. The different body parts (shell, soft tissues and consumable flesh) of these animals were weighed and then their proportions relative to the live weight were determined and compared. The results showed that increasing the oyster shell substrate amendment rate induced a good growth rate compared to bone powder. As well, the amount of meat produced by snails increased with the oyster shell content of the substrate. The largest amount of meat produced on substrates amended to bone powder (71.12 g) is lower than that recorded (84.13 g) on the substrates with oyster shells added. On the other hand, the increase in the rate of substrate amendment in oyster shells led to a large production of shell at the expense of the flesh. This calcium source, however, is better suited to the amendment of the breeding substrate than the bone powder.

Keywords:
Achatiniculture, Amendment, Limestone.

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