

TECHNICAL SHEET

Feeding of African giant snails (*Achatina achatina*) on yam bean tubers (*Pachyrhisus erosus* var EC KEW)

Presentation of the snail (Cobbinah et al, 2008)

Snails belong to the group of invertebrate animals called mollusks. Most mollusks have a shell. Other species in this group are slugs, mussels, squids, and cuttlefish. *Achatina achatina* is a widespread species in West Africa (Benin, Ivory Coast, Ghana, Liberia, Nigeria, Sierra Leone, and Togo). This species can be considered a good candidate for snail farming in most parts of West Africa, although it requires a more humid environment than the other two species and takes longer to reach sexual maturity. These species prefer a certain heat, between 25 and 30 °C, and a relative humidity (80-95%).

Achatina achatina reproduces by self-fertilization. Unlike many other species, there is no mating before production, although it is not unusual to find two snails stuck together. The laying generally takes place at the fall of the night or during the night and comprises from 30 to 300 eggs. The eggs, oval and dirty yellow in color, are 8 to 9 mm long and 6 to 7 mm wide. The eggs are deposited in 4 cm deep holes dug for the occasion. Eggs usually hatch 2 to 3 weeks after being laid, in a range of 10 to 31 days, depending on temperature. *A. achatina* has a high hatching rate of 90+%, sometimes even 100%.

Morphologie de l'escargot

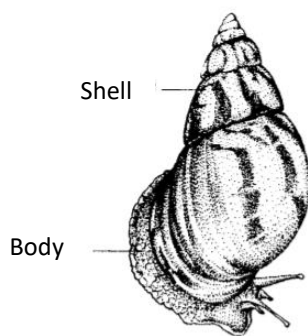


Figure 1 : upper view of the snail
(Source : Cobbinah et al, 2008)

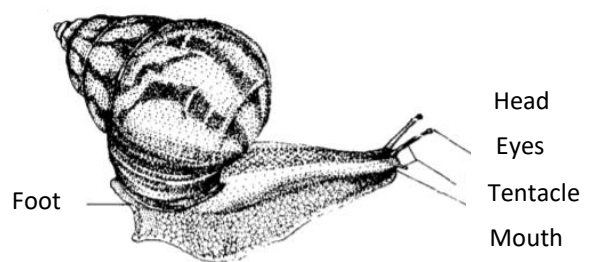


Figure 2 : side view of the snail
(Source : Cobbinah et al, 2008)

Presentation of yam bean tubers (ANATO, 2011)

The genus *Pachyrhizus* is taxonomically classified in the family *Fabaceae*. The different parts of the plant are the seeds contained in the pods, the leaves, and the tubers. Of all these parts, only the *tuberized* root is edible since the seeds and leaves are suspected to be toxic and are used for other purposes. The AHIPA is a tuber with a particular character because of its interesting content of proteins (up to 18%), soluble sugars (32%), starch (15%) and fiber (4.5%) on a dry basis. Commonly called *Ahipa*, the slightly sweet *Pachyrhizus* tubers have a pea-like aroma and a crunchy apple-like texture. They can be cooked, fried, or pickled in vinegar with chilies; they can also be eaten raw because, unlike cassava, they contain no toxic compounds (Sorensen et al., 1997 cited by ANATO, 2011).

Implication of technology for agricultural development

The feeding of snails with tubers of *P. erosus* var EC KEW should allow the purchaseiniculturists to obtain a marketable weight of purchaseines in a short time and to have an important stock that can help them to satisfy the demand for purchaseines. In this way, they will satisfy their needs for both food and therapeutic purposes, as well as for economic and cultural purposes (occult and religious). The destocking of the farms and the sale of the products will offer a monetary surplus value that can be used by the purchaseiniculturists for their social and nutritional needs. This is also a way to valorize the tubers of the yam bean in animal feed.

Chararcteristics of the technology

The feed formula for better zootechnical performance is composed of 16% Talinum triangular leaves, 16% Tridax procumbens leaves, 16% green papaya, 42% yam bean tubers and 10% kaolin powder.

Weight gain was 13.42 ± 4.46 g and feed intake 1.07 ± 0.33 g DM/d

Target of the technology

Achatinicultors, Achatine meat processors

Field of application of the technology

Atlantique, Littoral, Mono ; Couffo ; Zou, Collines

Stage of development or deployment of the technology

Complete

Bibliographic references

ANATO (2011) : VALORISATION DES TUBERCULES DE AHIPA (*Pachyrhizus erosus* var EC KEW) DANS L'ALIMENTATION DE L'AULACODE (*Thryonomys swinderianus*, TEMMINCK 1827) d'ELEVAGE ; DSTPA/FSA/UAC ; thèse d'Ingénieur Agronome ; option Zootechnie ; 78p.

Cobbinah J.C. , Vink A., Onwuka B. (2008) : L'élevage d'escargots Production, transformation et commercialisation ; Série Agrodok No. 47 ; 84p.

Sorensen M., Doygaard S., Estella J. E., Kvist L. P. and Nielsen P. E. (1997) : Status of the south American tuberous legume *Pachyrhizus erosus* (Lam) spreng. Biodiversity and conservation, 6, 1581-1625.

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Other references

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