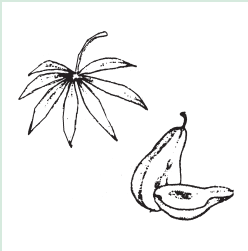


Snail farming

Production, processing and marketing



Agrodok 47

Snail Farming

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This publication is sponsored by: ICCO

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First edition: 2008

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Printed by: Digigrafi, Wageningen, the Netherlands

ISBN Agromisa: 978-90-8573-108-5

ISBN CTA: 978-92-9081-398-9

Foreword

There is no reliable documentation on when and where humans started consuming snails as a food supplement. In many places where snails occur, especially in tropical and sub-tropical areas like West and East Africa, natives gather snails, eat them and sell the surplus as a source of income.

This booklet aims to provide ideas to farmers who would like to produce snails on a small scale for consumption or marketing. It is not primarily intended for entrepreneurs wishing to engage in large-scale snail farming for the export market. Attention is focused here on three major species, *Achatina achatina*, *Achatina fulica* and *Archachatina marginata*, that are common in tropical areas, especially in Africa.

Limiting factors to be considered for effective snail farming are discussed so that farmers do not start breeding snails without considering the advantages and constraints.

Incentive for the production of this booklet came from frequent requests for an Agrodok on snail farming received in returned Agrodok questionnaires. A great deal of basic information was provided by Dr Joseph R. Cobbinah's practical guide on *Snail Farming in West Africa*. This was supplemented by literature and internet research, as well as through contacts with African experts on the subject.

Agromisa, August 2008

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1 Introduction

Snail meat has been consumed by humans worldwide since prehistoric times. It is high in protein (12-16%) and iron (45-50 mg/kg), low in fat, and contains almost all the amino acids needed by humans. A recent study has also shown that the glandular substances in edible snail meat cause agglutination of certain bacteria, which could be of value in fighting a variety of ailments, including whooping cough.

Edible snails also play an important role in folk medicine. In Ghana, the bluish liquid obtained from the shell when the meat has been removed is believed to be good for infant development. The high iron content of the meat is considered important in treating anaemia. In the past, it was recommended for combating ulcers and asthma. At the Imperial Court in Rome, snail meat was thought to contain aphrodisiac properties and was often served to visiting dignitaries in the late evening.

In West Africa, snail meat has traditionally been a major ingredient in the diet of people living in the high forest belt (the forested area other than the savannah forest). In Côte d'Ivoire, for example, an estimated 7.9 million kg are eaten annually. In Ghana it is clear that demand currently outstrips supply.

International trade in snails is flourishing in Europe and North America. However, in spite of the considerable foreign and local demand, commercial snail farms such as those in Europe, South-East Asia and the Americas hardly exist in Africa. In Ghana, Nigeria and Côte d'Ivoire, where snail meat is particularly popular, snails are gathered from the forest during the wet season. In recent years, however, wild snail populations have declined considerably, primarily because of the impact of such human activities as deforestation, pesticide use, slash-and-burn agriculture, spontaneous bush fires, and the collection of immature snails. It is therefore important to encourage snail farming (heliculture) in order to conserve this important resource.

Advantages of snail farming

Environment

Snails are environment-friendly, because, unlike poultry or pigs, neither the snail nor its droppings smell offensively. Snails can also be reared in the backyard.

Inputs

Capital, technical, labour and financial inputs in simple snail farming are relatively low compared to those in other types of livestock farming (poultry, pigs, goats, sheep, cattle).

Snail meat

Snail meat is a good source of protein. It is rich in iron and calcium, but low in fat and cholesterol compared to other protein sources like poultry and pigs.

Disadvantages of snail farming

Climate

Without expensive artificial means of climate control, snail farming is restricted to the humid tropical forest zone, which offers a constant temperature, high relative humidity, preferably no dry season, and a fairly constant day/night rhythm throughout the year.

Cultural restrictions

Snail meat is considered a delicacy by some, whereas others will not even touch it for religious or cultural reasons.

Growth

Snails are relatively slow-growing animals. Furthermore the consumable meat makes up only 40% (maximum!) of the snail's total live weight. Consequently snail farming is not a way to make money quickly!

Snails as a pest

Snails that have escaped from a farm, or been dumped by a farmer, may quickly develop into a serious pest in agriculture and horticulture.

For these reasons it must be emphasised that snail farming should be seen as only one component in a diversified farming venture. However, with patience, good management and careful integration into existing farming activities, snail farming can provide substantial longer-term rewards.

Planning a snail farming venture

Agromisa's AgroBrief No. 3, *Snail Farming* (M. Leeflang, 2005) provides useful guidelines for anyone considering snail farming (see also Appendix 1).

A sequence of five steps is suggested:

- 1 Plan (market, production, organisation)
- 2 Pilot production and sales
- 3 Go or no-go decision
- 4 Investment in facilities and know-how (cages/pens, finance, knowledge)
- 5 Upscaling (logistics, quality, financial control)

Prescriptions

The following chapters present prescriptions for the actual farming of snails, e.g. suitable snail species, environment, housing, stock, feed and health.

Caution: Before embarking on snail farming make sure you have a market! This may seem self evident; but there are many examples of cases in which giant African land snails (GALS) were introduced to other parts of the world for farming, but were eventually dumped (or allowed to escape) into the wild for lack of a market.

Once the snails have been introduced, dumped or allowed to escape, they develop into a serious agricultural pest. Without any natural ene-

mies they end up destroying a wide range of agricultural and/or horticultural crops and causing considerable economic damage. *Achatina fulica* has a particularly poor reputation in this respect.

Giant African snails are considered a delicacy by people accustomed to consuming them, whereas other people, even within the same country, will not even touch, let alone eat them. For that reason, **don't start farming snails unless you are absolutely sure someone will buy or eat them.**