AFRICAN UNION
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Grasscutter (Thryonomys swinderianus)

Grasscutter

In many tropical countries, several rodent species are highly esteemed and an essential income and food protein source for local inhabitants. Especially the cane rat is met throughout sub-Saharan Africa; its flesh is very popular for domestic consumers. In countries like Ivory Coast, Benin, Togo and in some central African countries its domestication has been successful.

Physical characteristics

The cane rat, its scientific name Thryonomys swinderianus (commonly called "hedgehog" in Central Africa, "agouti" in French-speaking West Africa 'grass cutter "West Anglophone Africa), is often encountered in rodent savannah grassy clearings, wet or swampy areas of Africa. However, it can be domesticated. Rustic and prolific, it is sexually mature at 5-6 months with spans up to twelve small. Easy to breed, cane rat is an alternative to the poached meat. It is a fast growing animal, mainly in high intensive system, which values very many agricultural byproducts unfit for human consumption. Its carcass yield is very important.

The cane rat has a stocky, dark brown coat is made of stiff and hard bristles, (hence its nickname hedgehog). The lower body is lighter than the back. The massive head ends with a broad snout split upper lip (characteristic of all rodents).

The ears are small, almost hidden in the coat, slightly hairy. It has long whiskers (whiskers) visible which allow it to identify in its environment.

This species is typically found in association with reed beds or in areas of dense, tall grass with thick reed or cane-like stems, typical of riverine and other similar habitats. They are seldom found far from water. Skinner and Smithers (1990) note that agricultural crops (such as maize, wheat, sugar-cane, groundnuts) have greatly improved the habitat for this species such that they have become an agricultural pest in some regions, and are often responsible for damaging cassava crops, and, in West Africa, oil palm plantations. It is predominantly nocturnal, with little known of their biology and ecology. Two litters of as many as twelve young are born annually.

Management system

The grasscutter is easy to house, though its handling requires skills. Among rural communities and even some urban people with adequate space, the animal has been bred and kept in boxes, empty drums, Poly Vinyl Chloride (PVC) pipes and enclosures (Adu, 2002). However, the grasscutter cloud is properly managed under these three systems: enclosure, cage and floor.

Economic and social importance

Thryonomys species are intensively hunted as an important source of protein throughout their range. They are typically hunted with dogs, spears, and fall traps or by burning vegetation. It is estimated that in West Africa, 80 million are harvested annually, equalling 300,000 metric tons of meat. To increase meat availability, Thryonomys species have been domesticated (Figure 4) and currently efforts are being made to expand the industry. Greater cane rats are preferred over lesser cane rat because of their larger body size, however it has been suggested that both species should be reared as part of the industry. Thryonomys species meat has more protein than chicken, rabbit and guinea pig and lower fat than pork, beef and lamb. The expansion of this domesticated market may also relieve pressure on wild population of cane rats(Fiedler,1994; Hoffmann,2008a; Howell, 1981; Jori et al,1995).

Grasscutter rearing units

It is also believed that if more research was done to find the most efficient way to breed the grasscutter, then these animals would be the solution to Africa protein shortage. The relevance of the role food farming cane rats in Ivory Coast means mastering its reproduction. Selected and bred sires cane rats are divided into polygamous groups (4 females and 1 male) and submitted to the permanent coupling mode. Reproductive behavior was observed with particular emphasis on the process of giving birth, breastfeeding and weaning. Growth performance of reproduction, namely: the fertility rate (100%), fertility (78.85%) and prolificacy (96.15%) have relatively good values and therefore support this type of farming. Nevertheless, the relatively high rate of neonatal mortality (18%). Similarly, the observed performance could be increased through improved livestock management, development and utilization of food rations adapted to the reproductive physiological status of pregnant and lactating aulacodine.

Farmer rearing grasscutters as a source of income

Proximate composition (%) and mineral content of the grasscutter meat in relation to other domestic animal meat are described in the table 1 below:

Table 1: Proximate composition (%) and mineral content of the grasscutter meat

Meat	Moisture	Ash	Protein	Fat	Fe	Ca	P
Beef	73.8	1.0	19.6	6.6	5.1	3.9	57
Mutton	78.5	1.0	17.2	2.9	3.1	9.0	80
Pork	64.8	0.8	19.4	13.4	1.0	3.0	72
Grasscutter	72.3	0.9	22.7	4.2	2.8	8.3	111

(http://scialert.net/fulltext/?doi=rjf.2010.119.135)

Reproduction and reproductive management

Most farmers rely on the shapes and or size of the head to distinguish between the sexes. The use of ano-genital distance is the second most popular method of sex determination. The study by Adu and Yeboah (2002) has led to the promotion of the use of ano-genital distance as the gold standard of sex determination in the grasscutter. At birth, the ano-genital distance is 10 mm in the males and less them 5 mm in the females. In adults, it measures an average of 38 mm in males and 12 mm in females.

The genetic variability of breeding grass cutter was assessed from a pedigree consisting of 1956 individuals. The results show that the number of founders F from the origin is greater than that of true founders (97 vs 88). The number of effective founders Fe is less than the number of real founders (56 vs 88). The balance between effective founders Fe and ancestors Fa highlights the satisfactory management of genetic variability. The level of inbreeding coefficient F of the reference population and average relatedness was 0.52% and 0.93% respectively. The intervals between generation range from 1.84 and 2.09, with no significant difference regardless of the direction.

Conclusion

Most rural farmers have access to capture cane rat on a daily basis. These farmers sometimes capture live animals but oftentimes animal are trapped dead. Many individuals that love to rear cane rat are faced with the challenge of technical knowhow of handling animals, differentiating the breeds, feeds and housing methods to use on these animals. In conclusion, literatures have established that the grasscutter, a wild African rodent can be domesticated. The distributions in Africa, south of Sahara, the management system required, nutrition and reproduction performance have all been studied. However, detailed information on health and diseases of these rodents are scanty. Furthermore, the grasscutter is known to be economically important as an agricultural pest and its' meat is widely accepted by all classes of people. It is also a good laboratory animal for research studies.

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