GRASSCUTTER FARMING: INVESTIGATING THE POSSIBLE WAYS OF REARING HEALTHY AND DISEASE FREE GRASS CUTTER FOR DOMESTIC AND COMMERCIAL USE IN AKWA IBOM STATE

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ABSTRACT

Grasscutter farming holds significant economic potential for farmers in Africa and beyond. The meat of grasscutters is highly sought-after for its nutritional value and unique taste, making it a popular choice among consumers. The study assessed grasscutter farming, investigating the possible ways of rearing healthy and disease-free grass cutters for domestic and commercial use. The study revealed that grasscutter farming requires relatively low investment and can be practiced on a small scale, making it accessible to smallholder farmers. As a result, it presents an opportunity for income generation and poverty alleviation, particularly in rural areas where access to alternative sources of income may be limited. The study explored some of the possible ways of rearing a healthy and disease-free grasscutter, which are suitable habitat and housing, nutrition and feeding, hygiene and sanitation, disease prevention and control, and routine health monitoring and management. On this basis, it was concluded that ensuring the health and disease-free status of grasscutters is paramount for successful domestic and commercial farming ventures. Implementing proper sanitation, nutrition, and biosecurity measures is essential for maintaining the well-being of the livestock. One of the recommendations was to provide comprehensive training programs and educational resources to grasscutter farmers on best practices for rearing healthy and disease-free grasscutters. This should include topics such as proper sanitation, nutrition, and biosecurity measures.

KEYWORDS: Grasscutter Farming, Rearing, Healthy, Disease Free, Domestic Use and Commercial Use

INTRODUCTION

Grasscutter farming, also known as cane rat farming, is becoming increasingly popular as a profitable agricultural endeavor due to the great demand for grasscutter meat, which is considered a delicacy in many African countries. Grasscutter farming has the potential to be profitable while also providing farmers with a sustainable source of protein and income. However, in order to optimize the benefits of grasscutter farming, it is critical to focus on raising

healthy, disease-free grasscutters. This introduction will look at the various facets of grasscutter farming, including its relevance and potential methods for raising healthy, disease-free grasscutters for domestic and commercial usage. Grasscutter farming has enormous economic possibilities for farmers in Africa and elsewhere. Grasscutters' meat is in high demand due to its nutritional value and distinct flavor, making it a popular customer choice. Furthermore, grasscutter farming requires little investment and may be done on a small scale, making it accessible to smallholder farmers. As a result, it provides a chance for revenue production and poverty alleviation, especially in rural areas where alternative sources of income are restricted (Adeniji, Ogunjinmi, & Adeyemi 2012).

Despite its potential benefits, grasscutter farming is not without its challenges. One of the primary concerns for grasscutter farmers is the health and well-being of their livestock. Grasscutters are susceptible to various diseases and parasites, which can significantly impact their productivity and profitability (Ayodeji & Oresegun, 2015). Moreover, poor management practices, such as inadequate nutrition and housing, can further exacerbate health issues among grasscutters. Therefore, there is a pressing need to investigate and implement effective strategies for rearing healthy and disease-free grasscutters.

Several approaches can be taken to ensure the health and well-being of grasscutters in farming operations. Firstly, proper sanitation and hygiene practices are crucial for preventing the spread of diseases among grasscutters. This includes regular cleaning of cages or pens, as well as proper waste management to reduce the risk of contamination. Additionally, providing a balanced diet rich in essential nutrients is essential for maintaining the overall health of grasscutters and boosting their immune system (Opara, Monebi & Orji 2019). Furthermore, implementing biosecurity measures, such as controlling the movement of people and animals on the farm, can help prevent the introduction and spread of diseases. grasscutter farming holds immense potential as a sustainable and profitable agricultural venture. However, to maximize its benefits, it is essential to focus on rearing healthy and disease-free grasscutters. By implementing proper management practices, such as sanitation, nutrition, and biosecurity, farmers can ensure the well-being of their livestock and optimize their productivity and profitability in both domestic and commercial markets.

CONCEPT OF GRASS CUTTER

According to Agricdemy (2024), grasscutters (Thryonomys swinderianus) are large African rodents and are recognized as an important rural protein source and popular specialty meat. Because of this, the species is heavily exploited through hunting across its native range. Efforts to domesticate and commercialize grass cutters have so far been unsuccessful, primarily due to the lack of selective production breeding, which restricts both the availability and quality of animals supplied to farmers. Grasscutter is a microlivestock, and its scientific name is Thryonomys swinderianus. Grasscutter farming in Nigeria is on the rise, and it's providing income for a lot of people. Grasscutter is adaptable to most tropical vegetation. They are found in mangroves, swamps, rainforests, and savannas. Grasscutters love to dwell in farmlands, sugarcane plantations, oil palm plantations, and creeks. The grasscutter is classified as a monogastric (one-stomach) herbivore.

Grasscutter is also known as cutting grass or cane rat. In Yoruba lanaguage, they are called Oya. While they are known as Gafia (Gouza or Guahia) and Nchi in Hausa and Igbo languages, respectively, Grasscutters are harmless animals. They live in groups and don't

burrow, but they can use holes dug by other animals. The grasscutter in the bush is more active at night. Grasscutter meat is acceptable to most religions and societies. A large proportion of the grasscutter consumed in Nigeria is hunted in the bush. One kilogram of grasscutter can cost about twelve times the cost of one kilogram of cow meat (beef), ten times the cost of goat meat, and eight times the cost of chicken. This makes grasscutter farming in Nigeria a very profitable and sustainable agriculture business to go into.

Glasscutters are rodents widely found in grasslands, clearings, and wet or marshy areas in Africa. They are more commonly known as "hedgehogs" in Central Africa, "agouti" in French-speaking West Africa, and "cane rats" in English-speaking West Africa. Although widely hunted, glasscutters can also be domesticated. Rasscutter animals, also known as grasscutter rodents or simply grasscutters, refer to a group of rodent species belonging to the genus Thryonomys. These large rodents are native to Africa and are renowned for their herbivorous diet, primarily consisting of grasses, leaves, and other vegetation. Grasscutters are widely distributed across sub-Saharan Africa and are particularly prevalent in savannah and grassland habitats. Grasscutters belong to the family Thryonomyidae within the order Rodentia. The genus Thryonomys comprises two recognized species: Thryonomys swinderianus, commonly known as the greater cane rat, and Thryonomys gregorianus, known as the lesser cane rat. These species are characterized by their robust bodies, large incisors, and powerful hind limbs adapted for running and burrowing. Grasscutters are primarily crepuscular or nocturnal, meaning they are most active during dawn, dusk, or nighttime hours. They are social animals, often living in colonies consisting of a dominant male, several females, and their offspring. Grasscutters construct extensive burrow systems in the ground, which serve as shelter from predators and harsh environmental conditions. These burrows may also provide protection during the breeding season and serve as nesting sites for young grasscutters. Grasscutters typically have a stocky build with a coarse fur coat ranging in color from brown to gray. They have large, rounded ears and long tails, which aid in thermoregulation and balance. Their incisors grow continuously throughout their lives, enabling them to gnaw through tough vegetation and maintain their dental health. Grasscutters also have well-developed claws on their forelimbs for digging burrows and foraging for food. As herbivores, grasscutters have a specialized diet consisting mainly of grasses, herbs, and occasionally cultivated crops such as maize, millet, and sorghum. They use their sharp incisors to harvest vegetation close to the ground and have been observed to consume a wide variety of plant species, depending on availability and nutritional content. Grasscutters play an essential role in ecosystem dynamics by controlling vegetation growth and nutrient cycling in their habitats.

CONCEPT OF GRASS CUTTER FARMING

According to Steemit (2024), "grass-cutter farming" typically refers to the practice of raising grass-cutters, also known as cane rats (Thryonomys swinderianus), for commercial purposes. These rodents are native to Africa and are known for their large size and herbivorous diet, which primarily consists of grasses and other vegetation. Grasscutter farming, also known as cane rat farming, is an increasingly popular agricultural practice in Africa, particularly in West and Central Africa. Grasscutters (Thryonomys swinderianus) are large rodents native to sub-Saharan Africa, and they are valued for their meat, which is considered a delicacy in many African countries. Grasscutter farming offers several advantages, including high reproductive rates, relatively low space requirements, and the ability to utilize locally available feed resources. Rasscutter is also known as cutting grass or cane rat. In Yoruba lanaguage, they are

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- **Domestic Grass Cutter Farming**

Domestic grass cutter farming, also known as grass cutter rearing, is a burgeoning agricultural practice gaining attention across various regions globally. Originating from West Africa, particularly Nigeria, where it has been a traditional practice for centuries, grass cutter farming is now being embraced in other parts of the world due to its economic viability, nutritional value, and relatively low environmental impact. Grasscutters are harmless animals. They live in groups and don't burrow, but they can use holes dug by other animals. Domestic grass-cutting farming holds promise as a sustainable agricultural practice with multiple socio-economic benefits. By harnessing the reproductive potential of grass cutters and adopting sound management practices, farmers can generate income, improve nutrition, and contribute to rural development (Agric Demy, 2018). Here are the keys to domestic grass cutter farming and its potential as a sustainable livelihood opportunity.

Grass cutters have a high reproductive rate, with females capable of producing multiple litters per year, each consisting of several offspring. The offspring are born with eyes open and well-developed teeth. This fast reproduction cycle contributes to the sustainability of grass cutter farming. Compared to traditional livestock farming, grass-cutting farming requires minimal space and resources. Grass cutters can be raised in relatively small enclosures or backyard setups, reducing the environmental footprint associated with large-scale agriculture. Grass cutter meat is recognized for its high protein content, low fat, and cholesterol levels, making it a healthy alternative to traditional livestock meats. Compared to traditional livestock farming, grass-cutting farming requires minimal space and resources. Grass cutters can be raised in relatively small enclosures or backyard setups, reducing the environmental footprint associated with large-scale agriculture.

Housing is very important for the production and management of grass cutters. Grass cutters are best kept in well-ventilated enclosures constructed from materials like wire mesh or bamboo. Adequate shelter protects the animals from predators and adverse weather conditions. Grass cutters are herbivores and require a diet rich in grasses, leaves, and other plant matter. The young grass cutter feeds on milk from the doe until six weeks, when it is weaned. Supplementing their diet with commercial feeds or agricultural by-products can enhance growth and reproductive performance. Regular veterinary care and preventive measures are essential to maintaining the health and welfare of grass cutters. Vaccinations, parasite control, and hygiene protocols should be implemented to prevent disease outbreaks. Numerous success stories highlight the potential of domestic grass-cutting farming as a sustainable livelihood option. For instance, in Ghana, grassroots initiatives promoting grass-cutting farming have empowered rural women and improved household incomes. Similarly, in Cameroon, commercial grass-cutting

farms have emerged as profitable agribusiness ventures, contributing to food security and economic development.

- **Commercial Grass cutter Farming**

Commercial grass cutter farming, also known as cane rat farming, has emerged as a lucrative venture with increasing popularity across various regions. Globally, grass-cutting farming is said to be a highly profitable business in animal farming. Originating from West Africa, particularly Nigeria and Ghana, where it has been a traditional practice for centuries, commercial grass cutter farming is gaining traction due to its economic viability, nutritional value, and relatively low environmental impact. It is very easy, cheap to start, and easy to maintain. Commercial grass-cutting farming presents a promising opportunity for smallholder farmers, entrepreneurs, and agribusinesses seeking sustainable and profitable ventures. (Daily Trust, 2020). Below are the dynamics of commercial grass cutter farming, highlighting its opportunities, challenges, and strategies for success.

As consumers increasingly seek alternative protein sources, the demand for exotic meats like grass-cut meat is on the rise. This presents an opportunity for commercial grass-cutting farmers to tap into niche markets and capitalize on premium pricing. Commercial grass-cutting farming offers a viable income-generating opportunity for smallholder farmers and rural communities. By investing in grass-cutting farming enterprises, farmers can diversify their income streams and improve their livelihoods. Compared to conventional livestock farming, commercial grass-cutting farming has a lower environmental footprint. Grasscutters can be raised in relatively small spaces, minimizing land and resource requirements while reducing greenhouse gas emissions. Beyond meat production, commercial grass-cutting farming opens avenues for value addition. Farmers can explore opportunities to process grass-cut meat into sausages, burgers, or jerky, catering to diverse consumer preferences. Grasscutters are susceptible to various diseases and parasites, which can adversely affect production and profitability. Implementing biosecurity measures, regular health monitoring, and vaccination protocols are essential for disease prevention and control. Establishing reliable market linkages and distribution channels can be challenging for commercial grass-cutting farmers, especially in remote or underserved areas. Collaboration with local cooperatives, agribusiness networks, and market aggregators can facilitate access to wider markets. Numerous success stories underscore the potential of commercial grass-cutting farming as a sustainable agribusiness venture. For instance, in Nigeria, the Grass Cutter Farmers Association of Nigeria (GRAFAN) has been instrumental in promoting commercial grass cutter farming, providing training, market linkages, and advocacy support to its members. Similarly, in Ghana, the Kwame Nkrumah University of Science and Technology (KNUST) has pioneered research and training initiatives in grass-cutting farming, empowering smallholder farmers, and promoting entrepreneurship in rural communities.

METHOD OF RAISING HEALTHY AND DISEASE FREE GRASSCUTTER

Grasscutter farming, also known as grasscutter rearing or agouti farming, is gaining popularity due to its potential as a lucrative agribusiness venture. Grasscutters, scientifically known as Thryonomys swinderianus, are rodents native to Africa, prized for their meat, and relatively easy to manage compared to other livestock (Pritchett, 2010). However, ensuring the health and well-being of grasscutters requires careful attention to various aspects of their

husbandry. In this comprehensive guide, we'll explore the methods and practices necessary for raising healthy and disease-free grasscutters.

❖ **Suitable Habitat and Housing**

Creating an environment conducive to the natural behaviors and needs of grasscutters is essential for their health and welfare. Grasscutters can be kept in cages or pens, either indoors or outdoors, depending on the climatic conditions and available resources. The housing should provide adequate space for the grasscutters to move around freely, exhibit normal behaviors such as burrowing, and socialize with their companions.

❖ **Nutrition and Feeding**

A well-balanced diet is crucial for the health and productivity of grasscutters. In the wild, grasscutters primarily feed on grasses, leaves, roots, and occasional fruits. In captivity, their diet should replicate this natural feeding pattern as closely as possible (Wood, 2008). The primary components of a grasscutter diet include:

- ***Grass:*** Fresh grass or hay should form the bulk of the diet. Grasses such as Napier grass, elephant grass, Guinea grass, or Congo grass are suitable options.
- ***Leafy Vegetables:*** Supplement the diet with a variety of leafy greens such as kale, spinach, cabbage, and lettuce. These provide essential vitamins and minerals.
- ***Roots and Tubers:*** Offer roots and tubers like sweet potatoes, cassava, yams, or carrots as additional sources of carbohydrates.
- ***Commercial Pellets:*** Commercial grasscutter pellets formulated specifically for their nutritional needs can be provided to ensure they receive all essential nutrients.
- ***Fresh Water:*** Clean, fresh water should be available at all times to prevent dehydration and aid digestion.

❖ **Hygiene and Sanitation**

Maintaining cleanliness and hygiene in the grasscutter housing is crucial for preventing the spread of diseases and ensuring the well-being of the animals. Regular cleaning and sanitation practices should include:

- Removing soiled bedding and feces daily to prevent the buildup of waste and ammonia odors.
- Disinfecting cages or pens regularly using appropriate disinfectants to kill bacteria, viruses, and parasites.
- Providing clean, fresh bedding material such as hay or straw to keep the environment dry and comfortable.
- Practicing good personal hygiene when handling grasscutters to prevent the transmission of diseases between animals and humans.

❖ **Disease Prevention and Control**

Preventing diseases is essential for maintaining the health and productivity of grasscutters. Some key disease prevention and control measures include:

- ***Quarantine:*** New grasscutters should be quarantined for a period of time before introducing them to the existing population. This helps prevent the spread of infectious diseases.
- **Vaccination:** Consult with a veterinarian to develop a vaccination program tailored to the specific disease risks in your area. Common vaccines may target diseases such as pneumonia, enteritis, and leptospirosis.
- ***Parasite Control:*** Implement a parasite control program to prevent infestations of external parasites like ticks, fleas, and mites, as well as internal parasites such as worms. This may involve regular deworming and the use of appropriate insecticides or anthelmintics.
- ***Biosecurity Measures:*** Implement biosecurity measures to prevent the introduction and spread of diseases onto the farm. This may include restricted access to the farm, proper disposal of carcasses, and disinfection protocols for vehicles and equipment.

❖ **Routine Health Monitoring and Management**

Regular health monitoring and management are essential for detecting and addressing any health issues promptly. This may include:

- ***Regular Health Checks:*** Conduct regular health checks on the grasscutters to assess their overall condition, identify any signs of illness, and monitor their growth and development.
- ***Record Keeping:*** Maintain detailed records of each grasscutter's health status, vaccination history, treatments received, and any significant observations. This information is valuable for tracking trends, identifying potential health issues, and making informed management decisions.
- ***Prompt Veterinary Care:*** Seek veterinary assistance promptly if any grasscutter shows signs of illness or injury. Early intervention can help prevent the spread of disease and improve treatment outcomes.

❖ **Environmental Enrichment and Behavioral Management**

Providing environmental enrichment and promoting natural behaviors are important for the mental and physical well-being of grasscutters. This may include:

- Providing hiding places, platforms, and tunnels to encourage exploration and physical activity.
- Offering chew toys, branches, or gnawing blocks to satisfy their natural instinct to chew and gnaw. Rotating toys and enrichments regularly to prevent boredom and stimulate interest.

❖ **Breeding Management and Genetic Selection**

If breeding grasscutters for commercial purposes, careful breeding management and genetic selection are essential for producing healthy, productive offspring. Considerations include:

- ***Selecting Breeding Stock:*** Choose breeding stock from healthy, disease-free animals with desirable traits such as good temperament, high growth rates, and reproductive performance.
- ***Breeding Practices:*** Monitor breeding pairs closely during mating and pregnancy to ensure successful reproduction and optimal health outcomes for both parents and offspring.
- ***Genetic Diversity:*** Avoid excessive inbreeding by maintaining a diverse breeding stock and periodically introducing new genetic lines to the population.

Raising healthy and disease-free grasscutters requires a holistic approach that encompasses various aspects of their care, including habitat management, nutrition, hygiene, disease prevention, health monitoring, and breeding management. By implementing sound management practices and providing proper care, grasscutter farmers can optimize the health, welfare, and productivity of their animals, ultimately leading to a successful and sustainable farming enterprise.

IMPORTANCE OF GRASSCUTTER FARMING

- **Economic Benefit:** Grasscutter farming offers a viable source of income for farmers, particularly in regions where alternative livelihood options are limited. The demand for grasscutter meat is steadily increasing due to its taste, nutritional value, and cultural significance. As a result, grasscutter farming provides an opportunity for farmers to generate revenue and improve their economic status (Hoffmann, 2010).

- **Nutritional Benefits:** Grasscutter meat is highly nutritious, rich in protein, vitamins, and minerals. It serves as an essential source of dietary protein, particularly in regions where access to other protein sources such as poultry or beef is limited. By raising grasscutters, farmers contribute to addressing malnutrition and improving the nutritional status of communities, especially in rural areas.

- **Sustainable Agriculture:** Grasscutter farming is environmentally sustainable and requires minimal resources compared to traditional livestock farming. Grasscutters are herbivores and primarily feed on grasses, leaves, and other plant materials, reducing the pressure on arable land for grain production. Additionally, grasscutter farming produces less greenhouse gas emissions and requires less water and feed inputs compared to other livestock species.

- **Livelihood Diversification:** Grasscutter farming provides an opportunity for diversifying livelihoods, particularly for small-scale farmers. It can be integrated into existing agricultural systems or operated as a standalone enterprise. The relatively low initial investment and management requirements make it accessible to a wide range of farmers, including women and youth, contributing to rural development and poverty alleviation (Osei-Amponsah, Alhassan & Yeng, 2016).

- **Cultural Significance:** Grasscutter meat holds cultural significance in many communities, where it is often considered a delicacy and served during special occasions or festivities. By preserving and promoting grasscutter farming, farmers contribute to the preservation of cultural heritage and traditions associated with the consumption of grasscutter meat.

METHODOLOGY

Descriptive survey design was used in carrying out the study. The study was conducted in Akwa Ibom State. The population of the study comprised all professional agriculturalists in Akwa Ibom State. Stratified random sampling technique was used to select 50 agriculturalists from each of the three senatorial districts which gave a total of 150 respondents used for the study. The instrument used for data collection was a research questionnaire tagged "MENTAL RETARDATON and COGNITIVE BEHAVIOURAL THERAPHY QUESTIONNAIRE (MRCBTQ). Face and content validation of the instrument was carried out by an expert in test, measurement, and evaluation in order to ensure that the instrument has the accuracy, appropriateness, and completeness for the study under consideration. The reliability coefficient obtained was 0.76, and this was high enough to justify the use of the instrument. The researcher subjected the data generated for this study to appropriate statistical techniques such descriptive analysis to answer research questions.

RESULTS AND DISCUSSIONS

Research Questions 1: The research question sought to find out the extent of grass cutter farming in Akwa Ibom State. To answer the research question percentage analysis was performed on the data, (see table 1).

Table 1: Percentage analysis of the extent of grass cutter farming in Akwa Ibom State.

EXTENTS	FREQUENCY	PERCENTAGE
VERY LOW EXTENT	121	80.66**
LOW EXTENT	29	19.33*
TOTAL	**150**	**100%**

** The highest percentage frequency
* The least percentage frequency

SOURCE: Field survey

The above table 1 presents percentage analysis of the extent of grasscutter farming in Akwa Ibom State. From the results of the data analysis, it was observed that the highest percentage (80.66%) of the respondents affirmed that the extent of grasscutter farming in Akwa Ibom State is very low, while the least percentage (19.33%) of the respondents stated that the extent of grasscutter farming in Akwa Ibom State is low.

Research Questions 2

The research question sought to find out the ways of rearing healthy grass cutter. To answer the research question percentage analysis was performed on the data, (see table 2).

Table 2: Percentage analysis of the ways of rearing healthy grass cutter.

WAYS	FREQUENCY	PERCENTAGE
Nutrition and Feeding	134	17.65**
Disease Prevention and Control	121	15.94
Hygiene and Sanitation	116	15.28
Suitable Habitat and Housing	112	14.75
Breeding Management and Genetic Selection	101	13.31
Environmental Enrichment and Behavioral Management	92	12.12
Routine Health Monitoring and Management	83	10.94*
TOTAL	759	100%

**The highest percentage frequency
*The least percentage frequency

SOURCE: Field survey

The above table 2 presents the percentage analysis of the ways of rearing healthy grass cutter. From the result of the data analysis, it was observed that "Nutrition and Feeding" 134(17.65%) was rated the way of rearing healthy grass cutter with the highest percentage frequency, while "Routine Health Monitoring and Management" 83(10.94%) was rated the least.

CONCLUSION

In conclusion, ensuring the health and disease-free status of grasscutters is paramount for successful domestic and commercial farming ventures. Implementing proper sanitation, nutrition, and biosecurity measures is essential for maintaining the well-being of the livestock. By focusing on these aspects, farmers can optimize productivity and profitability while meeting the growing demand for grasscutter meat. Grasscutter farming presents a sustainable and lucrative opportunity for income generation, particularly in regions where it is culturally and economically significant. Therefore, investing in research and education to enhance farming practices is crucial for the long-term success of the industry.

RECOMMENDATIONS

- Provide comprehensive training programs and educational resources to grasscutter farmers on best practices for rearing healthy and disease-free grasscutters. This should include topics such as proper sanitation, nutrition, and biosecurity measures.
- Establish accessible veterinary services specifically tailored to grasscutter farming. This includes regular health check-ups, vaccination programs, and disease surveillance to detect and mitigate potential outbreaks early.
- Design and Set Up Suitable Housing. Construct spacious, well-ventilated cages or pens with proper drainage and protection from extreme weather conditions.

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