THE IMPORTANCE OF HEALTH MANAGEMENT OF GRASSCUTTERS IN CAPTIVITY IN DAVID MARK FARM AT AKPA-OTOBI, BENUE STATE, NIGERIA.

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ABSTRACT

Health problems posed a great danger to management of grass-cutter farms. This has led to mortality of grass-cutters under captive rearing in David Mark grass-cutter farm at Akpa-Otobi. The period of study was between 2003 and 2006. Further study and evaluation are still going on between 2007 and 2010. Twenty specimens of dead and dying grass-cutters were used for the study. Total post- mortem examination was performed on the carcasses. Postmortem finding was limited to gross pathological lesion and faecal sample analysis using direct smear method under the microscope (x40 objectives x 10 ocular), Onyeanusi et al, (2001). It was discovered that mortality occurred in both sexes of different age groups of the grass-cutters in captivity. Such other factors identified included stress, trauma, dystocia, respiratory distress (pneumonia), intestinal coccidiosis, helminthiasis, toxemia, abscess and injury resulting from fighting and aggression. It is noted that adequate husbandry, proper nutrition and total cleanliness would assist in reducing cases of stock mortality.

Keywords: *Grass-cutter, husbandry, parasites, mortality, post-mortem.*

INTRODUCTION

Generally, there is relationship and interaction between health status, local environment and husbandry techniques in keeping animals in captivity and productive life, Onyeanusi et al, (2001). This potent a clearer understanding of wild animal diseases which may be studied in captivity with the grass-cutter as typical example. Furthermore, domestication deprives wild animals of their normal unlimited and unrestricted free access to natural food items, minerals and preferred habitats. Actually, in the wild, they know when to move from an unsuitable habitat to a desired one in order to avoid disease and pests infestations.

Ajayi, (1986) discovered prevalence of ascardidasis and ancylostomiasis in rainy season among wild animals in Jos Plateau in Nigeria.

Fagbemi and Tomori, (2003) reported that rift value fever affect livestock among other domesticated animals in Nigeria. However *dermatophyte* infections caused by *Trichophyton rubrum* are usually limited to the superficial keratinized layer of the epidermis. In spite of the fact that they are not deeply rooted into the tissues, they still elicit body immune responses, Grappe and Edward, (2004). Also, Jasper and lewis, (2005) indicated in their report that coccidimycosis is a chronic fatal disease that gains entry deep into the animal tissues and is caused by *coccidiodes immitis*. It was believed to have enlarged the animal tissues and made mobility difficult. In addition, parasites constitute health and social economic problems in domestic animals undergoing domestication for either homestead or commercial rearing. Odoh, (2002) reported the occurrence of

dermatomycosis (ringworm) in some bush rats in Benue State of Nigeria.

MATERIALS AND METHODS

This study was carried out on dead and dying grass-cutter from David Mark grass-cutter farm located at Akpa-Otobi, Benue State.

Otobi is located on latitude 826N° longitude 0453E° and the altitude of 256m above sea-level, Odeh et al (2004). It has a derived Savanna type of vegetation with bush fallows, arable lands, woodlands and perennial streams. Odeh, (2002) indicated the mean annual rainfall to be between 800mm-1200mm while the mean monthly maximum and minimum temperatures were 34.6 C° and 27.1 °C, respectively.

Examinations of twenty carcasses of the grass-cutters were carried out; consisting of 15 females and 5 males. Concise clinical history to the point of death of each specimen was obtained from the farm's records. The full information included sex, weight, and age in captivity, breeding and medication records. In addition the dead animals were presented for post-mortem examination once death of grass-cutter occurred.

The post-mortem examinations were performed at Ak-vertinary consult in Otukpo and at clinical Microbiology and *parasitology* unit, Federal Medical Centre, Makurdi. Gross pathological changes in the organs were observed. Faecal samples were also examined using the direct smear method under the microscope (x40 objectives x10 occular). Content of the stomach, small intestines and the large intestine, especially the caecum were also analyzed using the same direct smear method. Isolated parasites were identified using the method of shah-Fischer (1989). The entire body was also inspected for presence of ecto-parasites before the post-mortem examination was carried on each specimen.

RESULTS AND DISCUSSION

The different clinical parameters of the dead grass-cutter specimens used for the post-mortem examinations are shown below in Table I. It is noteworthy that the female body weight at dead varied between 0.52kg and 3.75kg.

Table I: Clinical parameters of the carcass specimens used in the study.

Year	Specimen	Date of post-Mortem exam	Age (Months)	Sex	Body Weight (kg)	Present clinical signs
2003	A1	12/June	17	F	1.80	Prolong labour
	A2	8/October	9	F	0.85	Multiple skin wound
	A3	12/October	11	F	1.20	Multiple skin wound
2004	B4	13/October	30	F	4.50	-
	B5	14/October	6	F	0.93	-
	B6	14/October	6	M	0.90	-
	B7	14/October	18	F	3.10	Breathing difficulty
	B8	10/December	32	M	5.00	-
2005	C9	13/March	28	F	3.50	Prolong labour

	C10	19/April	2	M	0.98	-
	C11	26/April	26	F	3.40	-
	C12	20/November	2	F	0.90	-
	C13	20/November	4	F	0.25	-
	C14	21/November	12	M	1.50	-
2006	D15	4/January	12	M	1.30	-
	D16	9/January	10	M	0.60	Cachexia
	D17	9/January	15	F	1.80	-
	D18	26/Januray	28	F	2.70	Multiple skin abscess
	D19	11/September	9	F	0.95	-
	D20	5/November	6	F	0.90	-

NOTE: M = Male

F = Female

A1-A3---B4-B8---C9-C14---D15---D20 = Twenty carcass specimens used in the study against the year of evaluations.

It indicted that mortality occurred among the baby, weaner and adult grass-cutter. However, mortality was high among the weaners while some gestating females died in parturition-related complications. This occurred across sexes.

TABLE 2: Major Diseases/ Disease conditions identified through post-mortem examination on specimens of grass-cutter carcasses (2003-2006).

Case	Sex	Gross pathological lesions/clinical signs	Diagnosis (Tentative)
A1	F	Enlarge genital, distended abdomen presence of foetus in the uterus	Dystocia
A2	F	Multiple skin wounds	Trauma and secondary infections
A3	F	Multiple skin wounds	-do-
B4	F	Respiratory Distress	-
B5	F	Hepatized lung tissue	Pneumonia/ snuffles
B6	M	Respiratory Distress	Pneumonia/ snuffles
B7	F	Respiratory Distress	Pneumonia/ snuffles
B8	M	Varying grayish nodules in the lung	Aspergillosis
C9	F	Prolong labour, swollen genital, foetus in uterus, vaginal bleeding	Dystocia
C10	M	Cachexia	Malnutrition under-nutrition
C11	F	Presence of Adult tapeworm	Helminthiasis
C12	F	Cachexia	Malnutrition under-nutrition
C13	F	Cachexia	-do-
C14	F	Rough, shrunken abnormal kidney	Chronic Nephritis
D15	M	Food particles seen in trachea	Aspiration Pneumonia

D16	M	Respiratory distress, nasal discharge	Respiratory distress
D17	F	-do-	-do-
D18	F	Soft and watery faeces, multiple intestinal Hemorrhage; also swollen eyes	Intestinal coccidiosis conjunctivitis
D19	F	Respiratory distress	Pneumonia/ snuffles
D20	F	-do-	-do-

Clinical signs as coughing, sneezing and mucous nasal discharge were some of the respiratory distresses noticed and also predominantly the cause of death among the grass-cutters throughout the duration of the study period. Okorie, (2004) reported that snuffles *(Pneumonia postenrellisis)* is respiratory disease of rodents particularly during the cold season.

It was also observed that dystocia problem (birth problem) was associated with over-sized foetus, prolonged labour and general weakness.

Helminthiasis is also a major post-mortem finding. Close observations revealed isolation of three types of worms from the gut content of the dead grass-cutter specimens. The preliminary investigations indicated tapeworm *(Taenia Sp)*; roundworm *(Ascaris Sp)* and whip worm *(Trichuris Sp).* Poor nutrition has been identified as the cause of most of these diseases, Reveron and Topps, (1970).

Below is a table showing the frequencies of occurrence of the diseases/ disease conditions among the reared captive grass-cutter between 2003 and 2006.

TABLE 3: Frequency of occurrence of diseases/disease conditions between 2003 and 2006.

Diseases/Disease Condition	Frequency %
Intestinal coccidiosis	4.80
Respiratory distress/Pneumonia	23.80
Traumatic injury	9.50
Helminthiasis (worms)	23.90
Poisoning (toxemia)	5.00
Septicaeia	5.20
Nephitis	5.10
Aspiration Pneumonia	4.80
Dystocia	19.10

From the table 3 above, dystocia was next to respiratory distress and helminthes in relative frequency of occurrence during the study, these caused heavy losses to the stock.

Other diseases observed whose frequency were not accurately measured were conjunctivitis (swollen eyelids, discharge from eyes); cannibalism (Adult grass-cutter eating the younger ones); paralysis of hind firms (inability to move the limbs); loss of Appetite; vaginal bleeding (through still birth) among others. These findings are not at variance with those of Onyeanusi and Famoyin, (2004)

CONCLUSION

These results indicates that good hygiene, routine inspection of the cages/hutches and the animals are necessary preventive approach to disease outbreak. Balanced nutrition is necessary requirement to grass-cutters.

Continuous research into nutrition and proper care are also important if advancement or improvement in grass-cutter farming is to be sustained.

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