

Foetal Wastage and Some Diseased Conditions in Sheep Slaughtered at Gwagwalada Abattoir, Abuja, Nigeria

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ABSTRACT

The study was conducted on 1,573 pregnant ewes slaughtered in Gwagwalada abattoir between September 1st to October 30th, 2008. The study was conducted to investigate foetal wastages associated with the slaughter of pregnant ewes and to detect some diseases or lesions associated with slaughtered sheep at the abattoir. The results obtained from the investigation revealed overall average foetal recovery rate of about 388 foetuses (24.7 %). The slaughtering of pregnant animals was significantly high in September (26.4%) than in October (23.3). Pathological lesions and diseased conditions found to be associated with slaughtered sheep at the abattoir included: Abscesses 6.5 % cirrhosis of the liver 54.0 %, helminthiasis 5.0 %, mastitis 0.1 %, pneumonia 10.0 % and tuberculosis 0.57 %. Statistical analysis revealed significant differences ($p > 0.05$) between the number of foetuses encountered. It is evident from the results of this study that the slaughter of pregnant ewes adversely effected the economics of sheep production in the areas covered by this study. It is therefore required that appropriate government legislation and policy efforts are required for effective monitoring and dissemination of information relevant to prevent unwholesome practices and prevent certain diseases which could be of enormous economic and public health significance in Nigeria.

Key words: Foetal wastage, diseases, sheep, Gwagwalada abattoir

INTRODUCTION

Nigeria is a country endowed with human population of over 140 million but with relatively low number of food animals. Demographic figures indicate that sheep contribute to about 11% of the total protein required for our over-increasing populace (Bourn *et al.*, 1994). About 90% of the 22.1 million sheep in Nigeria are owned by the rural populace, and only the remaining 10% are owned by government and research farms (FLD, 1992). These animals survive indifferent geographical areas, and are widely distributed, in rural, urban and peri-urban areas of Nigeria (Gefu and Adu, 1982). The distribution is skewed with over 70% of the total sheep population concentrated within the Guinea and Sudan savannah zones. In view of the advantages of the sheep been suppliers of milk and meat, they also have ease of acquisition, good adaptability, rapid growth and high prolificacy. This makes their management easy and hence are readily available for disposal when quick cash are required especially during festive periods (FLD, 1992).

Several factors contribute to the poor reproductive performance of our indigenous sheep, although undue emphasis has been placed on poor genetic composition, poor nutrition, improper management practices and host of others (Garba *et al.*, 1992). Little attention is given to foetal wastages and some diseases of sheep which could lead to enormous economic losses and colossal reduction in global protein intake (Bourn *et al.*, 1994., Dusai *et al.*, 2005). Pregnancy wastage and associated pathological conditions or diseases of small ruminants have been documented over the years in Australia, Philippines, Mali and Nigeria (Rogers *et al.*, 1972; Dusai *et al.*, 2005).

In Nigeria, slaughter of pregnant sheep is partly encouraged by the apparent weight gain of females over males, the prolonged absence of definite government policy or law prohibiting the slaughter of pregnant animals for meat, total collapse of ante-mortem inspection facilities of animals before slaughter (Garba *et al.*, 1992; Dusai *et al.*, 2005). The objective of the present study is to determine foetal wastages in slaughtered sheep in Gwagwalada abattoir and to investigate some diseases of sheep in Gwagwalada, Abuja, Nigeria. This would provide information useful in developing strategies for the control and for boosting sheep production in the study area.

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MATERIALS AND METHODS

Study area

The study was conducted at Gwagwalada abattoir and lasted for about 60 days from September 1st to October 30th, 2008. This period was chosen as most appropriate for this study as most animals are slaughtered during this period. The abattoir is located in the north eastern part of Gwagwalada. It has a land mass of about 65 km² and lies between longitude 6°, 50 E to 7°, 12 E and latitude 8°, 55 N to 9°, 15 N at the northern part of the municipal area council, in the guinea savannah zone of Nigeria.

Data collection

The abattoir was visited and the daily slaughters of the ewes were recorded and lesions of some common diseases were obtained from the abattoir between 1st September to 30th October, 2008. The samples were obtained during slaughter peak periods between 6:30 am to 9:30 am in the morning from Mondays through Sundays of the week. The diagnoses were confirmed through laboratory tests as described by Umar *et al.*, 2006.

Foetuses

During evisceration at the abattoir, the butchers normally discard the uteri of the slaughtered animals which were collected in plastic buckets and transported to the laboratory for examination. They were examined individually for the presence of foetuses, on the bench incision was made with scalpel blade which was made at the greater curvature of the uterus then medially to the uterine body. The foetuses were removed by gloved hand and recorded appropriately as described by Umar *et al.* (2006).

Diseased conditions

Vital organs such as the liver, heart, kidneys, lungs, trachea, intestines, lymph nodes and spleen were collected and examined using visual and clinical examination for enlargement, abscesses, gross-lesions, presence of parasites or tuberculous lesions. Fecal samples were collected from gastrointestinal contents and examined for the presence of helminthes eggs using zinc sulphate floatation methods which were used in light microscope under oil emersion objective lens ($\times 40$) (Umar *et al.*, 2006), tuberculosis lesions were detected by presence of lesions in the liver and kidney. The mammary glands were examined for hardness, and the milk samples collected and tested for presence of microorganisms by accepted biochemical methods (Baron and Finegold, 1990). The diseases and conditions were recorded for both the foetuses and the dam.

Statistical analysis

The result obtained were subjected to statistical analysis using descriptive statistics involving percentages, averages and means. The data generated were further subjected to students t-tests using computer special package, for social sciences (SPSS) version 9.0 for windows 2002.

RESULTS

The monthly records of foetuses recovered from ewes at the Gwagwalada Municipal abattoir were assessed. The major findings obtained in this study were shown in Table 1. The results indicated that more sheep (884) were slaughtered in October than the 689 sheep slaughtered in September. From the total 689 sheep slaughtered in September, 182 (26.41%) were pregnant, while from the 884 sheep slaughtered in October, 206 (23.30%) were pregnant. The overall percentage of pregnant sheep slaughtered from the 1,573 sheep to the abattoir sheep was (24.66%). There was significant differences between the pregnant and the non pregnant ewes slaughtered ($p > 0.05$).

Table 1. Monthly records of foetal wastages at the Gwagwalada municipal abattoir

Month	No. of females slaughtered	No. not pregnant	No. pregnant	% pregnant
September	689	507	182	26.41
October	884	678	206	23.30
Total	1,573	1,185	388	24.66
Mean	786.50 \pm 137.89	592.50 \pm 120.92	1.5 \pm 3.87	
SEM	\pm 97.50	\pm 85.50	0.040	
t-test	8.067	7.677	3.750	($p > 0.05$)

Table 2 shows the prevalence of diseased conditions encountered in slaughtered ewes at Gwagwalada Municipal abattoir. The results indicated that 68 (4.32%) of animals investigated had abscess. Other diseases and

conditions diagnosed include: liver cirrhosis 103 (6.54%). Helminthosis 79(5.02%), mastitis 8(0.05%), pneumonia 157(9.98%) and tuberculosis lesions 9(0.057%). There is significant differences between incidences in October than in September ($p>0.05$) when t-test was used.

Table 2. Prevalence of pathological conditions or diseases encountered in slaughtered ewes in Gwagwalada municipal abattoir

Month	Diseases encountered					
	Abscess	Liver cirrhosis	Helminthiasis	Mastitis	Pneumonia	TB lesions
September	17	37	39	3	80	7
October	51	66	40	5	77	2
Total prevalence	68(4.32%)	103(6.54%)	79(5.02%)	8(0.05%)	157(9.98%)	9(0.57%)
t-test	2.00	3.55	79.00	4.00	552.33	1.80

$p>0.05$

DISCUSSION

The results obtained from the present study indicated that foetal wastages in slaughtered sheep in Gwagwalada abattoir were high. This enormous rate of foetal wastages encountered may poses major economic threat to the success of sheep production in Nigeria. The overall foetal recovery rate was 24.66%. This value was higher than that obtained by Dusai *et al.*, 2005 and Umar *et al.*, 2006 which obtained foetal recovery rate in sheep of 5.05 and 11.06% in Zaria and Sokoto respectively. The high incidence of foetal wastages recorded in this environment could be attributed to ignorance by the farmers. The lack of infrastructures in our abattoirs by to detect pregnant animals before slaughter has contributed immensely to this high rate of slaughter of pregnant sheep. Appropriate government attention is there by required curb this problem.

It was also indicated that more sheep (884) were presented for slaughter in October than in September (689). This concurs with the works of Mathew *et al.* (2005) whose study recorded higher incidences of slaughtered sheep during this period. Our study coincided with the festive period of 'sallah' which was in the month of October; this observation may be attributed to greater demand for males due to their apparently increased in their body weight. In most parts of the world, males are more often offered for slaughter. It is a known fact that consumer demand for meat increases with religious or festive periods and other social ceremonies. Therefore more animals could be presented for slaughter in this period to the probably urgent pressing financial need of the farmers. More so, higher profit margin and hence economic gains and were more frequently realised during these periods (Umar *et al.*, 2006). The possibility of selling apparently healthier or pregnant animals and this practice is believed to still linger and hence diminishing sheep population in Nigeria. Several factors, ranging from ignorance on the parts of the farmers, lack of proper ante-mortem inspection and absence of definite government policy could be responsible for the slaughter of pregnant animals.

From the various diseases encountered, the highest prevalence was that of pneumonia (9.98%) which is a very common disease encountered in small ruminants in Nigeria (Umar *et al.*, 2006). The other diseased and conditions encountered with various prevalence include: liver cirrhosis, helminthosis, abscesses and mastitis. These diseases and endemic in our country and could be of both economic are public health significance and man therefore stands risk of getting infected with virulent strains of these diseases. The prevalence rates were higher than that obtained by Wilson (1960) in Mali. The increasing rise in patterns of the number of diseased cases recorded in this study is likely to be a reflection of a rise in the patterns of occurrence of diseases of sheep. This could be likely associated with lack of strategic medications, neglect of management practices as well as prompt prophylactic and therapeutic measures which were grossly inadequate.

CONCLUSION

The objectives of this research have been greatly achieved. We were able to determine the rate of prevalence of foetal wastage in slaughtered sheep at Gwagwalada municipal abattoir, determine the common post mortem diseases in sheep. Further studies is recommended to estimate foetal losses in other animals such as goats, cattle, camel, pigs, rabbits or other animals and to determine the economic losses associated with foetal wastage. This will go a long way in educating the populace and institution of appropriate legislation to curb this unwholesome practice in Nigeria.

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