

PRELIMINARY STUDY ON OCCURRENCE OF POLYTHENE BAGS AND OTHER FOREIGN BODIES: RELATED COMPLICATION IN SHEEP AND GOAT ASSOCIATED WITH POOR WASTE DISPOSAL IN DAMATURU TOWN, YOBE STATE NIGERIA

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ABSTRACT.

The study was conducted at Damaturu ultra-modern abattoir in Yobe state from August – November, 2014. Total of 7916 sheep and goats were recorded in the abattoir before slaughter. The overall prevalence of polythene bags was $n=1685$ (21.21%) and $n=158$ (1.99%) for other foreign bodies which include ropes, leather, sacks, hair and threads. The frequency of occurrence of polythene bags and other foreign bodies was 42.32% in sheep, 57.27% in goats and 27.22% in sheep and 72.78% in goats respectively. The study also revealed a higher presentation of female goats 461 (27.36%) and 331 (19.64%) of female sheep than male goats 191 (11.34%) and 146 (8.66%) of male sheep at 3-4 year of age. This also indicated that, sex and age have interaction in ingestion of these materials. The present study revealed that presence of polythene bags and other foreign bodies are higher in female sheep and goats at the age of 3-4 years. This may be as the result of high nutritional demand during pregnancy, lactating and period prior to mating

INTRODUCTION

Environmental pollution is one of the growing problems for grazing animals due to absence of recycling industries, cleaning of environment cultures, improper disposal of plastic bags; Plastic bags have been introduced in 1970's (Williamson, 2003) and gained an increasing popularity amongst consumers and retailers. They are available in huge numbers and varieties across the world. It is estimated that around 500 billion plastic bags are used every year worldwide (Spokas, 2007; Geographical, 2005). This widespread utilization is attributed to their cheapness and convenience to use. The vast majority of these bags are discarded as wastes usually after a single use. It is also believed that after their entry into environment, bags can persist up to 1000 years without being decomposed by sun light and/or microorganisms (Stevens, 2001; UNEP, 2005a). Accumulation of plastic bag wastes causes environmental pollution that can be manifested in number of ways. One of the problems is deterioration of natural beauty of an environment (Anthony, 2003). Another common problem associated with these wastes is death of domestic and wild animals. plastic free grazing animals eat plastic bags especially in towns and villages. These plastic bags are indigestible and their accumulation in the rumen of grazing animals may lead to adverse effect on health (Ghurashiet *et al.*, 2009). Animals with nutritional deficiencies may also ingest various

types of foreign bodies deliberately. The indiscriminate feeding habits and mineral deficiency makes them susceptible to inadvertent ingestion of foreign materials. Rumen impaction due to plastics, ropes and leather in the rumen leads to anorexia, decreased production and progressive loss of body condition (Tyagi and Singh, 1993). In semi arid and arid region of Nigeria, small ruminants are kept under an extensive type of management are likely to be exposed to the ingestion of indigestible garbage from various sources due to a wide spread environmental contamination with plastic bags, absence of policy to protect environment and frequent occurrence of drought that predispose animals to nutritional deficiency and pica (Abebe and Nuru, 2011). Therefore, present study was carried out to know the frequency of occurrence and their related complications in sheep and goat in order proffer solution.

MATERIAL AND METHOD

The study was conducted at Damaturu ultra-modern abattoir. To assess the prevalence of polythene bags and other foreign bodies a total of 7916 sheep and goat was examine from August to November, 2014 at Damaturumodern abattoir. Sheep presented for slaughter are identified by sex, species and age prior to slaughter. Age was determined by dental eruption method. After slaughter the rumens was removed and arepolythene bags and other foreign bodies obtained was collected and classified. Other

foreign bodies include rope, leather, sacks, hair and threads.

RESULT

From a total of 7916 animals, 3979 sheep (50.26%) and 3937 goats (59.73%) were examined for the presence of polythene bags and other foreign bodies. As presented in (table 1); overall number 1685(21.29%) were recorded with the presence of polythene and 158 (1.99%) with other foreign bodies of sheep 720(27.73), goats 965(57.27%) and sheep 43(27.22%), goats 115(72.78%) for polythene bags and other foreign bodies respectively. The polythene bags and other foreign bodies encountered and their frequency of occurrence with respect to, age, species and sex are presented in (Table 2). Age and sex were found to have highest interaction with polythene bags and other foreign bodies. The condition was found to occur more often in female sheep and goats at 3-4 years of age.

DISCUSSION

The study revealed an overall prevalence of 21.29% (n= 1685) of polythene bags and 1.99% (n= 158) of other foreign bodies in sheep and goats slaughtered at Damturu ultra-modern abattoir. Of these, the highest frequency recorded was in female sheep 19.64% and goat 27.63% at 3-4 years of age which is in consistent with the findings of Igbokwe *et al.*, (2003) who reported a prevalence rate of 19.3% in sheep in semi-arid region of Nigeria. Polythene bags and other foreign bodies occur more frequently in goats than sheep in this study which is contrary with that reported by Remi-Adewunmi *et al.*, (2004) which stated that rumen foreign bodies are less frequent in goat than in sheep due to their selective nature while grazing.

Igbokwe *et al.*, (2003), Roman Tiruneh *et al.*, (2010) reported a higher prevalence in female animals in this study, the same findings were observed. This may be associated with increase need of appetite of female animals during pregnancy, lactating and dry period prior to mating. The less occurrence of such cases in age less than 2 years may be as a result of the animal in this stage are mostly not over utilized in terms of lactating or at their maiden stage.

Conclusion

The excessive accumulation of such materials can cause many pathological conditions which can affect the rumen microflora leading to indigestion

and rumen impaction. This risk can be caused by the improper waste disposal in both the rural and the urban area. Livestock rearers should supplement their animals with the nutrient required if going out for grazing as lack of appetite causes the ingestion of such materials. Government should create awareness by mobilizing people of indiscriminate waste disposal as this pollute the environment and affect animals.

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Table 1: Frequency of polythene bags and other foreign bodies in animal slaughtered at modern abattoir, Damturu

Species of animal	Frequency of occurrence	
	Polythene bags	other foreign bodies
Sheep	720(42.73%)	43(27.22%)
Goat	965(57.27%)	115(72.78%)
Total	1685(100%)	158(100%)

Table 2: Percentage distribution of polythene bags and other foreign bodies based on age, species and sex

Age (year)	Species	Sex	Percentage distribution	
			Polythene bags	Other foreign bodies
<2	Sheep	M	31(1.84 %)	2(1.27 %)
		F	66(3.92 %)	8(5.06 %)
	Goat	M	39(2.31 %)	5(3.16 %)
		F	93(5.52 %)	12(7.59 %)
3-4	Sheep	M	146(8.66 %)	8(5.08 %)
		F	331(19.64 %)	11(6.96 %)
	Goat	M	191(11.34 %)	14(8.86 %)
		F	461(27.36 %)	20(12.67 %)
>4	Sheep	M	48(2.8 %)	5(3.16 %)
		F	98(5.82 %)	19(12.03 %)
	Goat	M	49(2.9 %)	21(13.39 %)
		F	132(7.83 %)	33(20.89 %)
Total			1685(100 %)	158(100 %)



Plate 1