

Awareness of foetal losses from Ruminants slaughtered at Lafia abattoir

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ABSTRACT

Ruminants are very useful animals yet, the production level is too low due to some constraints like foetal losses from the slaughtering of pregnant ones. Hence, this study was conducted to create more awareness as an instrument of eradication. Data on total number of animals, males, females and pregnant ones slaughtered were recorded. The sexes, weight and crown-rump lengths of the foetuses were also recorded. The sexes were determined visually, weights were estimated using a table scale and the crown-rump lengths were considered using a measuring tape. The data collected were analyzed using GLM although some values were further expressed in percentages and averages where applicable. The means were separated using LSD. The results showed significant mean value differences ($P < 0.05$). Roughly 40.6 cattle, 21.4 sheep and 106.2 goats were slaughtered weekly. Out of these values, there were 25.1 (66.1%) cows, 12.9 (60.1%) rams and 81.2 (76.1%) bucks. Pregnant ones were 1.26 (4.6%) cows, 2.56 (29.5%) ewes and 2.68 (10.1%) does with foetal losses of 0.62 (49.2%), 1.35 (52.7%) and 1.8 (67.2%) respectively. The values obtained for foetal weights (0.2 - 4.2kg, 0.2 - 0.8 kg and 0.1 - 0.5kg) as well as foetal crown-rump lengths (34.9cm, 22.3cm and 20.9cm) in cattle, sheep and goats respectively, revealed that cattle were at the first trimester while sheep and goats were at their second trimester. The total number of animals slaughtered weekly seems inadequate for the people and there was apparently low frequency of slaughtering pregnant ones but the rate of foetal losses was quite high. This awareness is expected to reawaken the interests of all stakeholders to eradicate this scourge in earnest.

Keywords: Abattoir, Awareness, Foetuses, Ruminants, Slaughter.

INTRODUCTION

Ruminants are very important to humans due to their capability to subsist on vegetations from non-arable lands. Consequently, they have been hunted by humans probably since 750,000 years ago. An archaeological findings show that cattle have been domesticated for about 8,500 years, sheep for at least 11,000 years and goats for about 9,000 years (Simpson, 1945). Since then, humans have depended on them for substantial quantities of food typically, the Bini tribe in Nigeria who regard meat as the king of food, Nomadic American Indian tribes who depend on them for clothing, shelter, weapons and utensils and the Masai tribes in East Africa who are almost as dependent on them for meat, milk and blood to drink as well as animal feed and many other industrial items (Church, 1993).

Unfortunately, the growth rate of ruminant production according to FAO (2005) is too slow to cope with the per capita requirements in Nigeria. The report stated that Nigeria livestock resources

that was estimated at 15 million cattle and 49 million sheep and goats, has annual growth rates of 0.8 and 2.9% respectively. Since the human population of the country stood at about 140 million with a growth rate of approximately 3% there would ever be a steady growth in meat demand. This phenomenon which attracted meat business huge profit, led to the undesirable practice of slaughtering breeding stock and pregnant animals in most abattoirs in Africa, particularly Nigeria (Taiwo *et al.*, 2006). More adversely, the distribution of these animals across the country is influenced by season, availability of pastures, prevalence of diseases and pests. Despite this however, over 90% of the cattle and 70% of sheep and goats are well spread across the Semi-arid ecological zone of the country (Muhammad *et al.*, 2008) where the herdsmen are forced to adopt nomadism/transhumanism with attendant demerits such as abortion and dystocia culminating in foetal losses.

With all mechanisms put in place by stakeholders to ameliorate these constraints to ruminant productivity, a 'scaring monster' – foetal losses from slaughtering of pregnant ruminants' emerged recently. Muhammad *et al.* (2008) recorded 46.94% lost of pregnant cows in Gombe, Maigandi *et al.* (2008) reported about 33.80% slaughtering of pregnant camels in Sokoto. In Kano, Muhammad *et al.* (2007) observed a daily slaughter of 34.0% pregnant ewes and 26.0% does. Similarly, Sanusi *et al.* (2006) discovered 61.4% slaughtered ewes and 57.9% does in Bauchi and Plateau States.

In the south-western part of the country, Taiwo *et al.* (2006) reported losses ranging from 6.4 to 10.3% among small ruminants. Earlier, Oyekunle *et al.* (1992) reported significant foetal death in Ogun State.

In a like manner, avoidable pregnancy lost to slaughtering of animals were estimated at 31% in does and 33.9% in ewes around the eastern region of Nigeria (Muhammad *et al.*, 2008; Wosu, 1988). More so, Ndi *et al.* (1990) reported 45% foetal wastages in Yaounde municipal abattoir and 52% in Bamenda both in Cameroun.

However, several reasons (though implausible) to justify the emergence of this 'scaring monster' have been advanced to include ignorance, urgent physiological needs (Garba *et al.* 1992), inefficiency of veterinary inspections, neglect of the appropriate legislations (Halle *et al.*, 1997) and compulsory culling (Abdullahi *et al.* 2008).

This evil deed could counter the genuine efforts of Animal Scientists amongst other stakeholders to bridge the gap between the demand and availability of animal proteins. Therefore, this study was carried out at Lafia abattoir, Nasarawa State, to create more awareness of this menace as a tool for eradication.

MATERIALS AND METHODS

This study was carried out at Lafia abattoir located in South Senatorial Zone of Nasarawa State, lying within latitude 08° 33'N and longitude 08° 32'E with an altitude of 181.53m.

The data were collected every day between 06:00hr and 11:00hr GMT, for a period of five weeks in the months of April and May. The total number of animals, males, females and pregnant ones slaughtered in the abattoir were recorded for cattle, sheep, and goats. Any moment a female was slaughtered, the uterus was dissected longitudinally for foetuses therein. The sexes, weights and crown-rump lengths of the foetuses were also recorded. Sexes of the foetuses were determined visually by the development of testicles in males and v-shape slit in females. However, those that were unidentifiable due to lack of these features were counted and randomized completely as males and females. The weights of the foetuses were estimated in kilograms (kg) using a dial spring table scale (Camry^R) and the crown-rump lengths of the foetuses were taken from the forehead to the rump in centimetres (cm), using a measuring tape (Butterfly^R).

The data obtained were subjected to analysis of variance using General Linear Model (GLM) of GenStat (2005) statistical package. Meanwhile, some values were further expressed in percentages and averages where applicable. The means separation was done using Least Significant Differences (LSD).

RESULTS AND DISCUSSION

Cattle, sheep and goats slaughter at Lafia abattoir are shown in table 1. The results showed that the total number of animals slaughtered were significantly different ($P < 0.05$) each week among the animals except among the weeks where cattle only were not significantly different ($P > 0.05$). Also, values of the total number of males slaughtered indicated significant differences ($P < 0.05$) among the animals except in sheep, where there were no significant differences ($P > 0.05$) among the weeks. Whereas, in the total number of females slaughtered, there were significant differences ($P < 0.05$) in the values of both among the animals and weeks. The observed insignificant differences in

Table 1: Cattle, Sheep and Goats slaughtered at Lafia Abattoir between April and May, 2008.

Parameters	Animals	Weeks					LSD
		1	2	3	4	5	
Total Number slaughtered	Cattle	37.3 ^y	40.9 ^y	42.0 ^y	42.9 ^y	42.0 ^y	7.58
	Sheep	22.4 ^x	28.7 ^x	20.3 ^x	19.7 ^x	18.3 ^x	
	Goat	104.1 ^z	22.7 ^z	105.7 ^z	103.7 ^z	97.3 ^z	
LSD		5.95					
Total Number of Males Slaughtered	Bulls	11.0 ^x	13.9 ^x	17.4 ^y	14.9 ^x	11.6 ^x	6.22
	Rams	12.0 ^x	14.9 ^x	12.0 ^x	14.1 ^x	11.6 ^x	
	Bucks	80.9 ^y	104.7 ^y	77.9 ^z	66.9 ^y	75.4 ^y	
LSD		4.91					
Total Number of Females Slaughtered	Cows	26.3 ^z	27.0 ^z	24.6 ^y	28.0 ^y	29.7 ^z	3.56
	Ewes	10.4 ^x	12.4 ^x	8.3 ^x	5.6 ^x	6.7 ^x	
	Does	20.6 ^y	18.0 ^y	27.9 ^z	36.9 ^z	21.9 ^y	
LSD		2.83					

^{x, y, z}: Values differently superscripted along the same vertical row are significantly different ($P < 0.05$);

LSD: Least Significant Differences

the values could be purely coincidental because Lafia abattoir operations are unstructured.

However in each case, the frequency of slaughtering cattle (40.6%), sheep (21.4) and goats (106.2) weekly, were too low to meet the current consumption level as reported by FAO (2004), Ikeme (1990) and Atenah (1984). Apparently, the number of goats slaughtered was comparatively higher than the numbers of cattle and sheep put together. This could be attributable to the degree of most Nigerians preferences for goat meat as reported by Ikeme (1990).

About 25.1 (66.1%) cows reflecting a ratio of two cows to one bull, 12.9 (60.1%) rams indicating a ratio of two rams to one ewe and 81.2 (76.1%) bucks representing a

ratio of two bucks to one doe were slaughtered. These findings are at variance with the report of Muhammad *et al.* (2008) in Gombe abattoir.

Table 2 shows the foetal losses from slaughtered cattle, sheep, and goats at Lafia abattoir. The value of total number of pregnant animals indicated significant differences ($P < 0.05$) between the animals and weeks. Also, there were significant differences ($P < 0.05$) in the values of number of male foetuses recorded for both animals and weeks. Meanwhile, in the number of female foetuses observed, there were no significant differences ($P > 0.05$) in cattle among the weeks but, all other values were significantly different ($P < 0.05$) from one another.

Table 2: Foetal Losses from Slaughtered Cattle, Sheep and Goats at Lafia abattoir between April and May, 2008.

Parameters	Animals	Weeks					LSD
		1	2	3	4	5	
Total Number of Pregnant Animals	Cows	1.7 ^x	1.1 ^x	1.3 ^x	1.1 ^x	1.1 ^x	0.66
	Ewes	3.9 ^y	3.1 ^y	2.1 ^y	2.0 ^y	1.7 ^x	
	Does	1.9 ^x	3.7 ^y	3.1 ^z	2.4 ^z	2.3 ^y	
LSD		0.63					
Total Number of Male Foetuses	Calves	1.1 ^x	0.6 ^x	0.4 ^x	0.6 ^x	0.7 ^x	0.74
	Lambs	2.3 ^y	1.9 ^y	1.1 ^y	0.9 ^y	1.0 ^y	
	Kids	1.4 ^x	3.0 ^z	2.3 ^z	1.6 ^z	1.6 ^z	
LSD		0.53					
Total Number of Female Foetuses	Calves	0.6 ^x	0.6 ^x	0.6 ^x	0.6 ^x	0.4 ^x	0.52
	Lambs	1.9 ^y	1.6 ^y	1.0 ^x	1.1 ^x	0.7 ^x	
	Kids	0.9 ^x	3.0 ^z	1.7 ^y	1.4 ^y	1.1 ^y	
LSD		0.55					

^{x, y, z} : Values differently superscripted along the same vertical row are significantly different ($P < 0.05$);

LSD: Least Significant Differences

This could be basically coincidental and partly due to the season (April/May) and its genetically and physiological influences.

It was discovered that in every 27 cows slaughtered, 1.26 (4.7%) was pregnant and 0.62 (49.2%) foetus was lost. Out of every 8 ewes slaughtered 2.56 (29.5%) were pregnant with 1.35 (52.7%) foetal loss and in every 25 does slaughtered 2.68 (10.1%) were pregnant that lost 1.8 (69.2%) foetus. The higher values recorded for sheep and goats could be probably due to their twinning capability superiority over cattle. There were seemingly commensurate proportions of approximately one to one sex ratio of all the foetuses lost, which is most likely due to randomization of the unidentified sexes in this study.

In any case, the rate of foetal losses observed was similar to the reports of Muhammad *et al.* (2008), Sanusi *et al.* (2006), Ataja *et al.* (1994) and Oyekunle *et al.* (1992).

The developmental stages of foetuses found in cows, ewes and does slaughtered at Lafia abattoir is presented in Table 3. The value of weights of male foetuses indicated no significant differences ($p > 0.05$) among all the animals in week 3 and among sheep and goats throughout the period. There were also

no significant differences ($P > 0.05$) in the values of weights of the female foetuses recorded in weeks 2 and 5 as well as among the sheep and goats in the study. Whereas, there were significant differences ($P < 0.05$) in the values of male foetal crown-rump lengths recorded for both animals and weeks except in week 3 and in goats. Similarly, there were significant differences ($p < 0.05$) in the values recorded for female foetal crown-rump lengths except among the animals in weeks 2, 4, 5 and among the goats only. The predominant significant value differences observed in cattle could be largely due to the comparative larger size and probably due to the stage of foetal development at slaughter of their dams.

The mean values obtained for foetal weights (0.3 - 4.2kg, 0.04 - 0.8kg and 0.1 - 0.5kg) as well as foetal crown-rump lengths (34.9cm, 22.3cm and 20.9cm) in cattle sheep and goats respectively revealed that cattle was at the early first trimester while sheep and goats were at their second trimester of physiological development as described by Church (1993). This could probably be why the dealers did not know that the dams were pregnant corroborating the ignorance reported by Abdullahi *et al.* (2008) and Garba *et al.* (1992).

These findings concur with the reports of Muhammad *et al.* (2008), Ndi *et al.* (1990) and Wosu (1988) that

foetal losses at Gombe, Cameroon, and Enugu abattoirs respectively, were at their first and second trimesters.

Table 3: Developmental Stages of Foetuses found in Cows, Ewes and Does Slaughtered at Lafia Abattoir between April and May, 2008.

Parameters	Animals	Weeks					LSD
		1	2	3	4	5	
Weight of Male Foetuses (kg)	Calves	4.2 ^y	1.4 ^y	0.5 ^x	2.5 ^y	2.4 ^y	1.30
	Lambs	0.8 ^x	0.4 ^x	0.2 ^x	0.2 ^x	0.3 ^x	
	Kids	0.1 ^x	0.2 ^x	0.3 ^x	0.5 ^x	0.3 ^x	
LSD		0.95					
Weight of Female Foetuses (kg)	Calves	3.9 ^y	0.3 ^x	2.2 ^y	2.2 ^y	0.7 ^x	1.37
	Lambs	0.2 ^x	0.4 ^x	0.2 ^x	0.8 ^x	0.04 ^x	
	Kids	0.2 ^x	0.3 ^x	0.4 ^x	0.4 ^x	0.2 ^x	
LSD		1.04					
Male Foetal Crown-rump lengths (cm)	Calves	71.7 ^z	30.6 ^x	16.2 ^x	37.0 ^y	35.4 ^x	18.10
	Lambs	32.7 ^y	26.4 ^x	22.5 ^x	18.0 ^x	20.8 ^x	
	Kids	12.8 ^x	18.6 ^x	19.2 ^x	28.1 ^x	23.7 ^x	
LSD		15.4					
Female Foetal Crown-rump lengths (cm)	Calves	46.9 ^y	16.7 ^x	39.7 ^y	31.7 ^x	23.5 ^x	14.19
	Lambs	19.4 ^x	28.8 ^x	19.7 ^x	23.0 ^x	11.5 ^x	
	Kids	21.4 ^x	23.3 ^x	27.0 ^{xy}	21.7 ^x	14.0 ^x	
LSD		13.71					

^{x,y,z} : Values differently superscripted along the same vertical row are significantly different (P<0.05);

LSD: Least Significant Differences

CONCLUSION

The frequency of slaughtering cattle, sheep and goats at Lafia abattoir is relatively too low to meet the demands of about 215,145 residents in Lafia town as estimated by 1991 Census. Little wonders then about the upsurge in the prices of beef, mutton and chevon beyond the reach of the people. Unfortunately, more cows were slaughtered indicating that parent breeding stocks are at risk. Unlike more rams and bucks that were slaughtered, reflecting the necessity of keeping more productive females in a herd instead of their compulsory culling.

It was discovered that the rate of foetal losses was very high even though the frequency of slaughtering pregnant ones appears relatively low. Sad enough, all the foetuses were found to be at their first and second trimesters of development. This level of losses may seem insignificant but a multiplier effects emanating from other abattoirs, will reveal a colossal economic loss, which could be capable of depleting the contributions of livestock sub sector to Gross Domestic Products of Nasarawa State in particular and Nigeria at Large.

The alarming rate of this “scaring monster” is high enough to draw the attention of all and sundry, with a view to eradicating it through strict legislations, effective veterinary services and more aggressive awareness schemes.

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