Nigerian J. Anim. Sci. 2023, 25 (1): 28-34

Foetal wastage in cows slaughtered in some selected abattoirs in Kaduna state

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Target Audience: *Veterinarians, Animal Scientists, Butchers, Farmers*

Abstract

A study was conducted to determine foetal wastage among cows slaughtered in three (3) local government areas of Kaduna State, namely; Sabon Gari, Jema'a and Kaduna South abattoirs. A total of 166,924 cattle were slaughtered in the abattoirs from year 2015-2019 and among which were 70,180 and 7,341 total cows slaughtered (TCS) and total pregnant cows slaughtered (TPCS), respectively. The data collected were subjected to descriptive analysis using Statistical Package of SAS to generate frequencies and percentages and were presented using simple tabular techniques. The results obtained shows that December had a higher number of cows slaughtered (7208) and pregnant cows slaughtered (783), while November was the month with higher foetal wastage (13.71%). Higher number of pregnant cows (16104) was slaughtered in 2015 while higher foetal wastage (11.86%) was obtained in 2016. The results also indicated that Kaduna South had higher number of cows and pregnant cows slaughtered (49361 and 5173) respectively, with Jema'a having higher foetal wastage (12.29%) during the study period under review. In conclusion, month of November, the year 2016 and Jema'a had higher percentages of foetal wastage (13.71%, 11.85% and 12.29%, respectively). Proper ante mortem examination as a mechanism to facilitate early detection of pregnancy should be conducted before slaughtering cows.

Keywords: *Foetus, Wastage, Abattoirs, Slaughter, Kaduna*

Description of Problem

Meat from cattle slaughtered at the various abattoirs in the country, constitute the largest source of animal protein for the Nigerian populace (1). There is however, a disturbing trend in the bid to provide meat for the consumption of the human populace which involves the slaughter of pregnant female animals. This practice is unethical and it frustrates the efforts of geneticists, nutritionists, and livestock breeders and is a drain on breeding animals thus widening the gap of animal protein intake between the ever-increasing human populations (2).

Demand for animal protein and population growth as well as illiteracy, makes farmers sell off animals without considering their reproductive stage, especially breeding stock and pregnant animals followed by inadequate meat inspection practices (3 and 4). Thus, foetuses are usually discovered during postmortem meat inspection that may have negative effect on livestock growth capacity, giving poor meat quality to consumers, and represent a serious problem for animal ethics (5, 6). This leads toward not only wastage of scarce protein by supplying poor quality

meat products to consumers, but also a decrease in livestock growth capacity at country level as well as low herd replacement rates (7). Lack of legislation and the unavailability of modern abattoir where proper ante mortem examinations of slaughtered animals are practiced to eliminate slaughtering of pregnant cows remains the reason why this continued to spread (7,8).

Agricultural sustainability strategy such as mitigation of slaughtering of pregnant food animals in many developing countries needs to be addressed as a priority to increase the availability of quality animal protein (9). Although slaughtering of pregnant animals and the fate of unborn foetuses are relatively new in the field of animal welfare, it has, however, gained importance in public debates globally (9). The prevalence is, however, higher in African countries ranging from 1.3% to 45% (10). In Nigeria, the magnitude of pregnant female cattle slaughter and the foetal wastage has been reported by several authors (11, 12, 8, 13, 14). Policies to ensure animal welfare, the prohibition of slaughtering of pregnant animals and protection of unborn foetuses should be given cognisant considerations.

Only few studies in central Northern Nigeria provided detailed information on the seasonal trend analysis of ruminant animal foetal wastage (15). There is insufficient information on the incidence of Bovine foetal wastage in Nigeria.

Fetal losses through the slaughter of pregnant cows has received increasing attention over the past few years, however, the empirical evidence of the effect of this practice on beef production is limited (16). Getting awareness on the implication of foetal wastage and the prevention of foetal wastage in abattoirs will go a long way in increasing the population of cattle in Nigeria and provides quality meat to consumers. Therefore, the aims of this study were to determine the monthly and yearly percentage of foetal wastage and to ascertain the effect of location on foetal wastage among cows slaughtered in some selected abattoirs in Kaduna State.

Material and Methods

Study area

The data on slaughtered cows were collected in Kaduna South, Sabon Gari and Jema'a Local Government Areas of Kaduna State. Kaduna South Local Government Area is located on latitude 10° 27 42 N and longitude 7° 25 37 E. Sabon Gari lies on latitude 07 38°E and longitude 11 10°N and Jema'a is located on latitude 9° 34' 52.54" N and longitude 8° 17' 33.36" E. Kaduna State is located at mid-central portion of the Northern parts of Nigeria and serves as a major gate way to important traditional, political and commercial States of Kano, Katsina, and Sokoto (17). Kaduna South LGA, Sabon Gari LGA and Jema'a LGA were selected for this study because of the presence of standard abattoirs and the fact that records on abattoir practices were kept including number of cattle slaughtered and foetal wastages.

Management of the Abattoirs and Meat Inspection

The abattoirs are handled by the Veterinary Division, Ministry of Agriculture, Kaduna State. All operations in the abattoirs are manual. Meat inspections were carried out by trained meat inspectors under close supervision of Veterinarians.

Data Collection

Records kept by the management of the abattoirs from January 2015 to December

2019 were collected. The record collected includes; total cattle slaughtered, total bulls slaughtered, total cows slaughtered and total pregnant cows slaughtered.

Data Analysis

Data collected for slaughtered cows were subjected to (18) and the means and percentages were determined.

Results and Discussion

Table 1 shows a monthly distribution of cattle slaughtered and the percentage of foetal wastage in Kaduna State abattoirs. The results obtained revealed that the month of December had a higher number of cows slaughtered (7208), followed by November (6799) and the least was found in the month of June (4930) during the study period. From the results, total pregnant cows slaughtered was found to be higher in the month of December (783), followed by November (732) and the least was obtained in the month of March (493). For percentage of foetal wastage, higher value was recorded in the month of November (13.71%), followed by October (12.29%) and the least was recorded in May (8.54%). This current study agreed with the report of (13), who reported a higher number of cows slaughtered (4546) and total pregnant cows slaughtered (1818) in December. However, (13) recorded a higher percentage of foetal wastage (40%) in December, which is contrary to the current study. The findings in this study disagreed with (19) who reported a higher number of cows slaughtered (3077) in October and least percentage of foetal wastage (6.6%) in November. This study varied (20)—who reported a higher percentage of foetal wastage (6.47%) in December and least percentage (3.97) in August. The variation observed could be due to festivals and ceremonies during this period as reported by (6).

Yearly distribution of cattle slaughtered and percentages of foetal wastage in Kaduna State abattoirs are presented in Table 2. The results of the study revealed that 2015 had a higher number of cows slaughtered (16104), followed by 2017 (14789) and the least was found in the year 2018 (12659). From the results, higher number of pregnant cows slaughtered was obtained in 2015 (1644), followed by 2019 (1577) and the least was found in 2018 (1230), while higher percentage foetal wastage was observed in 2016 (11.86%), followed by 2019 (11.51) and 9.15% as the least was recorded in 2017. This study disagreed with findings of (22) who reported a higher foetal wastage (4.81%). In the present findings, higher number of total cows slaughtered (16104) was recorded in 2015, which is lower than the value (64687) reported by the author as observed in 2014. The author also reported higher number of pregnant cows slaughtered (1961) in 2011 and the least value (789) was recorded in 2015 from his findings. This current study is similar with the findings of (21) who reported 12.63% and 14.69% foetal wastage in 2015 and 2016, respectively. The percentages reported by these authors were slightly higher than the ones obtained in this current study. The differences observed could be due to unscrupulous inspection officers, poor level of education of the inspection officer to identify pregnant cows and the number of cattle slaughtered.

Table 3 showed the effect of location on cattle slaughtered and foetal wastage in Kaduna State abattoirs. The results revealed that Kaduna South had a higher number of cows slaughtered (49361), followed by Sabon Gari (15678) and the least was Jema'a (5141), For number of pregnant cows slaughtered, Kaduna South had a higher value (5173), followed by Sabon Gari (1536) and the least was Jema'a (632), whereas

higher percentage of foetal wastage was recorded in Jema'a (12.29%), followed by Kaduna South (10.51%), and the least was Sabon Gari (9.80%). The percentage of foetal wastage in this study is higher than the percentage (2.60%) reported by (21) in Kano State. Meanwhile, (6) reported a higher percentage of foetal wastage (18.40%) in Kumasi, Ghana. which is higher than the percentage obtained in this study. Furthermore, the values obtained in the three Local Government Areas of Kaduna State were higher than the value (5.07%) reported by (22) in Lagos and Ogun States. The percentage of foetal wastage in this study is similar with those of (11); and (23), who reported foetal wastage of 9.2% and 14.4%, respectively in Ebonyi and Adamawa States, respectively.

Table 1: Monthly Distribution of Cattle Slaughtered and Percentage of Foetal Wastage in Selected Abattoirs in Kaduna State

MONTH	TCSS	TBS	TCS	% CS	TPCS	% FW
January	13484	7869	5615	41.64	605	10.77
February	13515	8244	5271	39.00	618	11.72
March	12829	7621	5208	40.60	493	9.45
April	13622	7828	5794	42.53	577	10.00
May	12849	7050	5799	45.13	495	8.54
June	11572	6642	4930	42.60	550	11.16
July	13030	6787	6243	47.91	578	9.25
August	15380	9280	6100	39.66	631	10.34
September	14205	8353	5852	41.20	647	11.06
October	12328	6967	5361	43.49	659	12.29
November	15701	8902	6799	43.30	732	13.71
December	18409	11201	7208	39.15	783	10.86
Total	166924	96744	70180	508.43	7341	125.96
Means	13910	8036	5848	42.37	612	10.86

TCSS= Total cattle slaughtered, TBS= Total bulls slaughtered, TCS= Total cows slaughtered, % of CS= Percentage of cows slaughtered, TPCS= Total pregnant cows slaughtered, % FW= Percentage of foetal wastage

Table 2: Yearly Distribution of Cattle Slaughtered and Percentage of Foetal Wastage in Some Selected Abattoirs in Kaduna State

YEAR	TCSS	TBS	TCS	% CS	TPCS	% FW
2015	37775	21678	16097	42.61	1644	10.21
2016	30529	17571	12958	42.44	1537	11.86
2017	32727	17945	14782	45.17	1353	9.15
2018	32838	20186	12652	38.53	1230	9.72
2019	33055	19364	13691	41.42	1577	11.52
TOTAL	166924	96744	70180	210.13	7341	52.44
Means	333848	193416	14043	42.03	1468	10.49

TCSS= Total cattle slaughtered, TBS= Total bulls slaughtered, TCS= Total cows slaughtered, % CS= Percentage of cows slaughtered, TPCS= Total pregnant cows slaughtered, % FW= Percentage of foetal wastage.

Table 3: Effect of Location on Cattle Slaughtered and Foetal Wastage in Some Selected Abattoirs in Kaduna State

LOCATION	TCSS	TBS	TCS	% CS	TPCS	% FW
Sabon Gari	41994	26316	15678	37.33	1536	9.80
Jema'a	14376	9235	5141	35.76	632	12.29
Kaduna South	110554	61193	49361	44.65	5187	10.51
TOTAL	166924	96744	70180	117.74	7341	32.57
Means	55641	32248	2442	39.25	2442	10.86

TCSS= Total cattle slaughtered, TBS= Total bulls slaughtered, TCS= Total cows slaughtered, % of CS= Percentage of cows slaughtered, TPCS= Total pregnant cows slaughtered, % FW= Percentage of foetal wastage.

Conclusion and Applications

1. November had the highest percentage of foetal wastage (13.71%) among the rest of the months of the year
2. The year 2016 had the highest percentage of foetal wastage (11.86%) during the study period
3. With this study, it is therefore important to do proper ante-mortem examination as a mechanism to facilitate early detection of pregnancy before slaughtering cows
4. There should be enforcement of law and advocacy on all active players at our abattoirs.

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