

INCIDENCE OF FOETAL WASTAGE IN CATTLE SLAUGHTERED AT THE BAUCHI ABATTOIR, BAUCHI STATE

***Samaila, L. M.; Sanusi, M.; Mbap, S. T & Anene M. G.**

Department of Animal Production, Abubakar Tafawa Balewa University, Bauchi.

Correspondence authors email: lulumaje@gmail.com; 08141198458

ABSTRACT

A total of 10,201 fetuses were wasted within a seven year period studied (2011 – 2017). Majority of the fetuses encountered were in 2013 (1,848) followed by 2011(1,818). The year 2016 had the lowest rate of foetal wastage. Monthly increase at the abattoir arise in the months of September, July, January and December 922, 929, 950 and 968 respectively with the highest peak in June 1013 throughout the study period. The late rainy season (July-September) had the highest rate of foetal wastage while the late dry season had the lowest. The results indicated a high level of slaughtering of pregnant cows in the abattoir studied. Therefore concerted efforts like routine veterinary checks and interventions among trade animals is needed in order to reduce the high level of foetal wastage in the country. Also, livestock owners should be educated on the seasonal breeding patterns of cattle in order to avoid selling cows during the calving season. It also gave insight to need for strategic planning and decision-making on animal food security in Bauchi State.

Keyword: *Foetal wastages, cattle, Bauchi abattoir, slaughtered.*

INTRODUCTION

Selling of cattle to livestock market is a common practice to farmers for the purpose of getting income. To get good prices, farmers always select animals by visual assessment, looking at body size (well-nourished and fat animals) and sell them to cattle traders in livestock markets. Because of limited veterinary and extension services in rural areas, farmers just sell animals without knowing their pregnancy status. The majority of cattle traders buy animals for slaughter and sell meat. Studies in many African countries show that many local cattle slaughtered in different slaughter-houses are pregnant (Zulu *et al.*, 2013; Nantongo *et al.*, 2013; Bakari, 2016 and Hassan *et al.*, 2016). This leads to foetal wastage which otherwise would have increased the cattle herds that ultimately increase the protein supply to the ever increasing human populations in African countries like Nigeria.

The attendant embryonic and foetal wastages due to this practice consequently query the efficiency of *ante-mortem* and the rationale for converting pregnant animals to beef, mutton, chevon, pork, offal and other meat types. It also challenges the ethical or moral act of slaughtering pregnant animals in situations where there is no law supporting the practice. In most cases, meat consumers are even unaware or denied the right to know the status of the animal that is converted to meat they eat. In Nigeria, there is lack of legislation strictly regulating abattoir construction and operation. In many states of the federation there are no modern abattoirs where proper ante-mortem examination of slaughtered animals is practiced to eliminate slaughtering of pregnant cows. The greatest effects about slaughtering pregnant cows lies in the fact that herd population sizes are reduced and enormous economic wastages are involved, leading to colossal reduction in the national herd, loss of dairy products as well as supply of poor quality meat product to the general public (Alhaji, 2011; Ardo *et al.*, 2013; Hassan *et al.*, 2016 and Bakari, 2016). This study was carried out to investigate the incidence of foetal wastage in cattle slaughtered at the Bauchi Abattoir, Bauchi State for the period of 7 years.

MATERIALS AND METHODS

Study area

The study was conducted in Bauchi abattoir, Bauchi district of Bauchi state, Nigeria. Bauchi is the state capital of Bauchi state, located at latitude 9° 3' and 12° 3' N and longitude 8° 5' and 11° E. The geographical area is largely inhabited by people whose main occupation is subsistence agriculture including the rearing of animals (ruminants) others are artisans and civil servants.

Data processing and statistical analysis

The primary raw data was collected and processed by the use of descriptive statistics (percentage and ratio). Chi-square test was also employed to test association between foetal wastage and years, months and seasons using SPSS version 21.

RESULTS AND DISCUSSION

The result of this investigation showed that 19.17% of slaughtered cattle were pregnant in Bauchi abattoir, that is, for every five slaughtered cows, one could be pregnant; this showed the extent of reproductive loss. The proportion of cows slaughtered pregnant varied considerably among countries and breeds; 22.1% in Cameroon cows (Ndi *et al.*, 1993), 15 % in Mali (zebu cows) (Wilson and Traore, 1988), 38.7% in New Zealand (dairy cows) (Lawton *et al.*, 2000), and 23.5% in UK (dairy cows) (Singleton and Dobson, 1995; Sheldon and Dobson, 2003) respectively. and States; 2.6% in Kano (Bakari, 2016) and 40.70% in Lafia (Hassan *et al.*, 2016). However, the incidence of pregnant cows slaughtered in Bauchi abattoir was higher in comparison with some countries' reports. Singleton and Dobson, (1995) reported that, the reasons why so many pregnant cows were slaughtered at abattoirs might include disease eradication schemes, economic factors such as the calf price, the cash flow of an individual farm, nutritional factors such as the availability of pasture and the effects of a dry season. However, these factors may be different among livestock production situations, breed and area.

Table 1 shows the annual incidence of foetal wastage in Bauchi abattoir. A total of 10,201 fetuses were wasted within ten year period. Majority of the fetuses encountered were in 2013 (1848) followed by 2011 (1818). The year 2016 had the lowest rate of foetal wastage (905). The possible reason for the peak in foetal wastages in 2013 and subsequent fall could not be easily ascertained but often cattle are sold to meet the need for money to send children to school and meet some other domestic needs. The implication of this finding was that 19.17% of the future productive herd was lost to this practice which would adversely affect the development of cattle production in and around Bauchi. The higher percentage observed in this study could be associated with lack of enforcement of legislation against slaughtering of pregnant cows. The percentage of foetal wastage 19.17% in this study was higher than 8.2% obtained by Nwakpu *et al.* (2007), 9.15% by Fatemi *et al.* (2008), 9.87 by Ardo *et al.* (2013) and 2.6% by Bakari (2016).

The findings in this study also showed that one foetus was wasted for every five cows slaughtered. This ratio is higher than the findings of 1:14 by Fayemi *et al.* (2012) at four abattoirs in Ogun State, 1:11 by Nwakpu *et al.* (2007) in Ebonyi State of Nigeria. The unnecessary disposal of many pregnant cows represented a major economic loss and an important source of herd wastage to the industry (Sheldon and Dobson, 2003)

Table 1: Annual incidence of foetal wastage in cows slaughtered at Bauchi Abattoir, Bauchi State, Nigeria from 2011-2017

Years	TCTS	TBS	TCS	TFW	POFW (%)	TCS:TFW
2011	14926	7065	7861	1818	23.13	4:1
2012	19390	9074	10316	1653	16.02	6:1
2013	15318	7597	7721	1848	23.93	4:1
2014	16882	8847	8035	1543	19.20	5:1
2015	15367	7704	7663	1431	18.67	5:1
2016	12752	6537	6215	905	14.56	7:1
2017	10970	5562	5408	1003	18.55	5:1
X ²	576.76					
P value	0.003					
Total	105605	52386	53219	10201	19.17	5:1

Keys: TCTS = Total number of Cattle slaughtered, TBS = Total bulls slaughtered, TCS = Total cows slaughtered; TFW= Total number of fetuses wasted, POFW=Percentage of foetal wastage.

Table 2 shows the monthly increase of slaughtered animals at the abattoir, there was a rise in the months of July, January, December and June 929,950,963 and 1013 respectively with the highest peak in June 1013. The rise in the months of June and July showed that the rains were just about to begin and these periods are usually characterized by drought, hunger which expose animals to poor nutrition, diseases especially gastrointestinal parasitism and as such to forestall losses due to natural death or diseases, farmers prefer to sell their animals. Many authors have reported that most cattle sold for slaughter during the dry season were females (Abdulkadir *et al.*, 2008; Alhaji and Odetokum, 2013). The rise in wastage in December and January of most of the years may be related to the festivals and ceremonies during this period. There was a peak of foetal wastage in June with a significant difference between months and foetal wastage at $P \leq 0.05$.

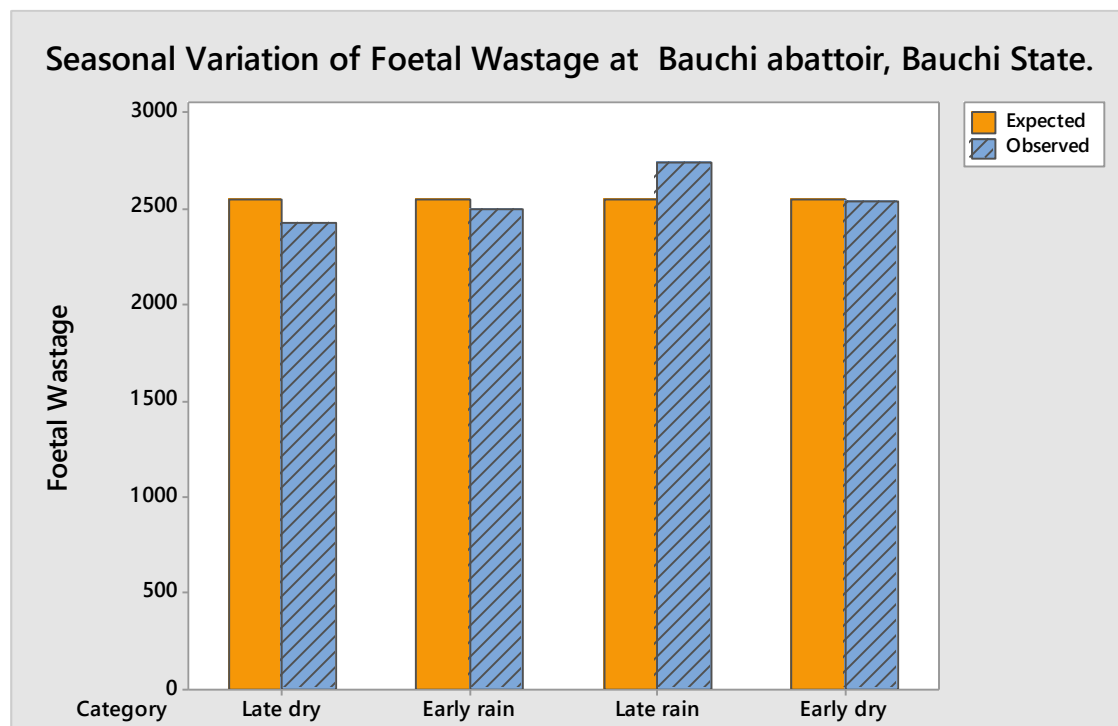
Table 2: Monthly Distribution of Foetal Wastage in Cattle Slaughtered at Bauchi Abattoir, Bauchi State, Nigeria from 2011 - 2017

Months	11	12	13	14	15	16	17	Total	Mean	X ²	Pvalue
Jan	185	128	246	80	174	94	43	950	136	769.048	0.002
Feb	163	136	113	79	130	115	39	775	111		
March	174	118	147	63	110	42	44	698	100		
April	133	126	109	86	98	51	88	691	99		
May	171	116	200	81	72	77	74	791	113		
June	146	168	286	126	115	59	113	1013	145		
July	123	131	147	164	117	123	124	929	133		
Aug	105	130	111	188	130	85	141	890	127		
Sept	116	128	152	233	174	62	57	922	132		
Oct	117	132	190	150	46	59	96	690	99		
Nov	182	157	118	138	125	79	90	889	127		
Dec	203	183	129	155	140	59	94	963	138		
Total	1818	1653	1848	1543	1431	905	1003	10201	1460		

Key: 11-17 means 2011 - 2017

Table 3 shows the seasonal variation in the rate of foetal wastage in this abattoir. The incidence of foetal wastage was more in late rainy season than others and a significant difference between Seasons and foetal wastage was observed at $P \leq 0.05$. The highest incidence in the late rainy season could be due to disease especially gastrointestinal diseases or shortage of money during this period as much has been invested in farming.

Table 3: Seasonal Variation of Foetal Wastage at Bauchi abattoir, Bauchi State 2004 -2013



CONCLUSIONS

This showed that the foetal wastage was quite alarming and effort should be geared towards instituting routine veterinary checks including pregnancy diagnosis at cattle control posts and abattoirs. In addition adequate infrastructural facilities including ultra-scanners that will ensure adequate pregnancy diagnosis should be provided to aid quick detection of pregnant animals during inspection. Drastic efforts should be made to increase future domestic meat supply in order to reduce or halt the incidence of slaughtering pregnant cows.

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