
ASSESSMENT OF FETAL WASTAGE IN PIGS SLAUGHTERED AT KUMASI ABATTOIR, GHANA

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ABSTRACT

There had been dearth of information on the level of fetal wastages in slaughtered pigs in West African countries other than Nigeria. This study evaluates the fetal losses due to slaughtering of pregnant pigs at the Kumasi abattoir in Kumasi, Ghana. The ages of the fetuses were estimated using standard technique with the influence of sex, age and breed of pig on fetal loss being evaluated. Data were subjected to descriptive and quantitative analysis. 2817 pigs were slaughtered during the period of the study with a monthly average of 563.1739(61.73%) were sows and 430(29.27%) were pregnant. 141(28.20%) sows were slaughtered in January, constituting the highest throughout the period of the study with corresponding fetal loss of 616(76.60%). Most of the fetuses wasted in this study were recorded in the second and third trimester (83.51%). The percentage of fetal wastage (the total number of fetuses wasted divided by the total number of pigs slaughtered) was 2117(75%) in this study. The results revealed high incidence of fetal losses at the Kumasi abattoir. There is need to advocate for routine veterinary checks and interventions in order to reduce the high level of fetal wastage which call for strategic planning and decision-making on animal food security in Ghana.

Keywords: Abattoir, Fetal wastage, Slaughtered pigs, Ghana

INTRODUCTION

The increasing population rate of Ghana is currently pegged at 3% and the human population is nearly 25 million. Unfortunately, the rate of growth of the animal population has not kept pace with that of humans. Ajayi (1979) stated that the increase in the size of human population is always at the expense of wildlife and livestock production. In the past, low productivity in farm animals in most parts of the developing nations especially in the sub-Saharan Africa has been blamed on factors like poor and

low production traits of the indigenous breeds, inadequate or poor veterinary services, and improper management, high incidence of diseases and parasites (Hale *et al.*, 1997). However, the greatest problems which results from slaughtering of pregnant animals that lead to the loss of enormous potential, economic and protein values has received little or no attention in Ghana and Africa as a whole. Slaughtering of pregnant animals for meat purposes has been described to be not morally approved and contrary to rules of slaughter for the provision of wholesome meat (Wosu, 1988; Atawalna *et*

al., 2013; Jarikre *et al.*, 2014). This act frustrates efforts in pig production and it remains a drain of imminent breeding animals, thus widens the gap between animal protein availability and the increasing Ghana human population. The obvious short fall in meat production could however be met with high meat yielding animals like pigs with improvement in the management systems to prevent economic important diseases and enforcement of legislation against slaughtering of pregnant pigs in the various abattoirs across the country. Pigs, an important asset in Africa, provide improved nutritional status and contribute to the economic growth of the populace. Pigs are more efficient in converting feed to meat; they are highly prolific, thus they can produce higher number of offspring when compared to other ruminants like goats, cattle and sheep.

The slaughtering of pregnant animals is an important menace to food security in Africa. However, there had been dearth of information on the level of fetal wastages in slaughtered pigs in West African countries. This study evaluates for the first time the fetal losses due to slaughtering of pregnant pigs at the Kumasi abattoir in Kumasi, Ghana.

MATERIALS AND METHODS

Study Area: One of the principal functions of a modern abattoir is to provide efficient facilities for the slaughter of livestock, meat inspection procedures and refrigeration to ensure the production of wholesome meat. Kumasi abattoir is one of abattoirs in developing countries to which animals are supplied from farms within and outside a country. The study area has been earlier described (Frimpong *et al.*, 2012). Briefly, the Kumasi abattoir is located at 6°39'36.6"N latitude and 1°36'15.4"W longitude in Kumasi, Ghana. Animals such as pigs destined for slaughter at the Kumasi abattoir are transported from other districts of the Ashanti region such as Ejisu and also from other regions in Ghana, including the northern regions. The Kumasi abattoir is a transit point where all the animals transported from the northern region which is the principal provider

of Ghana's livestock as well as from all the neighbouring countries such as Burkina Faso, Mali and Niger are rested before being taken to the Accra, the capital of Ghana and other regions. Kumasi also plays a major role in the food chain of Ghana because it is densely populated with the working class who has the means to afford animal protein. The northern region of Ghana has a larger percentage of its population being Muslims and for that reason, all the pigs produced are sent down to Kumasi where it has a ready market due to the lower percentage of Muslims. 50 – 60% of pigs in Ghana are concentrated in the northern sector (Ashanti and Brong-Ahafo regions inclusive) of the country and over 90% of this lot is made up of Ashanti black pigs (Barnes, 1994; Ahunu *et al.*, 1995). It is against this backdrop, that the Kumasi abattoir was chosen for this study (Figures 1 and 2).

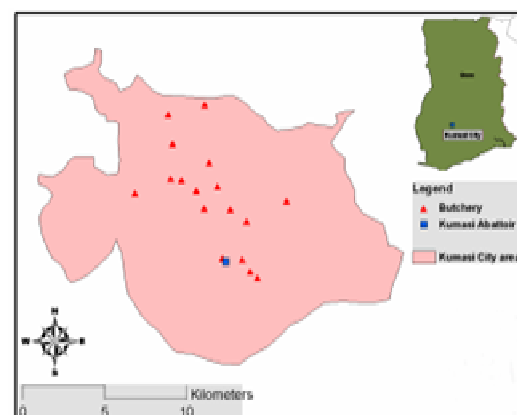


Figure 1: The map of Kumasi showing abattoir in blue (Frimpong *et al.*, 2011)

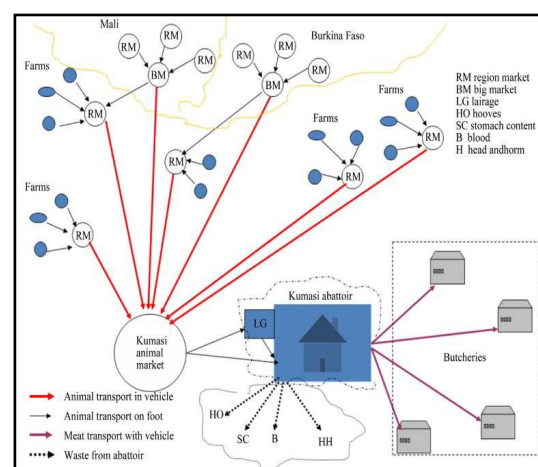


Figure 2: The supply chain in Kumasi abattoir as described by Frimpong *et al.* (2011)

Table 1: Incidence of fetal wastage in pigs slaughtered at Kumasi abattoir from November 2014 to March 2015

Month	Number of Slaughtered Pigs	Number of Boars Slaughtered	Number of Sows Slaughtered	Number of Pregnant Sows Slaughtered	Number of Fetus Wasted
November	513	194	319 (62.18%)	74(23.20%)	330(64%)
December	320	92	228 (28.75%)	51(22.37%)	159(49%)
January	804	304	500(37.81%)	141(28.20%)	616(76.60%)
February	439	140	299(31.90%)	78(26.10%)	439(100%)
March	741	348	393(46.96%)	86(21.90%)	573(77%)
Total	2817	1078	1739(61.73%)	430(29.27%)	2117(75%)

Table 2: Age distribution of fetuses wasted from the slaughter of pregnant sows at Kumasi abattoir from November 2014 to March 2015

Month	1 – 5 Weeks	6 – 11 Weeks	12 – 16 Weeks	Total
November	70(21.21%)	110(33.33%)	150(45.45%)	330
December	33(20.76%)	80(50.31%)	46(28.93%)	159
January	75(12.18%)	198(32.14%)	343(55.68%)	616
February	79(18.00%)	270(61.50%)	90(20.50%)	439
March	93(16.23%)	255(44.00%)	255(39.27%)	573
Total	350(16.53%)	913(43.17%)	854(40.34%)	2117

Data Collection: Data were collected over a period of five months, from November 2014 to March 2015. The abattoir was visited thrice weekly between 6 – 7 am, and details of the slaughtered animals were taken. The total number of pigs slaughtered, ratio of sows to boars slaughtered, number of fetuses recovered from slaughtered sows at different trimesters, their respective ages and breed of the pigs were recorded. After slaughtering, the uteri of all female animals were dissected and examined.

Age Determination of Fetuses: The fetus's approximate ages were determined by the use of the length of the humerus as earlier described by Wrathall *et al.* (1974).

Data Analysis: Data on the total number of pigs slaughtered, pregnant sows and condemned fetuses were recorded. Data were analysed using descriptive statistics on monthly bases, while percentages of pregnant female pigs were computed.

RESULTS AND DISCUSSIONS

The records of slaughtered pigs in Kumasi abattoir between November and March 2014 and 2015 revealed that the total number of pigs

slaughtered during the study was 2817 (Table 1). The number of pigs slaughtered peaked in the month January, while the number of fetuses wasted was highest in the same month. The percentage of the pigs slaughtered within the period ranged from 28.75% to 62.18%, while the percentage for pregnant sows slaughtered ranged from 21.90% to 28.20%.

The number of fetuses wasted between November 2014 and March 2015 revealed that 2117 fetuses were wasted aged 1 – 16 weeks. Age 6 – 11 weeks fetus (913[43.17%]) had the highest percentage of wastage followed by age 12 – 16 weeks (854[40.34%]) and age 1 – 5 (350[16.53%]) (Table 2). 1758(85.51%) were wasted in the second and third trimesters (Figures 3 – 5). The total number of wasted fetuses recovered in the second trimester of pregnancy recorded the highest.

A total of 2817 pigs of which 1739 were sows were slaughtered during the study period. The average monthly slaughter was 563 pigs. The higher number of sows slaughtered in this study could be due to need for more protein source with corresponding inadequate number of pigs available for slaughter which in turn lead to slaughter of primer breeders. This trend adversely affects pig production since these sows were to be kept for the production of more offsprings.



Figure 3: Fetuses in first trimester



Figure 4: Fetuses in second trimester



Figure 5: Fetuses in third trimester

Again, there is a positive correlation between fetal losses and the number of sows slaughtered. The lack of enforcement of legislation against slaughtering of pregnant pigs could be as a result of inadequate veterinary officers attached to the abattoir which often lead to the high incidence of slaughtering of pregnant sows which accounted for the high

fetal losses observed. Another possible reason may be due to the fact that pigs are sold by their weights and pregnant sows are heavier. This therefore places a higher premium on them to entice the farmers to sell for more money. Livestock are considered as assets to their owners and are sold to pay school fees and offset other equally important expenses. Farmers are therefore compelled to sell their animals in such instances irrespective of the pregnancy status of the animal. Most of the fetuses wasted in this study were recorded in the second and third trimester (83.51%), a finding which is consistent with reports by earlier studies on other animals (Hale *et al.*, 1997). The percentage of fetal wastage (defined as the total number of fetuses wasted divided by the total number of pigs slaughtered) was 75% in this study. Pregnancy at third and second trimester as observed in this study are easily identified hence the slaughtering of such animals may be due to lack of farm space to receive the unborn piglets hence the sale of such pregnant sow for slaughter. The data of fetuses wasted in each month revealed that the least number of fetal losses were recorded in December (49%). This least may be attributed to the fact that December recorded the least in the total number of pigs slaughtered. This low number may be as a result of the fact that people preferred poultry and other meat source rather than pork during the festive seasons.

Conclusion: The investigation was able to show the level of fetal wastage in pigs slaughtered in Kumasi, which reflects the level of loss of potential breeding stocks and it brings to bear the need for further study on a national scale to determine the level of fetal losses in slaughtered pigs which will in turn call for an emergency approach to develop livestock production in Ghana. In addition, the results revealed that fetal wastage is quite rampant and effort should be geared towards instituting routine veterinary checks including pregnancy diagnosis at control posts and abattoirs. Abattoir fetal wastage is a “monster eating silently deep” into the life of pig industry in Ghana. Unless this hurdle to national food security is checked and

eliminated, the sustainability of the pig industry may be difficult to achieve.

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