

Original Research Article

Pregnancy Wastage And Associated Economic Losses In Pigs Slaughtered At The Kumasi Abattoir, Ghana.

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Abstract: This study evaluated the slaughter of pregnant pigs at the Kumasi abattoir from February to April, 2018 with the aim of determining the prevalence of pregnancy wastage and estimating the economic losses. Ante-mortem and post-mortem inspections were performed on 1,167 pigs. The reproductive tracts of 870 female pigs were examined for pregnancy by palpation. In pregnant pigs, the uteri were dissected to physically count the number of foetuses and determine their sex. The age of recovered foetuses were estimated by measuring the crown -rump length. A total of 734 fetuses were recovered from 132 pregnant pigs. The overall prevalence of pregnancy wastage was 15.1% with an average of 5.58 foetuses lost per pregnant pig slaughtered. Most of the fetuses wasted in this study were recorded in the second trimester (61.4%). The economic losses included a production loss of seven hundred and thirty-four (734) pigs and a financial loss of seven hundred and thirty-four thousand Cedis (GHC 734,000.00) or one hundred and forty-nine thousand, seven hundred and ninety-six (\$149,796.00) United States Dollars. It is recommended that the pregnancy status of all animals be established before slaughter.

Keywords: financial, foetal, gestation, production.

INTRODUCTION

Animals slaughtered for meat in Ghana include cattle, sheep, goat, poultry, pig and some game animals. In several abattoirs, non- breeding livestock and sometimes productive pregnant and lactating female animals are slaughtered for human consumption (Aberle *et al.*, 2001; Wariss, 2008). According to Muhammadu *et al.*, 2009, farmers' ignorance on the pregnancy status of their animals and their desperate need for money especially during the lean season, are the reasons for unwarranted sale of pregnant animals. The slaughtering of pregnant domestic animals is a major reason for protein malnutrition and a threat to future livestock populations in Africa (Ademola, 2010; Cadmus and Adesokan, 2010). Pregnant pigs appear well conditioned and will attract good market prices. The slaughter of pregnant pigs would reduce the productivity of pigs which is already low in sub-Saharan Africa.

Several works have been done on fetal wastages in ruminants, pigs and camels (Jarikre *et al.*, 2014; Atawalna *et al.*, 2013; Ademola, 2010). In recent times, concerns have been raised about animal welfare

issues pertaining to the slaughter of pregnant animals (More *et al.*, 2017). The purpose of this study was to determine the percentage of pregnancy wastage in slaughtered pigs at the Kumasi Abattoir and estimate the associated economic losses.

MATERIALS AND METHODS

The study was conducted at the Kumasi Abattoir Company Limited (KACL) from February to April; 2018. The abattoir was visited five times a week between 5.30am-10.00am. All pigs presented for slaughter within this time period were examined and the number slaughtered recorded. Routine post mortem examination was conducted on the porcine carcasses (FAO, 1994). The uteri of female animals were examined for pregnancy by palpation. In pregnant pigs, the uteri were dissected to physically count the number of fetuses present and determine their sex. The age of the foetuses was estimated by measuring the crown-rump length as described by Odlaug, 1955.

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The economic losses associated with pregnancy wastages were estimated as described by Ogunirande and Ogunirande (1980) and modified as follows:

Financial losses = Production loss x average cost of adult pig. The data obtained were analysed using descriptive statistics.

RESULTS AND DISCUSSIONS

Pregnancy wastage

This study described pregnancy wastages in slaughtered pigs at the Kumasi abattoir. The overall pregnancy wastages during the study period was 15.1% with an average of 5.58 foetuses lost per pregnancy

wasted (Table 1). The litter size ranged from 3-12. The highest pregnancy wastages occurred in February (19.8%), while the lowest was in March (11.8%). The rate of pregnant wastages was similar to the 13% reported by Ward *et al.*, 2010, among sows and gilts culled for infertility in Scotland. On the contrary, they were lower than the 28.2%, reported in the same abattoir by Frimpong *et al.*, 2015. This remarkable reduction in pregnancy wastages may be a result of measures implemented aimed at preventing the slaughter of pregnant pigs. Despite successes achieved in this respect, it is still advisable to further lower this rate to as low as 4.2%, as reported by Jensen *et al.*, 2010, in Denmark.

Table 1: Monthly slaughter of pigs

Month	Number slaughtered	Females Slaughtered	Pregnant Females Slaughtered	NOFL	ANOFLP
February	544	382	75 (19.6 %)	439	5.8
March	367	296	32 (11.8 %)	137	4.28
April	256	196	25 (12.7 %)	158	6.32
Total	1167	870	132 (15.1%)	734	5.56

- NOFL- number of foetuses lost
- ANOFLP- average number of foetuses lost per pregnant pig slaughtered

Age of Foetus

The age of foetuses recovered in slaughtered pregnant pigs is presented in Table 2.

In this study, the majority of pregnant pigs (61.4%) were slaughtered during days 50-100 days' gestation, while the least (16.7%) were at 0-49 days' gestation. These findings are similar to reports by Frimpong *et al.*, 2015. On the other hand, they contradict the report by Amuta *et al.*, 2018, that the frequency of slaughter of

pregnant pigs decreases with increasing age of gestation. The findings also differ from a report by Ward *et al.*, 2010, that in Scottish herds, 59.2% of pregnant pigs were slaughtered during early pregnancy, 21.4% mid-pregnancy and 21.4% late pregnancy. In abattoirs, which conduct pregnancy diagnosis by physical examination, it is more likely to miss early pregnancies than advanced ones. The former may inadvertently be passed for slaughter.

Table 2: Age of recovered foetuses

Month	0-49 days	50-100 days	101-115 days
February	0	57	18
March	12	13	7
April	10	11	4
Total	22 (16.7%)	81 (61.4%)	29 (21.9%)

Economic Losses

The economic losses associated with pregnancy wastages in slaughtered pigs included both production losses and financial losses. A total of 734 fetuses, comprising 448 females and 286 males were lost (Table 3). This represented the total production loss to the swine population over the three-month period as a result of slaughtering pregnant pigs at the abattoir. The associated financial losses were estimated by multiplying the production loss by the average prevailing market price of pigs. Assuming that the average price of an adult pig at the prevailing market price was one thousand Ghana Cedis (Ghc 1,000.00), the total financial loss amounted to seven hundred and thirty-four thousand Cedis Ghc734,000.00 (734 x 1000). At an exchange rate of Ghc 4.90 to one United

States Dollar, this was equivalent to one hundred and forty-nine thousand, seven hundred and ninety-six United States Dollars (\$149, 796.00).

Table 3: Economic losses due to slaughter of pregnant pigs

Month	Male	Female	Total
February	149	290	439
March	69	68	137
April	68	90	158
Total	286	448	734

CONCLUSION AND RECOMMENDATIONS

Pregnancy wastages in slaughtered pigs at the Kumasi abattoir are a major problem. This has a huge potential in reducing the national swine population and

revenue accruing to pig farmers. It is recommended that the pregnancy status of animals be established before slaughter.

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