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MAJOR CAUSES OF SLAUGHTERING OF FEMALE CATTLE IN ADDIS ABABA ABATTOIR ENTERPRISE, ETHIOPIA

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ABSTRACT

To study the major causes of slaughtering of female cattle in Addis Ababa Abattoir Enterprise, 235 female cattle to be slaughtered were examined for ante and post mortem. Close observation was given to udder and reproductive organs. Of the total 235 female cattle that came for slaughtering, the most prevalent reason of culling, accounted for 39.1%, were reproductive problems of which 36.6% were anoestrus cows and 28% were repeat breeders. The second most frequently recorded reason, accounted for 32.3% was associated with udder problems followed by low milk yield, age, lameness and others with the occurrence rate of 5.9%, 11.4%, 3.4% and 8.1%, respectively. From the total female cattle genitalia examined in the slaughter house 31.5% were found with one or more gross abnormalities of which ovarian abnormalities accounted for 15.3% were the major ones followed by uterine 10.7%, and oviductal and cervico-vaginal abnormalities 3.4% each. Of the total lesions, ovario-bursal adhesions 8.1%, endometritis 6.4% and ovaian cyst 5.5% were the first three predominant abnormalities recorded. In the present study, parity and age of animals showed statistically significant association ($P<0.05$) with the occurrence of overall reproductive abnormalities. The current study also revealed that reproductive tract abnormalities and mastitis had considerable impact on the productive and reproductive performance of female cattle.

Key words : Addis Ababa abattoir, Female cattle, Reproductive disorders.

INTRODUCTION

Ethiopia is one of the countries with largest number of livestock in African continent. In recent years, the cattle of European origin with heritability for high milk production has been used to upgrade the local cattle (EASE, 2003) to enhance the production of local cattle. On contrary, larger number of female cattle is being sent to the abattoir due to various reasons. Debilitating diseases (Bushnell, 1984), mastitis and reproductive disorders (Azage and Alemu, 1998) make the farmers to go for culling. The productivity of the cattle largely depends on the reproductive performance (Abdisa, 2000). Hence reproductive efficacy is the major factor for life time productivity of the female cattle (Del-Vecchio *et al.*, 1992). Therefore, the slaughter houses were preferred sources to study the incidence of disorders in both productive and reproductive organs. On scanning of available literature, meager information was available on the causes of slaughtering of female cattle in our area. Hence, the present study aimed to determine the major cause of slaughtering of female cattle with due emphasis to productive and reproductive organs.

MATERIAL AND METHODS

The study was composed of 235 female cattle (207 cross bred and 20 local) slaughtered at Addis Ababa Enterprise, Ethiopia. The information on parity, age, type of housing, management and reasons for culling were collected from the owner. The female cattle were subjected to general physical and clinical examination before slaughtering with special attention to productive and reproductive organs. The age of the female cattle was estimated on the basis dentition (De-Launta and Habel, 1996). The body condition of female cattle was

Table 1. Major causes of slaughtering female cattle in the study area

Reasons of culling	Number and Percentage (%)		Total and Percentage (%)
	Cross	Local	
Reproductive Problems	87(37%)	5(2.1%)	92(39.1%)
Mastitis/under Problems	72(30.6%)	4(1.7%)	76(32.3%)
Low milk yield	5(2.1%)	9(3.8%)	14(5.9%)
Age(>11 years)	19(8.1%)	7(3%)	26(11.1%)
Lameness	8(3.4%)	-	8(3.4%)
Others	16(6.8%)	3(1.3%)	19(8.1%)

scored as fat, medium and lean as per the description given by Nicholson and Butterworth (1986). After slaughter the reproductive tracts were examined visually for all possible abnormalities and opened as per the procedure of Feyissa and Bekana (2000). The collected data were analyzed as per the statistical procedure of SPSS Inc.

RESULTS AND DISCUSSION

In the present study, the main causes identified for slaughtering of female cattle were infertility (39.1%), age (11.1%) and low milk yield (5.9%). These were in agreement with the results of Simenew (2005), who reported infertility 33.3%, age 15% and low milk yield 5% to be the main causes of culling of female cattle (Table 1). However, the prevalence of mastitis or udder problems in this study was 32.3%, which is significantly higher than the report of Simenew, who reported only 8.4%. This huge difference is due to the fact that almost all of the cows in this study were kept in total confinement of stall where the organs were in contact with unhygienic conditions. Tied dairy cows showed increasing frequencies of mastitis than those grazing ones (Bushnell, 1984).

Table 2. Gross female genital tract abnormalities encountered in the postmortem examination of the slaughtered female cattle.

Types of abnormalities	Parity status		Total and percentage	Proportional frequency (%)
	Nulliparous	Parous		
Ovarian Abnormality	4	32	36 (15.3%)	48.5
Ovario-bursal adhesion	1	18	19(8.1%)	
Ovarian cyst	1	12	13(5.5%)	
Atrophied Ovaries	2	1	3(1.3%)	
Parovarian Cyst		1	1(0.4%)	
Uterine Abnormalities	2	23	25(10.7%)	30.7
Endometritis	1	14	15(6.4%)	
Mucometra	1	4	5(2.1%)	
Hydrometra	0	3	3(1.3%)	
Pyometra	0	2	2(0.9%)	
Oviductal Abnormalities	0	8	8(3.4%)	9.8
Hydrosalpinx	0	5	5(2.1%)	
Salpingitis	0	3	3(1.3%)	
Cervico–Vaginal Abnormalities	1	7	8(3.4%)	9.8
Vaginitis	1	3	4(1.7%)	
Cervivitis	0	3	3(1.3%)	
Miscellaneous Abnormalities	3	2	5(2.2%)	6.2
Double Cervis	1	1	2(0.9%)	
Freemartinism	2	0	2(0.9%)	
Macerated fetus	0	1	1(0.4%)	

In the present study, 31.5% of the total animals slaughtered were found to have one or more abnormalities of reproductive tracts (Table 2). Similar observations were recorded by Zerihun (2001) and Samuel (2002) and Simenew (2005) and Abdisa (2000) in different parts of Ethiopia. However, when the present result was compared with observations from other countries, it was found to be higher than the value of Assey *et al*. (1998) in Tanzania; Fathalla *et al*. (2000) in Israel. On the other hand, it was found to be lower than the report of Garcia (1988) in Peru. The variations in the incidence of reproductive disorder were attributed to the breed, sample size, geography, management and feeding practices.

The prevalence of qvario-bursal adhesion 8.1% obtained in this study was in agreement with that of Uqubeab (1986), who reported incidence rate of 6.9%. The prevalence of endometritis 6.4% in the present study was similar with the report of 6.7% by Uqubeab (1986), but lower than 9.9% by Feyissa and Bekana (2000). The results also found to be higher than 1.47% by Herenda(1987). This difference could possibly be attributed to the differences in breed, age of the animal, parity and management employed. The ovario-bursal adhesions and endometritis observed in the study might be due to ascending infection as well as erotic manipulation of reproductive tract and subsequent enucleation of oocytes (Kessy and Noakes, 1985 and Assey *et al.,* 1995). Other disorders like ovarian cysts, hydrosalphinix, vaginitis and cervicitis were recorded in the study (Table 3). Similar incidences in female cattle were recorded by Uqubeap (1986), Tekelu (1999), Samuel (2002) and Feyissa and Bekana (2000).

Table 3. Factors affecting the occurrence of Overall abnormalities, Ovario-bursal adhesion, Uterine infection and Ovarian cysts.

Abnormalities	Factors	Group	Nº examined	Nºaffected	(%)	X^2	P-Value
Overall Abnormalities	Age	<5 years old	39	7	23	11.8	P<0.05
		6-9 years old	146	51	34.9		
		>9 years old	50	16	32.1		
	Body condition	Lean	45	13	28.9	2.6	P>0.05
		Medium	160	51	31.8		
		Fat	30	10	33.3		
Ovario-bursal Adhesion	Age	<5 years old	39	1	2.6	13.4	P<0.05
		6-9 years old	146	12	8.2		
		>9 years old	50	6	12		
	Body condition	Lean	45	4	8.9	1.96	P>0.05
		Medium	160	12	7.5		
		Fat	30	3	10		
Uterine Infection	Age	<5 years old	39	1	2.6	9.81	P<0.05
		6-9 years old	146	19	13		
		>9 years old	50	5	10		
	Body condition	Lean	45	5	11.1	2.12	P>0.05
		Medium	160	16	10		
		Fat	30	4	13.3		
Ovarian Cyst	Age	<5 years old	39	1	2.6	8.91	P<0.05
		6-9 years old	146	9	6.1		
		>9 years old	50	3	6		
	Body condition	Lean	45	2	4.4	2.11	P>0.05
		Medium	160	8	5.5		
		Fat	30	3	6		

In the present study, parity and age of animals showed statistically significant association ($P<0.05$) with the occurrence of overall reproductive abnormalities. This is in agreement with Arthur *et al.*(1989) and Teklu (1999), who reported a higher prevalence of reproductive abnormality with increasing age and parity.

The current study revealed that reproductive tract abnormalities and mastitis were among important diseases in the area with considerable impact on the productive and reproductive performance of female cattle. Besides, the large number of cyclical animals (68.5%) without any gross abnormalities slaughtered indicates the absence of proper clinical gynecological examination prior to slaughtering. Hence the present studies recommend that: need to create awareness among the farmers regarding overall husbandry practices and need to evaluate the fertility status of the female by veterinarian during ante mortem inspection.

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