

Evaluation of the Main Causes and Economic losses of Carcasses and Offal Condemnation in Faraskur Abattoir-Damietta Governorate, Egypt

Wael Mohamed Aboelkheer Hamouda¹; Hosny Abdellatief Abdelrahman² and Nada Ibrahim Hussein Ahmed²

¹*Faraskur slaughterhouse, Damietta.*, ²*Faculty of Veterinary Medicine Suez Canal University.*

Abstract:

Meat consumption continues to be intertwined with notions of social and economic prestige, although the context and significance of this association can vary widely depending on cultural, economic, and social factors. One of the biggest problems facing meat inspection in abattoirs in recent years is the need to identify, understand, and establish the collective data on the primary cause of condemnation of organs and carcasses. These data are important to reach an effective method to prevent losses in the meat sector and face the risks they pose due to the increasing rates of condemnation in slaughterhouses. The results showed that 157 condemned cases were recorded in cows, and the most affected organs were the liver and lungs, with a total prevalence of affection of 7.0 and 46.0%, respectively. While in buffaloes, 140 condemned cases and the highest lesions were in the liver and lung, with total prevalence affection of 22.14% and 54.29%, respectively. In sheep, 87 condemned cases were recorded with a total prevalence of 27.58% and 41.39% in the liver and lung, respectively. The results obtained in this study revealed that the lungs of cows, buffaloes, and sheep were the most organs condemned due to different abnormalities, followed by the liver. The variation in the results obtained was interacting with different factors in complex ways, leading to variation in the causes of condemnation, which leads finally to increase the loss in meat industry

Key words: Meat Inspection-Surveillance-Abattoir-Carcass-Organ Condemnation-Financial -Financial loss

Introduction:

Meat consumption continues to be intertwined with notions of social and economic prestige, although the context and significance of this association can vary widely depending on cultural, economic, and social factors (*Nungesser et al., 2021*). The condemnation of organs and carcasses during

postmortem inspection of animals is a critical aspect of food safety and public health. The process ensures that only safe meat enters the food supply. Condemnation can occur for various reasons, typically related to disease, contamination, or other abnormalities which detected during the routine postmortem inspection. Only specific organs of the animal are condemned, as liver abscesses, while the rest of the carcass is passed for consumption (*Ninios et al., 2014 and Gracey et al., 2105. Abuseir (2019) and FAO (2021)*). The condemnation of organs and carcasses during postmortem inspection not only plays a crucial role in ensuring food safety but also has significant economic importance for meat industry (*Ciui et al., 2023*). Economic losses arise from various factors, including the loss of valuable meat, disposal costs, and potential reputational damage (*Codex, 2009*). Frequent condemnation, especially in response to widespread disease outbreaks, can reduce the supply of meat in the market (*Rodarte et al., 2023*). This reduction can lead to increased meat prices, affecting consumer affordability and overall demand. In the beef industry, condemnation of carcasses due to diseases like bovine tuberculosis or cysticercosis can lead to substantial losses. Condemnation of specific high-value organs, such as the liver can also have a significant economic impact (*Yibar et al., 2015*).

Farmers and producer face financial losses when their livestock is condemned, particularly if the animals are not covered by insurance or compensation schemes. This can lead to reduced income and financial instability in rural areas. When the condemned meat is not properly managed and enters the food supply, it can lead to public health crises such as foodborne illnesses. This scenario can result in significant healthcare costs, including hospitalization, treatment, and loss of productivity due to illness.

This study was done to throw a light on the rate and prevalence of organs and carcasses condemnation in Faraskur slaughter house, Damietta Governorate to stand on rate and major cause of condemnation and serving as an indicator of field disease condition in order to properly manage the inspection of animals to prevent unsafe meat from reaching consumers.

Materials and methods:

A total number of 1580 cows, 2420 buffaloes and 1245 sheep were slaughtered at Faraskur abattoir, Egypt during the period July 2020 to July 2022. The inspection procedures which carried out by veterinary meat inspector for detection of parasitic, bacterial, systemic disturbance and other causes of condemnation and detect their pathological lesions were carried out according to the Egyptian and International legislations recommended by *Egyptian Law 517 (1986)*, *EU (2019/627)* and *Gracey's Meat Hygiene (2015)*. The condemned meat organ and carcasses were weighted and recorded to calculate the price value and economic loss

Results and Discussion:

The results given in Table (1) revealed that 1580 cows, 2420 buffaloes, 1245 sheep, were slaughtered at Faraskur abattoir during 2 year study; the result obtained were lower than that recorded by *Ahmed et al., (2013)* , *El-sharawy (2018)* and *Allam et al., (2023)* and higher than that recorded by *Mahmoud et al., (2023)* this variation in the number of slaughtered animals was attributed to rate of meat consumption and increase in meat price, economic status of population and animals available for slaughter.

The results given in **Table (2)** revealed that 157 condemned case with abnormal conditions in cow organs and carcasses which was recorded during postmortem inspection ; 11 (7.0 %) liver cases were recorded in which 5 (3.18%) showed abscess formation, 6 (3.82%) with liver cirrhosis due to parasitic infestation, while 73 (46.5%) lung lesions revealed lobular pneumonia with 7(4.46.0%) and lobar pneumonia with 5(3.18%); localized Tuberculosis with 15 (9.55%) ,emphysema 8 (5.09%), Abscesses 9 (5.73%), Hydatidosis 7(4.46%) and congestion 22(14.01%). 15 lesion Head case with prevalence of (9.55%) which affected by localized TB (retropharyngeal lymph nodes). 29 (18.48%) spleen was affected by Splenomegaly 17(10.83%), Splenitis 5 (3.20%) and Abscess 7(4.45.0%). Meanwhile 16 (10.19%)Heart lesions was recorded in which 7(4.46%) was infected by *Cysticercus bovis* ;2(1.27%) showed petchial haeorrhages and 7(4.46%) cases with pericarditis. 13 (8.28%) total carcass case was condemned in which the condemnation causes with prevalence of 5 (3.18%) due to Millary TB and 8(5.09%) emaciation cases. The results revealed that the number of cows liver that affected by cirrhosis due to parasiticinfection were lower than *Cadmus and Adesokan (2009)*, *Sheferaw et al., (2009)* and *Fekadu et al., (2012)* and higher than that recorded by *El-Dakhly et al., (2008)* , while liver abscess recorded was higher than reported by *Tilahun et al., (2017)* and *Seid et al., (2019)* while lower than *Mohamd (2021)*. The gross pathological finding in Lung was pneumonia which was higher than *Adamu et al., (2023)* a *Jaja et al., (2016)*, *Mummed and Webb (2015)* and *Edo et al. (2014)* but lower than reported by *Tilahun et al., (2017)*. Meanwhile lung emphysema was lower than *Opara (2005)*; *Tilahun et al. (2017)* and *Tembo and Nonga (2015)*, while higher than reported by *Tesfaye et al., (2017)*, *Jaja et al. (2016)* and *Edo et al. (2014)*. The results of postmortem finding showed that the total affections of spleen were lower than those reported by *Sheferaw and Abdu (2017)*, while the results of *Cysticercus bovis* observed in tongue was lower than recorded by *Madzingira et al., (2018)*, and the cysts recorded in heart were higher than detected by *Edo et al. (2014)*. The total carcass condemnation due to illbleeding was higher than those recorded by *Mummed and Webb (2015)*.

The results given in **Table (3)** revealed that the total abnormal gross postmortem conditions of carcasses and organs of slaughtered buffaloes were 140 cases in which 31 (22.14%) liver were observed with abnormal lesions; abscess 7 (5%) prevalence, cirrhosis 13 (9.28%), Congestion 7 (5%) and TB 4 (2.86%). While the lung gross postmortem affections were 76(54.29%) in which pneumonia with 6 (4.29%), abscess cases were 5 (3.57%), Congestion was 42 (30.0%), TB 15(10.71%), while Hydatidosis was 8 (5.71%). 16 (11.43%) Heart cases were condemned due to Pericarditis 5 (3.57%), petchial hemorrhage 6(4.29%) and Cysticercus bovis 5 (3.57%); 7 cases total carcasses condemnation in which 2 due to TB 2 (1.42%) and 5 (3.57%) carcass was condemned due to sever Emaciation. As other organ affection 5 esophagus was affected by Sarcocystis with total affection prevalence of (3.57%) and 5 kidneys was condemned due to pyelonephritis The results obtained in this study for gross postmortem buffaloes affection lesions were 140 cases, liver abscess affection was lower than *Mohamd (2021) and Madzingira et al. (2018)* but higher than *Tilahun et al. (2017) and Denbarga et al. (2011)*, while liver cirrhosis (Fasciolasis) was lower than *Ahmedullah et al. (2007), Efrem et al.,(2015) and Assefa and Tesfay (2013)* but higher than *Edo et al. (2014)* and *Denbarga et al.,(2011)*,Lung pneumonia was higher than *Cadmus andAdesokan (2009), Edo et al. (2014) and Denbarga et al. (2011)* while lungabscess in this study was higher than *Denbarga et al. (2011)and Edo et al. (2014)* but lower than *Madzingira et al. (2018)*, esophagus Sarcocystiswas lower than *El-sharawy (2018)*. While total carcass condemnation due to jaundice was higher than *Mohammed et al. (2018)*.

The results given in **Table (4)** revealed that the total abnormal gross postmortem conditions of slaughtered sheep were 87 cases in which 24 (27.58%) liver were observed with organs and carcasses abnormal lesions; cirrhosis 8 (9.19%), abscess 6 (6.90%) Local necrosis 7 (8.05%) while congestion was detected in 3 case with (3.44%) , while 36 (41.39%)lung affected by pneumonia 8 (9.20%), abscess 10 (11.50%) and TB 18 (20.69%) .The results also revealed that Heart was affected by Pericarditis 3 (3.44%) ; 8 (9.20%) Head was condemned due to Localized TB; 16 (18.395) whole carcasses were affected in which 12(13.79%) by systemic disturbance and 4(4.60%) jaundice. The results obtained in this study revealed that the liver cirrhosis in sheep was higher than *Allam (2022) and Dejene et al. (2013)*, while lung pneumonia was lower than *Mellau et al. (2010)*, hydatid cyst was higher than *Allam (2022)*, total carcasses condemnation was higher than *Dejene et al. (2013)*, esophagus Sarcocystis in this study was higher than total Sarcocystis in sheep in *El-sharawy (2018)* and lower than *Mahrn (2009)*. These variations in the prevalence of results obtained was

attributed to different geographic areas, weathers and the level of disease control, animal welfare and animal species.

The results given in **Table (5)** showed the economic loss due to condemnation of meat and offal of slaughtered cows which reached 1185170 LE the recorded values was lower than those reported by *Borji and Parandeh (2013)*, *Cadmus and Adesokan (2009)*, *Mesele et al., (2012)* higher than *Efrem et al. (2015)*, *Shiferaw et al., (2009)*, *Fekadu et al., (2012)*, *Assefa and Tesfay (2013)* and *Mesele et al. (2012)*, about 11 livers with 55 kg of was condemned with loss of 12100 LE these values were lower than recorded by *Mesele et al. (2012)*, while 73 lungs with 219 kg s were condemned with loss of 6570 LE. 15 Cow heads with weight reached 120 kg of cow head was condemned with loss reached 14400LE, 29 kg of spleen was condemned with loss of 5220LE. 16 Hearts with weight of 24 kg was condemned with average economic loss reached 2880 LE. 5200 kg of 40 carcasses were condemned with loss of 1144000LE. From the previous results the overall loss due to organs and carcasses condemnation of slaughtered cows reached 1185170 LE.

The results given in **Table (6)** showed the economic loss due to condemnation of organs and carcass of slaughtered buffaloes reached 666630 LE ,in which 31 Liver with weight of 155 kg was condemned with economic loss reached 3400 LE; where 76 Lung with 435kg with losses reached 13050 LE ,.While 16 Heart with weight of 24 kg the loss reached 2880 LE; 5 kidney with weight if 5 kg the condemnation led the economic loss reached 600 LE and finally 7 total carcasses with weight of 2800 kg led to economic loss due to condemnation reached 616000 LE. The results obtained was higher than *Achollah et al. (2020)*, *Tefera et al., (2016)*, *Madzingira et al. (2018)*, *Tefera et al., (2016)*, *Tesfaye et al. (2017)*, and lower than *Taha et al., (2023)*, *Mohammed and Maky (2020)*, *Madzingira et al. (2018)* From the previous results the overall loss due to organs and carcasses condemnation of slaughtered buffaloes reached 666630 LE.

The results given in **Table (7)** showed the financial loss due to condemnation of organs and carcass of slaughtered sheep reached 130440 LE. these results was lower than *Dejene et al. (2013)*, *Yibar et al. (2015)* about 36 kg of liver was condemned with economic loss reached 8640LE, while 72 kg of lungs were condemned with economic loss reached 1800 LE. 480 kg of sheep carcasses were condemned. From the previous results overall economic loss due to organs and carcasses condemnation of slaughtered sheep reached 130440 LE.

Conclusion:

One of the biggest problems facing meat inspection in recent years is the need to identify, understand, and establish the collective data on the primary

cause of condemnation of organs and carcasses, in order to reach to effective methods to prevent or reduce the losses in meat sector and the risks they pose. As the result of the increasing rates of condemnation especially liver and lung in Faraskur abattoir strict measures should be taken by officials and animal owners in Damietta territories to provide an effective animal health care with an effective meat inspection, hygienic disposal of organs and carcasses condemnation and pay attention to animals living spaces, feeding and transportation to exclude the diseases and associated economic loss.

Table (1): *No of slaughtered animals at Faraskur abattoir from July 2020 to July 2022*

Year	Slaughtered animals			
	Sheep	Buffalo	Cows	Total
2021	567	920	728	2215
2022	678	1500	852	3030
	1245	2420	1580	5245

Table (2) *Prevalence and causes of Meat condemnation cases of Slaughtered cows at Faraskur abattoir*

Organ	Cause of condemnation	No	Prevalence %
Liver	Abscess	5	3.18
	Cirrhosis (Fasciola)	6	3.82
Total liver affection		11	7
Lung	Lobular Pneumonia	7	4.45
	Lobar Pneumonia	5	3.18
	Localized TB	15	9.55
	Emphysema	8	5.09
	Abscess	9	5.73
	Hydatidosis	7	4.45
	Congestion	22	14
Total lung affection		73	46.5
Head	Localized TB	15	9.55
Total liver affection		15	9.55
Spleen	Splenomegaly	17	10.8
	Splenitis	5	3.18
	Abscess	7	4.45
Total spleen affection		29	18.43
Heart	Cysticercus bovis	7	4.45
	P.hemorrhage	2	1.27
	Pericarditis	7	4.45
Total liver affection		16	10.17
Carcass	Miliary TB	5	3.18
	Emaciation	8	5.09
Total liver affection		13	8.27
Total Affection		157	100

Table (3) *Prevalence and causes of Meat condemnation cases of Slaughtered Buffaloes at Faraskur abattoir*

Organs	Cause of condemnation	N0	prevalence%
liver	Abscess	7	5
	Cirrhosis	13	9.28
	Congestion	7	5
	TB	4	2.85
Total liver affection		31	22.13
Lung	Pneumonia	6	4.28
	Abscess	5	3.57
	Congestion	42	30
	TB	15	10.71
	Hydatidosis	8	5.71
Total lung affection		76	54.27
Heart	Pericarditis	5	3.57
	P.hemorrhage	6	4.28
	Cysticercosis	5	3.57
Total Heart affection		16	11.42
Carcass	TB	2	1.42
	Emaciation	5	3.57
Total Carcass affection		7	4.99
Esophagus	Sarcocystis	5	3.57
Total Esophagus affection		5	3.57
kidneys	Pyelonephritis	5	3.57
Total kidneys affection		5	3.57
Total Affection		140	100

Table (4) *Prevalence and causes of Meat condemnation cases of Slaughtered Sheep at Faraskur abattoir*

Organ	Cause of condemnation	No	prevalence%
liver	Cirrhosis	8	9.19
	Abscesses	6	6.89
	Local necrosis	7	8.04
	Congestion	3	3.44
Total liver affection		24	27.56
Lung	Pneumonia	8	9.19
	Abscesses	10	11.49
	TB	18	20.68
Total lung affection		36	41.36
Heart	Pericarditis	3	3.44
Total Heart affection		3	3.44
Head	Localized TB	8	9.19
Total Head affection		8	9.19
carcasses	*S. disturbance	12	13.79
	Jaundice	4	4.59
Total carcasses affection		16	18.38
Total Affection		87	100

*Caseous lymphadenitis + emaciation;

S. disturbance =Systemic disturbance

Table (5): *Economic loss of organs and carcass condemnation in Slaughtered cows at Faraskur abattoir*

Condemned Organs	No	Weight/kg	Price/LE
liver	11	55	12100
lung	73	219	6570
Head	15	120	14400
Spleen	29	29	5220
Heart	16	24	2880
Carcasses	40	5200	1144000
Overall economic loss			1185170 LE

*Estimated weight of cow liver: 5kg

*Estimated weight of cow lung: 3 kg

*Estimated price of cow liver: average 220 L.E

* Estimated price of cow lung: average 30 L.E

Table (6): *Economic loss of carcass and organs condemnation in Slaughtered Buffaloes at Faraskur abattoir*

Condemned Organs	No	Weight/kg	Price/LE
liver	31	155	34100
Lung	76	435	13050
Heart	16	24	2880
carcass	7	2800	616000
Kidney	5	5	600
Overall loss			666630 LE

*Estimated weight of buffalo's liver: 5Kg

*Estimated weight of buffalo's lung: 3 Kg

*Estimated average price of buffalo's live: 220 LE

* Estimated average price of buffalo's lung: 30 LE.

Table (7): *Economic loss of condemnation organs in Slaughtered Sheep at Faraskur abattoir from July 2020 to July 2022*

Condemnation Organs	No	Weight/kg	Price/LE
Total liver	24	36	8640
Total Lung	36	72	1800
Total Carcasses	16	480	120000
Overall loss			130440 LE

*Estimated weight of sheep liver: 1.5Kg

*Estimated weight of sheep lung: 2kg

* Estimated average price of sheep liver: 240 LE

* Estimated average price of sheep lung: 25 LE

References:

- Ahmedullah, F. Akbor, M. Haider M. G, Hossain, M. M. Khan, M. A. H. N. A. Hossain M. I. and Shanta I. S. (2007):** pathological investigation of liver of the slaughtered buffaloes in Barisal district Bangl. J. Vet. Med., 5 (1 & 2): 81–85.
- Abuseir S. (2019):** Major Causes and Associated Economic Losses of Carcass and Organ Condemnation in Cattle and Sheep in the Northern Part of Palestine. World's Veterinary Journal World Vet J, 9(4): 317-323.
- Achollah M A, Karanja N D, Nganga J C and Bebora C L (2020):** Causes of organ condemnations in cattle at slaughter and associated financial losses in Siaya County, Kenya, Journal of Veterinary Medicine And Animal Health (J. Vet. Med. Anim. Health), 12(2): 27-35.
- Adamu B M, Shehu U S, Muhammad I, Yakubu A, Garasin M U, Mamuda A M, Garga A M, Wahala O B and Ladan I G (2023):** Retrospective Study on Condemned Carcass and Organ at Katsina Central Abattoir for a Period of 2013 to 2019, UMYU Scientifica, 2(1): 62–67.
- Ahmed A. M., Ismail S. A.S. and Dessouki A. A. (2013):** Pathological lesions survey and economic loss for male cattle slaughtered at Ismailia abattoir. International Food Research Journal 20(2): 857-863.
- Allam H W A (2022):** Studies on Parasitic Infections in Slaughtered Animals at Monufia Governorate with Special References to the Health and Economic losses, MVMS Thesis (meat hygiene) Sadat City University.
- Assefa A and Tesfay H (2013):** Major causes of organ condemnation and economic loss in cattle slaughtered at Adigart municipal abattoir, Northern Ethiopia. Veterinary World 6 (10): 734-738.
- Borji H and Parandeh S (2013):** The abattoir condemnation of meat because of parasitic infection, and its economic importance: results of a retrospective study in north-eastern Iran, Annals of Tropical Medicine & Parasitology (Currently known as Pathogens and Global Health) 104(8): 641–647.
- Cadmus B I S and Adesokan K H (2009):** Causes and implications of bovine organs/offal condemnations in some abattoirs in Western Nigeria, Trop Animal Health Production, 41(7) :1455-63.
- Ciui, S.; Morar, A.; Tîrziu, E.; Herman, V.; Ban-Cucerzan, A.; Popa, S. A.; Morar, D.; Imre, M.; Olariu-Jurca, A.; Imre, K. (2023):** Causes of Post-Mortem Carcass and Organ Condemnations and Economic Loss Assessment in a Cattle Slaughterhouse. Animals 13, 3339. <https://doi.org/10.3390/ani13213339>.
- Codex Alimentarius (2009):** Animal food production. Second Edition. FAO and WHO Rome, Italy.

-
- Dejene S ,Abebe B and Degefu H (2013):** Study on the major health problems that causes carcass and organs condemnation at Hashim's Export Abattoir, Debrezeit, Ethiopia, *Global Veterinaria* 11 (4) :362-371.
- Denbarga Y, Demewez G and Sheferaw D (2011):** Major causes of organ condemnation and financial significance of cattle slaughtered at Gondar ELFORA abattoir, northern Ethiopia, *Global veterinaria*,7 (5):487-490.
- Edo J J, Pal M and Rahman M (2014):** investigation into major causes of organs condemnation at ADAMA municipal abattoir and their economic importance, *Haryana Vet*, 53 (2): 139-143.
- Efrem L, SerdaB, Sibhat B and Hirpa E (2015):** Causes of organ condemnation, its public health and financial significance in Nekemte municipal abattoir, Wollega, Western Ethiopia, *Journal of Veterinary Medicine and Animal Health (J. Vet. Med. Anim. Health)*,7(6) 205-214.
- Egyptian Organization for Standardization and Quality (EOS) 517. 1986.** Law no.517 concerning slaughter of the animals and trade of meat issued by Ministry of Agriculture and Land Reclamation issue in 13/11/1986 for surveillance authority of the general organization for veterinary services.
- El-Dakhly K. M., Hassan W. H. and Lotfy H. S. (2008):** Some parasitic and bacterial causes of liver affections in ruminants. *Journal of Veterinary Medical Research*18(1): 62-68
- El-sharawy M T W. (2018)** Prevalence of Sarcocystis in slaughtered animals in North Sinai, MVMS thesis (meat hygiene) Suez Canal university.
- European Commission. Commission Implementing Regulation (EU) 2019/627** of 15 March 2019 laying down uniform practical, arrangements for the performance of official controls on products of animal origin intended for human consumption in accordance with Regulation (EU) 2017/625 of the European Parliament and of the Council and amending Commission Regulation (EC) No2074/2005 as regards official controls. *Off. J. Eur. Union* 131, 51–100.
- Fekadu A,Legesse E and Tesfaye D (2012):** The cause, rate and economic implication of organ condemnation of cattle slaughtered at Jimma municipal abattoir, southwestern Ethiopia, *Global Veterinaria*,9 (4):396-400 .
- Food and Agriculture Organization (FAO) (2021):** Meat Market Review: Emerging Trends and Outlook; FAO: Rome, Italy, Available online: <https://www.fao.org/3/cc3164en/cc3164en>.
- GraceyJ. F., David S. Collins, and Robert J. Huey (2015):** Gracey's Meat Hygiene 11 Ed. WILEY Blackwell Publisher.
- Jaja F, Mushonga B, Green E and MuchenjeV (2016):** Prevalence of lung lesions in slaughtered cattle in the Eastern Cape Province, South Africa, *Journal of the south African veterinary association* ,87(1): 1362.
- Madzingira O, Chinyoka S,Yule J, Mwenda N E, Kandiwa E, Samkange A and Mushonga B (2018):** A Retrospective Study of Carcass and Organ

Condemnations at a Beef Abattoir in Namibia, Alexandria Journal of Veterinary Sciences, 59(1):34-42.

Mahran O.M. (2009) Sarcocystis Infection In Sheep And Goats Slaughtered In Shalatin Abattoir, Red Sea Governorate, Egypt. Assiut Veterinary Medical Journal 55(2) 1-15.

Mohammed, A., Abdulai, A., Birteeb, P.T. and Hussein, S. M. A. (2018): Major Causes of Organ and Carcass Condemnations of Cattle and Their Associated Financial Loss at The Tamale Abattoir, Ghana. UDS International Journal of Development (UDSIJD) 5(1): 2026-5336.

Mahmoud, A. F., Hafez, A. E.-S. E., Shata, R. H. M., Ghazaly, E. I., El Bayomi, R. M., Ras, R. A. M., Eissa, K. A., and Abdel Rahman, M. M. I. (2023): Carcasses and Offal Condemnation at Kom-Elnour Abattoir In Dakahlia Province, Egypt: Major Causes and Economic Loss.

Mellau B S L, Nonga E H and Karimuribo D E (2010): A slaughterhouse survey of lung lesions in slaughtered stocks at Arusha, Tanzania, Preventive Veterinary Medicine, volume 97(2):77-82.

Mesele G., Guadu T, Bogale B and Chanie M (2012): Pathological conditions causing organ and carcass condemnation and their financial losses in cattle slaughtered in Gondar, Northwest Ethiopia, African Journal of Basic & Applied Sciences, 4(6): 200–208.

Mohamed D A. (2021): Study on causes of cattle liver condemnation at an abattoir in Omdurman area, Khartoum State, Sudan. BMC Vet Res 17, 58. <https://doi.org/10.1186/s12917-021-02766-4>.

Mohammed A, Abdulai, A, Birteeb PT and Hussein S M (2018): Major causes of organ and carcasses condemnations of cattle and their associated financial loss at the tamale abattoir, Ghana. UDS international journal of development (USDIJD). 5(1):2026-5336.

Mohammed S E and Maky A. M (2020): Meat condemnations and economic importance in the northern and southern Egyptian abattoirs. Adv. Anim. Vet. Sci. 8(1): 96-107.

Mummed Y Y and Webb C E (2015): Causes of Beef Carcass and Organ Condemnations in Ethiopia, Asian Journal of Animal and Veterinary Advances, 10 (4) :147-160.

Ninios T, Lundén J, Korkeala H and M. Fredriksson-Ahomaa (2014): Meat Inspection and Control in the Slaughterhouse. John Wiley & Sons, Ltd 736 pages.

Nungesser F, Winter M. (2021): Meat and social change: Sociological perspectives on the consumption and production of animals. OZS Osterr Z Soziol. 46(2):109-124. doi: 10.1007/s11614-021-00453-0. PMID: 34248310; PMCID: PMC8262125.

PARAM. (2005): Pathological conditions from abattoirs in Akwa Ibom state, Nigeria Animal Research International (2005) 2(2): 314 – 318.

-
- Rodarte KA, Fair JM, Bett BK, Kerfua SD, Fasina FO, Bartlow AW. (2023):** A scoping review of zoonotic parasites and pathogens associated with abattoirs in Eastern Africa and recommendations for abattoirs as disease surveillance sites. *Front Public Health.* 17(11):1194964. doi: 10.3389/fpubh.2023.1194964. PMID: 37529427; PMCID: PMC10387540.
- Seid A, Selamawit F, Temesgen B, Tarekegn T, Bethelhem A and Nigussie Y (2019):** Study on Major Causes of Organs Condemnation and Financial Loss in Cattle Slaughtered at Hayik Municipal Abattoir, *Journal of Animal Research*, 9(1): 201-207.
- Sheferaw D and Abdu K (2017):** Major causes of organ and carcass condemnation and associated financial losses in cattle slaughtered at Kombolcha ELFORA abattoir from 2008-2012, *Ethiopian Veterinary Journal*, 2(1):54-66.
- Shiferaw S, Kumar A and Amssalu K (2009):** Organs condemnation and economic loss at Mekelle municipal abattoir, Ethiopia. *Haryana Veterinarian* Vol.48 :17-22.
- Taha A, Saad S, Jubara A, Wani C, Phiri M A, Simuunza M, Munyeme M, Hang'ombe B and Mumba C (2023):** Financial Losses Arising from Cattle Organ and Carcass Condemnation at Lokoloko Abattoir in Wau, South Sudan, *Advances in Preventive Medicine*, vol. 2023, Article ID 7975876:6.
- Tefera Y, Mesfin Z and Muleta W (2016):** Major causes and abnormalities of organ condemnation and financial loss in cattle slaughtered at Dessie municipal abattoir North Eastern Ethiopia, *Journal of Veterinary Medicine and Animal Health (J. Vet. Med. Anim. Health)*, 8(7): 56-63.
- Tembo, W and Nonga, H. E (2015):** A survey of the causes of cattle organs and/or carcass condemnation, financial losses and magnitude of fetal wastage at an abattoir in Dodoma. *Tanzania Journal of Veterinary Research* 82(1): 855.
- Tesfaye W, Mekonnen T and Areru A (2017):** Major causes of organ condemnation and financial significance in cattle slaughtered at Jimma Municipal Abattoir, Southwestern Ethiopia, *International Journal of Advanced Research in Biological Sciences*, 4(2):32-39.
- Tilahun S, Fekadu A and Mekibib B (2017):** Major Causes of Total Organ Condemnation and their Direct Financial Impact in Cattle Slaughtered at Hawassa Municipality Abattoir, Southern Ethiopia. *J Vet Sci. Technol* 8(5): 473.
- Yibar A, Selcuk O and Senlik B (2015):** Major causes of organ/carcass condemnation and financial loss estimation in animals slaughtered at two abattoirs in Bursa Province, Turkey. *Preventive Veterinary Medicine.* 118 (1): 28-35.

**تقييم الأسباب الرئيسية والخسائر الاقتصادية لإعدام الذبائح والأحشاء
بمسالخ فارسكور - محافظة دمياط، مصر
وائل محمد ابوالخير حموده - حسني عبداللطيف عبدالرحمن- ندي ابراهيم حسين**

لا يزال استهلاك اللحوم متشابكًا مع مفاهيم الهيبة الاجتماعية والاقتصادية، على الرغم من أن سياق وأهمية هذا الارتباط يمكن أن يختلفان على نطاق واسع اعتمادًا على العوامل الثقافية والاقتصادية والاجتماعية. تتمثل إحدى أكبر المشاكل التي تواجه فحص اللحوم في المسالخ في السنوات الأخيرة في الحاجة إلى تحديد وفهم وإنشاء البيانات الجماعية حول السبب الرئيسي لإعدام الأعضاء والذبائح للوصول إلى طرق فعالة لمنع الخسائر في قطاع اللحوم لمواجهة المخاطر التي يفرضها نتيجة لارتفاع معدلات الإعدامات في المسالخ. وقد أظهرت النتائج أنه تم تسجيل 157 حالة مرضية في الأبقار وكانت الأعضاء الأكثر إصابة هي الكبد والرئتين مع انتشار إجمالي للحالات المرضية بنسبة 7.0 و 46.0% على التوالي. بينما في الجاموس كانت هناك 140 حالة إصابة وكانت أعلى إصابة بالمرض في الكبد والرئة مع انتشار إجمالي للإصابة بنسبة 22.14% و 54.29% على التوالي. في الأغنام تم تسجيل 87 حالة إصابة مع انتشار إجمالي بنسبة 27.58% و 41.39% في الكبد والرئة على التوالي. وقد أظهرت النتائج التي تم التوصل إليها في هذه الدراسة أن رئات الأبقار والجاموس والأغنام كانت أكثر الأعضاء إصابة بالتهابات الرئوية تليها إصابة الكبد بسبب الإصابة بالطفيليات. وقد ادى التباين في النتائج التي تم التوصل إليها الي عوامل مختلفة و بطرق معقدة، مما أدى إلى تباين أسباب الاصابات المرضية مما أدى في النهاية إلى زيادة الخسارة في صناعة اللحوم.

الكلمات المفتاحية:

فحص اللحوم - المراقبة - المسالخ - الذبيحة - إعدام الأعضاء - الخسارة الاقتصادية