AMRG Guideline 2020:1- Alternative techniques guideline SCHEDULE 2

PROCEDURES FOR POST-MORTEM INSPECTION

In this Schedule:

buffalo means any bubaline greater than 50 kgs dressed weight; and calf means a young bovine or bubaline no greater than 50 kgs dressed weight; and

cattle means any bovine greater than 50 kgs dressed weight; and

pigs means all pigs reared at any stage in indoor and outdoor production systems and also cull breeding stock; and

incise means to examine by observation and multiple slicing; and *palpate* means to examine by observation and palpation.

Table 1. Procedure for post-mortem inspection of carcases

	Cattle & buffalo	Calves	Sheep & goats	Lambs	Pigs	Horses	Deer
All carcases	Observe internal and external surfaces of carcase (including tail, musculature, exposed bone, joints, serous membranes).						
Lymph nodes							
Superficial inguinal	Observe See note #1	Observe	Observe	Observe	Observe See note #2	Incise	Observe
Internal iliac	Observe See note #1	Observe	Observe	Observe	Observe	Observe	Observe
Lumbar	_	_	Observe	Observe	Observe	_	
Ischiatic	_	_	Palpate	Observe	_	_	_
Precrural	_	_	Palpate	Observe	_	Palpate	_
Superficial cervical	_	_	Palpate	Observe	_	Palpate	_
Popliteal	_	_	Palpate	Observe	_	_	_
Prepectoral	_	_	_	_	_	Incise	_

Equivalent procedures

Note #1 Cattle & buffalo – Palpate the superficial inguinal and internal iliac lymph nodes in animals subject to conditional slaughter or emergency slaughter and in bulls and mature females.

Note #2 Pigs – Observe the superficial inguinal lymph nodes or, other than animals subject to conditional slaughter or emergency slaughter, an equivalent procedure is to excise and discard these nodes without inspection.

Table 2. Procedure for post-mortem inspection of viscera

	Cattle & buffalo	Calves	Sheep & goats	Lambs	Pigs	Horses	Deer
Lymph nodes							
Bronchial & mediastinal	Observe See note #1	Palpate	Observe See Note #3	Observe	Observe	Incise	Palpate
Portal	Palpate	Palpate	Observe	Observe	Observe	Palpate	Observe
Mesenteric	Observe	Observe	Observe	Observe	Observe	Observe	Observe
Lungs					where observe. So observed when		ıman
Heart	Palpate. Incise internal musculature three to four times in cattle and buffalo See note #5	Palpate	Palpate	Palpate	Observe	Palpate	Palpate
Liver	Palpate, except in sheep, goats, lambs and pigs where observe. Incise main bile ducts transversely and observe contents, except in pigs where inspection of bile ducts not required (see Note #2 for option).						
Gastrointestinal tract	Observe, though observation of oesophagus not required in cattle, buffalo, calves or deer unless recovered for human consumption.						
Spleen	Observe	Observe	Observe	Observe	Observe	Palpate	Observe
Kidney (enucleated)	Palpate	Palpate	Observe See Note #6	Observe	Observe See Note #6	Palpate	Palpate
Other tissues and organs	Thymus, pancreas, non-gravid uterus, bladder, testicles and penis observed when recovered for human consumption.						

Equivalent procedures

Note #1	Cattle & buffalo – Incise bronchial and mediastinal lymph nodes in animals subject to conditional slaughter or emergency slaughter.
Note #2	All animals – Procedures for the incision of main bile ducts and observation of contents may not be required at a meat business by the controlling authority.
Note #3	Where lungs are kept for human consumption the bronchi and mediastinal lymph nodes will be palpated
Note #4	Where lungs are kept for human consumption in sheep and goats they will be palpated
Note #5	Palpate and incise heart musculature three to four times in cattle and buffalo, unless animal has CB device-based status in NLIS whereby procedures in Table 4 should apply.
Note #6	When kept for human consumption kidneys are to be observed enucleated, when not kept observe unenucleated.

Table 3. Procedure for post-mortem inspection of heads

	Cattle & buffalo (Note #1)	Calves (Note #1)	Sheep & goats (Note #1)	Lambs (Note #1)	Pigs (Note #1)	Horses (Note #1)	Deer (Note #1)
All carcases	Observe exterr		s. For cattle	, buffalo an	d horses observ	e the oral, b	ouccal
Lymph nodes							
Submaxillary	Observe				Observe	Incise	
odbinaxinal y	See note #2				See note #4	1110100	
Parotid	Observe				_	Incise	_
T di Otid	See note #2					1110100	
Retropharyngeal	Observe	_	_	_	_	Incise	_
ygoa.	See note #2						
Cervical	_	_	_	_	Observe	_	_
					See note #4		
	Observe						
Masticatory muscles (internal and	See note #3	_	_	_	_	_	_
external)							
Tongue	Palpate				_	Palpate	
Gutteral pouch	_	_	_	_	_	Palpate	_
Other tissues	Tongue roots in cattle, buffalo and horses observed when recovered for human consumption						

Equivalent procedures

Note #1	All animals – Other than cattle, buffalo, horses and animals subject to conditional slaughter or emergency slaughter, an equivalent procedure is to remove and discard the head without inspection where tissues, including tongue, are not recovered for human consumption.
Note #2	Cattle & buffalo – Incise submaxillary, parotid and retropharyngeal lymph nodes in animals subject to conditional slaughter or emergency slaughter.
Note #3	If cattle or buffalo present with a NLIS CB device based status, procedures in Table 4 of this Schedule for C.bovis apply, otherwise observe.
Note #4	Pigs – Observe the submaxillary and cervical lymph nodes or, other than animals subject to conditional slaughter or emergency slaughter, an equivalent procedure is to excise and discard these nodes without inspection.

Table 4. Additional post-mortem inspection procedures when gross abnormalities and specific diseases are detected or suspected

Disease	Inspection procedure
Gross abnormalities	Palpation and incision may be used where appropriate to ensure that equivalent wholesomeness is achieved; this also covers gross abnormalities arising from animal health (including zoonoses) and welfare problems (refer to Clause 10.2 of the Australian Meat Standard). Palpation and incision may be used in determining if there is evidence of active systemic infection to inform carcase disposition judgment. When palpation and incision are used, these additional procedures must be followed by effective decontamination interventions of hands and associated equipment to minimise cross-contamination.
Tuberculosis in cattle and buffalo	Incise atlantal, prescapular, prepectoral, suprasternal, superficial inguinal, iliacs, ischiatic, precrural, portal and mesenteric lymph nodes. Incise popliteal lymph node where necessary to determine the extent of infection. All viscera, serous membranes, spinal cord and severed vertebral column inspected by observation, palpation and, where necessary, incision. Udders incised and observed.
Tuberculosis in pigs	Incise retropharyngeal, parotid, bronchial, mediastinal, portal, gastric, mesenteric, superficial inguinal, lumbar, precrural, prescapular and deep inguinal lymph nodes. Viscera and serous membranes inspected as above for cattle.
Tuberculosis in horses	As for cattle and buffalo.
Tuberculosis in deer	Incise submaxillary, retropharyngeal, parotid, bronchial, mediastinal, mesenteric, portal, superficial inguinal, iliac, ischiatic and suprasternal lymph nodes. Incise popliteal lymph node where necessary to determine the extent of infection. Viscera and serous membranes inspected as above for cattle.
Cysticercus bovis In cattle, buffalo and deer	Incise masseter and heart muscles, tongue and diaphragm after removal of serous membranes and observe all exposed muscle surfaces.
Cysticercus celluosae in pigs	As above for <i>C. bovis</i> .
Sparganosis in pigs	Observe retro-peritoneal tissues after removal of the peritoneum. Where further evidence of infestation revealed, also observe main muscle seams of the hind limbs. Incise as necessary to determine extent of infection.

SCHEDULE 3

ANTE-MORTEM AND POST-MORTEM DISPOSITIONS

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	Dispositions for animals, carcases and carcase parts.
Diseases and other abnormalities	The symbol [1] means carcase or carcase parts unfit for human consumption may be recovered for animal food subject to heat sterilisation. The symbol [2] means carcase or carcase parts unfit for human consumption may be saved either for animal food subject to heat sterilization or for animal food subject to staining.
	Additional testing to determine safety and wholesomeness may be undertaken where disposition is uncertain – see sections 8.15 and 10.17.
1. General findings	
Abnormal odour caused by metabolic conditions, feedstuff, chemicals or sexual odour	
Pronounced odour	Carcase and all its carcase parts condemned[1]
Slight odour	Retain for further disposition after chilling
Advanced chronic conditions with generalised signs such as cachexia or loathsome appearance	Animal condemned
Dead animal	Animal condemned. If anthrax suspected see 2.1
Dying animal or moribund state with subnormal temperature, weak pulse and disturbed senses	Animal condemned
Excitement, exhaustion without signs of acute disease	Animal withheld from slaughter and ante-mortem repeated after adequate rest
Fever, debility and general signs indicating acute disease	Animal condemned. Alternatively, withhold from slaughter until it has recovered and provided there is no risk of spread of disease, no undue suffering and recovery is considered likely with treatment. When detected at postmortem, carcase and all its carcase parts condemned
Foetuses and undeveloped neonatal animals	Carcase and all its carcase parts condemned

Generalised disease conditions such as emaciation, anaemia, oedema or degeneration of organs	Carcase and all its carcase parts condemned
Injury or accidental trauma during transport to or while in vicinity of abattoir	Animal subject to emergency slaughter or condemned
Septicaemia, pyaemia or toxaemia	Carcase and all its carcase parts condemned
2. Aetiological listing	
2.1 Bacterial and related diseases	
Actinomycosis and Actinobacillosis:	
Localised in head	Head and tongue condemned
Evidence of generalisation such as lesions in lungs or other viscera, or other signs such as extreme loss of condition	Carcase and all its carcase parts condemned
Anaplasmosis and babesiosis:	
 Acute with intense jaundice and other signs of systemic involvement including fever, liver enlargement and kidney congestion 	Carcase and all parts condemned
Sub-acute with mild jaundice that dissipates within 24 hours of slaughter	Carcase parts condemned
Anthrax	Affected animals should not be admitted to an abattoir. When detected at ante-mortem, affected animal condemned. Companion animals isolated and withheld from slaughter. When detected at post-mortem, affected carcase and all its parts condemned
Blackleg	Carcase and all its carcase parts condemned
Botryomycosis:	
Severe cases with evidence of systemic effects such as cachexia	Carcase and all its carcase parts condemned
Less severe cases	Affected carcase parts condemned
Botulism	Carcase and all its carcase parts condemned

Caseous lymphadentitis:			
Generalised involvement in carcase and viscera with evidence of systemic effects such as cachexia	Carcase and all its carcase parts condemned		
Less extensive forms of the disease	Affects organs or carcase parts condemned		
Corynebacterial infections in submaxillary and cervical lymph nodes in pigs	Affected nodes condemned		
Enterotoxaemia	Carcase and all its carcase parts condemned		
Eperythrozoonosis:			
 Acute with intense jaundice and other signs of systemic involvement including fever; liver enlargement; and kidney congestion 	Carcase and all its carcase parts condemned		
Sub-acute with mild jaundice which dissipates within 24 hours of slaughter	Carcase parts condemned		
Foot rot:			
Acute with secondary infection of organs or extreme loss of condition	Carcase and all its carcase parts condemned		
Chronic with encapsulated abscess in liver or lungs	Affected organs condemned		
Infectious ovine epididymitis (B. ovis)	Affected testicles condemned		
Johne's disease	Intestines and mesentery condemned		
Leptospirosis:			
Acute	Carcase and all its carcase parts condemned		
Chronic, localised	Affected kidneys condemned		
Listeriosis	Carcase and all its carcase parts condemned		
Malignant oedema	Carcase and all its carcase parts condemned		
Melioidosis	Carcase and all its carcase parts condemned		
Necrobacillosis:			
Acute with lesions in a number of sites or evidence of systemic involvement	Carcase and all its carcase parts condemned		
Localised lesion in liver or other organ	Affected liver or organ condemned		

Purpura haemorrhagica	Affected carcase parts condemned		
Salmonellosis	Carcase and all its carcase parts condemned		
Strangles	Affected carcase parts condemned		
Swine erysipelas:			
• Acute	Carcase and all its carcase parts condemned		
 Localized arthritis or endocarditis without signs of systemic effects 	Affected joint/s and associated lymph node/s condemned; when affected, heart condemned		
Cutaneous lesions	Affected areas of skin condemned		
Tuberculosis:			
In cattle and buffaloes			
 Generalised with evidence of systemic involvement; more than one organ affected; miliary lesions in any organ; evidence of active infection or extensive infection of peritoneum or pleura 	Carcase and all its carcase parts condemned		
Localised infection	Affected carcase part, including drained part, condemned; or affected organ condemned		
In pigs			
Generalised	Carcase and all its carcase parts condemned		
 Localised in submaxillary or mesenteric lymph nodes (avian type) 	Affected carcase part condemned		
In horses and deer	Carcase and all its carcase parts condemned		
White scours, omphalophlebitis, polyarthritis and other septicaemic conditions of new-born animals	Carcase and all its carcase parts condemned		
2.2 Parasitic conditions			
Cysticercus bovis:			
General infestation	Carcase and all its carcase parts condemned		
Light infestation, small number of degenerated cysticerci	Affected viscera condemned. Cysts and surrounding tissue trimmed from carcase and condemned. Remainder of carcase and parts passed conditionally fit for human consumption subject to treatment by freezing (no warmer than –12°C deep muscle temperature for not less than 10 days in carcases and 20 days in boned meat)		

Cysticercus cellulosae:			
General infestation	Carcase and all its carcase parts condemned		
Light infestation, small number of degenerated cysticerci	Affected viscera condemned. Cysts and surrounding tissue trimmed from carcase and condemned. Remainder of carcase and parts passed conditionally fit for human consumption subject to treatment by freezing (no warmer than –12°C deep muscle temperature for not less than 5 days in carcases or boned meat)		
Cysticercus ovis:			
General infestation (more than 5 cysts found in musculature)	Carcase and all its carcase parts condemned		
Light infestation, small number of degenerated cysticerci	Affected viscera condemned. Cysts and surrounding tissue trimmed from carcase and condemned		
Cysticercus tenuicollis	Cysts and affected serous membranes trimmed from carcase or carcase part and condemned		
Echinococcosis	Affected organs condemned		
Myiasis	Animal condemned in severe cases with sepsis or necrosis. Otherwise withhold from slaughter for treatment and resubmit for ante-mortem after recovery		
Oestrus ovis infestation in sheep	Infestation removed or affected parts condemned		
Onchocerciasis	Lesions and affected tissues trimmed from carcase and condemned		
Pulmonary and gastrointestinal strongylosis	Affected organs condemned (in case of lungs[1])		
Sparganosis:			
General infestation	Carcase and all its carcase parts condemned		
Light infestation	Tissue trimmed from carcase and condemned. Remainder of carcase and parts passed conditionally fit for human consumption subject to treatment by freezing (no warmer than –12°C deep muscle temperature for not less than 5 days in carcases or boned meat)		
Stephanurus dentatus	Affected carcase parts condemned		
2.3 Protozoal diseases			
Coccidiosis	Affected intestines condemned		

Sarcosporidiosis	Affected carcase parts condemned				
2.4 Viral diseases					
Bovine leucosis:					
Multiple lesions or lesions in multiple organs	Carcase and all its carcase parts condemned.				
Localised lesion (eg mesentery)	Affected gastrointestinal tract or other organs condemned				
Bovine para-influenza	Affected lungs condemned				
Bovine virus diarrhoea/mucosal disease:					
Acute infection with evidence of systemic involvement	Carcase and all its carcase parts condemned				
Chronic infection with lesions localised to alimentary tract	Affected intestines condemned				
Ephemeral fever	Animals withheld from slaughter for treatment. Resubmitted for ante-mortem after recovery				
2.5 Fungal diseases					
Aflatoxicosis:					
 Acute with generalized signs including jaundice; swelling of liver; ascites and mesenteric oedema 	Carcase and all its carcase parts condemned				
Subacute	Affected liver and kidneys condemned				
Epizootic lymphangitis	Affected skin and related tissues condemned. Any affected organs condemned				
2.6 Non-infectious conditions					
Delay in Evisceration:					
Evidence of deterioration or putrefaction	Carcase and all its carcase parts condemned				
Localised changes in viscera	Viscera condemned				
Ecchymosis	Affected carcase parts condemned[2]				
Foreign objects, including grass seeds:					
Accompanied by generalised signs such as fever or sepsis	Carcase and all its carcase parts condemned				
No evidence of generalised signs	Foreign object removed; affected tissues trimmed from carcase and condemned				

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Jaundice:		
Haemolytic or toxic	Carcase and all its carcase parts condemned	
Obstructive (slight, dissipate within 24 hours of slaughter)	Carcase parts condemned	
Obstructive (severe)	Carcase and all its carcase parts condemned	
Metabolic disorders (transit tetany, ketosis)	Animal condemned in severe cases. Withheld from slaughter in milder cases and resubmitted for ante-mortem after recovery	
Residues in excess of nationally established maximum limits	Carcase and all its carcase parts condemned. Companion animals and carcases tested for residue levels	
Tumours:		
Circumscribed benign tumours; neurofibromas of intercostals nerves and nerve plexes, and melanoma of pigs that have not progressed beyond the immediate draining lymph node	Depending on extent, lesion trimmed and condemned or affected carcase part condemned[1]	
Malignant tumours (carcinoma, sarcoma)	Carcase and all its carcase parts condemned[1]	
Multiple tumours (evidence of metastasis or multiple lesions in different organs)	Carcase and all its carcase parts condemned[1]	
3. Topographic listing		
3.1 Nervous system		
Acute encephalitis and meningitis	Carcase and all its carcase parts condemned	
Brain abscesses:		
Associated with pyaemia	Carcase and all its carcase parts condemned	
Localised lesion	Affected brain condemned	
3.2 Cardiovascular system		
Acute pericarditis with accumulation of exudate; septicaemia; degenerative changes in organs or abnormal odour	Carcase and all its carcase parts condemned	
Chronic pericarditis	Affected heart and pericardium condemned	
Endocarditis:		
Associated with generalised signs	Carcase and all its carcase parts condemned	
Without complications	Affected heart condemned	

Heart lesions of non-infectious nature	Affected heart condemned	
Worm aneurisms in horses:		
Infarction confined to hind leg	Affected quarter condemned	
 Peritonitis, circulatory disturbances in mesentery and intestines 	Carcase and all its carcase parts condemned	
3.3 Respiratory system		
Atelectasis, emphysema, pigmentation, aspiration of blood, scalding water or ingesta	Affected lungs condemned[1]	
Bronchitis	Affected lungs condemned	
Pneumonia or bronchopneumonia:		
Acute infectious with evidence of septicaemia, petechial haemorrhage, polyserositis	Carcase and all its parts condemned	
Chronic, may show multiple localised abnormalities in lungs, no evidence of septicaemia	Affected lungs condemned[1]	
Sinusitis	Affected head condemned	
3.4 Pleura		
Pleurisy		
Acute infectious with evidence of septicaemia, petechial haemorrhage, polyserositis	Carcase and all its carcase parts condemned	
Chronic with adhesions and patches of fibrinous material, no evidence of septicaemia	Affected serous membranes removed and affected parts condemned	
3.5 Gastrointestinal tract		
Acute enteritis:		
 Septic, diphtheritic or haemorrhagic enteritis enlargement of spleen or degeneration of organs 	Carcase and all its carcase parts condemned	
With congested mesenteric lymph nodes without other signs	Affected intestines condemned	
Chronic gastro-intestinal catarrh	Affected intestines condemned	
Emphysema of mesentery in pigs	Affected mesentery and intestines condemned	
3.6 Peritoneum		

Adhesions and patches of fibrinous tissue, localised encapsulated abscesses	Affected parts condemned	
Peritonitis:		
Acute, diffuse or extensive	Carcase and all its carcase parts condemned	
Localised	Affected serous membranes stripped and affected parts condemned	
3.7 Liver		
Abscesses	Affected liver condemned	
Fatty infiltration, parenchymatous infiltration	Affected liver condemned[1]	
Hepatitis of toxic, parasitic or non-specific nature	Affected liver condemned (for parasitic and nonspecific causes [1]).	
Miliary necrosis of liver in calves	Carcase and all its carcase parts condemned	
Parasitic lesions/nodules	Affected parts of liver trimmed and condemned	
Telangiectasis, cyst formation	Affected liver or part of liver condemned[1]	
3.8 Kidney		
Bladder rupture	Carcase and all its carcase parts condemned	
Calculi, cyst formation, pigmentation	Affected kidneys condemned[1]	
Nephritis (including parasitic nephritis):		
 Acute with evidence of uraemia, oedema or abnormal odour of urine 	Carcase and all its carcase parts condemned	
Chronic with no systemic effects	Affected kidneys condemned	
3.9 Genital tract		
Inflammation of uterus:		
 Acute metritis (septic or necrotic, putrified foetus) 	Carcase and all its carcase parts condemned	
Chronic metritis	Affected uterus condemned	
Orchitis/epididymitis	Affected organ condemned	
Prolapse, torsion or rupture of uterus accompanied by fever or peritonitis	Carcase and all its carcase parts condemned	

Carcase and all its carcase parts condemned	
Affected uterus condemned	
Carcase and all its carcase parts condemned	
Udder condemned	
Udder condemned	
3.11 Musculo-skeletal system	
Affected parts condemned[1]	
Carcase and all its carcase parts condemned	
Affected part(s) condemned	
Fracture trimmed from carcase and condemned	
Carcase and all its carcase parts condemned	
Affected parts condemned[1]	
Carcase and all its carcase parts condemned	
Affected part trimmed from carcase and condemned	

3.12 Skin		
Bruising:		
Generalised or secondary changes in carca	ase Carcase and all its carcase parts condemned[2]	
Localised	Affected tissue trimmed from carcase and condemned for trimmings [2].	
Burns:		
With extensive oedema or systemic signs s as fever	Such Carcase and all its carcase parts condemned	
Localised	Affected tissue trimmed from carcase and condemned[1]	
Eczema and chronic dermatitis in pigs	Affected skin trimmed from carcase and condemned	
Erythema and acute dermatitis (e.g. photosensitisation):		
With systemic effects such as fever	Carcase and all its carcase parts condemned.	
No evidence of systemic involvement	Affected skin trimmed from carcase and condemned[1].	
Wounds and Cellulitis:		
 Infected wounds and discharging lesions accompanied by generalised signs such as fever or sepsis 	Carcase and all its carcase parts condemned.	
Granulating wounds or no evidence of generalised signs	Affected tissues trimmed from carcase and condemned	