Ministry for Primary Industries
Manatū Ahu Matua

Operational Code

Red meat post-mortem examination

Code of Practice Chapters 6, 7, and 8

15 August 2024

Issued by the Ministry for Primary Industries

Te Kāwanatanga o Aotearoa
New Zealand Government

TITLE

Operational Code: Red meat post-mortem examination

COMMENCEMENT

This Operational Code is effective from the date of signing.

REPLACEMENT

This Operational Code revokes and replaces the Operational Code: Red meat post-mortem examination issued on 20 December 2023.

ISSUING BODY

This Operational Code is issued by the Ministry for Primary Industries.

Dated at Wellington, 15 August 2024

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Introduction

This introduction is not part of the Operational Code, but is intended to indicate its general effect.

Purpose

(1) The purpose of the Operational Code: Red meat post-mortem examination (the Code) is to set out requirements for the post-mortem examination of species outlined in subclause (3) and with the outcome that they are intended for human consumption. Animal material parts unsuitable for human consumption, and those intentionally downgraded by operators, may be salvaged for other purposes if they are fit for purpose, e.g. animal consumption, pharmaceutical or technical use.

(2) Other requirements are set out in Regulations and Notices issued under the Animal Products Act 1999 (APA) to ensure red meat is fit for its intended purpose. The Code also provides guidance on how to meet these requirements.

(3) The Code applies to:

a) farmed animals including sheep, lambs, cattle, bobby calves, deer, goats, pigs, camelids, ostriches and emus;
b) hunted animals of these species where relevant; and
c) other species as relevant (e.g. horses, rabbits, hares, wallabies).

(4) The Code covers the New Zealand standards and requirements only. Export requirements are not covered. Exporters need to ensure they meet all export requirements, including any Overseas Market Access Requirements (OMARs) relevant to their product and intended market.

Background

(1) After slaughter and dressing, animal material must be appropriately presented for examination and then examined by a competent post-mortem examiner with the aim of obtaining a judgement and disposition that considers safety and suitability for the intended purpose.

(2) There are three key activities in post-mortem examination as detailed below, and historically these activities were covered in separate chapters of the Red Meat Code of Practice:

a) **presentation** of the animal material to the post-mortem examiner in a manner that facilitates examination (Red Meat Code of Practice: Chapter 6 (Chapter 6));
b) **examination** of the animal material by the post-mortem examiner (Red Meat Code of Practice: Chapter 7 (Chapter 7)); and
c) **disposition** of the animal material relating to the findings from post-mortem examination (Red Meat Code of Practice: Chapter 8 (Chapter 8)).

(3) The CODEX Code of Hygiene Practice for Meat recognises that the significant food safety hazards on carcasses are non-visible contaminants such as bacteria, and that traditional organoleptic meat examination is largely ineffective against these hazards. Furthermore, handling of carcasses has the potential to increase and redistribute these microbial hazards (see Chapter 8 Part 2.1).

(4) This operational code categorises defects (see Chapter 8 Part 2.1) into:

a) Food safety hazards
b) Wholesomeness defects, i.e. defects likely to be objectionable to consumers, but are non-hazardous (see also definition in Part 1.2), and
c) Processing defects.

Who should read this Operational Code?

(1) This Code is relevant to risk management programme (RMP) operators and ante-mortem and post-mortem examiners who are involved in the primary processing (slaughtering and/or dressing) of red meat species as identified in the scope and RMP verifiers.

Why is this important?

(1) Operators who primary process (slaughter and/or dress) under a registered RMP must meet all relevant requirements under the APA. This includes requirements in the form of Regulations and Notices issued under the APA. Failure to do so is an offence under Part 10 of the APA.

(2) Operators who intend to export animal products, must comply with requirements under the APA, along with any additional export requirements.

Document History

Version Date	Section Changed	Change(s) Description
December 2023	All	This Code consolidates the three Red Meat Codes of Practice: • Chapter 6 Presentation for post-mortem examination. • Chapter 7 Post-mortem examination. • Chapter 8 Post-mortem dispositions.
August 2024	Chapter 6: 2.1 (5) Chapter 6: 2.2 (4) Chapter 7: 3.3 (2) Chapter 7: 3.7.1 (4) Chapter 7: 3.7.1 (7) Chapter 7: 3.7.4 Chapter 7: 3.8 Chapter 8: Part 5 (1) Schedule 1.	Clause deleted as covered in 2.2 (4). Guidance box on contamination added. Clarification of requirements for use of ancillary areas. Guidance box updated. Clause reworded for clarity. Requirements for *C. bovis* training programme specified. Guidance box updated. Reporting requirements included. Minor changes to the presentation, examination and disposition tables. Definitions and abbreviations updated as required. References corrected as required.

Part 1: How to interpret this Code

(1) This Code combines the requirements and guidance from the Red Meat Code of Practice Chapters 6, 7 and 8 into one consolidated document. The title of each chapter in this Code is aligned to the three previously separate chapters. This may result in non-sequential numbering in some places to retain the same references as the previous versions.

(2) It is important to read this Code in consideration of other related legislation, particularly the PSP Notice, see also Part 1.1 Related requirements.

(3) The Code is incorporated into the PSP Notice by reference (PSP Notice A1.5) under Section 168 of the Act). This means that the clauses of the Code become legal requirements similar to any other requirement in the PSP Notice.

(4) In due course, the clauses of this Code that are appropriate to remain as requirements will be transferred to the PSP Notice, other clauses will be retained as guidance. To facilitate readability, some clauses from the PSP Notice have been summarised in guidance boxes, noting that the phrasing in the PSP Notice is the legal requirement.

> **Guidance**
> To provide an indication of what clauses are likely to be moved to the PSP Notice and those that are likely to remain in the Code, clauses identified as guidance are in a box.

1.1 Related requirements

(1) This document should be read in conjunction with:

a) The Animal Products Act 1999 (APA);
b) The Animal Products Regulations 2021 (AP Regs); and
c) The Animal Products Notice: Production, Supply and Processing (PSP Notice).

(2) The PSP Notice describes competency and qualification requirements for people, including official assessors and post-mortem examiners, performing ante-mortem and post-mortem examination for product intended for human consumption. There are additional requirements where ante-mortem and/or post-mortem examination is performed by company-employed post-mortem examiners and the product is intended for export. The additional requirements are specified in the current version of the Notices below:

a) Animal Products (Export Requirement: Company Ante-Mortem and Post-Mortem Inspection) Notice 2013
b) Animal Products (Export Requirement: Inspection Agencies Ante-Mortem and Post-Mortem Inspection) Notice 2009
c) Animal Products (Export Requirement: Inspection Agencies Ante-Mortem and Post-Mortem Inspection) Amendment Notice 2013
d) Animal Products Notice Official Assessors: Ante-mortem and Post-mortem Examiners 28 February 2022.

1.2 Definitions

(1) In this Code, unless the context otherwise requires:

Avian TB means Tuberculosis caused by a Mycobacterium in the *Mycobacterium avium complex* (MAC)

Batch collection means the collection of tissues from a batch of animals (e.g. the animals processed within a certain time period). The identity of the individual animal from which each tissue in the batch is

sourced can no longer be established. These tissues may need to be batch examined. Disposition of the whole batch may be determined by the dispositions applied to the individual animals that contributed to the batch

Batch examination means the presentation and examination of tissues that have been batch collected

Biosecurity compartment (with respect to porcine tuberculosis) means pigs contained in a manner that separates them from other susceptible animals by a biosecurity management system for bTB prevention

Bobby calves means a calf intended to be slaughtered for the production of bobby veal

Cattle means all bovines (e.g. cattle, bison, buffalo)

Condemned means that the animal material has been assessed as not suitable for

a) human consumption; or
b) animal consumption without further processing e.g. rendering for petfood

Deer means all cervine (e.g. deer, including fallow, red, wapiti)

Food safety means relating to a significant human health hazard, and includes hazards that arise from animal health conditions that are present prior to slaughter (particularly as they apply to zoonosis)

Generalised lesions indicate situations where lesions, infestations and/or defects are easily noticeable because of their numbers in the carcass, and/or lesions are extensive and/or they are widely distributed in the carcasses; and where complete removal is likely impractical

Goat means all caprices (e.g. goats, Tahr, Chamois)

Incise in the context of post-mortem examination means to incise tissues with a knife, view the cut surface and judge abnormality

Line means a group of animals coming from the same vendor and slaughtered during the same processing day at one slaughterhouse

Localised conditions are typically those in which the disease or defect is in one area or organ (and in some cases the draining lymph node) and there is no evidence of systemic signs or spread

Palpate in the context of post-mortem examination means to feel tissues by pressure, note and judge abnormality

Pigs means all porcine

Remove means to decouple a specific animal tissue from other tissues of the same animal. This does not include physical separation of tissues that occurs as a part of the slaughter process. For example, a pluck that is taken out of a carcass is not considered to be removed unless it cannot be linked to the originating carcass

Sheep means all ovine (e.g. sheep, lambs)

Specified veterinary disposition (SPVD) means animals designated at ante-mortem examination, or as a result of initial post-mortem examination findings, as requiring veterinary disposition. SPVD animals may be considered as suspect animals

Suspect animal/s has the same meaning as the PSP Notice F.2

Suspect lesion means a lesion identified at post-mortem examination that requires laboratory diagnosis to establish cause; a suspect lesion may or may not be associated with a suspect animal

Systemic signs means a carcass or an animal that shows adverse effects on the general health status of the animal/carcass because of the size, or extensive nature of a lesion or condition, or for which there are signs of severe or extensive pathology in more than one organ or body system. Such signs include as an example septicaemia/toxaemia or embolic spread of the disease via either the lymphatic or the blood stream

TB reactor means an animal judged to be a bTB reactor by an accredited or authorised person under the pest management strategy of Tree New Zealand (OSPRI)

TB suspect means animals that have lesions suspicious of bTB identified at post-mortem examination or are a TB reactor

View in the context of post-mortem examination means to view tissues, note and judge abnormality

Wholesomeness aligned to the definition in the Animal Products Act, means that the product does not contain or have attached to it, enclosed with it, or in contact with it anything that is offensive, or whose presence would be unexpected or unusual in product of that description

1.3 Abbreviations

(1) In this Code, unless the context otherwise requires:

APA means the Animal Products Act 1999

AP Regs means the Animal Products Regulations 2021; and a reference to a specific regulation is a reference to that regulation in the AP Regs

APO means Animal Products Officer

B means bobby calf

bTB means Tuberculosis caused by *Mycobacterium bovis*

C means cattle

D means deer

FS means food safety

G means goats

LN means lymph node. Superficial cervical LN used to be called the prescapular LN and Sub iliac LN used to be called the precrural LN.

MPI-VS means Ministry for Primary industries – Verification Services

OMAR means Overseas Market Access Requirement

PCR means Polymerase Chain Reaction which is a technique to amplify a single or few copies of a piece of DNA across several orders of magnitude, generating thousands to millions of copies of a particular DNA sequence

PD means processing defect

P means pig

PM means post-mortem

PSP Notice means the Animal Products Notice: Production, Supply and Processing

S means sheep or lambs

W means wholesomeness

Chapter 6: Presentation for post-mortem examination

Part 1: Requirements for presentation for post-mortem examination

Refer to Part 1: How to interpret this Code.

Part 2: Procedures for presentation for post-mortem examination

2.1 General

(1) The operator must present all relevant animal material for post-mortem examination in accordance with Schedule 1 Part 1 to 3.

(2) PSP Notice F3.22(2) covers requirements relating to processing and handling.

> **Guidance**
> The key points relating to post-mortem presentation of animal tissues are:
> - all parts are to be traceable to one animal until after post-mortem examination, unless there is an approved batch examination system (see Chapter 7 Part 3.8)
> - this does not prevent detachment or separation that is required for processing, transport or presentation for examination.

(3) Pathological lesions and lymph nodes must not be removed before post-mortem examination, unless otherwise specified. This does not include lesions on those parts normally discarded (e.g. hooves) unless an APO has prohibited the removal of those parts or they are to be saved.

(4) Where conditions in the animal prevent compliance with these procedures on the chain, further work up can be done on the detain rail or other suitable area prior to post-mortem examination, provided the carcass and parts, as applicable are examined by a post-mortem examiner.

> **Guidance**
> Examples include carcasses not able to be completely eviscerated because of pathology that interferes with hygienic dressing.

(5) Work up operations on the viscera table or gut buggy must be kept to a minimum until after post-mortem examination. To facilitate post-mortem examination, certain activities may be approved by MPI-VS.

(6) Offal and viscera must not be removed from the viscera table or gut buggy until post-mortem examination is completed unless expressly allowed by the post-mortem examiner or are collected as part of a batch collection programme.

2.2 Standards for presentation for post-mortem examination

(1) The operator must present animal tissues according to the presentation standards in Schedule 1.

Guidance

Schedule 1 covers the requirements for presentation. Additional to this, there are some optional presentation standards as detailed below. OMARs need to also be considered where appropriate. For example:

- carcasses may be split before post-mortem examination.
- compressed air may be used to remove the kidney capsule.
- a superficial nick in the cortex of the kidney is acceptable.

Carcasses incompletely eviscerated because of worker error may be dealt with on the main chain or placed on the detain rail, together with all other parts necessary for post-mortem examination. Repetitive faults may cause production to be slowed or cease.

Parts not requiring post-mortem examination, such as tendons and tails may either:

- be left attached naturally to the carcass. In this case, they will be considered part of the carcass from an examination perspective; or
- be removed from the carcass and subjected to suitable batch collection process and subsequent operator quality control examination.

However, removal of a lymph node or joint that is required to be examined would not be permitted. There may also be commercial standards that operators need to consider e.g. industry agreed carcass trim standards.

OMARs, cooling or other preservation requirements and consideration of the final use of products also need to be considered.

(2) When parts of an animal required for post-mortem examination are not presented, the remaining parts must be retained pending the location of the missing parts unless the operator elects to downgrade the carcase and all parts. See Schedule 1 Part 4 for judgement and disposition of affected product.

(3) There are three options for post-mortem examination of ovine and caprine animals. Any changes to the post-mortem examination options applied to ovine or caprine animals must be agreed by the operator and post-mortem examination service provider (see Schedule 1 Part 1).

Guidance

In line with the risk-based principles of the CODEX Code of Hygienic Practice for Meat, post-mortem examination procedures for all ovine and caprine animals include options for operators to modify the traditional approach to post-mortem examination in these animals, and thereby reduce potential contamination of carcasses by:

- facilitating identification and removal of faecal or ingesta contamination of the carcass prior to final carcass examination; and
- minimising cross-contamination of carcasses at post-mortem examination by reducing the need to handle and palpate carcasses.

All 3 options have additional examination requirements for adult stock that reflect the expected increased incidence of selected diseases and defects. It may be appropriate from a risk and a practicality perspective to treat individual mobs of lambs as though they are adults for post-mortem examination (e.g. mobs of old season lambs that may contain individuals that meet the criteria for being considered adults, or high-country lambs prone to caseous lymphadenitis). Currently there are three options for presentation and post-mortem examination of sheep, lambs and goats detailed in Schedule 1 Part 1:

Option 1

Option 1 is the traditional method. Palpation of external and internal surfaces, and superficial lymph nodes of the carcass is prescribed, along with lifting the carcass to view the forequarters for visible contamination (mainly ingesta). It is common for visible contamination to be left for identification by

the post-mortem examiner, although identification by the operator is encouraged. This option presents a higher risk for bacterial cross-contamination of the carcass during post-mortem examination due to the additional handling of the carcass.

Option 2

Routine palpation of the carcass under Option 2 is only prescribed for:

- In all animals:
  - the ventro-lateral abdominal wall; this is a known predilection site for *Cysticercus ovis* cysts.
- In adult animals only:
  - the neck for injection-associated lesions; and
  - the popliteal and superficial cervical lymph nodes (when present). These are higher risk for caseous lymphadenitis.

As the intent is to reduce routine handling of the carcasses, there are some additional presentation requirements that apply to facilitate viewing of the body cavities for contamination, but incidental removal of the superficial lymph nodes (which sometimes occurs during the hide removal process) is permitted. Identification and management of contamination defaults to an operator responsibility, although the post-mortem examiner is required to lift the forelegs to check for visible contamination of the forequarters.

Option 3

Option 3 is very similar to Option 2, but the responsibility for checking the forequarter for contamination moves to the operator. As, contamination is categorised as a processing defect, operators taking full responsibility for contamination management aligns with the intent of the APA. Identification and removal of ingesta/faecal contamination as early as possible in the slaughter process minimises the spread of contaminants. It is recognised that this forequarter check is often able to be completed more efficiently and hygienically in an inverted dressing system while the forelegs are still on the spreaders, although potential contamination from the evisceration process may need to be considered.

Intensified examination procedures for Johne's vaccinated animals also apply (see Schedule 1 Part 2) under all three options.

(4) Contamination resulting from processing defects is permitted to be hygienically removed by the operator prior to post-mortem examination provided that all parts required for examination are available to the post-mortem examiner.

Guidance

Certain superficial parts of the carcass may be at high risk of microbiological contamination including, but not limited to, the area around the stick wound or under opening hide/pelt cuts. This microbiological contamination may, or may not, be associated with visible contamination (e.g. hairs, ingesta, faeces). Removing contamination as soon as possible is desirable to minimise cross-contamination.

The following key points should be considered:

- Hygienic removal is essential to minimise cross-contamination.
- Parts such as tails that do not require examination may be discarded if contaminated.
- Some lymph nodes and other carcass parts (such as limb joints) are specifically identified in this code as being necessary for post-mortem examination. Inadvertent removal of these could affect the final disposition (see Chapter 6 part 2.1 (3)).
- Parts removed are ineligible for human or animal consumption unless they undergo post-mortem examination.
- If the parts removed are to be saved for petfood, the discarded parts are subject to the examination and disposition criteria as specified in this Code.

- Commercial carcass trim standards may also need to be considered.

2.3 – 2.19 Specific presentation requirements

Guidance
The specific presentation requirements are covered in the PSP Notice or this Code (see Schedule 1).

Requirements relating to presentation of suspect animals are covered in Chapter 7 Part 3.7 in this Code.

Part 3: Specific species requirements for presentation for post-mortem examination

3.1 – 3.9 Individual species presentation standards

Refer to Schedule 1.

Chapter 7: Post-mortem examination

Part 1: Requirements for post-mortem examination

Refer to Part 1: How to interpret this Code.

Part 2: Mandatory competency and Director-General direction requirements

(1) PSP Notice F3.25(1)(a), covers competencies for post-mortem examiners of products intended for human consumption.

> **Guidance**
> Key points, post-mortem examiners are to:
> - demonstrate knowledge of relevant requirements.
> - hold a specified post-mortem examination qualification; and
> - demonstrate maintenance of skills.

(2) Records of post-mortem examiner qualifications, knowledge and skills maintenance must be available.

> **Guidance**
> Trainee post-mortem examiners may carry out post-mortem examinations provided they are under the direct supervision of a suitably competent post-mortem examiner who is accountable for the decisions that are made by the trainee.
>
> Ante-mortem qualifications are only required where the post-mortem examiner is also performing ante-mortem examination.
>
> Knowledge of OMARs should be considered where appropriate.
>
> The scope of records would be expected to include records that demonstrate that all examiners, including relieving examiners, are familiar with and competent in all local procedures (on and off chain).

(3) If, under section 81 of the Act, the Director-General gives directions to the operator that certain kinds of animal material must be subjected to examination procedures that differ from those specified in this Code, the operator must ensure that the post-mortem examiner is notified of the directions and the post-mortem examiner must comply with those directions.

> **Guidance**
> This is a broad provision to allow the Director-General to issue directions under a variety of circumstances.

Part 3: Procedures for ante-mortem and post-mortem examination

3.1 Ante-mortem examination

(1) PSP Notice F3.9 and F3.25(3) cover many of the requirements for ante-mortem examination for human consumption.

> **Guidance**
> The key points relevant to ante-mortem and post-mortem examination include:
> - all farmed red meat animals, with some exceptions (e.g. hunted animals), intended for human consumption must undergo ante-mortem examination before slaughter to assess their suitability for slaughter.
> - the results of ante-mortem examination must be available to the post-mortem examiner. This would be expected to include potential hazards or any other condition that might prevent all or part of the carcass being fit for human consumption. Potential hazards include chemicals, suspect animals, animals on a disease surveillance list or those vaccinated for Johne's disease.

(2) Animals designated as SPVD require communication between ante-mortem and post-mortem examiners to determine the nature and extent of the post-mortem examination, and how the veterinary disposition will be managed, unless the operator elects to condemn the animal pre-slaughter.

> **Guidance**
> SPVD animals are sometimes considered to be suspect animals. Also see Chapter 7 Part 3.7.

3.2 Post-mortem examination

(1) PSP Notice F3.24 and F3.25 cover the requirements for post-mortem examination for human consumption.

> **Guidance**
> The key points include:
> - animal material is to be subjected to post-mortem examination by a person(s) with appropriate competencies.
> - the post-mortem examiner needs to make a decision regarding disposition of the product to ensure product is fit for its intended purpose.
> - post-mortem examination must be conducted without delay and in a manner that minimises cross-contamination between carcasses.

(2) The post-mortem examination procedures in Schedule 1 must be applied as appropriate to all applicable parts of the animal so that a judgement can be made as to their fitness for intended purpose.

> **Guidance**
> The relevant parts of Schedule 1 detail the post-mortem examination procedures that are referenced in PSP Notice F3.25(1)(b). These include both routine examination procedures and intensified procedures applicable to a range of animals including suspect animals.

(3) Post-mortem examination includes any sampling or further testing required to meet subclause (1).

Guidance
Further testing includes, but is not limited to, making any additional incisions necessary to arrive at an appropriate disposition.

(4) Hunted animals must be examined as for the equivalent farmed species, except for those parts of the animal noted in Schedule 1.

(5) For hunted animals, the post-mortem examiner must consider the method of killing, the hunting location of the animal and other potential risks resulting from the hunting when making a disposition. This includes examination of any wounds or swellings to ensure gunshot or other contaminants are excluded from human or animal consumption.

Guidance
In some cases, parts of hunted animals will be removed in the field to preserve the hygienic status of the carcass (e.g. the intestines) or will be damaged (e.g. wounds resulting from gunshots). Schedule 1 Part 1 makes allowance for many of the common scenarios.

There may be other factors that need to be considered when assessing the suitability of hunted animals for human consumption, including the microbiological status resulting from field dressing the animal, the post-slaughter cooling of the carcass and potential microbiological contamination from the transportation process. The processor would be expected to incorporate these risks into their RMP to ensure fitness for purpose, as appropriate to the circumstances.

Chemical residue hazards may also need to be considered.

As per the PSP Notice definition, hunted animals include feral animals, game estate animals and farmed animals that have become feral.

3.3 Re-examination (detain rail activities)

(1) Re-examination by a post-mortem examiner or competent detain personnel must occur once the disease or defect has been removed. The re-examination only needs to apply to the disease or defect identified at initial examination.

(2) Use of ancillary areas (i.e. anywhere other than the main chain or detain rail) for trimming and re-examination of product must be identified in the RMP and be acceptable to the verifier. Use of ancillary areas are restricted to the management of diseases and defects categorised as wholesomeness defects in Schedule 1 Part 4.

Guidance
Trimming and re-examination of animal material may occur on the main chain, be diverted to the detain rail or be diverted to a suitable verifier approved ancillary area. Use of ancillary areas such as nominated chillers, has historically been limited to lines of animals with caseous lymphadenitis, grass seeds, minor pleurisy, sarcocysts, or that have been vaccinated against Johne's disease, but they may be suitable for other wholesomeness defects.

In determining the acceptability of the ancillary area, the operator and verifier should consider both the facility and the system for controlling the product.

Product may be retained for an extended period of time before the disposition to allow specific tests to be carried out (see Chapter 7 Part 3.7.1).

3.4 Documentation and approval of examination procedures

(1) Where the post-mortem examination service provider is not the operator, they must have procedures that can reliably deliver all the applicable requirements currently required of the operator in PSP Notice F3.25(2).

> **Guidance**
> Key points in PSP Notice clause F3.25(2) include, but are not limited to, procedures relating to the facilities, sequence of examination, communication, retention of product, performance monitoring and provision of disease and defect information.
>
> Monitoring performance of post-mortem examiners includes the use of statistical process control methods to ensure that performance targets are reliably delivered.
>
> The provision of disease and defect information is covered in Chapter 8 Part 5.

(2) The procedures covering identification of diseases and defects for trimming, retention and re-examination must include a description of how such product is identified and controlled and who has the authority to remove any identification marks. This system must be approved by MPI-VS.

> **Guidance**
> Systems based around standardised or printed tickets attached to the carcass or skid are common, but other systems may be suitable for identifying the carcass and/or parts.

(3) In addition to subclause (1), examination service providers must have procedures that include, where applicable:

a) delivery of any specific examination procedures relating to OMARs; and
b) any batch examination systems. Batch examination systems must be approved by MPI-VS; and
c) systems for managing increased workload due to a high prevalence of diseases or defects.

3.5 Provision of disease and defect information

See Chapter 8 Part 5

3.6 Monitoring post-mortem examination performance

See Chapter 7 Part 3.4

3.7 Suspects and unusual lesions

3.7.1 General procedures for suspects

[PSP Notice F2, F3.3, F3.23 and F3.25]

(1) Operators and post-mortem examiners must follow any directions of the ante-mortem examiner or APO in relation to the processing of suspect animals.

> **Guidance**
> At the discretion of the ante-mortem examiner or APO, directions may include matters such as:
> - the timing of slaughter, e.g. before a processing break to minimise cross contamination risk.
> - any additional tissues or organs that need to be presented and examined.

- that the ante-mortem examiner or APO is contacted and present during post-mortem examination.
- communication of the findings to the ante-mortem examiner or APO.

(2) Positive identification of all tissues requiring examination and that may be salvaged from suspect animals must be maintained until a disposition is made.

Guidance
Suspect animals should not be included in batch collection systems. Where they are inadvertently included, the worst-case disposition will apply to the whole batch.

(3) Product must be secured and appropriately preserved until a disposition is made and an inventory of such product must be maintained by the post-mortem examiner or MPI-VS as agreed.

Guidance
If suspect lesions are present, disposition is often delayed until the results of further testing of lesions is known. Boning under supervision (e.g. by the post-mortem examination service provider or MPI-VS) may be necessary to achieve the outcomes of adequate security and preservation.

(4) Post-mortem examiners must have procedures for management of suspect notifiable animal diseases including suspected hydatid cysts.

Guidance
Notifiable diseases are those listed in the Biosecurity (Notifiable Organisms) Order 2016 or subsequent amendments, and include, but are not limited to:
- Foot and mouth disease virus.
- *Echinoccus* spp.
- *Taenia solium / Cysticercus cellulosae.*

There may be additional OMAR requirements related to specified diseases.

(5) Suspected new, unusual or emerging syndromes or notifiable diseases must be reported via MPI's toll free hotline.

Guidance
Sample collection, further testing and any containment requirements will be advised by an MPI Incursion Investigator. Site Risk Organism Response Plans should be followed.

The hotline number is 0800 80 99 66.

Reporting may be completed by the post-mortem examiner, the RMP verifier or the operator as appropriate.

(6) Additional post-mortem examination requirements specified in Schedule 1 Part 2 must be carried out where applicable.

Guidance
These additional post-mortem examination requirements are often referred to as 'intensified examination' and relate to specific conditions, including:
- TB suspects;
- *C. bovis* suspects (see Chapter 7 Part 3.7.4);
- Johne's vaccinated animals; and
- Caseous lymphadenitis.

(7) Where laboratory diagnosis is required to determine a final disposition, a recognised laboratory with the required tests in the laboratory scope must be used.

> **Guidance**
> Unless required by the APO or post-mortem examiner, an operator may decide that no laboratory test(s) will be performed on suspect lesions, in which case a conservative approach must be taken, i.e. a disposition is made as if the laboratory had diagnosed the worst possible option, from a food safety perspective. Where laboratory diagnosis is undertaken the operator pays laboratory and courier costs unless other arrangements are in place (e.g. for tuberculosis in cattle and deer).
>
> The submitter could be the post-mortem examiner, the RMP verifier or the operator, as appropriate.
>
> Samples may be taken by MPI-VS or the post-mortem examination service provider for educational purposes. In this case, MPI-VS or the post-mortem examination service provider pay the associated costs.

(8) Records must be kept to demonstrate traceability of suspect lesions for laboratory analysis.

3.7.2 Injection site lesions

(1) Suspected injection site lesions must not be removed until the carcass has been examined by a post-mortem examiner.

(2) Where injection site lesions are identified at post-mortem examination, the post-mortem examiner must determine whether there is evidence of a residues risk. An APO is to be consulted where there is doubt.

> **Guidance**
> Evidence of a residues risk may include one or more of the following factors:
> - the nature of the lesion (e.g. an acute lesion may have an increased likelihood of residues risk compared to a chronic lesion).
> - whether other animals in the line also have lesions.
> - information from ASDs.
> - a traceback to the supplier.

(3) Where no residues risk is identified:

a) the injection site lesion must be recorded;
b) the lesion must be condemned; and
c) a disposition made on the remaining animal material.

(4) Where a residues risk is identified, the post-mortem examiner must, if directed to by the MPI-VS Specialist:

a) record any details relating to the circumstances of the injection site lesion;
b) sample fat, kidney, liver, and muscle from one affected animal in the line (as per Table 1);
c) individually package, freeze, and hold samples securely until dispatch;
d) liaise with MPI-VS relating to submission of samples for laboratory testing;
e) retain carcasses and their associated offal with injection site lesions until an APO confirms the product disposition; and
f) ensure animals from the same line without injection site lesions are not retained.

Table 1: Suspect injection-site lesion sample sizes

Animal material	Sample type	Sample size
Fat	Solid fat – kidney or omental only	100 grams
Kidney	Whole kidney	Single kidney (large animal e.g. cattle, horses) or Two kidneys (small animal e.g. sheep, pigs, bobby calves)
Liver	Whole or part liver	200 grams
Muscle	Diaphragm muscle	100 grams

3.7.3 Tuberculosis

Guidance
Bovine tuberculosis (bTB) plays a prominent role in the New Zealand meat post-mortem examination system. Compared with other conditions, many specific procedures apply to bTB. A national bovine tuberculosis pest management strategy for cattle and deer operates under the Biosecurity Act and is administered by OSPRI. The slaughter of reactor animals and the use of post-mortem examination results are important aspects of this strategy.

3.7.3.1 Tuberculosis in cattle and deer

(1) Samples must be taken from TB reactors as directed by OSPRI.

Guidance
Animals that have tested positive for bTB and are destined for slaughter will be communicated to the premises by OSPRI, identified as such on the ASD, and identified by a 'TB reactor' ear tag. The communication will include the NAIT tag identifiers, and any samples requested by OSPRI. TB reactors with lesions suspicious of bTB will be considered TB suspects and sampled accordingly unless instructions to the contrary are provided by OSPRI.

Disposition of animal products from TB reactors is specifically noted in Schedule 1 Part 4.

(2) Cattle and deer that are TB suspects must receive the intensified examination outlined in Schedule 1 Part 2 and undergo laboratory testing to confirm the diagnosis, where appropriate.

Guidance
Deer with suspicious lesions only in the ileo-jejunal lymph nodes are not considered to be TB suspects unless they:
- are also a TB reactor; or
- come from a TB infected herd; or
- are from a farm within a declared movement control area.

These deer are considered likely to have Johne's disease rather than bTB.

Sampling management
The following points relate to sampling of suspect lesions in cattle and deer TB suspects:
- up to three lymph nodes are to be sampled per carcass and up to three carcasses per line are to be sampled unless additional samples are requested by OSPRI.
- where there are more than three lymph nodes affected, those with the most typical gross lesions suspicious of bTB are to be sampled.

Key factors include:

- temporary storage requirements – samples must be refrigerated (5°C or colder) in a suitable container until dispatch, but frozen (-12°C or colder) if there is likely to be a delay of three or more days before laboratory processing;
- packaging must meet the OSPRI requirements which can be found on the OSPRI webpage (https://www.ospri.co.nz/farming-industry-providers/meat-processors/ordering-sample-containers-and-courier-bags-for-suspect-tb-tissues/);
- documentation to accompany the samples is downloaded from OSPRI's disease management system (OOMS) and sample identification barcodes are provided by OSPRI; and
- the destination laboratory is specified within the OSPRI disease management system (OOMS).

Interpretation of results

The following points relate to interpretation of suspect lesion test results:

- testing is currently done by PCR and the final results will be available either by email, or by logging into OOMS (all samplers should have access to OOMS).
- where the PCR result is positive, the animal is considered to have tuberculosis.
- where the PCR result is negative, the animal is considered not to have tuberculosis.
- where the PCR result is indeterminate or weakly positive, the animal is considered to have tuberculosis unless follow-up bacterial culture is performed and the diagnosis is based on the results of this culture. In this situation, the operator can elect to consider the result positive, or can wait for the results of the culture confirmation.
- if a situation arises where the above TB procedures and dispositions are inappropriate for a certain farm or group of farms on an ongoing basis, an application for amended practices can be made to MPI.
- follow-up of the results with the farmer is the responsibility of OSPRI.

3.7.3.2 Tuberculosis in pigs

(1) Pigs considered to be bTB suspects must be managed according to the general procedure for bTB suspects unless the operator elects to consider the lesions to be tuberculous and disposes of the product based on the dispositions for bTB in Schedule 1 Part 4.

Guidance

The designation of bTB suspects in pigs and the subsequent submission of samples and interpretation of results from pigs with pyogranulomatous lesions is predominantly based on whether the farm of origin is high-risk or low-risk.

Low-risk farms

Low-risk pig farms meet the following criteria:

- the biosecurity compartment is maintained, and auditing demonstrates the farm continues to meet the requirements of the NZ Pork Bovine Biosecurity programme; and
- the farm participates in a TB surveillance programme which continues to demonstrate an absence of bovine TB; and
- clear information on what lines of animals are part of the programme must be available to operators, ante-mortem examiners and post-mortem examiners.

Most commercial pig farms in New Zealand participate in NZ Pork's PigCare® scheme which includes biosecurity compartment audits, and a lesion sampling programme administered by NZ Pork. Participants in this scheme use Question 7 on the pig ASD (PigCare® accredited farm) to confirm that these requirements have been met.

Laboratory testing as part of the NZ Pork TB surveillance programme from 2019-2023 has demonstrated the absence of *Mycobacterium bovis* in pigs from low-risk farms. Findings from this

programme have identified avian TB as the predominant cause of the pyogranulomatous lesions identified at post-mortem examination. This testing scheme is ongoing.

Pigs with pyogranulomatous lesions from low-risk farms are considered not to have bTB, so are not considered to be bTB suspects and are not required to be subjected to intensified examination or be sampled for bTB (unless as part of the NZ Pork sampling scheme). These pigs are to be recorded as 'pyogenic lesions' ('PYO') and the dispositions relating to pyogranuloma in pigs in Schedule 1 Part 4 apply.

This does not preclude the post-mortem examiner from undertaking additional incisions, examination, and sampling if necessary. The provisions for low-risk farms may be revoked if there are any changes in animal health status or new information becomes available.

High-risk farms
High-risk pig farms do not meet the requirements for being low-risk (as defined above).

Pigs from high-risk farms with lesions suspicious of bTB are considered to be TB suspects.

Suspect sampling in pigs
Once designated as a TB suspect, samples of a representative range of lesions from all carcasses/viscera that are condemned or are held pending possible condemnation for bTB must be submitted for laboratory confirmation.

If laboratory testing confirms bTB, these pigs are recorded as 'TB' and the tuberculosis entries in Schedule 1 Part 4 apply. If the results are negative for bTB, the dispositions relating to pyogranuloma in pigs in Schedule 1 Part 4 apply.

The submitter may recover the costs of sampling from the operator. The name of the client for the laboratory to bill must be clearly indicated on the submission form. If the operator does not wish to have the test performed, the lesion(s) will be considered tuberculous and the product will be disposed of accordingly.

(2) Pigs considered to be bTB suspects must be notified to TBfree New Zealand/OSPRI as per the requirements of the Biosecurity (National Bovine Tuberculosis Pest Management Plan) Order 1998.

3.7.3.3 Tuberculosis in other species

(1) Suspect bTB lesions in animals other than cattle, deer and pigs must be managed according to the general procedure for suspects, unless the operator elects to consider the lesions to be tuberculous and disposes of the product based on the dispositions for Tuberculosis in Schedule 1 Part 4.

(2) Animals subject to (1) must be notified to Tbfree New Zealand/OSPRI as per the requirements of the Biosecurity (National Bovine Tuberculosis Pest Management Plan) Order 1998.

Guidance
Once designated as a TB suspect, samples of a representative range of lesions from all carcasses/viscera that are condemned or are held pending possible condemnation for bTB must be submitted for laboratory confirmation.

3.7.3.4 Tuberculosis dispositions

(1) The disposition for bTB suspects must be based on the final diagnosis from the laboratory and the corresponding entries in the Schedule 1 Part 4.

Guidance
Also refer to OMARs to confirm market eligibility.

3.7.4 Cysticercus bovis (*C. bovis*)

Guidance
C. bovis cysts (sometimes known as beef measles) are the intermediate stage in the life cycle of a human tapeworm, *Taenia saginata*.

(1) *C. bovis* suspect cattle must be handled as suspect animal material until passed as fit for human consumption by a post-mortem examiner.

Guidance
Cattle considered to be *C. bovis* suspect animals include:
- those that have a suspect cysticercus cyst detected at post-mortem examination and the remainder of the line which has not yet passed post-mortem examination; or
- those from a *C. bovis* surveillance listed farm; or
- those identified as a *C. bovis* suspect in some other way (e.g. ASD).

(2) *C. bovis* suspect cattle must be subjected to the intensified examination procedures identified in Schedule 1 Part 2.

Guidance
Suspect *C. bovis* carcasses for export are also to be examined and managed in accordance with relevant OMARs (e.g. OMAR 09/28).

(3) If the operator elects to train boning room personnel including supervisors to recognise *C. bovis* cysts, the head muscle post-mortem examination requirements (masseter and pterygoid muscles) are not required (Schedule 1 Part 1).

Guidance
Training is not necessary for personnel that only perform meat wrapping or packing.

(4) The training programme for *C. bovis* detection in the boning room must be developed by a suitably skilled person and it must include:

a) recognition of *C. bovis* cysts;
b) actions to be taken when cysts are found;
c) obligations to report to an APO, verifier, or official assessor; and
d) annual refresher training.

(5) Every suspect *C. bovis* lesion (up to five lesions per animal), including those found in the boning room, must be reported to an APO, verifier, or official assessor and the lesions submitted for laboratory diagnosis. Samples must be identified to the organ or muscle mass in which they were found.

Guidance
Suspect *C. bovis* lesions should be fixed in formalin and must not be incised deliberately. If they cannot be fixed in formalin, lesions may be sent chilled. Chilled lesions must be packed and dispatched to reach the laboratory while still chilled.

There are additional requirements in OMARs such as the EU requirement for approval of training material.

(6) A recognised laboratory with the required tests in the laboratory's scope of recognition must be used and contracted to MPI to perform histology for *C. bovis* cysts. Sample details must be entered into an MPI database. The laboratory must provide results to MPI in a format and at costs agreed by contract.

(7) All carcass and offal products from animals with suspect *C. bovis* lesions identified during post-mortem examination must be retained pending final laboratory diagnosis and final disposition from:

a) any individual animals with a suspect *C. bovis* lesion; or
b) all animals in a single line that has two or more animals identified with suspect *C. bovis* lesions.

Guidance
Multiple animals in a single line identified with suspect lesions may indicate that a herd level infection is present.

(8) When suspect *C. bovis* lesions are found in the boning room, only carcass products that can be positively identified to have come from the carcass with the identified lesion must be retained pending final laboratory analysis.

3.8 Batch collection and examination

[PSP Notice F3.22]

(1) Tissues collected into batches that are required to be examined (batch examination) must be presented in a manner that facilitates post-mortem examination.

Guidance
Examples of tissues that could be batch examined include testicles and tongues.
Depending on the parts being examined, this could mean parts are displayed on a tray or table to enable all of them to be viewed simultaneously.
Also note the requirements in TD 99/205 for selected cervine co-products.

(2) Traceability of the batch to all animal material contributing to the batch must be maintained until disposition of the batch is made by the post-mortem examiner.

Guidance
Systems for traceability are expected to be robust and verifiable. Systems that make use of time periods, carcass numbers or tags on carcasses/viscera have been used, but systems are not limited to these methods.

(3) The disposition of all tissues in the batch must be made based on the worst-case disease or defect within the batch.

Guidance
If the animals from which the batch is collected includes an animal where all tissues are condemned then the whole batch of tissues is condemned. This applies equally to batches that are required to undergo batch examination or not. For this reason, the size of the batch needs to be carefully balanced against the risk of an animal contributing to the batch being condemned in full.

(4) Where batch collection occurs, there must be procedures describing:

a) methods of collection;
b) communication of post-mortem findings;
c) management of the batch in relation to disposition;
d) quality checks by the operator; and
e) process validation (e.g. microbial criteria, cooling and other factors that might influence fitness for purpose).

Part 4: Species-specific post-mortem examination procedures

Refer to Schedule 1.

Chapter 8: Post-mortem dispositions

Part 1: Mandatory requirements for post-mortem dispositions

1.1 Definitions

Refer to Part 1: How to interpret this Code.

1.2 Requirements for human consumption

Refer to Schedule 1 Part 4.

1.3 Animal consumption

> **Guidance**
> Details of the applicable dispositions can be found in Schedule 1 Part 4 of this Code and in the PSP Notice (Schedule 1 - Post-mortem examination procedure and disposition tables for domestic petfood farmed mammals).
>
> Certain categories of carcasses which would otherwise be unsuitable for human consumption may be salvaged for petfood, at the discretion of the company.

1.4 Condemned and Pharmaceutical Material

[PSP Notice E1.4, F3.22, F3.26, F3.28, F3.37 and Schedule 3]

(1) All condemned material must be secured and identified until it is fully denatured.

> **Guidance**
> This can be achieved by placing the condemned material directly into dedicated chutes, denaturing using approved meat-marking inks (see PSP Notice Schedule 3), or by other agreed means.

(2) Condemned parts must be removed hygienically from the carcass and viscera.

(3) Tissues derived from animals that have passed post-mortem examination can be used for pharmaceutical purposes. This includes foetuses and foetal blood derived from slaughtered farmed red meat animals.

> **Guidance**
> Condemned tissues or parts of the carcass or viscera considered unsuitable for human consumption (e.g. thyroid glands, foetuses) from animals that have been slaughtered or killed, or recovered from the field may be treated by approved processes to recover extracted substances intended for pharmaceutical, technical or biological purposes provided they are fit for purpose (e.g. passed ante-mortem and post-mortem examination, as appropriate).

Part 2: Dispositions

2.1 Background

Guidance
Disposition of animal products following post-mortem examination is to ensure that product is fit for intended purpose. In formulating the dispositions, MPI has considered that risks to public health (food safety) and animal health need to be minimised. Wholesomeness was also a consideration. The extent to which the disposition applies to the product needs to be made clear by the post-mortem examiner. Sometimes one disposition may apply to all tissues of an animal while at other times different dispositions may apply to different tissues of one animal. Where only parts of an animal, e.g. carcass, head or viscera are affected by a disease, due consideration is to be given to the possibility of the tissue being an indicator tissue for disease in other parts of the carcass.

The CODEX Code of Hygienic Practice for Meat includes internationally agreed guidance on post-mortem examination and embed the principles of science-based risk assessment as a means of effectively targeting resources to deliver the best food safety outcomes. The Code of Hygienic Practice for Meat endorses the view, that physical abnormalities identified and removed during post-mortem examination are largely aesthetic matters rather than food safety issues of any real concern. The significant food safety hazards are non-visible contaminants such as bacteria, and traditional organoleptic meat examination is largely ineffective against these hazards.

Consistent with this philosophy, Chapters 6, 7 and 8 now categorises defects considered to be food safety issues from wholesomeness defects. Wholesomeness defects are those that would be considered objectionable by consumers but are non-hazardous. The categorisation is aligned to Schedule 1 of the Animal Products (Export Requirement: Company Ante-Mortem and Post-Mortem Inspection) Notice 2013 and Schedule 4 of the Animal Products (Export Requirement: Inspection Agencies Ante-Mortem and Post-Mortem Inspection) Amendment Notice 2013. The identification of food safety and wholesomeness defects is frequently linked to whether a defective condition is systemic or localised. The limitations of organoleptic meat examination, where dispositions are generally based on gross pathology, mean that a carcass with signs of a systemic condition is generally condemned without knowledge of the causative agent. The post-mortem examination findings relating to a carcass with bacteraemia or septicaemia caused by a food-borne pathogen such as *Salmonella*, are indistinguishable organoleptically from the same condition caused by a non-pathogenic bacterium. A more scientific approach to this determination, where the causative agent is determined along with its relationship to known foodborne disease, is typically not practicable. The differentiation between potential food safety defects can be seen in the dispositions section of this Code (Schedule 1 Part 4).

2.2 Dispositions of product and by-product

(1) The dispositions in Schedule 1 Part 4 must be applied.

(2) Procedures must be in place to ensure animal material does not contaminate other material that is of a higher status.

Guidance
For example, condemned material or parts downgraded to petfood must not contaminate product considered fit for human consumption.

2.3 Control of product

Refer to Chapter 7 Part 3.3

2.4 Missing tissues

Refer to Chapter 6 Part 2.2

Part 3: Samples

Refer to Chapter 7 Part 3.7

Part 4: Tuberculosis

Refer to Chapter 7 Part 3.7

Part 5: Disease and defect recording requirements

(1) The disease and defects information that is required to be kept (in addition to total kill numbers) by the post-mortem examiner for each species are shown in Table 2. For each disease or defect category, the incidence of disease and the number of animals condemned, relative to the total kill, needs to be reported. This information must be supplied to MPI on request.

(2) For disease statistics, carcasses unfit for human consumption but suitable for petfood must be recorded as condemned.

Guidance

Disease and defect information is required for several reasons, including:

- to inform defect removal at an individual carcass level (e.g. on the detain rail). This is often achieved by placing an identifying ticket on the carcass at initial examination.
- to monitor and improve post-mortem examination systems. This applies both to the adequacy of the system to detect abnormal tissues and to be able to compare findings at different premises.
- to assist in continued access to overseas markets and monitoring of animal diseases, through ongoing assurance that New Zealand systems are robust.
- to provide feedback to farmers and suppliers to promote improved on-farm animal health management and to reduce risks from food-borne diseases and zoonotic diseases.
- to facilitate identification of disease trends within the national herd.

Additional information relating to diseases and defects can be collected and provided to suppliers if all parties (operator and post-mortem examination service provider) agree.

Table 2: Disease and defect categories required to be collated and supplied to MPI[1,2].

Type of disease and defect (Common abbreviation)	Bobby calves	Cattle	Deer	Horse	Sheep / Goat	Pig	Hunted rabbits and hares	Ratites	Camelids	Macropod
ACTINO (ACT)										
ARTHRITIS (ART)										
BOVINE TUBERCULOSIS (TB/bTB)										
CASEOUS LYMPHADENITIS (CLA)										
C. BOVIS (C-BOVIS)										
CONDEMN (CON)										
CONTAMINATION – OTHER (CONTAM)										
EMACIATION (EMAC)										
FACIAL ECZEMA (FE)										
FAECAL CONTAMINATION (FAE)										
INJECTION SITE LESION (ISL)[3]										
NAVEL ILL (NI)										
NEOPLASM (NP)										
OTHER CAUSES (OC)										
C. OVIS (OVIS)										
PLEURISY (PLU)										
PNEUMONIA (PNU)						CHANGE				
PYOGENIC LESION (PYO)										
SARCOCYSTS (SARCO)										
SEPTICAEMIA (SAL)										
SKIN LESIONS (SL)										
WOUNDS AND BRUISES (WB)										
XANTHOSIS (XAN)										

[1] **The white squares in the table indicate disease and defect categories that are required to be collated and supplied to MPI.**

[2] **The following additional defect categories apply to hunted animals**:

a) no viscera;
b) imperfect bleeding;
c) decomposition; and
d) *Elaphostrongylus cervi* - for hunted deer only.

[3] **ISL is not required to be reported for hunted animals.**

Schedule 1 – Presentation, examination and dispositions

Part 1: Presentation and examination

(1) Tables 3 to 6 specify the presentation standards required prior to routine post-mortem examination and the examination procedures for the various animal parts for human consumption for cattle, sheep, goats, deer, bobby calves and pigs.

(2) The following general presentation requirements apply prior to post-mortem examination in addition to those in the rest of this part:

a) Heads must be washed if any part is to be examined or saved. Where only the tongue is to be saved and there are no other post-mortem examination requirements applicable to the head, the tongue must be separated and cleaned sufficiently to allow post-mortem examination.
b) Lymph nodes must be left on the carcass unless exemptions are noted in the Tables in this part.
c) Pathology must not be trimmed or removed.
d) Body cavities must not be flushed.

Table 3: Presentation and post-mortem examination of heads of common species

HEAD	General presentation standard (prior to PM examination)		Post-mortem examination requirements				
	MUST	MUST NOT	Cattle	Sheep/Goats - all options (see note 3)	Deer	Bobby calves (See note 3)	Pig
Eyes (and surrounding tissue)			View		View		
Head (external)	Skin head according to its intended use (see note 1)		View		View (including ears of hunted deer)		View
Head LN (parotid, retropharyngeal and submaxillary)	Leave LN intact if they are required to be examined		Incise and view		Incise and view		View head LN (Submaxillary LN may be on the pluck)
Masseter and pterygoid muscles		Drop the internal and external cheek muscles in cattle	Incise, view and palpate (see note 2)				View exposed muscles

HEAD	General presentation standard (prior to PM examination)		Post-mortem examination requirements				
	MUST	MUST NOT	Cattle	Sheep/Goats - all options (see note 3)	Deer	Bobby calves (See note 3)	Pig
Oral cavity (includes buccal cavity, pharynx, tonsils and mucous membranes)	Leave tonsils intact and attached to the head		View	View if head being saved as edible (head does not need to be picked up)	View	View if head being saved as edible	
Tongue	a) Ensure tongue is clean b) Drop the tongue in cattle c) Tongues in pigs may be dropped or removed with the pluck		View and palpate if saving tongue or head muscles as edible	View if edible	View and palpate	View if edible	View

[1] **Head presentation**

a) Skinning heads: Skinning must be sufficient for hygienic collection and PM examination. Note OMAR requirements may also apply. Cross contamination, such as water transfer between the skin and the meat must be avoided. If saving the brain, the head must be completely skinned unless it can be demonstrated that the method of removal prevents cross-contamination.

i) Cattle: If only the tongue is to be saved, then the ventral head must be skinned so that the tongue can be removed in a hygienic manner. If the masseter muscles are saved, the lateral head must also be skinned sufficiently to enable hygienic PM examination and removal.

ii) Sheep/goats and bobby calves: If only the tongue is to be saved, then the ventral head must be skinned so that the tongue can be removed in a hygienic manner.

iii) Deer: When nothing is saved for human consumption, the head must be skinned sufficiently to expose the pharynx and the buccal cavity. All lymph nodes must be left in situ and exposed for PM examination. When the tongue is saved for human consumption, the head must be skinned sufficiently to expose the pharynx and the buccal cavity and permit hygienic removal of the tongue. When head meats or the brain are saved for human consumption, the head must be presented for examination in the fully skinned state.

b) Hunted mammals: Heads may be detached provided positive identification of the carcass, viscera and head is maintained through to PM examination.

c) Skin-on animals (e.g. pigs): No skinning is required.

d) Flushing of the oropharynx may be required for hygienic removal of the internal pterygoid muscles and for PM examination of the tongue.

[2] **Cattle head muscles:** Incise each masseter and pterygoid muscles at least once. If the operator has a training system for examination of cuts in the boning room for *Cysticercus bovis*, there is no need to incise these muscles (see Chapter 7 Part 3.7.4).

[3] **Head examination (sheep/goat and bobby calf):** If the head or the tongue is required for human consumption, the head must be presented for examination and viewed. Despite this, no examination is needed if only the tongue is being saved, or in bobby calves if only the brain is being saved. Any parts of the head may be salvaged for petfood without PM examination, provided they are not defective in any way and not derived from carcasses condemned for disease conditions. Salvage may occur before PM examination using batch collection procedures. Unexamined ovine heads must not be saved for human consumption. See also OMAR.

Table 4: Presentation and post-mortem examination of the carcass of common species

CARCASS	General presentation standard (prior to PM examination)		Post-mortem examination requirements (routine examination) Also see intensified examination for suspect bTB (cattle, deer and pig), Johne's vaccinated animals, suspect *C. Bovis* (cattle) and suspect caseous lymphadenitis (CLA) in sheep/goats.					
	MUST	**MUST NOT**	**Cattle**	**Sheep/Goats Options 2 and 3**	**Sheep/Goats Option 1**	**Deer**	**Bobby calves**	**Pig**
Internal and external carcass surfaces (Including abdominal, thoracic and rectal/pelvic cavities, neck, limb joints and neural canal/spinal cord if the carcass has been split). See also note 4	a) See note 5 for additional presentation requirements for ovine/caprine options 2 and 3 b) Cattle carcasses must be split unless a validated chilling process is established for intact carcasses		View	View. Palpate the ventro-lateral abdominal wall. Option 2 - Also check the forequarter for contamination by lifting the forequarters (this is an operator responsibility under option 3)	View. Also palpate the external surfaces, abdominal and thoracic cavities, limb joints (other than hocks) and back	View (For hunted deer view before and after skinning)	View	View (see note 7)
Neck				Palpate in adult and Johne's vaccinated animals				
Lymph nodes (LN)								
(Internal) iliac LN			Incise and view	View	View	View	View all exposed LN	View
Ischiatic LN					Palpate			
Lumbar chain LN						View		
Popliteal LN				Palpate in adults	Palpate			
Renal LN						View		View
Subiliac LN				View (if on the carcass, see note 6)	View and palpate	Palpate		
Superficial cervical LN				Palpate in adults (if on the carcass, see note 6)	Palpate	Incise and view		
Superficial inguinal/ supramammary LN			Incise and view	View (if on the carcass, see note 6)	View and palpate	Palpate		View and palpate (incise and view in adult breeding pigs)

CARCASS	General presentation standard (prior to PM examination)		Post-mortem examination requirements (routine examination) Also see intensified examination for suspect bTB (cattle, deer and pig), Johne's vaccinated animals, suspect *C. Bovis* (cattle) and suspect caseous lymphadenitis (CLA) in sheep/goats.					
	MUST	**MUST NOT**	**Cattle**	**Sheep/Goats Options 2 and 3**	**Sheep/Goats Option 1**	**Deer**	**Bobby calves**	**Pig**
Viscera (if on carcass)								
Diaphragm	Remove as much as possible from the carcass for bobby calves and ovine/caprine under options 2 and 3	Incise diaphragm except as needed to remove the pluck	View. Also palpate the thin skirt	Not on carcass - view remnants of diaphragm if present	View (and palpate if edible)	View (both sides)	Not on carcass	View
Kidneys	a) Enucleate - all animals b) Ovine/Caprine under options 2 and 3, kidneys must be removed from carcass	Damage cortex (other than a superficial nick)	View		View (both sides)	View and palpate		View (including Renal LN)
Testicles / Epididymis		Incise	View if edible	View (and palpate in adults) if edible	View (and palpate in adults) if edible	Palpate if edible (can be done through the scrotum)	View if edible	View and palpate if edible

[4] **All carcasses:**

a) Parts not required for examination but saved for human or animal consumption (e.g. tails, tendons) must be from animals that have passed examination. These parts must be subjected to a quality control check by the operator. If left on the carcass, they should be examined with the carcass. See also batch collection (Chapter 7 Part 3.8).

b) Hocks saved for human consumption may be presented skin-on but must have the fibre (wool or hair) and hoof cuticle (nail) removed.

c) Parts of the carcass that are considered likely to be at high risk of microbiological contamination, including but not limited to, the area around the stick wound or immediately under opening hide/pelt cuts may be removed prior to post-mortem examination. Chapter 6 parts 2.1 (3) and 2.2 (4) of this code must be followed.

[5] **Sheep/Goat carcasses being examined under options 2 and 3:** the following additional presentation requirements must be met:

a) Incise abdominal wall to provide an unobstructed view of the pelvic cavity and caudal abdomen. A horizontal incision is preferred for better visualisation of the caudal abdomen. Extending the midline incision to the pelvic symphysis is acceptable.

b) Split brisket to facilitate viewing the internal carcass surfaces.

c) Remove fat curtain. The fat curtain is fat attached to the ventral pelvic cavity which hangs down obstructing viewing the pelvic cavity.

d) Remove the tail to improve visibility of the rectal cavity.

e) Separate as much of the diaphragm as possible from the carcass.

f) Separate the pizzle from the carcass to facilitate viewing of the pelvic cavity.

Additionally for option 3: the operator is responsible for performing a quality assurance check to ensure the forequarter (particularly the ventral neck and Y-cut areas) is free of visible contamination.

[6] **Examination of Sheep/Goat carcasses being examined under options 2 and 3:** incidental removal of subiliac, superficial inguinal, supramammary or superficial cervical lymph nodes is acceptable and should not be treated as carcasses with missing parts.[7] **Pigs:** Also palpate scrotal area if wounds or scarring present, and mammary glands in breeding animals.

Table 5: Presentation and post-mortem examination of the thoracic viscera of common species

THORACIC VISCERA	General presentation standard (prior to PM examination)		Post-mortem examination requirements				
	MUST	**MUST NOT**	**Cattle**	**Sheep/Goats All options** (see note 12)	**Deer**	**Bobby calves**	**Pig**
Diaphragm			View. Also palpate the thin skirt	View (and palpate if edible)	View (both sides)	View (both sides)	View
External heart surfaces		Incise heart	View and palpate	View (and palpate if edible)	View and palpate	View	View
Interventricular wall cut surfaces and internal heart surface (see note 8)			Incise, view and palpate (see note 8)				
Apical LN			Incise and view (see note 11)		Incise and view apical LN		
L & R Bronchial, and mediastinal LN				View and palpate if lungs are edible	Incise and view		View and palpate. (also see note 9 if lungs or trachea are edible)
Lungs			View and palpate. See also trachea.	View (and palpate if edible)	View and palpate	View (both sides) Also incise if edible (see note 10)	
Pericardium	Open pericardium		View	View	View and palpate		View
Thymus (young animals)			View			View if edible	
Trachea			View Also open and view trachea and main bronchi if lung or trachea are edible	View if edible	View (and incise if edible)	Incise and view if trachea or lungs are edible (see note 10)	View (and incise if lungs or trachea are edible - see note 9) Also view submaxillary LN if on the pluck

[8] **Routine cattle heart examination:** Open the heart by cutting through the wall of the left ventricle, the interventricular septum and the atrioventricular orifices. View the internal surface of the heart and muscular surfaces exposed by the incisions.

a) Make one incision from the base to apex into each of the cut surfaces of the interventricular septum.
b) Make one incision parallel to these into each side of the internal surface of the left ventricle, about 10 to 20 mm from the base of the septum.

c) Make the incisions at least 75 mm long and sufficiently deep for adequate examination (but not so deep as to penetrate the outer surface of the heart).
Palpate the internal surface of the heart and muscular surfaces exposed by the incisions.

[9] **Pig lungs/trachea:** If lungs or trachea are edible, make a transverse incision into the posterior third of the lung, incise the bronchial and mediastinal LN and incise trachea and main bronchi.

[10] **Bobby calf lungs/trachea:** If trachea or lungs are edible, incise in the posterior third of the lungs, perpendicular to their main axes and incise the trachea and main branches of the bronchi.

[11] **Cattle thoracic LN:** The anterior, middle and posterior mediastinal LN, and the right apical LN must all be examined.

[12] **Sheep/Goat ingesta:** If ingesta is present on the thoracic viscera set, the viscera examiner must inform the carcass examiner to facilitate further examination of the forequarter.

Table 6: Presentation and post-mortem examination of the abdominal viscera of common species

ABDOMINAL VISCERA	General presentation standard (prior to PM examination)		Post-mortem examination requirements				
	MUST	MUST NOT	Cattle	Sheep/Goats All options	Deer	Bobby calves	Pig
Liver (both sides)		Incise	View and palpate	View (and palpate if edible - the degree of palpation required is that sufficient to hold and rotate the organ)	View and palpate	View (pay particular attention to the umbilical fissure)	View
Major bile ducts			Incise if liver is edible (see note 14)	View (and palpate if edible)	Incise and view (see note 14)		
Hepatic LN			Incise and view	View	Incise and view	View	View and palpate
Gastro-intestinal tract (includes oesophagus, stomach, rumen/reticulum/omasum/abomasum and intestines as appropriate to the species)			View. Also palpate rumeno-reticular junction	View (see note 13)	View (see note 13)	View	View
Mesenteric LN			View	View a representative portion in adults (see note 13)	View and palpate (see note 13)		View and palpate
Mesentery and omentum			View if edible	View if edible	View if edible (see note 13)	View if edible	View if edible
Pancreas			View	View if edible (see note 13)	View if edible (see note 13)	View if edible	
Spleen		Incise	View (both sides)	View (See note 13)	View (See note 13)	View	View

ABDOMINAL VISCERA	General presentation standard (prior to PM examination)		Post-mortem examination requirements				
	MUST	**MUST NOT**	**Cattle**	**Sheep/Goats All options**	**Deer**	**Bobby calves**	**Pig**
Kidneys (may be on carcass)	Enucleate - all animals Ovine/Caprine under options 2 and 3, kidneys must be removed from carcass	Damage cortex (other than a superficial nick)	View	View (both sides)	View and palpate (Also view Renal LN)	Lift and view	View (including Renal LN if present)
Testicles/epididymis		Incise	View if edible	View (and palpate in adults) if edible	Palpate if edible (can be done through the scrotum)	View if edible	View and palpate if edible
Udder/Mammary glands	Remove if milky		View, palpate and incise if edible				View and palpate mammary glands in adult breeding animals
Uterus			View		View		View
Pizzle	Be severed as a complete entity from the pelvic attachment and freed from the prepuce if needed for examination.		View	View if edible	View (and palpate if edible)		

[13] **Hunted animals** typically have the gastro-intestinal tract, spleen, urinary bladder and uterus discarded in the field, so these parts may not be present. This scenario would not constitute 'missing parts'.

[14] **Bile ducts:**

a) Cattle: If liver is edible, incise major bile ducts anterior and posterior to the cystic duct. Do not incise if liver has a disease or defect that will obviously designate it petfood, or if the bile ducts are obviously infected with fluke.

b) Deer: Make a longitudinal incision which passes through the major bile ducts, parallel to the long axis of the liver.

Part 2: Intensified examination

(1) This part specifies the additional (intensified) post-mortem examination requirements (See also section 3.7.1 (6)) that apply when animals are:

a) TB suspect cattle, deer or pigs
b) *C. bovis* suspect cattle
c) Vaccinated for Johne's disease
d) Horses that are grey or white in colour
e) Sheep or goats that have suspected caseous lymphadenitis.

Table 7: Intensified post-mortem examination

Procedures in this table are additional to the routine examination procedures.	**Post-mortem examination - intensified examination**						
	TB suspect/reactor - Cattle	**TB suspect/reactor - Deer**	**TB suspect - Pig**	***Cysticercus bovis* suspect - Cattle**	**Johnes vaccinated animals**	**CLA (Caseous lymphadenitis) in Sheep and Goats**	**Grey/White Horses** (see note 5)
Carcass							
Anal LN						Palpate if present	
Anterior cervical LN (may be on the head)			Incise and view				
Atlantal LN (may be on head)	Incise and view	Incise and view					
Iliac LN	Incise and view	Incise and view	Incise and view			Palpate	
Ischiatic LN	Incise and view	Incise and view				Palpate	
Lateral neck muscles					Palpate. Also incise in cattle and deer (see note 2)		
Lumbar chain LN	Incise and view	Incise and view	Incise and view				
Popliteal LN	Incise and view	Incise and view	Incise and view			Palpate	
Prepectoral LN	Incise and view	Incise and view	Incise and view				
Renal LN (may not be on the carcass)	Incise and view	Incise and view	Incise and view				

Procedures in this table are additional to the routine examination procedures.	Post-mortem examination - intensified examination						
	TB suspect/reactor - Cattle	**TB suspect/reactor - Deer**	**TB suspect - Pig**	***Cysticercus bovis* suspect - Cattle**	**Johnes vaccinated animals**	**CLA (Caseous lymphadenitis) in Sheep and Goats**	**Grey/White Horses** (see note 5)
Subrhomboid LN							Incise and view (see note 5)
Subiliac LN	Incise and view	Incise and view	Incise and view			Remove if enlarged (see note 6)	
Superficial cervical LN	Incise and view		Incise and view		Incise in cattle (see note 2 for details on cattle and other species)		
Superficial inguinal / supramammary LN		Incise and view	Incise and view				
Heads							
Atlantal LN (may be on carcass)	Incise and view	Incise and view					
Masseter and pterygoid muscles				Incise and palpate (see note 1)			
Thoracic viscera							
Interventricular wall cut surfaces and internal heart surface				Incise, view and palpate (see note 1)			
Left and right bronchial LN	Incise and view (see note 3)		Incise and view				
Mediastinal LN	Incise and view (see note 3)		Incise and view				
Right apical LN	Incise and view (see note 3)						
Abdominal viscera							
Hepatic LN			Incise and view				
Kidneys (may be on carcass)	Incise and view renal LN	Incise and view renal LN	Incise and view renal LN				Incise and view

Procedures in this table are additional to the routine examination procedures.	Post-mortem examination - intensified examination						
	TB suspect/reactor - Cattle	**TB suspect/reactor - Deer**	**TB suspect - Pig**	***Cysticercus bovis* suspect - Cattle**	**Johnes vaccinated animals**	**CLA (Caseous lymphadenitis) in Sheep and Goats**	**Grey/White Horses** (see note 5)
Liver (both sides)			Palpate				
Mesenteric LN	Incise and view	Incise and view (this LN is not typically presented in hunted animals - see note 4)	Incise and view				

[1] ***Cysticercus bovis* suspects:**
a) After the external masseter and internal pterygoid muscles have been dropped or removed from the head, make two deep incisions into the external masseter and one deep incision into the internal masseter, and view and palpate all exposed muscle surfaces. Post-mortem examiners must make these incisions regardless of boning room checks for *C. bovis*.
b) After the tongue has been dropped or taken off, view and palpate. Then make a ventral longitudinal midline incision through the suspensory muscle of the tongue, and view.
c) Make two additional incisions each parallel to and midway between the edge of the heart and the incision that was made into the internal surface of the ventricle. Make an additional incision into the interventricular septum. Incisions should be equal in depth and extent of the routine incisions but should not penetrate the outer surface of the heart. View and palpate heart and muscular surfaces exposed by the incisions.

[2] **Johne's vaccinated cattle and deer:** Must undergo palpation of the muscles lateral and parallel to the ligamentum nuchae at or about the likely site of injection and removal of all identified lesions. Deep incision of this area is required in deer, but in cattle incision is only needed if palpation suggests a vaccine reaction. Incisions may have to be lengthened where there are suspicions the lesions have migrated along the lymphatics of fascial planes.
Specifically for Johne's vaccinated cattle - Incision of the superficial cervical lymph nodes is required and if there are signs of vaccination in the dewlap, incise the axillary lymph nodes and remove the nodes where lesions are found.
Incision of the superficial cervical LN is part of the routine examination for deer and palpation is routine for adult sheep/goats - there is no need for additional palpation or incisions because of Johne's vaccination in these species.

[3] **TB suspect cattle thoracic LN:** These LN are incised in the routine examination, but for the intensified procedure ensure these nodes are incised thinly (approximately 2-3 mm) and the cortex is carefully examined for tuberculous lesions.

[4] **Hunted animals** typically have the gastro-intestinal tract, spleen, urinary bladder and uterus discarded in the field, so these parts may not be present. This scenario would not constitute 'missing parts'.

[5] **Grey/White horses:** The following additional presentation and examination steps must be performed:
a) Presentation (operator) - Loosen the attachment of one shoulder of each carcass to permit examination of the muscles and lymph nodes beneath the scapular cartilage for melanosis and melanoma.
b) Examination - also incise the subrhomboid LN and view the muscles of one shoulder beneath the scapula.

[6] **CLA:** Removal of lymph nodes for CLA may be performed by a trained detain rail worker or post-mortem examiner.

Part 3: Less common species

(1) This part specifies the presentation and examination requirements for less common species.

(2) The following general presentation requirements apply to all species prior to post-mortem examination, in addition to those in Table 8:

a) Heads must be washed if any part is to be examined or saved.
b) Lymph nodes must be left on the carcass unless exemptions are noted in the tables below (note there are no lymph nodes in ratites)
c) Pathology must not be trimmed or removed.
d) Body cavities must not be flushed.

Table 8: Presentation and post-mortem examination of less common species

	General presentation standard (prior to PM examination)		**Post-mortem examination requirements**				
	MUST	**MUST NOT**	**Macropod (e.g. Wallaby)**	**Hunted Rabbits and hares**	**Ratite (e.g. Ostrich, Emu)**	**Equine** Also see intensified examination for grey/white horses	**Camelid**
Head and carcass							
Exposed carcass LN			View. Palpate as required				
Head (includes eyes and orifices)	a) Skin the head of horses and camelids to the extent that PM examination can be completed and parts removed hygienically b) Heads must be clean if any part is to be examined or saved		View if present (see note 1)		View if present (see note 1)	View	View
Head LN (parotid, retropharyngeal and submaxillary)	Leave LN intact if they are required to be examined					Palpate	Incise and view
Oral cavity (includes buccal cavity, pharynx, tonsils, and mucous membranes)	Drop the tongue in horses					View. View and palpate tongue if edible	View. View and palpate tongue if edible

	General presentation standard (prior to PM examination)		Post-mortem examination requirements				
	MUST	**MUST NOT**	**Macropod (e.g. Wallaby)**	**Hunted Rabbits and hares**	**Ratite (e.g. Ostrich, Emu)**	**Equine** Also see intensified examination for grey/white horses	**Camelid**
Internal and external carcass surfaces (Including abdominal and thoracic cavities, pleura and peritoneum) (see note 2)	a) Rabbits/Hares for batch examination - See note 3. b) Grey/white horses - loosen shoulder muscles (see intensified examination)	Rabbits/Hares for batch examination (see note 3)	View	View (see note 3)	View	View. (also palpate umbilical area and limb joints in young animals)	View
Carcass LN						View and palpate internal iliac LN. View supramammary LN	View iliac LN. Palpate popliteal, subiliac and superficial inguinal / supramammary LN. Incise the superficial cervical LN
Limb joints			View				
Pelvic cavity			View		View		
Viscera							
Heart	Pericardium to be opened. Rabbits/Hares for batch examination - Examine for decomposition and defects and present refrigerated viscera in batches of up to 50kg		View	View viscera (may be in a bulk batch of up to 50 kg)	View and palpate	View pericardium. Incise heart by cutting through the ventricles and the interventricular septum lengthwise, then view	View pericardium and heart. Also palpate heart if edible
Lungs			View		View and palpate lungs. View trachea	View lungs and trachea. Also palpate lungs (see note 4 if edible)	View lungs and trachea If either edible, see note 5
Thoracic LN						Palpate bronchial and mediastinal LN	Incise and view bronchial and mediastinal LN
Kidney		Incise, however they must be enucleated. Cortical damage must	View		View in situ then view and palpate after removal from carcass	View and palpate	View both sides (and palpate if

	General presentation standard (prior to PM examination)		Post-mortem examination requirements				
	MUST	**MUST NOT**	**Macropod (e.g. Wallaby)**	**Hunted Rabbits and hares**	**Ratite (e.g. Ostrich, Emu)**	**Equine** Also see intensified examination for grey/white horses	**Camelid**
		not occur. This does not apply to ratites					edible) View renal LN
Liver		Incise	View		View and palpate	View and palpate	View (and palpate if edible) liver and major bile ducts
Air sacs (abdominal and thoracic)					View		
Diaphragm		Incise diaphragm except as needed to remove the pluck (Horse/Camelid)				View	View (both sides)
Gastro-intestinal tract			View (if present)		View (Proventriculus, gizzard and intestines)	View stomach, intestines and mesentery. View oesophagus if edible	View oesophagus, stomach (3 compartments in camelids) and intestines
Hepatic LN			View			View and palpate	Incise and view
Lung lymph nodes			View				
Pancreas						View pancreatic LN	View if edible
Mesenteric LN						View mesenteric and gastric LN	View and palpate
Spleen			View (if present)		View and palpate	View	View
Thymus (young animals)							View if edible
Uterus						View (in adults).	View
Udder	Remove if milky					View if edible	
Testicles/Epidiymis						View (in adults)	View (and palpate if edible)

[1] **Macropod and Ratite heads** may be discarded before PM examination. If not examined, no parts may be saved for human consumption.

[2] **All carcasses:**

a) Parts not required for examination but saved for human or animal consumption (e.g. tails, tendons) must be from animals that have passed examination. These parts must be subjected to a quality control check by the operator. If left on the carcass, they should be examined with the carcass. See also batch collection (Chapter 7 Part 3.8).
b) Parts of the carcass that are considered likely to be at high risk of microbiological contamination, including but not limited to, the area around the stick wound or immediately under opening hide/pelt cuts may be removed prior to post-mortem examination. Chapter 6 parts 2.1 (3) and 2.2 (4) of this code must be followed.

[3] **Rabbit/Hare batch examination**:

a) The operator must examine for decomposition and defects
b) The operator must not present carcasses with contamination (including pieces of projectiles), wounds/bruises or fractures within a batch (these carcasses can be presented individually for examination with their associated viscera)
c) The post-mortem examiner is to randomly select and inspect 60 carcasses from the batch which has been deemed to be defect free following pre-sorting by the company. A general look at the viscera (in bulk if appropriate) is undertaken to ensure that carcasses are not being kept from animals with defective viscera.

If the batch fails the examination (any defects on the carcasses or in the viscera), the batch must be re-worked and a further 90 random carcasses examined. Performance-based examination processes will then apply (see 'Technical Directive (TD) 02/105': https://www.mpi.govt.nz/dmsdocument/33283. Note: the term lot is used in place of batch in the TD).

[4] **Horse lungs**: If the lungs are edible, the trachea and main branches of the bronchi must be opened lengthwise and the lungs must be incised in their posterior third, perpendicular to their main axis and the trachea incised.

[5] **Camelid lungs/trachea**: If edible, palpate lungs and incise trachea.

Part 4: Dispositions

(1) This part covers the dispositions that must be applied to the carcass and other parts of the animal in respect to the diseases and defects identified during post-mortem examination.

Table 9: Dispositions

Disease/Defect	Category	Details	Actions/Comments	Human consumption disposition (condemn the parts listed below)	Animal consumption disposition (saving the parts listed for pet food is permitted)	Species
Generalised conditions						
Abscess / suppurating lesion	FS	With evidence of systemic spread/pyaemia, or other systemic signs		All		All
Abscess / suppurating lesion	W	Localised abscesses, no systemic signs	May be multiple abscesses, but no evidence of systemic spread	Affected tissues		All
Caseous lymphadenitis (CLA)	FS	With systemic signs e.g. fevered, emaciated, or showing evidence of haematogenous spread	Consider both carcass and viscera examination	All		SG
Caseous lymphadenitis (CLA)	W	Generalised, but chronic lesions	Consider both carcass and viscera findings. Petfood option for carcass if lesions and immediate surrounding area are all excised and lesions are chronic	Affected parts	Carcass	SG
Caseous lymphadenitis (CLA)	W	Chronic lesions that are not generalised in their distribution		Affected parts		SG
Emaciation	W			All	Pass for petfood if no evidence of other significant disease	All
Fat necrosis	W			Affected parts		All
Gangrene	FS	Wet gangrene with systemic signs		All		All
Icterus/Jaundice	FS	With liver degeneration and a pronounced yellow or yellow/green discolouration not only of the fat but also of the cartilages, tendon sheaths, serous membranes and connective tissue generally		All		All

Disease/Defect	Category	Details	Actions/Comments	**Human consumption disposition** (condemn the parts listed below)	**Animal consumption disposition** (saving the parts listed for pet food is permitted)	Species
Immaturity	W	Includes musculature which is loose and flabby, generalised underdevelopment of the musculature, minimal fat deposits which appear brownish-red, gelatinous and oedematous		All	Pass for petfood if no evidence of other significant disease	B
Odour	W	Abnormal, including boar taint in pigs	Additional testing may be required (while under retain). See also uraemia	All	Pass for petfood if no evidence of other significant disease	All
Oedema	FS	Generalised, or localised but with associated systemic signs		All		All
Oedema	W	Localised		Affected tissue		All
Pigmentation / discolouration	W	Generalised	Includes conditions such as melanosis and xanthosis. Yellow discolouration does not require condemnation of affected parts and is common in some breeds of animal (e.g. Jersey cattle). It can be distinguished from icterus by the lack of yellow discolouration in connective tissues such as tendons and cartilage. Petfood option for carcass	All	Carcass	All
Pigmentation / discolouration	W	Localised			Affected part	All
Pyogranulomas in pigs	W	Localised lesions in pigs from farms considered low risk for bovine tuberculosis (Chapter 7, Part 3.7.3). Lesions may be found in lymph nodes, lungs, carcass or liver	Avian TB is the most likely cause of pyogranulomas in lymph nodes of pigs from farms considered low risk for bovine TB. The mesentery and intestines may be saved in pigs with lesions in the mesenteric LN provided the affected LNs are removed hygienically. Removal of these mesenteric LN may be done by the operator if included in their RMP. Lesions in the liver are not necessarily indicative of systemic spread	Affected lymph node or parts		P
Pyogranulomas in pigs	FS	Generalised, or with associated with systemic signs, or extensive lesions in either the thoracic or abdominal cavities	Lesions of avian TB are most commonly found in mesenteric lymph nodes and the liver. Signs of infection beyond this (e.g. in the spleen) would be considered generalised	All		P

Disease/Defect	Category	Details	Actions/Comments	Human consumption disposition (condemn the parts listed below)	Animal consumption disposition (saving the parts listed for pet food is permitted)	Species
Pyogranulomas in pigs	W	Localised lesions in pigs from farms considered high risk for bovine tuberculosis (Chapter 7, Part 3.7.3), or when other information or findings suggest a high risk for bovine tuberculosis	Additional examination requirements apply to these TB suspect pigs. Sample as 'bTB suspect' and retain remaining product until results obtained	Affected parts (lymph node and area/organ drained by the node). Condemn all if positive for bTB.		P
Septicaemia / Pyaemia / Toxaemia	FS		May be associated with enteritis, mastitis, nephritis, peritonitis, pleuritis, pericarditis, metritis etc. May be associated with specific diseases (e.g. leptospirosis, salmonellosis, erysipelas)	All		All
Tuberculosis	FS	LN draining any combination of the head, thoracic viscera &/or gastro-intestinal tract – Localised	Includes retropharyngeal, submaxillary, parotid, atlantal, mediastinal, bronchial, apical, mesenteric LN. For head lymph nodes condemn the head and tongue. For thoracic viscera LN condemn the thoracic viscera. For mesenteric LN condemn the abdominal viscera. Combinations of these may occur. Suspect sampling requirements apply	Affected part (lymph node and the part being drained by that node)		CD
Tuberculosis	FS	Lesion localised in the following parts or their draining LN: carcass (except the head), liver, spleen, kidney Any confirmed TB lesion caused by *Mycobacterium bovis* in pigs, sheep, camelids, or goats		All		All
Tuberculosis	FS	Any tuberculous lesion/s which is acute and actively progressive &/or generalised (including grapes) and/or extensive and/or with evidence of haematogenous spread and/or with associated cachexia		All		All
Tuberculosis reactor (TB reactor)	FS		If no lesions, carcasses may be passed, but export restrictions apply (see also OMAR)			CD
Uraemia	FS			All		All
Thoracic conditions						

Disease/Defect	Category	Details	Actions/Comments	**Human consumption disposition** (condemn the parts listed below)	**Animal consumption disposition** (saving the parts listed for pet food is permitted)	Species
Lungs/Trachea	W	Localised lesions not elsewhere described with no systemic signs (e.g. parasitic lesions, atelectasis, cysts, abscesses, LN pathology, tracheal discharge)		Affected parts	May be saved for petfood if no active infection	All
Pericarditis/epicarditis/endocarditis	FS	Acute with systemic signs		All		All
Pericarditis/epicarditis/endocarditis	W	Acute or chronic, but with no systemic signs	Includes traumatic reticulo-pericarditis (mainly cattle) and chronic erysipelas in pigs	Affected parts		All
Pleurisy	FS	Acute or diffuse pleurisy, or pleural hyperaemia with systemic signs		All		All
Pleurisy	W	Acute or chronic, but with no systemic signs	Pleura may be able to be stripped in chronic cases. May include fibrous adhesions. Can involve the rib cage and/or the lungs. If no active inflammation, lungs suitable for petfood. Non active pleural adhesions and/or scar tissue less than 25 mm at the greatest dimension may be passed without stripping	Affected parts	Lungs if no active inflammation	All
Pneumonia	FS	Acute pneumonia with systemic signs or gangrene		All		All
Pneumonia	W	Localised	May be abscessated	Lungs		All
Abdominal conditions						
Abomasum/Vell	W	Localised lesions with no systemic signs	Vell can be passed where not affected by other non-infectious conditions in the carcass, such as immaturity or generalised bruising	Affected parts		B
Enteritis	FS	Haemorrhagic or gangrenous		All		All

Disease/Defect	Category	Details	Actions/Comments	**Human consumption disposition** (condemn the parts listed below)	**Animal consumption disposition** (saving the parts listed for pet food is permitted)	Species
Haematoma	W	Superficial haematomas in the pelvic area, resulting from ineffective closure of the umbilical arteries		Affected tissue		B
Kidney disease (acute) / Nephritis	FS	Acute with systemic signs	In bobby calves, includes conditions with hyperaemic haloes around white spots on cortex	All		All
Kidney disease (Localised)	W	Localised lesions not elsewhere described (e.g. hydronephrosis, chronic nephritis/pyelonephritis, cysts)		Affected kidney(s)		All
Kidneys from adult animals	FS		Levels of heavy metals (e.g. Cadmium may be above permitted limits). Adults defined as: • Cattle/sheep/goats - 6 or more permanent incisors • Deer - cull velveting stags, sire stags, cast for age hinds. • Pigs weighing over 80 kg with the head on. • All horses.		Kidneys	All
Liver abscess	W	Liver abscess(es) which are not surrounded by hyperaemic halos, where there is no swelling of the liver or associated lymph nodes, and no involvement of other organs		Affected parts		B
Liver disease	W	Localised lesions not elsewhere described with no systemic signs (e.g. cirrhosis associated with facial eczema, telangiectasis, encapsulated focal necrosis, scars)	Small lesions may be trimmed See also dispositions for Parasites - other.	Liver	Petfood liver if mildly affected	All
Livers from adult pigs	FS	Livers from chopper pigs	Aligned to a 2023 residue risk assessment	Liver	Not permitted	P
Navel ill/omphalophlebitis	FS	Infection of one or more of the umbilical vessels. Acute inflammation and/or active infection extending the total length of any vessel remnant, or with associated peritonitis		All		B

Disease/Defect	Category	Details	Actions/Comments	Human consumption disposition (condemn the parts listed below)	Animal consumption disposition (saving the parts listed for pet food is permitted)	Species
Navel ill/omphalophlebitis	W	Enlargement of the navel with no infection of the umbilical vessels or associated peritonitis. With or without a small amount of inflammation in the immediate area of the navel. Infection of one or more of the umbilical vessels that is either acute and/or active and not extending the total length of any vessel remnant or is resolved fibrous enlargement extending the total length of any vessel remnant	May petfood the liver if it is disease-free and removal is hygienically possible	Affected parts	Liver	B
Peritonitis	FS	Acute with systemic signs	May be associated with hepatitis or enteritis. Often associated with navel ill in bobby calves	All		All
Peritonitis	W	Acute or chronic, but with no systemic signs	The peritoneum may be able to be stripped in chronic cases. May affect the viscera or abdominal wall	Affected parts		All
Rumen/reticulum	W	Localised lesions not elsewhere described with no systemic signs (e.g. focal actinobacillosis or traumatic reticulitis)		Affected parts		CDSG
Umbilical hernia	W		Mainly bobby calves	Affected parts		All
Reproductive conditions						
Mastitis	FS	Acute with systemic signs, or gangrenous		All		All
Mastitis	W	Localised	Includes granulomatous mastitis in pigs. See also skin lesions if udder skin affected	Affected parts		All
Metritis	FS	Acute with systemic signs		All		All
Metritis	W	Localised		Affected parts		All
Pizzle, testicle, epididymis	W	Localised lesions not elsewhere described with no systemic signs (e.g. localised inflammation, trauma, erosions scars, haematoma)		Affected parts		All

Disease/Defect	Category	Details	Actions/Comments	**Human consumption disposition** (condemn the parts listed below)	**Animal consumption disposition** (saving the parts listed for pet food is permitted)	Species
Abnormal growths						
Actinomycosis, Actinobacillosis	W	Restricted to the head and/or tongue	Draining LN may also be affected. If only jawbone involved, tongue is passed, and head condemned	Head and tongue		CD
Actinomycosis, Actinobacillosis	FS	Numerous and widespread lesions or with emaciation or oedema		All		CD
Actinomycosis, Actinobacillosis	W	Localised to areas other than the head or tongue		Affected organs and parts and corresponding nodes.		CD
Neoplasm	FS	Malignant i.e. with metastasis in carcass or viscera, or emaciation		All		All
Neoplasm	W	Benign/Localised	For ovine intestinal adenocarcinoma, provided the lesions are localised to the abdominal viscera, the carcass may be saved, but all abdominal viscera are to be condemned	Affected part		All
Neoplasm - OSCC	W	Metastasis to any other site, or involvement of the osseous structure, but no secondary signs (e.g. emaciation)	Most common in cattle	Affected parts. Rest to petfood or condemn.	Unaffected parts if they are clearly disease-free and their removal is hygienically possible	All
Neoplasm - OSCC	W	Associated with cachexia or evidence of secondary changes (e.g. emaciation)	Most common in cattle	All		All
Neoplasm - OSCC	W	No metastasis or osseous involvement	Most common in cattle	Affected parts		All

Disease/Defect	Category	Details	Actions/Comments	**Human consumption disposition** (condemn the parts listed below)	**Animal consumption disposition** (saving the parts listed for pet food is permitted)	Species
Musculo-skeletal and skin conditions						
Arthritis	FS	Acute infectious arthritis or polyarthritis, with systemic signs Localised infectious arthritis in bobby calves	Polyarthritis = joints affected in more than one limb or region. Excludes traumatic arthritis	All		All
Arthritis	W	Localised with no systemic involvement	May be acute or chronic. Chronic arthritis may affect multiple joints. Mild joint asymmetry with no systemic findings or local lymph node changes in pigs may be passed without condemning the affected joint	Affected joints or parts, and surrounding tissue together with associated lymph nodes if affected		All
Arthritis	W	Localised with very poor carcass	May be in multiple joints	All	Carcass permitted if no evidence of septicaemia	All
Broken bones	W	Unhealed broken bones (includes ribs)	If healed, carcass may be passed	Affected parts		All
Grass Seeds	W	Surface or embedded seeds, with or without local abscesses	Isolated surface seeds may be removed by the company without condemning affected tissue. Most common in sheep	Affected tissue		All
Injection site lesion	W	Localised	Includes lesions from Neoparasec/Johne's vaccinations that may have extended from the injection site. If fresh/hyperaemic, retain and sample (see procedures)	Affected part		All
Wounds/Abrasions/Bruises	FS	Extensive or with systemic involvement or secondary carcass changes (e.g. oedema/hyperaemia) or gangrene		All		All
Wounds/Abrasions/Bruises	W	Localised with no systemic signs	If small, PM examiner can pass, but operator still needs to remove	Affected parts		All
Wounds/Abrasions/Bruises	W	Generalised but no other systemic signs	Viscera may be salvaged	Carcass		All
Contagious ophthalmia	W		Often called 'pink eye'	Heads, excluding brain and tongue		SCG

Disease/Defect	Category	Details	Actions/Comments	**Human consumption disposition** (condemn the parts listed below)	**Animal consumption disposition** (saving the parts listed for pet food is permitted)	Species
Skin lesions (not wounds, bruises or abrasions)	W	With associated carcass findings	Includes generalised contagious ecthyma (orf)	All		All
Skin lesions (not wounds, bruises or abrasions)	W	No associated carcass signs	Examples include contagious ecthyma (orf), diamond skin erysipelas lesions, facial eczema. Includes lesions on the skin/head, udder, lips etc.	Affected parts		All
Muscle disease	W	With no systemic signs	Includes myopathy, localised white muscle disease, degeneration	Affected parts	Pass for petfood if no evidence of other significant disease	All
Muscle disease	W	Generalised	e.g. generalised myopathy in deer	All	Pass for petfood if no evidence of other significant disease	All
Processing conditions						
Carcass contamination	PD	All types, includes but is not limited to: process defects such as faecal, ingesta, skin, wool, dirt, dust contamination	Removal of contamination is the responsibility of the operator. Very minor contamination such as small clusters or isolated hairs/strands of wool, or a few scattered specks of dust may be passed at PM inspection but must be removed by the operator before the carcass leaves the slaughter floor. Automated removal e.g. steam vacuum or by a carcass wash, is permitted.	Affected parts		All
Viscera contamination	PD	Applies to small amounts of external contamination.	Small amounts of contamination may result from cross-contamination on viscera trays/buggies or from extraneous material such as hair or wool etc. Grossly contaminated product must be condemned. Viscera with inherent contamination (e.g. paunches or vells with ingesta leakage) may be saved for human consumption subject to further processing e.g. a suitable cleaning process.	Affected parts	Pass for petfood	All
Scalding before sticking	PD	Applies to skin-on carcasses		All		PG
Skin-off Carcasses falling into drains	PD			Carcass		All

Disease/Defect	Category	Details	Actions/Comments	**Human consumption disposition** (condemn the parts listed below)	**Animal consumption disposition** (saving the parts listed for pet food is permitted)	Species
Carcasses falling onto floor	PD	Includes hide-on carcasses falling into a drain	Must be reworked to the satisfaction of the PM examiner or condemned	Affected parts		All
Missing tissues	FS	With other evidence of a systemic condemnable condition		All		All
Missing tissues	PD	No evidence of systemic condemnable condition in the remaining tissues	Normal judgement and disposition is applied. If the missing tissue is not found, human consumption product cannot be exported unless the missing tissue was a single kidney	Missing tissue, in the event that it is found		All
Missing hepatic lymph node	FS	Any liver with less than one whole lymph node			Pass for petfood if no evidence of other significant disease	All
Hunted animals	W	Specified viscera	Heart, lungs, kidneys and liver not permitted for human consumption from hunted animals. These viscera are frequently removed during field dressing prior to PM examination		Pass the specified viscera for petfood if no evidence of other significant disease	CDSGP
Parasitic conditions						
Parasites - Hydatids	FS	Refer suspects procedure (Chapter 7 Part 3.7.1)	Includes *Echinococcus granulosus*	Retain and sample. Condemn affected parts if positive		All
Parasites - other	W	Not harmful to humans and can be completely removed	Includes parasitic tracts and spots, along with specific localised parasitic lesions including those cause by liver fluke, ascarids, lungworms etc. Carcass - If numerous and removal renders carcass unsightly, petfood whole carcass. Liver - Minor, shallow trims may be made in a liver, otherwise condemn/petfood the liver. See also liver disease. Pimply gut (oesophagostamum) in the intestines - the paunch may still be saved		Affected parts	All
Parasites - Sarcocysts	W		If generalised, petfood all		Affected parts/all	CDSG
Parasites - *Cysticercus ovis*	W	Isolated cysts	Typically in the tongue, heart or diaphragm. If extensive in the carcass (more than 5 cysts) then petfood the carcass		Affected parts/carcass	SG

Disease/Defect	Category	Details	Actions/Comments	**Human consumption disposition** (condemn the parts listed below)	**Animal consumption disposition** (saving the parts listed for pet food is permitted)	Species
Parasites - *Taenia solium*	FS			Retain and sample. Condemn all if positive		P
Parasites *Cysticercus bovis* (*Taenia saginata*)	FS	Refer suspect *C. bovis* procedure (Chapter 7 Part 3.7.4)	Individual animal - Disposition applies when diagnosis is confirmed (or suspicious) via laboratory examination. If heavily infested (more than 5 cysts) all parts must be condemned. Whole line - Disposition applies if two or more animals in the line are affected	Condemn or treat all parts. Treatment consists of freezing at -12°C or colder for 20 days; or heating to a core temperature of 56°C for 1 second		C