

Chapter 2.4 Post-Mortem, Health and Identification Marking

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1. Introduction

1.1 Overview

1.2 Legislation

1.1 Overview

1.1.1 Purpose

The principal purpose of post-mortem inspection is to supplement ante-mortem inspection and to detect:

- diseases of public health significance
- diseases of animal health significance
- residues or contaminants in excess of the levels allowed by legislation
- the risk of non-visible contamination
- other factors which might require the meat to be declared unfit for human consumption or restrictions to be placed on its use
- visible lesions that are relevant to animal welfare such as beating or long standing untreated injuries

1.2 Legislation

1.2.1 Regulations

Regulation (EC) 854/2004 details:

- the purpose of post-mortem inspection
- the post-mortem inspection procedures
- the decisions to be taken concerning meat

Regulation (EC) 853/2004 details the standards that the Food Business Operator (FBO) should provide and achieve for post-mortem inspection.

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Regulation (EU) 219/2014 amends Annex I of (EC) 854/2004 as regards the specific requirements for post-mortem inspection of domestic swine to be carried out from 1 June 2014

Reference: Further details are provided in the Meat Industry Guide (MIG).

1.2.2 Post-Mortem inspection requirements

Specific requirements for each species are listed in (EC) 854/2004, Annex I, Section IV.

Reference: See Annex 1 for a summary of post-mortem inspection requirements.

2. FSA Role

- 2.1 Introduction to post-mortem inspection
- 2.2 FSA duties
- 2.3 Post-mortem inspection guidelines
- 2.4 Decisions concerning meat

2.1 Introduction to post-mortem inspection

2.1.1 Key principles

Post-mortem inspection should:

- take into account ante-mortem inspection results
- view all external surfaces
- pay particular attention to the detection of zoonotic and notifiable diseases
- take into account FCI or trained hunter's declaration
- take place without delay after slaughter
- include carcasses and accompanying offal

2.1.2 Contamination during inspection

During inspection, precautions must be taken to ensure that contamination of the meat by actions such as palpation, cutting or incision is kept to a minimum. Minimal handling of the carcass and offal should take place.

In relation to pig meat, the European Food Safety Authority (EFSA) adopted a Scientific Opinion which concluded that palpation or incisions in carcass and offal at post-mortem inspection should be omitted for pigs subjected to routine slaughter, because of the risk of microbial cross-contamination being higher than the risk associated with potentially reduced detection of conditions targeted by those techniques.

The use of palpation and / or incision should be limited to suspect pigs (see sub-topics 2.4.1 to 2.4.3 for further information).

2.1.3 Accuracy

The speed of the slaughter line and the number of inspection staff present must ensure proper inspection is completed and records maintained.

Regulation: (EC) 854/2004, Annex I, Section I, Chapter II, D1.

MHI post-mortem inspection is for defect detection. OV post-mortem inspection is for disease diagnosis.

2.1.4 Additional examinations and tests

Where it is thought necessary, additional examinations are to take place such as palpation and incision of the carcass and offal and laboratory tests to:

- reach a definitive diagnosis
- detect the presence of:
 - an animal disease
 - residues or contaminants in excess of the levels allowed by community legislation
 - non-compliance with microbiological criteria
 - other factors that might require the meat to be declared unfit for human consumption or restrictions to be placed on its use

Note: Special attention should be taken in the case of animals having undergone emergency slaughter

- assess whether animal welfare is being compromised

2.1.5 OV presence

The OV need not be present at all times during post-mortem inspection if:

- an MHI carries out post-mortem inspection and puts aside abnormal meat with uncommonly occurring conditions and all other meat from the same animal

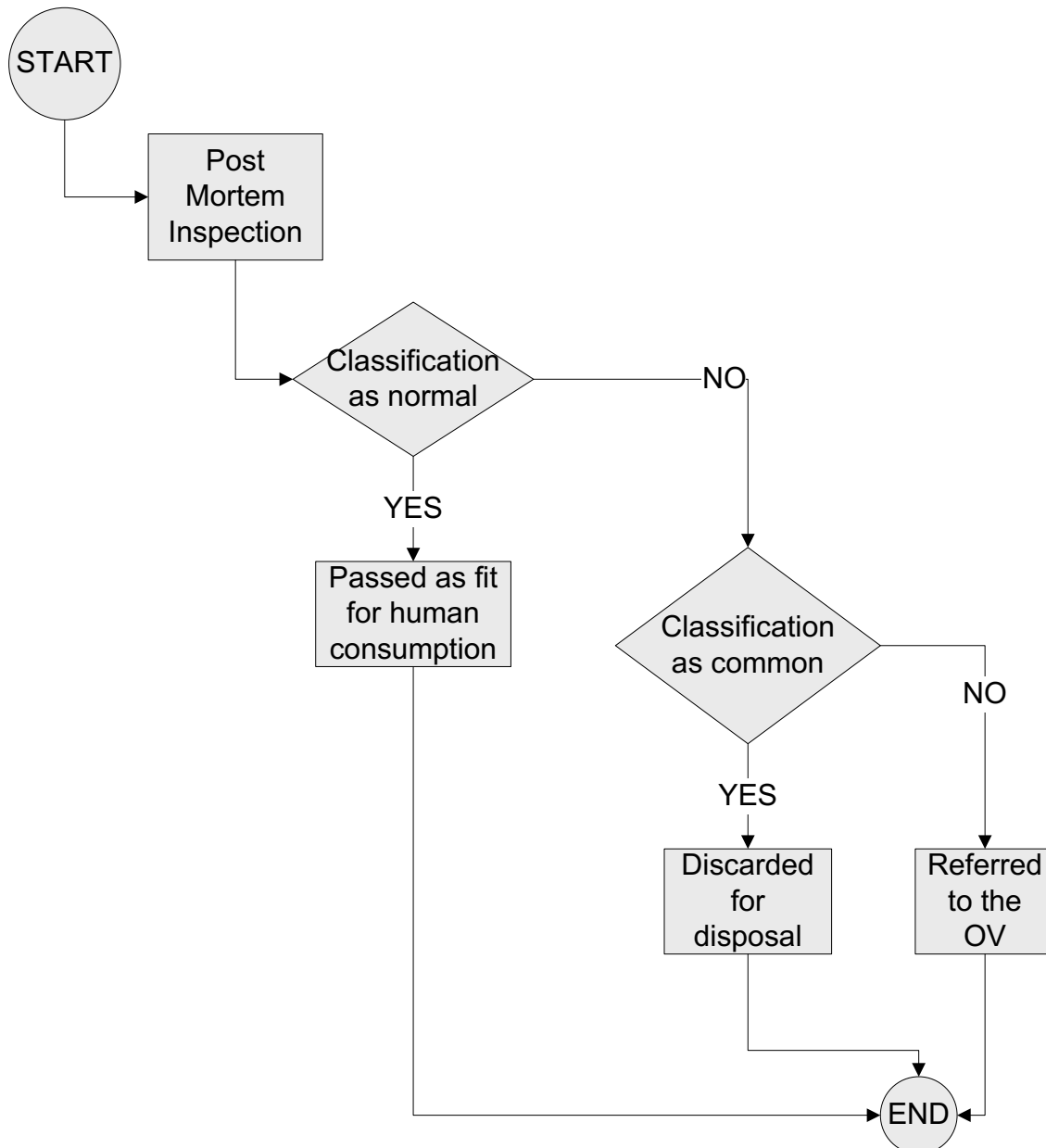
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- the MHI documents their procedures and findings in a manner that allows the OV to be satisfied that standards are being met
- the OV subsequently inspects all such meat

The MHI may discard meat from poultry and rabbits with abnormalities and the OV need not systematically inspect all such meat.

Regulation: (EC) 854/2004, Annex I, Section III, Chapter II, 2.

2.1.6 MHI post-mortem decision tree



2.1.7 Abnormal meat

To consider an abnormal carcass meat/offal as 'uncommon', we could take into consideration different aspects such as:

- prevalence of the condition in the area
- prevalence of the condition in the flock / herd (degree of infection or infestation)
- the possible human health implications of the condition (such as zoonoses)

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- the possible animal health implications of the condition (such as lesions which may indicate a possible notifiable disease such as classical swine fever, foot and mouth disease)
- possible animal welfare problems on farm, during transport or in the lairage
- the need to refer it to the veterinarian to do a differential diagnosis
- economic importance of the condition for the farming industry (degree of infestation)

Based on all the above, the MHI will need to make a judgement and notify the OV of the findings.

2.1.8 Examples of abnormal conditions that can be classified as common or uncommon

The table below outlines abnormal conditions and their classification.

Abnormal condition	Comments	Occurrence
Broilers septicaemia / toxaemia	Very prevalent condition. It represented 14.75% of total conditions rejected in 2004.	Common
Mastitis in older cattle	Common condition in all species, especially cows. No need to inform the OV as the farmer is already aware and will receive notification when he is informed about the post-mortem inspection records.	Common
Sheep caseous lymphadenitis	Is becoming more common but the OV needs to be made aware because of the economic importance of the disease (responsible for 1% of condemnations at meat inspection). The veterinarian doing a differential diagnosis.	Uncommon

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Abnormal condition	Comments	Occurrence
Cattle (30 month or younger) fascioliasis	Common in ungulates. The OV does not need to be informed. The disease is of great economic importance because of liver condemnations. The farmer will be informed when he receives notification of the post-mortem inspection findings.	Common
Pigs pleurisy / pneumonia	Inflammation of the pleurae is a common meat inspection lesion in pigs. It requires the stripping of the pleura or removal of the rib cage but carcass condemnation is not normally necessary. There is positive correlation between the number of carcasses requiring lung condemnation and the number of those requiring pleura stripping. The OV does not need to be informed.	Common
Sheep anthrax	Normally identified at ante-mortem inspection if a suspect animal is found dead in the lairage. It is a notifiable disease and it is a zoonoses. The OV must be informed and should immediately inform the APHA Duty Veterinarian.	Uncommon
Broilers mechanical damage	This is normally the result of poor functioning of the poultry plant machinery. The FBO has to be informed by the MHI if he has not already identified the problem.	Common
Cattle sarcocystis	The incidence is higher in older cattle but is an uncommon condition. Depending on the degree of infestation, the carcass and viscera have to be rejected. The OV should be informed.	Uncommon
Pigs ascariasis (milk spot)	The second most recorded condition at post-mortem in pigs (17% of total rejections in 2004). It is mainly identified in livers ('milk spot') which are unfit for human consumption. The farmer will be informed when he receives the post-mortem inspection report. The OV does not need to be informed.	Common

2.2 FSA Duties

2.2.1 Outline

The following table outlines the duties of the FSA Operations Group with regard to post-mortem inspection.

Role	By	Frequency
Carry out post-mortem inspection	An OV or MHI appropriately authorised under Regulation (EC) 854/2004 (or appropriately authorised slaughterhouse staff in poultry or rabbit slaughterhouses) working under the supervision of an OV	All carcasses and accompanying offal without delay after slaughter
Carry out post-mortem inspection for animals subject to emergency slaughter outside the slaughterhouse	An OV only; this cannot be delegated to a MHI	All carcasses and offal as soon as possible. Note: where an animal has been subject to emergency slaughter outside normal operational hours, cold post-mortem inspection is currently permissible. In these cases, the establishment does not need specific approval to carry out cold inspection of emergency slaughter carcasses only.
Carry out PM for animals accompanied by a farmer's declaration	OV or MHI	All carcasses and offal as soon as possible
Record post-mortem inspection results	OV or MHI (or PIA)	At the time of post-mortem inspection

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Role	By	Frequency
Apply Health Mark (HM)	The Health Mark must be applied under the supervision of the OV Reference: Regulation (EC) No. 854/2004, Annex I, Section I, Chapter III, 1.	Immediately after post-mortem inspection (this may be prior to results of any examination for trichinella being available, if OV satisfied meat will only be placed on market if results are satisfactory) See chapter 2.6 on 'TSE testing' for health marking BSE tested cattle
Disease sampling / testing	OV or MHI	When disease is suspected
Monitoring sampling / testing	OV or MHI or specifically trained plant staff	When monitoring of disease is required, for example, TSE, trichinella

2.3 Post-mortem inspection guidelines

2.3.1 Options in post-mortem inspection

Specific requirements for all species are listed in (EC) 854/2004, Annex I, Section IV.

2.3.2 Splitting carcasses

The OV is to require carcasses of horses, bovines over six months old, and pigs over four weeks old to be submitted for post-mortem inspection split lengthways down the spinal column.

Regulation: (EC) 854/2004, Annex I, Section I, Chapter II, D, 3.

However, if the OV authorises, to take account of particular market requirements, technological developments or specific sanitary situations, the carcasses may be submitted for the inspection not split in half as it is current situation with pig carcasses.

Regulation: (EC) 854/2004, Annex I, Section I, Chapter II, D, 3.

The OV may also require any head or any carcase to be split lengthways if the inspection so necessitates.

Caution: Splitting the head of cattle carries a health and safety risk, and if the animal is required to be sampled for BSE it may only take place after the sample has been taken.

2.3.3 Minimal handling by inspectors

During inspection, precautions must be taken to ensure that contamination of the meat by actions such as palpation, cutting or incision is kept to a minimum.

Note: Whilst still allowing for adequate post-mortem inspection care must be taken not to de-value the carcase or offal when making post-mortem incisions.

2.3.4 Visual inspection only

Carcases and offal of pigs of all ages are to undergo visual inspection procedures. Further Inspection Procedures (palpation and / or incision) can be carried out when one of the following indicates a risk to public health, animal health or animal welfare:

- checks on the FCI
- checks on any other data from the holding of provenance
- ante-mortem or post-mortem findings

Note: Further inspection can also be carried out if gathering of evidence is required for enforcement purposes (for example, welfare investigation).

Regulation: (EU) 219/2014 amending Annex I of (EC) 854/2004 (Section IV, Chapter IV).

2.3.5 Examples of conditions found in pigs at ante-mortem that might justify further inspection procedures at post-mortem

For the majority of the conditions listed on the current ante mortem inspection sheet there would be no need for pigs to be marked to undergo further inspection procedures (FIP) at post-mortem.

However, the following may justify FIP:

- mastitis (if associated with general signs)

- moribund / recumbent
- orchitis (marked to consider *Brucella*, occupational zoonoses)
- suspect emaciation, poor condition
- suspect fever
- slaughtered in lairage

Note: the OV is not limited to these conditions and should use their professional judgement.

2.3.6 Examples of conditions found in pigs at post-mortem that might justify further inspection procedures

For localised conditions on pig carcasses, further inspection procedures are not normally justified unless a generalised and-or septic condition is also observed / suspected.

The following localised conditions may justify detaining the carcase for FIP at post-mortem:

- multiple abscesses
- TB like lesions (in cases of enlarged lymph nodes)

When the OV / MHI suspects a generalised condition, in some cases the appropriate decision about the fitness of the meat for human consumption cannot be made without further examinations.

If any of the following conditions is observed / suspected, this **may** justify detaining the carcase or offal for FIP at post-mortem inspection:

- anaemia (may be part of other generalised condition)
- badly bled (may mask some other post-mortem signs)
- contamination gut content (may mask other conditions)
- emaciation / generalised oedema
- erysipelas
- generalised TB, tumours, melanosis
- jaundice
- machine damage (if may mask other conditions)
- poly-arthritis
- septic peritonitis

- septic pleurisy
- suspect pyaemia / multiple abscesses-tail bite-other
- suspect uraemia / abnormal odour
- suspect fever / septicaemia
- suspect residues

Note: The OV / MHI is not limited to these conditions and should use their professional judgement.

2.4 Decisions concerning meat

2.4.1 Animal carcasses for which a ‘suspect animal card’ was completed

The OV must have a suitable system in place to inform the person(s) performing the post-mortem inspection of any condition that may help in the post-mortem judgement for that carcass. This includes any animals for which a ‘Suspect Animal Card’ has been completed and also pigs identified at ante mortem inspection as requiring further post-mortem inspection procedures other than visual inspection.

2.4.2 Possible outcomes

After the inspection, the OV/MHI can:

- pass the meat as fit for human consumption
- declare the meat unfit for human consumption
- detain the meat for further examination following rectification

2.4.3 Reasons for declaring meat unfit

Meat may be declared unfit for human consumption if it:

- derives from animals that have not undergone ante-mortem inspection, except for hunted wild game
- derives from animals the offal of which has not undergone post-mortem inspection, unless otherwise permitted under Regulation 853/2004 or Regulation 854/2004

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- derives from animals which are dead before slaughter, stillborn, unborn or slaughtered under the age of seven days
- results from the trimming of sticking points
- derives from animals affected by animal diseases for which animal health rules are laid down in Annex I to Council Directive 2002/99/EC except if it is obtained in conformity with the specific requirements provided for in that legislation, unless otherwise provided for in Section IV (**Reference:** Regulation (EC) No 854/2004, Annex I, Section II, Chapter V, 1(e))
- derives from animals affected by a generalised disease, such as septicaemia, pyaemia, toxaemia or viraemia
- is not in conformity with microbiological criteria laid down under community legislation to determine whether food may be placed on the market
- exhibits parasitic infestation, unless otherwise provided for in Section IV
- contains residues or contaminants in excess of the levels laid down in community legislation; any overshooting of the relevant level should lead to additional analyses whenever appropriate
- without prejudice to more specific community legislation, derives from animals or carcasses containing residues of forbidden substances or from animals that have been treated with forbidden substances
- consists of the liver and kidneys of animals more than two years old from regions where implementation of plans approved in accordance with Article 5 of Directive 96/23/EC has revealed the generalised presence of heavy metals in the environment
- has been treated illegally with decontaminating substances
- has been treated illegally with ionising or UV-rays
- contains foreign bodies (except, in the case of wild game, material used to hunt the animal)
- exceeds the maximum permitted radioactivity levels laid down under community legislation
- indicates patho-physiological changes, anomalies in consistency, insufficient bleeding (except for wild game) or organoleptic anomalies, in particular a pronounced sexual odour
- derives from emaciated animals
- contains specified risk material, except as provided for under community legislation
- shows soiling, faecal or other contamination

- consists of blood that may constitute a risk to public or animal health owing to the health status of any animal from which it derives or contamination arising during the slaughter process
- in the opinion of the official veterinarian, after examination of all the relevant information, it may constitute a risk to public or animal health or is for any other reason not suitable for human consumption

Where there is total rejection the whole carcase, offal and blood and the rest of body parts must be disposed of as an animal by-product.

Regulation: (EC) 854/2004 Annex I Section II Chapter V 1.

2.4.4 Reference link to pathological conditions

Access to the Cornell University photographic library of pathology can be obtained using the following link:

<http://w3.vet.cornell.edu/nst/nst.asp>

For poultry, consult the poultry condition cards found on Digital Workplace and linked from section 7 on 'Judgements at poultry post-mortem inspection' of this chapter.

2.4.5 Meat declared unfit

Where the OV is not satisfied that the meat is fit for human consumption, the health mark / identification mark must not be applied. The FBO should be asked to voluntarily surrender meat rejected as unfit for human consumption. Where surrender is not forthcoming, the OV should put in writing the reasons why they are formally declaring the meat unfit for human consumption in accordance with Regulation (EC) 854/2004, Annex I, Section II, Chapter V, paragraph 1.

Note: Where the FBO continues to refuse to dispose of meat that has been declared unfit, follow the ABP provisions relating to the treatment of meat declared unfit for human consumption. See chapter 2.8 on 'Animal by-products'.

2.4.6 Further inspection required

If the OV / MHI considers that the carcase and offal require further inspection, the carcase and the associated offal must be detained and kept under control of the OV pending the inspection.

2.4.7 When partial rejection may be appropriate

Partial rejection of the meat or offal may be appropriate where only part of the carcass or a single organ is affected. Reject only the affected carcass part or offal and the tissue immediately surrounding it as an animal by-product.

2.4.8 Detention procedure

When detaining a carcass for further inspection it is important to maintain correlation of the detained carcass and all relevant parts until post-mortem inspection has been completed and any additional examinations have taken place.

The detention method and any other examinations that are carried out must be done in a manner that prevents the risk of cross-contamination with meat intended for human consumption, for example, prevention of contact between carcasses.

Note: It is inappropriate to detain meat that has been declared unfit for human consumption with a formal food detention notice, as the product becomes an ABP and no provision exists to detain an ABP.

2.4.9 Rectification FBO responsibility

It is the responsibility of the FBO to present carcasses and offal to the FSA for final inspection free from contamination by faeces, gut content, hair, wool, bile and any other pollutants in accordance with the FBO's procedures based on HACCP principles.

2.4.10 FSA Operations group responsibilities

FSA Operations Group staff should have regard to the following:

- Meat showing signs of pathology or contamination must not be health marked/passed as fit and should be detained for rectification by the FBO.
- Where contamination on a series of carcasses/offal is persistent and represents a failure in the FBOs hygienic procedures, the OV should immediately be informed, to establish the cause and rectify the problem; this may involve the OV stopping the line to resolve the issue.

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Note: All line stoppages should be recorded in the day book and in the enforcement programme in Chronos.

- The OV must discuss the dressing procedures and HACCP based plan with the FBO where persistent deficiencies are identified.

Note: Deficiencies in dressing should be recorded using the Slaughter Hygiene Verification (SHV) K2 form in red meat and in poultry.

FSA staff must not carry out any type of meat rectification work, including for quality reasons, as this is the responsibility of the FBO.

2.4.11 Use of scabbards by FSA staff

Scabbards should only be used to transport knives to and from the post-mortem inspection stations. Once at the post-mortem inspection station, sterilizers should be used to store knives when not in use.

3. FBO Responsibility

3.1 Presentation for post-mortem inspection

3.1 Responsibility

3.1.1 Responsibility

It is the responsibility of the FBO to produce safe meat. FSA Operations Group inspectors confirm FBO actions and identify any specific risks.

3.1.2 Timelines

Stunning, bleeding, skinning, evisceration and further dressing are carried out without undue delay and in a manner that avoids contaminating the meat.

3.1.3 FSA facilities

The FBO follows the instructions of the OV to ensure that post-mortem inspection of all slaughtered animals is carried out under suitable conditions.

3.1.4 FBO facilities

Until post-mortem inspection is completed all parts of a slaughtered animal:

- must remain identifiable as belonging to a given carcass
- must not come into contact with any other carcass, offal or viscera
- must not be washed

The FBO must ensure that:

- slaughtered animals are dressed and treated in such a manner as not to prevent or hinder inspection
- no carcasses are cut up
- no action is taken to destroy or alter evidence of disease

- no part, except the hide or skin, is removed from the establishment until post-mortem inspection is completed and any required samples are taken

Exceptions

- **for all species:** the penis, if not intended for human consumption
- **for sheep and goats:** the head, if no part of it is intended for human consumption

Regulation: (EC) 854/2004, Annex I, Section IV, Chapter II, 1.

Any visible contamination must be removed without delay.

Regulation: (EC) 853/2004 Annex III, Section I, Chapter IV.

3.1.5 Skinning

All carcasses and other parts of the body intended for human consumption must undergo complete skinning, except for:

- porcine animals
- feet of sheep, goats and bovines

Unskinned feet must be handled so as to avoid contamination of other meat.

Note: When destined for further handling, and before leaving the slaughtering establishment, feet of all species must be skinned or scalded and depilated.

Regulation: (EC) 853/2004 Annex III, Section I, Chapter IV, 18.

3.1.6 Spleens

Spleens must be removed completely and, wherever possible, whole. The operator must present spleens correlated to carcasses for inspection.

3.1.7 Delayed uteri removal

For the grading and classification of female bovines as heifers or cows the uteri may be left attached to the carcass until the grading is completed.

MLC officers are being advised to speak to the FBO where they have a need for the uteri to be retained for grading purposes. The OV must be satisfied that a suitable system can be adopted before the procedure can start.

3.1.8 Uteri removal: FBO responsibility

In order to facilitate the process, the FBO must have a suitable system in place. The procedure must:

- be agreed between the FBO and the OV
- ensure that post-mortem inspection is completed and that no carcass is released for human consumption until the uteri has been completely removed and the carcass found fit for human consumption
- in addition, the uteri should be hygienically removed as soon as is practical following classification / grading

3.1.9 Uteri removal: OV responsibility

The OV must be satisfied that:

- suitable procedure can be adopted to ensure that hygienic production is maintained, for example, keeping correlation between the uteri and the carcass without a risk of cross contamination
- health marks are not applied until the carcasses have had the uteri removed and have passed post-mortem inspection

3.1.10 Storage facilities

There are lockable facilities for the refrigerated storage of detained meat and separate lockable facilities for the storage of meat declared unfit for human consumption.

3.1.11 After post-mortem inspection

Regulation (EC) 853/2004, Annex III, Section I, Chapter IV, 16 states:

- the tonsils of bovine animals, porcine animals and solipeds must be removed hygienically
- meat declared unfit for human consumption must be removed as soon as possible from the clean sector of the establishment

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- meat detained or declared unfit for human consumption and inedible by-products must not come into contact with meat and offal declared fit for human consumption

4. Guidance on Conditions

- 4.1 Judgements at red meat post-mortem inspection
- 4.2 Transmissible spongiform encephalopathy
- 4.3 Glanders
- 4.4 Brucellosis
- 4.5 *Cysticercus bovis*
- 4.6 Tuberculosis
- 4.7 Arthritis
- 4.8 Tumours in bovines
- 4.9 Aujeszky's disease

4.1 Judgements at red meat post-mortem inspection

4.1.1 Introduction

It is the duty of the OV, or the MHI acting under their authority, during post-mortem inspection to make a judgement based on the specific case presented and the requirements of Regulation (EC) 854/2004, Annex I, Section I, Chapter II, D.

4.1.2 Legislation

Regulation (EC) 854/2004, Annex I, Section IV, Chapter IX lays down six specific hazards:

- TSE
- Cysticercosis
- Glanders
- Tuberculosis

- Brucellosis
- Trichinosis

4.1.3 Guidance

There follows guidance on the following specific topics:

- TSE
- Glanders
- Brucellosis
- *Cysticercus bovis*
- Arthritis
- Tumours in bovines
- Trichinella
- Aujeszky's Disease

4.2 Transmissible spongiform encephalopathy

4.2.1 Guidance on TSE

Official controls carried out in relation to TSE are to take account of the requirements of (EC) No 999/2001 and other relevant community legislation.

Reference: See chapter 2.6 on 'TSE testing' for additional information.

4.3 Glanders

4.3.1 Guidance on Glanders

Where appropriate, solipeds are to be examined for glanders. Examination for glanders in solipeds is to include a careful examination of mucous membranes from the trachea, larynx, nasal cavities and sinuses and their ramifications, after splitting the head in the median plane and excising the nasal septum.

Meat from horses in which glanders has been diagnosed are to be declared unfit for human consumption.

Regulation: (EC) 854/2004, Annex I, Section IV, Chapter IX, D.

4.4 Brucellosis

4.4.1 Guidance on Brucellosis

When animals have reacted positively or inconclusively to a brucellosis test, or there are other grounds for suspecting infection, they are to be slaughtered separately from other animals, taking precautions to avoid the risk of contamination of other carcasses, the slaughter line and staff present in the slaughterhouse.

Meat from animals in which post-mortem inspection has revealed lesions suggestive of acute infection with brucellosis is to be declared unfit for human consumption. In the case of animals reacting positively or inconclusively to a brucellosis test, the udder, genital tract and blood must be declared unfit for human consumption even if no such lesion is found.

Regulation: (EC) 854/2004, Annex I, Section IV, Chapter IX, F.

Note: All FSA staff should be aware that, when dealing with brucellosis suspects, they must always wear eye protection, disposable masks and gloves.

4.5 Cysticercus bovis

4.5.1 Introduction

Meat infected with cysticercus is to be declared unfit for human consumption. However, when the animal is not generally infected with cysticercus, the parts not infected may be declared fit for human consumption after having undergone a cold treatment.

Regulation: (EC) 854/2004, Annex I, Section IV, Chapter IX, B

4.5.2 Guidance on *C. bovis*

Use the table below as a guide to judgement when cases of *C.bovis* are detected.

Post-mortem findings			Judgement
Number	Location	Status	
One cyst	Localised*	Viable	Reject the affected organ or carcase part
		Non-viable (caseous / calcified)	Require cold storage for remainder
More than one cyst	Localised*	Viable	Reject the affected organ or carcase part
		Non-viable (caseous / calcified)	Require cold storage for remainder
	Generalised**	Viable	Reject the carcase and offal
		Non-viable (caseous / calcified)	Reject the affected organ(s) or carcase(s) part Require cold storage for remainder

* only one area or part affected (such as heart **or** diaphragm)

** more than one area or part affected (such as heart **and** diaphragm)

4.5.3 Cold storage of carcasses and offal with a localised *C. bovis* infestation

After rejection of the relevant carcase part or offal, the remainder of the carcase and offal must undergo a 'cold treatment' as follows:

Temperature	Minimum time (weeks)
not exceeding -7°C	not less than 3 weeks
not exceeding -10°C	not less than 2 weeks

It is acceptable for the carcase to be boned-out prior to the commencement of the cold treatment, provided boning takes place under supervision of the AO and that the identity of the meat can be maintained throughout boning, packaging and storage.

4.5.4 Permitted destinations for cold storage

If cold storage facilities are not available at the slaughterhouse, the meat can be transported to a suitably equipped approved establishment for cold treatment. This arrangement should be done by the FBO with agreement from the OV.

4.5.5 Transport to an approved establishment

Where the meat is to be consigned to another approved establishment with cold storage facilities:

- the packaged meat should be labelled with *Cysticercus bovis* detention labels, or if part carcasses use talisman seals
- part 1 of the transfer permit must be completed at the slaughterhouse, the original to go with the consignment and a copy to be retained at the slaughterhouse
- part 2 of the transfer permit should be completed at the receiving establishment by the FBO

Reference: See chapter 9 on 'Forms', for sample copies of the PMI 4/15 *Cysticercus bovis* detention label and the Transfer Permit PMI 4/16.

4.5.6 Releasing the meat

An AO should visit the destination cold store to check and release the meat. A charge will normally be made for this.

- If the AO is satisfied the treatment of the meat has been done satisfactorily and has no cause for concern then the meat can be ID marked at the cold store and released.
- The AO should complete part 3 of the transfer permit and send it back to the FSA office at the originating slaughterhouse.
- Once the transfer permit is returned to the originating slaughterhouse it should be kept on file for a minimum of 12 months.

Note: The AO can be an OV, MHI or LA Inspector.

4.6 Tuberculosis

4.6.1 Guidance on tuberculosis

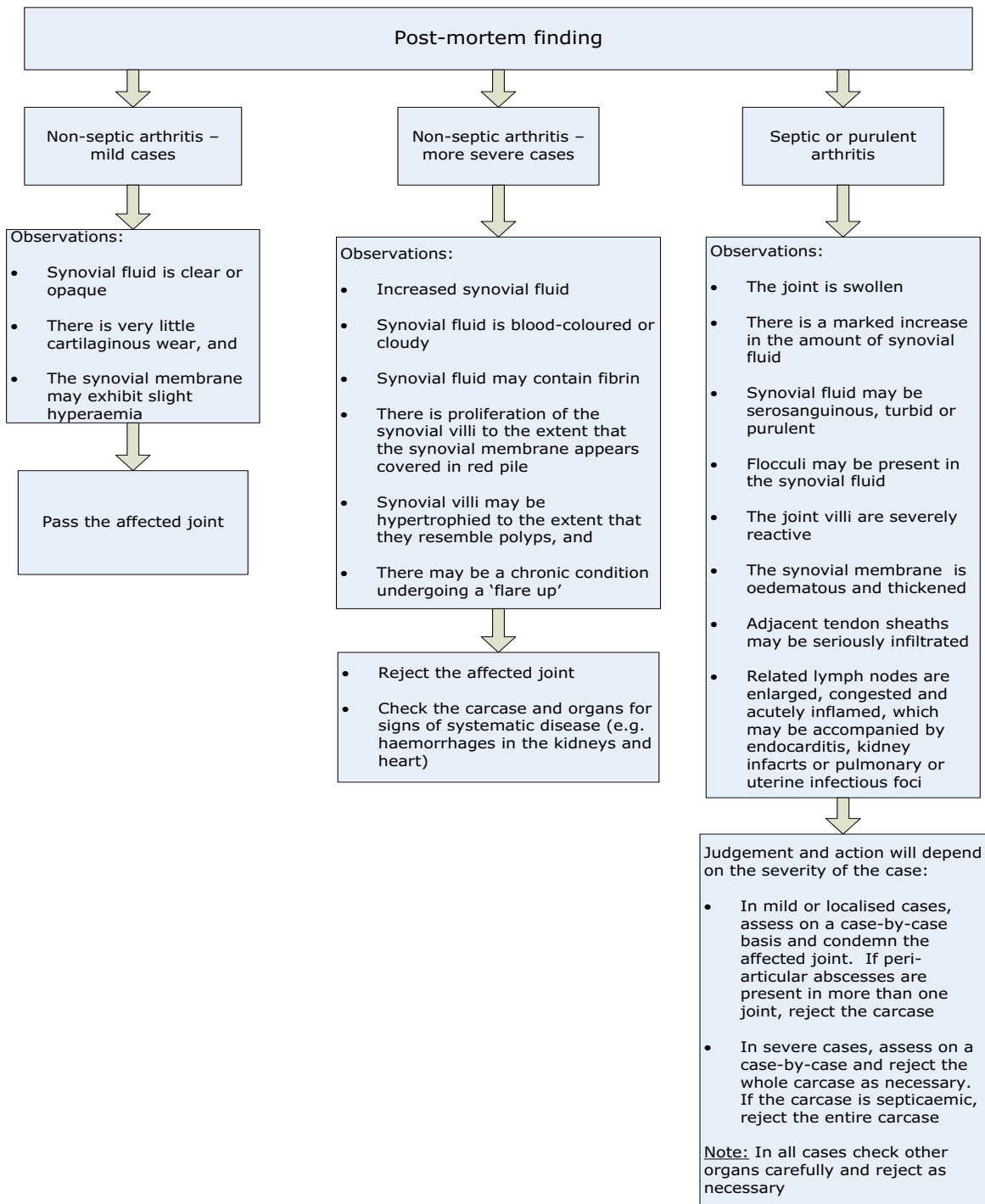
Full instructions on tuberculosis are now contained within chapter 6 on 'Notifiable diseases', section 7.

4.7 Arthritis

4.7.1 Guidance on arthritis

Arthritis is an inflammatory condition of the joint, synovial membrane and articular surfaces. It is a routine and common cause of partial and total rejection of carcasses. The flowchart below lists the post-mortem findings and guidance on the judgement of arthritic conditions:

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4.8 Tumours in bovines

4.8.1 Guidance on tumours in bovines

Where tumours are encountered in the carcasses or offal of bovines, Enzootic Bovine Leukosis must be a consideration.

- The OV must inform APHA.
- Samples from the carcass might be required.
- Before contacting APHA, the OV should gather all possible information about the animal, including date of birth and number of permanent incisors erupted.

Reference: See chapter 6 on 'Notifiable diseases' for additional information.

4.9 Aujeszky's disease: National Serum Survey

4.9.1 Purpose

To demonstrate continuing freedom from Aujeszky's disease a serum sample must be submitted for serological examination from every slaughtered breeding boar.

4.9.2 Who collects samples

The OV is responsible for collecting samples or delegating the task to a suitably trained MHI.

4.9.3 Restocking of sampling equipment

Sampling equipment can be obtained from OpA SLA and Contracts Team by emailing them (access contact details in chapter 1 on 'Introduction'). The equipment for this survey includes ELISA discs, plastic bags, address labels and photographic slide magazines used to dry the discs.

A training note has been produced by the OpA SLA and Contracts Team detailing the new sampling procedure with photographs. A copy of the training note can be requested by emailing the SLA and Contracts Team (access contact details in chapter 1 on 'Introduction').

4.9.4 Method for collecting serum samples on ELISA discs

Samples must be obtained from carcasses at a sufficient distance from the point of kill when there is no risk from post slaughter carcass movement and from FBO activities. Where possible this should be done at the post-mortem inspection site.

Caution: Avoid contaminating the disc with water or dirt.

The disc should be grasped by the body of the disc and not by the peripheral discs. Dry the saturated discs in the photographic slide magazines provided, ensuring effective separation between discs to prevent cross contamination.

Wash, rinse and dry the photographic slide magazines between uses.

Note: The 'clotted blood' method of sampling is no longer to be used.

Step	Action
1	Use one <i>ELISA</i> disc for each boar. Pre-number the discs.
2	Each peripheral disc must be saturated with blood. Partially-saturated peripheral discs are of no use.
3	Place saturated discs in a clearly identified photographic slide magazine. Place discs in every second compartment of the slide magazine to allow effective separation while they dry.
4	Note sufficient information on the sample submission form to identify the owner of each boar.
5	Drying: Discs should be allowed to dry at room temperature, out of direct sunlight, for at least 12 hours. Discs must be completely dry before despatch to the laboratory.
6	Punch out a central hole in each disc once dry. Thread the discs onto file tags in a sequence that corresponds with the submission sheet and place into plastic bags for despatch to the laboratory with the completed submission form.

4.9.5 Storage prior to despatch

Prepared *ELISA disc* samples should be stored at 4°C until posted.

4.9.6 Posting and packaging details

The following points are to be observed:

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- Samples may be batched and posted weekly (no more than 14 days from sampling to posting).
- 1st class post-must be used.
- Each batch of samples must be accompanied by a completed submission form.
- The package must be marked AD SURVEY SAMPLES.
- Avoid posting samples on a Friday as they may be delayed in transit over a weekend.

4.9.7 Submission address

Serum samples from all slaughterhouses in England and Wales must be sent to:

APHA Weybridge
Woodham Lane
New Haw
Addlestone
Surrey
KT15 3NB

4.9.8 Sample submission form

Each sample submission form must provide sufficient information to identify the person who was the owner of each boar at the time that it was consigned to or purchased by the slaughterhouse.

The sample submission form must be completed and printed to go with the samples to APHA.

Retain a copy of each submission form for at least 1 year.

Reference: See Annex 2 for a sample copy of the sample submission form.

4.9.9 Notification

Notification by email to APHA is no longer required. The form should be printed to accompany the samples to APHA Weybridge.

4.9.10 Results

Results are reported to Defra and SLA and Contracts Team. The SLA and Contracts Team will correlate the results and send them to the FVC to cascade.

5. Trichinella Testing

- 5.1 Introduction
- 5.2 Cold treatment methods
- 5.3 Collecting samples
- 5.4 Packaging and despatch of samples
- 5.5 Courier collection services and procedures
- 5.6 Consumables
- 5.7 Use of on-site labs
- 5.8 Test results

5.1 Introduction

5.1.1 Background

Trichinellosis is an infestation of the muscles of animals and man with the larvae of *Trichinella spiralis*. Infection occurs through the eating of raw or undercooked meat.

Meat from animals infected with Trichinae is declared unfit for human consumption.

5.1.2 Legislation

Regulation (EC) 854/2004 Annex I, Section IV, Chapter IX, C, requires the carcasses of swine (domestic, farmed game and wild game), solipeds and other susceptible species to be examined for trichinosis.

Commission Regulation 2075/2005 lays down the technical details of trichinella testing.

Regulation: (EC) 2015/1375 – amends Regulation 2075/2005 and 216/2014, and sets out requirements for trichinella testing, derogations and conditions for controlled housing.

5.1.3 FSA role

Trichinella testing is an official control. The OV is to ensure that sampling takes place and samples are appropriately identified, handled and sent for testing to an accredited laboratory.

Regulation: (EC) 854/2004, Annex I, Section I, Chapter II, F.

Sampling and preparation of samples can be carried out by the OV or a MHI.

However, slaughter staff that have received training can, under the supervision of the OV, carry out sampling and testing tasks.

Regulation: (EC) 854/2004, Annex I, Section III, Chapter III, B.

5.1.4 Sampling of carcasses (including exemptions)

Under regulation (EC) 2015/1375, samples must be collected from carcasses of the following animals:

- breeding domestic swine (sows and boars)
- wild boar (any age, whether wild or farmed)
- solipeds (any age)
- all pigs that have not been reared in controlled housing conditions (this information will be captured on the FCI accompanying the pigs to the slaughterhouse)

Meat from domestic swine that has been subject to a freezing treatment under official control is exempt from testing.

5.1.5 Retention of parts for human consumption

Carcasses, and parts from carcasses sampled for trichinella testing must not leave the establishment before the examination has been found negative.

Similarly, other parts of the animal intended for human consumption containing striated muscle must be retained until a negative result is received.

Parts of the animal not containing striated muscle are not subject to any restrictions and can leave the slaughterhouse. In that case, care must be taken to prevent pieces of striated muscle, such as diaphragm or sphincters being left attached.

5.1.6 Controlled housing conditions

'Controlled housing conditions' are defined in Regulation (EC) 2015/1375, Annex IV, Chapter 1 and include a range of measures that reduce the risk of the pigs being infected with trichinella. Importantly, the definition does not exclude pigs that have outdoor access, provided that the outdoor access does not present a risk of introducing trichinella into the holding.

Republic of Ireland (RoI) has, to date, not put in place a mechanism whereby housing can be deemed to meet the conditions specified in Article 1 and Annex IV of Regulation (EC) No 2075/2005. Therefore, all pigs born and reared in RoI, which are slaughtered in slaughterhouses in England or Wales, shall be tested for trichinella, regardless of the housing system recorded on the FCI.

5.1.7 Retention of animal by-products

Animal by-products containing striated muscle and intended for animal consumption (Category 3 by-products) must not leave the establishment before the examination has been found negative.

There is no need to retain:

- animal by-products that do not contain striated muscle
- animal by products that contain striated muscle but that are not intended for animal consumption (Category 2 by-products)

5.1.8 Health marking carcasses

Where a procedure is in place in the slaughterhouse to ensure that no part of carcasses examined leaves the establishment until the result of the trichinella examination is found to be negative and the procedure is formally approved by the OV, the health mark may be applied before the results of the trichinella examination are available.

The FBO must have a written procedure agreed with the OV in place.

Where such system is not in place, the health mark must not be applied until a negative test result has been received.

5.1.9 Cutting or carcasses

Pending the results of the trichinella examination, such carcasses may be cut up into a maximum of six parts in a slaughterhouse or in a co-located cutting plant.

If the test result is positive and correlation between carcass parts lost, the whole batch of cuts must be disposed of as a by-product.

5.2 Cold treatment methods

5.2.1 Cold treatment for pig meat

Cold treatment may be used as an alternative to trichinella testing for domestic pig meat. The storage temperatures specified for cold treatment are significantly lower than those for the normal storage of frozen meat.

The following conditions must be followed when the cold treatment method is used:

- meat brought in already frozen must be kept in this condition
- the technical equipment and energy supply of the refrigerating room must be such as to ensure that the required temperature is reached very rapidly and maintained in all parts of the room and of the meat
- insulated packaging should be removed before freezing, except for meat which has already reached throughout the required temperature when it is brought into the refrigeration room
- consignments in the refrigeration room must be kept separately and under lockable conditions
- the date and time when each consignment is brought into the refrigeration room must be recorded

5.2.2 Time and temperature for cold treatment

The time / temperature combination for cold treatment is dependent upon the thickness of the pieces of meat. These combinations are summarized in the table below:

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Method	Maximum thickness of the pieces of meat	Maximum temperature of the storage room	Minimum consecutive time for cold treatment
1	Up to 15 cm (6 ")	- 15°C	20 days
	Up to 15 cm (6 ")	-23°C	10 days
	Up to 15 cm (6 ")	-29°C	6 days
2	15 - 50 cm (6" - 20")	-15°C	30 days
	15 - 50 cm (6" - 20")	-25°C	20 days
	15 - 50 cm (6" - 20")	-29°C	12 days
3	Up to 25 cm (10 ")	- 25°C	10 days
	25 - 50 cm (10" - 20")	-25°C	20 days

5.2.3 Specified times when core temperature is monitored

The following time / temperature combinations are permissible providing the core temperature of the meat is monitored:

Maximum core temperature of the meat	Minimum consecutive time period for the cold treatment
-18°C	106 hours
-21°C	82 hours
-23½°C	63 hours
-26°C	48 hours
-29°C	35 hours
-32°C	22 hours
-35°C	8 hours

5.2.4 Cold treatment in other species

Cold treatment is not an alternative for the testing of wild boar or solipeds.

5.3 Collecting samples

5.3.1 Sampling responsibility

The OV must ensure that sampling takes place and samples are correctly identified and handled, and sent for testing to:

Biobest Laboratories Ltd
6 Charles Darwin House
The Edinburgh Technopole
Milton Bridge
Nr. Penicuik
Midlothian
EH26 0PY

Telephone: 0131 440 2628

Fax: 0131 440 9587

Email: enquiry@biobest.co.uk

Website: www.biobest.co.uk

Collection and handling of samples and testing tasks may be carried out by an MHI or delegated to plant staff if they have received specific training and the OV is satisfied that the sampling procedure is carried out correctly. For self-testing abattoirs see topic 5.7 on 'Use of on-site labs'.

Samples must be collected using a clean knife and disposable forceps.

5.3.2 Sample description

A sample of the size specified below must be collected from the described sampling site.

Note: Take samples as a single piece of meat.

If this preferred sample site is not available then the alternative sample must be collected.

The weight of meat specimens refers to a meat sample free of all fat and fascia. Particular attention should be made collecting muscle samples from the tongue to

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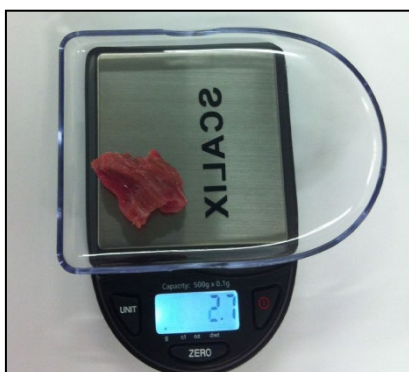
avoid sample contamination with the superficial layer of the tongue, which is indigestible and can prevent reading of the sediment.

Animal Categories	Sample size	Sampling site	Alternative sample
Boars and Sows	Between 2 and 4g	Pillar of the diaphragm at the transition to the sinewy part	4g, to be taken from the rib part or the breastbone part of the diaphragm, from the jaw muscle, tongue or the abdominal muscles
Solipeds	Between 10 and 11.5g	Lingual or jaw muscle	Larger size specimen from the diaphragm pillar at the transition to the sinewy part
Wild Boar	Between 10 and 11.5g	Foreleg, tongue or diaphragm	None

5.3.3 Sample size guide

- Use the scales provided to ensure the correct weight.
- Each specimen must consist of a single piece of meat free of fat or fascia and be of the correct weight.
- Large samples reduce the pooling ability in the lab and result in increased cost to the FSA.
- Underweight samples will be rejected by the lab and not tested.

Note: New plants must request scales from the CSU (access contact details in chapter 1 'Introduction').



2-4g boars and sows



10-11.5g wild boars and solipeds

5.3.4 Sampling point

Samples may be collected at any point during dressing or chilling providing the identity of the carcass can be ascertained.

5.3.5 Pooling of samples

Up to 100g of samples from different animals can be pooled as a single batch for testing. The number of samples in a batch will depend on the animal category, as the sample size is different, for example, 50 sows and boars, 10 solipeds.

You can pool samples from different producers.

Reference: See sub-topic 5.3.2 on 'Sample description' for additional information.

However, samples from different animal categories, such as domestic pigs and wild boars, must not be pooled in the same batch as digestion times may be different.

5.3.6 Sampling procedure

The following procedure must be followed when collecting samples for testing:

Step	Action
1	Open the small sealable Liquitite Pathoseal bag
2	Collect the samples of meat as appropriate for the species and category of animal sampled.
3	Pool the samples up to 100g in the small Liquitite Pathoseal bag

4	Close the small Liquitite Pathoseal bag. Stick barcode label to the bag and insert into the larger Pathoseal bag with the absorbent pad
5	Place two squares of Techni Ice into the large Pathoseal bag
6	Stick the corresponding barcode to the PMI 4/18 form
7	Complete the PMI 4/17 form

5.3.7 Completion of PMI 4/17 form

Carcases must be identifiable to their farm of origin until a test result has been received so a farm investigation can be carried out if the result is positive.

PMI 4/17 (Trichinella Sampling form) must be completed when the samples are collected. The identity of each sampled carcass must be recorded in a way that allows the farm of origin to be identified, for example, by recording the slap number or the County Parish Holding number (CPH) obtained from the Animal Movement Licence.

Individual carcass identification when a farm supplies several animals is not required, as in the event of a positive all carcasses in the batch will be re-tested.

To keep correlation with the sample and PMI 4/18, (Trichinella Testing Submission Form), the serial number of the barcode label used to identify those must be inserted in the Reference Number box.

5.3.8 Completion of PMI 4/18 form

PMI 4/18 (Trichinella Testing Submission Form) must be completed by FSA staff and accompany the sample to the lab.

One form with **one** barcode must be completed for **every batch** of up to 100g of samples. Make sure the number of samples correlates with the number of animals entered on the form so Biobest Laboratories do not report incorrect number of samples supplied.

Note: An email address must be supplied to the lab for notification of the test result and a mobile phone number for text notification that results are available.

Affix the barcode label correlated to the sample bag to the PMI 4/18.

Send the original to the lab in a clean sealed A4 bag and keep a photocopy on file.

5.4 Packaging and despatch of samples

5.4.1 Transport containers

Samples are transported in Pathoshield packaging. The courier Topspeed collects for next day delivery to Biobest Laboratories.

5.4.2 Chilling

Samples are kept chilled by two squares of Techni Ice. The Techni ice squares must be held frozen until use.

5.4.3 Pathoshield packaging procedure

The table below lists the steps that must be followed using a Pathoshield box to despatch samples:

Step	Action
1	Attach the Biobest Laboratories barcode to the small pathoseal bag and attach the corresponding barcode onto a trichinella testing submission form (PMI 4/18).
2	Place the small bag into the larger pathoseal bag, placing 2 Techni Ice squares between the bags
3	Complete form PMI 4/17 to record the samples and which barcodes they were submitted with
4	Place sample into the Pathoshield outer box. Affix the peel-off barcode sticker onto the duplicate copy of the page.
5	Put completed forms PMI 4/17 and PMI 4/18 in a plastic bag before placing them in the box ready for despatch to the laboratory.
6	If sending a single box: affix pre-printed Biobest Laboratories address label to box and seal the box using the blue security seal provided.

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	If sending multiple boxes: Re-package into a larger box and attach address label and consignment note to outer box.
7	Place the Pathoshield box in a plastic refuse bag to protect the surface of the box from contamination while carrying it through the slaughterhouse and during storage.
8	Close the plastic refuse bag with a cable tie or other secure means.

5.4.4 Storage pending despatch

On completion of sampling, place the Pathoshield box in the detained chiller until transferring them to the collection point. Topspeed will collect at the agreed collection time for delivery to Biobest Laboratories.

5.4.5 Notify lab of Saturday testing

If testing is required on a Saturday, FSA staff need to telephone Biobest Laboratories on the Thursday beforehand to advise them that trichinella samples are being sent for Saturday morning delivery:

Biobest Laboratories – 0131 440 2628

Topspeed need to be informed that the sample needs to arrive before 9am on Saturday in order to be tested.

No notification is required for samples dispatched for Monday to Friday testing.

5.4.6 Despatch from base plants

When, for practical reasons, samples cannot be despatched from the plant where the animals are slaughtered, they can be taken to a different plant to be despatched from there.

However, when completing the PMI forms, the sampling plant details must be entered.

In that case all the original documentation must be filed in the plant where the sample was taken as soon as practical.

5.5 Courier collection services and procedures

5.5.1 Next day before noon service

Trichinella samples should be despatched using the Topspeed 'Next Day Service'.

Note: Topspeed will only collect samples between 09:00 – 17:00 unless out of hours arrangements have been agreed.

5.5.2 Saturday service

In addition to the standard service, Topspeed provide a 'Saturday Service'. This service may only be requested if prior permission is obtained from the SLA and Contracts Team as it incurs increased costs and Biobest must be informed on the preceding Thursday that samples will be arriving at the lab for testing.

This service is only to be used for samples that need to be tested on a Saturday.

Test results for Saturday testing will be received on the same day.

5.5.3 Booking sample collection

The following steps should be taken when booking sample collection:

Step	Action
1	Go to http://www.topspeedcouriers.co.uk/ and complete the online booking form. See Annex 9 for information on completing the online booking form.
2	Provide Topspeed with the following information: <ul style="list-style-type: none">• number of items (boxes) in consignment• kill date and time• the name of person making the booking
3	Write the barcode numbers as reference for the collection; Topspeed to collect as arranged

5.5.4 Sample collection point

Immediately prior to the agreed collection time the Pathoshield box containing the sample(s) should be removed from the plastic refuse bag and placed at the agreed collection point.

5.5.5 Despatch failure

Should Topspeed fail to collect samples within the agreed timeframe, contact Topspeed to arrange collection immediately and inform the SLA and Contracts Team by phone (access contact details in chapter 1 on 'Introduction').

5.6 Consumables

5.6.1 Ordering consumables

To request stocks of consumables, contact the CSU by email.

The minimum order is 1 box of the following options:

- **Pathoshield P7** kit x 12 for trichinella testing - recommended for plants processing small number of animals for testing
 - bespoke Pathoshield 7 comprising
 - A5 Pathoseal
 - 200ml Absorbent
 - A6 Liquitite
 - Techni Ice x 24 squares
 - Forceps
 - Security Seal
 - Outer compliant box
- **Pathoshield P3** kit x 10 for trichinella testing - recommended for plants processing larger number of animals for testing
 - bespoke Pathoshield 3 comprising
 - A4 Pathoseal
 - 200ml Absorbent
 - A5 Liquitite
 - Techni Ice x 20 squares
 - Forceps
 - Security Seal
 - Outer compliant box

Note: Allow 5 days lead time for delivery of the consumables.

5.6.2 Barcodes

The barcodes can be obtained from the CSU by email.

5.7 Use of on-site facilities, private laboratories and other arrangements

5.7.1 Background

Slaughterhouses that have facilities and trained staff available for the collection and testing of trichinella samples may use their own arrangements instead of having the samples dispatched to Biobest Laboratories. Where these arrangements are in place, the lab will operate as a supplier providing a service to the FSA Operations Group.

In order to carry out trichinella testing, on-site self-testing facilities must be accredited by United Kingdom Accreditation Service (UKAS) and participate in the FSA Quality Assurance Scheme conducted by the UK National Reference Laboratory (UKNRL). Other FBOs may also send samples to such “self-tester” sites as an alternative to Biobest Laboratories.

Private testing laboratories may also be used in place of Biobest Laboratories. These laboratories must also participate in the FSA Quality Assurance Scheme, as above.

5.7.2 Requirements for on-site labs

Any plant that wishes to start trichinella testing in an ‘on site’ laboratory must be assessed by the UK National Reference Laboratory (UKNRL) and be permitted by FSA to undertake testing.

The NRL will arrange for an on-site inspection and produce a report which will either recommend approval for self-testing or highlight areas that need to be addressed prior to recommendation for approval being issued.

The NRL offer training to staff under the VetQAS scheme to ensure Sampling Officers have the relevant skills and knowledge to undertake testing.

FSA Operations Group will issue a designated lab status letter once the above criteria have been satisfied to ensure compliance with Regulation EC No. 2015/1375.

5.7.3 Responsibilities of the lab operator

Once contracted by the FSA Operations Group to carry out trichinella testing, the lab operator is responsible for:

- the collection and identification of the samples
- the identification and correlation of sampled carcasses
- the supply of equipment and disposables
- the operation of the lab
- the examination of the digested samples
- the maintenance of all records
- the training of staff

5.7.4 Quality assurance

All laboratories undertaking testing must take part in the quarterly QA scheme organised by the UKNRL. All laboratories must take action to rectify any deficiencies noted either in the assessment or following a QA test. Failure to do so will result in the removal of designated lab status.

The OV will receive a copy of the QA report and will be responsible for ensuring the results are returned within the specified timescale and that any deficiencies identified are addressed.

5.7.5 Non-compliance with SOP

Where the OV / FVC is not satisfied that the lab operator is complying with the Standard Operating Procedure (SOP) agreed with the FSA Operations Group, advice must be given to rectify the breach.

Failure to comply with the SOP is a breach of the terms of the contract and if the deficiency is not rectified, the OV must inform the SLA and Contracts Team. The FSA Operations Group can then suspend the SOP.

When the SOP is suspended, the FSA Operations Group will collect the samples and dispatch them to Biobest Laboratories.

The health mark must not be applied to any carcass when there are no guarantees that the result of the testing is reliable.

5.8 Test results

5.8.1 Receipt of test results

Trichinella testing is an official control and the FSA is responsible for obtaining the test result.

By default, a laboratory report containing results will be sent by e-mail to the address specified on the submission form.

Biobest Laboratories currently offer SMS reporting of results for other tests and aims to add this option for trichinella. To register interest in this service, contact Biobest Laboratories on 0131 440 2628.

5.8.2 Negative results

On receipt of a negative result, the health mark and identification mark can be applied.

Animal by-products containing striated muscle that were being retained can be released.

5.8.3 Positive or doubtful results

If the initial result received from the laboratory is positive or doubtful, Biobest Laboratories will contact the SLA and Contracts Team, who will immediately contact the OV to advise on the procedure for despatching samples to APHA Bury St Edmunds for re-test. The OV must also advise the local APHA office.

Commission Regulation (EC) No 2015/1375 requires positive or doubtful results to be confirmed, collecting samples from the suspect carcasses and digesting them in smaller pools.

5.8.4 Re-sampling carcasses with positive or doubtful results

The SLA and Contracts Team will contact the OV / FVC to request samples for re-testing.

These samples must be of the correct weight and from the correct sample site for the species concerned. A PMI 4-18 must be completed per pool and be sent to APHA Bury St Edmunds.

The SLA and Contracts Team will confirm which courier service should be used.

Samples for re-test should be sent to:

Trichinella National Reference Laboratory
APHA Bury St Edmunds
Rougham Hill
Bury St Edmunds
Suffolk
IP33 2RX

The carcasses and all body parts must remain detained, pending the outcome of the re-testing.

5.8.5 Traceability report

Pending the result of the re-test, the OV / FVC should obtain the FCI to create a traceability report for the detained carcasses, to identify the farm of origin should a positive result be confirmed.

5.8.6 Notification of positive results

The SLA and Contracts Team will notify the OV / FVC and APHA if a positive result is confirmed.

On receiving confirmation of a positive result, the OV / FVC should email their traceability report to the SLA and Contracts team in York (access contact details in chapter 1 on 'Introduction').

If the positive result has been confirmed by APHA Bury St Edmunds, the positive carcass and all body parts must be disposed of as a Category 2 animal by-product and confirmation of action emailed to the SLA and Contracts Team (access contact details in chapter 1 on 'Introduction').

For pigs from RoI, positive results shall be reported by the FSA to the Department of Agriculture, Food and the Marine (DAFM), the RoI competent authority. This will activate the RoI contingency plan with regard to the investigation of the source of infestation and any associated spread among other pigs or other susceptible species.

6. Poultry Post-Mortem Inspection

- 6.1. Correlation and Inspection
- 6.2. Poultry feet for human consumption
- 6.3. General contamination
- 6.4. Guidelines on trimming poultry

6.1 Correlation and inspection

6.1.1 Inspection requirements

The inspector is required to inspect the external surface of all carcasses and accompanying offal.

6.1.2 Whole bird inspection point

Inspection of the whole bodies of birds is recommended so that diseased birds can be removed early in the process and this should be included in the HACCP plan.

6.1.3 Evisceration line inspection

Correlated carcasses and offal either attached or detached are inspected.

6.1.4 Carcase presented for post-mortem inspection without offal

If poultry carcasses are presented without offal at the post-mortem inspection point as a result of the accidental removal of all or part of the offal they do not need to be rejected. They should be inspected and if the carcasses pass post-mortem inspection, they can be considered fit for human consumption. However, such cases should be judged according to the merits of each case.

This scenario is not intended to cover inadequate presentation / correlation of offal due to malfunctioning evisceration equipment or inadequate manual evisceration practices.

Offal and viscera that have not undergone PM inspection should be disposed of as Category 2 ABP.

Note: In the event of a significant increase in presentation of carcasses without offal, follow the usual hierarchy of enforcement.

6.1.5 Delayed evisceration

Regulation (EC) 853/2004 Annex III, Section II, Chapter IV, 7 (c) states ‘viscera or parts of viscera remaining in the carcass, except for the kidneys, must be removed entirely, if possible, and as soon as possible, unless otherwise authorised by the competent authority.’

Requests for authorisation of delayed evisceration at the place of production may be granted if requested by the FBO. The OV will need to consider the FBO’s proposed method of operation and if this is considered acceptable can recommend to the FVC that authorisation be given.

If authorisation is granted, the FVC should inform the FBO in writing and send confirmation to the SLA and Contracts Team by email (access contact details in chapter 1 on ‘Introduction’).

6.2 Poultry feet for human consumption

6.2.1 Inspection requirements

Feet harvested for human consumption must be inspected.

Feet that are not separately identifiable, such as feet belonging to carcasses rejected at evisceration, must not be released for human consumption.

Feet can be exported under an agreed health certificate signed by a Local Veterinary Inspector.

6.3 General contamination

6.3.1 Meat that is unfit for human consumption

Meat, carcasses and / or offal affected with general contamination by faecal material, bile, grease or disinfectants should be considered unfit for human consumption.

6.3.2 Contamination from the alimentary tract and faecal material

A hygienic trimming system must be in place if the FBO decides to trim contaminated carcasses.

Any part of the carcass or offal affected with bile staining should be trimmed. Where plucking machines break the skin of poultry the underlying musculature should be considered to be contaminated and trimmed from the carcass.

6.3.3 Meat falling from the line / conveyor

The FBO should have a system in place to deal with carcasses or offal that fall on the floor. This could include the provision of a meat tray off the floor at 'weak points' in the line and trimming affected parts. The OV / MHI should verify that the FBO has a system in place to ensure meat contaminated after post-mortem inspection is not released for human consumption.

6.4 Guidelines on trimming poultry

6.4.1 Trimming supervision

Rectification resulting from post-mortem findings must be carried out under the responsibility of the FSA Operations Group team (supervision of trimming may be carried out by a PIA). Plant operatives should carry out removal of unfit meat identified at post-mortem inspection. Identification of unfit meat for trimming must not be delegated to untrained individuals.

6.4.2 Location of trimming point

Trimming of minor blemishes such as bruising is at the discretion of the FBO - preferably completed following evisceration, to minimise the risk of contamination of exposed meat.

Removal of more significant quantities of meat is usually impracticable with high line speeds, and in these cases an adjacent trimming area should be provided.

6.4.3 Trimming after chilling

Trimming of carcasses may be delayed until after chilling, providing that:

- there is no risk of contamination to other carcasses
- for example, faecal contamination has to be trimmed before chilling
- arrangements are in place for the trimming to be done under the supervision of the OV / MHI at regular times

Note: The OV and the FBO should agree recognised methods (marking and identification of parts to be trimmed) to ensure that trimming is effectively completed by plant staff.

7. Judgements at Poultry Post-Mortem Inspection

- 7.1 Poultry condition cards
- 7.2 Introduction
- 7.2. Breast blisters
- 7.3. Avian Tuberculosis and Erysipelas

7.1 Poultry condition cards

Click a condition to follow the link:

[Abnormal colour \(septicaemia – toxaemia\)](#)

[AM rejects \(cull / runts\)](#)

[Ascites – oedema](#)

[Bruising – fractures](#)

[Cellulitis](#)

[Contamination](#)

[DOA / DIL](#)

[Dead other than slaughter \(uncut–badly bled\)](#)

[Dermatitis](#)

[Emaciation](#)

[Hepatitis](#)

[Joint lesions](#)

[Machine damage](#)

[Overscald](#)

[Pericarditis](#)

[Perihepatitis / peritonitis](#)

[Respiratory disease \(airsacculitis\)](#)

[Salpingitis](#)

[Tumours](#)

[Other factory \(processing\)](#)

[Other farm \(for example, jaundice, oregon, white muscle\)](#)

[Wooden breast](#)

7.2 Introduction

7.2.1 Post-mortem judgements in poultry

Twenty-one poultry condition cards have been developed to achieve standardisation of post-mortem findings in poultry slaughterhouses in the United Kingdom.

These condition cards are to be used as a guidance which inspection teams must follow.

Notwithstanding, the professional expertise of the OV, based on local knowledge and the FCI received for each flock, may result in judgements differing from the advice provided in the condition cards for specific flocks of birds.

7.2.2 Trimming

Where the OV considers the entire carcass is not unfit, the affected parts of the carcass may be removed and the rest of the carcass may be allowed to enter the food chain. This is to be carried out by plant operatives.

The OV must be content that the FBO has developed a system and trimming is carried out in such a manner that all affected parts are removed to the OV's entire satisfaction.

7.3 Breast blisters

7.3.1 Breast blisters

Judgement:

Infected, haemorrhagic or enlarged breast blisters should be trimmed. The affected tissue may be adherent to the keel bone and when this happens part of the bone will have to be removed with the affected tissues. Trimming of small, uninfected, non-haemorrhagic blisters may be deferred until after chilling, when a proportion of them will have disappeared.

Note: The OV needs to consider that breast blisters might be the result of poor husbandry on the farm. If appropriate, the local ROD / DVM should be informed.

7.4 Avian Tuberculosis and Erysipelas

7.4.1 Avian tuberculosis

Avian tuberculosis usually affects older birds with lesions seen most commonly in:

- the liver
- kidneys
- intestinal tract
- bone marrow.

The lesions are irregular shaped greyish-white nodules varying in size from that of a pin's head to large masses. The tubercles can be shelled out from the surrounding tissue. When cut through, the nodules are firm with a dry, cheesy, appearance. If the long bones are split lengthwise, small spherical nodules may be found in the bone marrow.

Confirmation can be made by microscopic examination for the causal organism.

Judgement: Carcasses and offal should be considered unfit.

7.4.2 Erysipelas

Erysipelas is primarily a disease of turkeys and the affected birds are listless with, rarely, a swelling of the snood. Mature domestic fowl may also be affected.

Where possible, affected birds should be rejected by the pre-slaughter health inspection but if they inadvertently reach the post-mortem inspection station they will show signs typical of septicaemia.

- the liver is often enlarged, congested, friable and sometimes light brown in colour
- the intestines are commonly congested and there may be catarrhal enteritis
- a valvular endocarditis may be present in more chronic cases

Judgement: Carcasses and offal should be considered unfit.

8. Wild Game Post-Mortem Inspection

- 8.1 Introduction
- 8.2 Trained hunters
- 8.3 Carcase handling
- 8.4 FSA role
- 8.5 Inspection of deer
- 8.6 Processing of in fur / in feather (IFIF) carcasses
- 8.7 Recording of inspection results

8.1 Introduction

8.1.1 Purpose

This section provides guidance on how to carry out official controls at approved game handling establishments (GHE).

Regulation: (EC) 853/2004 overview, (22).

8.1.2 Attendance

An Assessment for OV Flexible Attendance policy (see Chapter 2.10 on 'Inspection and Attendance', Annex 1) has been developed to provide a means for assessing the required OV attendance in these types of establishments.

In summary:

- either an MHI or OV, but not both, is required for post-mortem inspection, except that OV presence throughout such inspection is required in specified cases
- additional OV visits are required where the MHI has put aside meat with abnormalities for inspection by the OV, meaning visits for the purpose of inspection of such meat

- for establishments with conditional approval, the OV will be required to visit at least once every 5 operational days until full approval is granted, in addition the audit frequency will default to every 2 months
- for establishments with full approval, the OV will be required to visit at least once a month
- operating hours agreements will need to be obtained with each approved GHE; however, due to the nature of the business this may prove difficult – approved GHEs are obliged to inform the FSA when they are operating in order that FSA attendance can be arranged, if required

Note: PIAs are no longer permitted in approved GHEs and should not be performing post-mortem inspections.

8.1.3 Chilling

Carcases have to be collected and transferred to the approved GHE, which may be remote from the hunting area; therefore, some delay in chilling may occur.

However, the chilling must begin within a reasonable period of time after killing and achieve a temperature throughout the meat of not more than 7°C in the case of large wild game and 4°C in the case of small wild game. This does not preclude completion of dressing in the approved GHE before these temperatures have been achieved.

Regulation: (EC) 853/2004, Annex III, Section IV, Chapter II, 5 and (EC) 853/2004 EC, Annex III, Section IV, Chapter III, Point 4.

8.1.4 Separation of different types of game

In establishments that are approved for the handling of wild game, precautions are to be taken to prevent cross-contamination between species by separation either in time or in space of operations carried out on the different species.

In premises that are approved for the processing of both wild and farmed game, separate facilities for the reception and storage of carcasses of farmed game slaughtered at the farm, and for wild game, must be available.

In-fur and in-feather wild game may be stored in separate parts of the same larder / chiller, although separate larder / chillers are preferable.

8.2 Trained hunters

8.2.1 Trained hunter's examination

A trained person must carry out an examination of the body and, in the case of large wild game, of any viscera removed, to identify any characteristics which may indicate that the meat presents a health risk. The examination must take place as soon as possible after killing.

<https://www.food.gov.uk/sites/default/files/media/document/wild-game-guide.pdf>

Reference: Regulation (EC) No 853/2004 Annex III, Section IV, Chapter II (Large Wild Game) and Chapter III (Small Wild Game).

8.2.2 Trained hunter's declaration: large wild game

Following the examination referred to above, large wild game carcasses eviscerated in the field require a declaration from a trained person. This must bear the date, time and place of killing and carry a declaration that, based on an examination of the carcass and viscera:

- there is no suspicion of environmental contamination
- no abnormal behaviour was observed before killing
- no abnormal characteristics were found during the examination

The declaration must be numbered and should be attached to the carcass, unless it covers more than one animal body. The declaration may cover more than one animal body, provided that a clear link between the animal bodies and the declaration is established and guaranteed. In these circumstances, the declaration would make reference to a group of numbered carcasses and each carcass would be clearly identified with numbered tags or firmly attached labels.

Note: If abnormal characteristics are found during the examination, abnormal behaviour was observed before killing, or environmental contamination is suspected, the trained person must inform the competent authority.

8.2.3 Head and viscera

Where the trained hunter's declaration is provided stating that no abnormalities were found, the head and the viscera need not accompany the body, except in the case of species susceptible to trichinosis, whose head (except for tusks) and diaphragm must accompany the body. The exception to this is that if the head is required for further use as a trophy, it may be sent to an ABP processing plant

that has been approved for the production of trophies. In these circumstances, the head may be dispatched pending a satisfactory trichinella test, provided that the identification of the head is maintained throughout the process.

Regulation: (EC) 853/2004, Annex III, Section IV, Chapter II, 4 (a).

8.2.4 Acceptance in GHE

Carcases not accompanied by the head and viscera must be the subject of a declaration signed by the trained hunter.

If there is no signed declaration, such carcasses must not be accepted in approved GHEs, and are not eligible for human consumption.

If any of the information required to be included in the hunter's declaration in sub-topic 8.4.2 is missing, the carcasses must not be accepted in the approved GHE and the carcass is not eligible for human consumption unless the missing information is provided by the FBO.

The declaration must be signed by a trained hunter. The FBO should keep a copy of the hunter's training certificate for verification purposes or other suitable method that can verify that the hunter is trained.

Unskinned large wild game may be received by a GHE from another Member State only if it is accompanied by a certificate issued and signed by an official veterinarian. A template of this certificate can be found in Annex 7

Reference: Regulation (EC) No 853/2004, Annex III, Section IV, Chapter II, 4 (c).

8.2.5 Trained person (hunter) unexpectedly unavailable

In the event that the trained person (hunter) is unexpectedly unavailable, carcasses accompanied by the head and all the viscera (with the exception of the stomach and intestines) may be accepted into an approved GHE without the declaration from a trained person.

8.2.6 Offal

In the case of carcass and offal presented without the trained hunter's declaration, (as in the circumstances detailed above), they cannot be accepted unless clear identification and correlation marks between carcass and offal are present.

Where the carcase has a hunter's declaration stating no abnormalities were identified, in most cases the offal will not be present. In the event that the offal is present, it must be clearly correlated to the carcase; if it is not, then the offal cannot be used for human consumption.

Where the carcase has a hunter's declaration stating that abnormalities were found, then the offal must accompany the carcase and must be correlated to it.

(As an example of correlation, the hunter's declaration is often made on a tie-on label attached to the hock of the carcase; a duplicate label can be tied to the offal where present.)

Reference: Regulation (EC) No 853/2004, Annex III, Section IV, Chapter II, 3.

8.2.7 Specimen trained hunter's declarations

Specimen declarations for wild game animals may be found in the 'Wild Game Guide' at:

<https://www.food.gov.uk/business-guidance/wild-game-guidance>

8.2.8 Small wild game

In the case of small wild game, a trained hunter's declaration is not a legal requirement. However, if abnormal characteristics are found during the examination, abnormal behaviour was observed before killing, or environmental contamination is suspected, the trained person must inform the competent authority. The declaration may be attached to trays or cartons to inform the competent authority of any abnormal characteristics, behaviour or environmental contamination.

In general, if small game exhibits abnormal behaviour, they should not be considered to be fit for human consumption.

Regulation: (EC) No 853/2004 Annex III, Section IV, Chapter III, 2.

8.3 Carcass handling

8.3.1 Transport of carcasses with hunter's declarations

There are no provisions under (EC) 854/2004 permitting anybody to convey this information on behalf of the trained person instead of a declaration being provided.

Declarations attached to carcasses (of large wild game) must not be removed before delivery to the approved GHE where it will be processed, as otherwise the carcass may be disposed as ABP. Similarly, if identification marks which link to a declaration covering several animals are removed or destroyed, those unidentified carcasses will be disposed of as ABP.

8.3.2 Skinning

Unskinned large wild game:

- may be skinned and placed on the market only if:
 - before skinning, it is stored and handled separately from other food and not frozen, and
 - after skinning, it undergoes a final inspection in accordance with Regulation (EC) No. 854/2004
- may be sent to a game handling establishment in another Member State only if, during transport to that game handling establishment, it is accompanied by a certificate issued and signed by an official veterinarian; a template of this certificate can be found in Annex 7

Regulation: (EC) 853/2004, Annex III, Section IV, Chapter II, 8.

8.4 FSA role

8.4.1 Receipt of carcasses and timing of inspection

The inspector (MHI or OV) shall perform the post-mortem inspection activities. It is not essential that there is inspection of carcasses prior to the beginning of processing (that is, before skinning), but it is good practice.

Where applicable or practical the FBO may segregate unprocessed carcasses that they intend to reject and present them to the inspector prior to disposing of them, for example:

- carcasses show signs consistent with death other than by hunting (for example, by road accident)

- carcasses are so contaminated that entry would jeopardise operational hygiene or that show evidence of advanced or generalised decomposition

If the FBO decides to proceed with skinning and / or dressing the inspection needs to take place soon after skinning / dressing and / or evisceration.

FBO rejection of carcasses before presentation for inspection is often part of the plant HACCP. Inspectors should be aware of this control and audit it in the same way as other plant controls, particularly the evidence, and extent, of corrective action. Discrepancies in intake records and controls should be noted in the plant day book for future reference.

8.4.2 Read declaration

The OV or inspector is to take account of the declaration or information the trained person involved in hunting the animal has provided in accordance with (EC) 853/2004.

The FBO should provide a copy to the OV or inspector of the hunter's training certificate or any alternative method so they can verify that the hunter signing the declaration is trained to do so. If there is no evidence of the training of the hunter, and the carcass is not accompanied by the head and the viscera, then the carcass must be detained pending the information of the hunter's training. The FBO should be given the opportunity to provide such evidence. If the FBO can't prove that the hunter is trained to sign the declaration then the carcass cannot be health marked and must be disposed of as an animal by-product.

The OV or the inspector will need to verify that the hunter's declaration includes all the information required by (EC) 853/2004 and that it is signed by a trained hunter. Refer to sub-topic 8.2.2 on 'Trained hunter's declaration: large wild game'.

According to (EC) 853/2004 the hunter's declaration must include:

- the date, time and place of killing and
- carry a declaration that, based on an examination of the carcass and viscera:
 - there is no suspicion of environmental contamination
 - no abnormal behaviour was observed before killing
 - no abnormal characteristics were found during the examination

The declaration must be numbered and should be attached to the carcass, unless it covers more than one animal body.

If the required details are missing, the carcase must be detained and the FBO should be given the chance to provide the missing information.

If the FBO cannot provide the missing information, then the carcase must not be health marked and should be disposed of as an animal by-product.

Where the declaration makes reference to tuberculosis, the carcase and offal lymph nodes should be examined in detail and appropriate records made. The carcase and offal should be detained for the OV to provide professional judgement and inform APHA using TB50 form as a template. The incidence and significance of TB varies in different parts of the UK. The advice of APHA should therefore be sought on what further action to take in relation to wild deer where TB infection is suspected (such as collection of samples). The OV will need to make a decision on the fitness of the carcase and offal.

8.4.3 Inspections

During post-mortem inspection, the inspector is to carry out a visual examination of the carcase, its cavities and, where appropriate, organs with a view to:

- detecting any abnormalities not resulting from the hunting process; for this purpose, the diagnosis must take account of any information that the trained person has provided concerning the behaviour of the animal before killing
- checking that death was not caused by reasons other than hunting, for example, road traffic accident, disease, injury

The inspection of large game should pay particular attention to contamination associated with gralloching (green offal removal), around the pelvis sternum and cut flanks. In carcasses that have not been head shot, contamination may be extensive and may result in rejection of the whole carcase – although pre-inspection checks by the FBO should normally identify such carcasses.

The carcasses must be presented free of contamination to the inspector at post-mortem inspection point. Carcasses presented with contamination will not be health marked until the carcase is rectified. The OV or inspector may need to spend extra time in the approved GHE until the carcasses are rectified. This time is chargeable to the FBO.

If high number of carcasses with contamination are presented at post-mortem inspection then the FBOs procedures based on HACCP principles should be checked and enforced if appropriate and OV flexible attendance reviewed.

If an assessment cannot be made on the basis of visual examination alone, further palpation and cuts of relevant parts of body may be undertaken and, if necessary, a more extensive inspection must be carried out in a laboratory.

Regulation: (EC) 854/2004, Annex I, Section IV, Chapter VIII, 3.

If the approved GHE is subject to OV flexible attendance then the OV should verify at least once per month the post-mortem inspection performance of the inspector (MHI or OV) via post-mortem inspection verification checks. Local arrangements should be in place to allow post-mortem inspection verification checks.

8.4.4 Small wild game contamination

The carcasses of small wild game may be contaminated during plucking and evisceration. Where exposed meat, breasts or carcasses are contaminated with feathers, down or gut contents they must be rejected.

The use of cloths or paper towels to wipe contamination from carcasses is not acceptable. Clean paper towels may be used **once** to remove feather debris and blood from the vent after evisceration.

Breast meat can only be removed from plucked carcasses or in circumstances when the plucked breast has been protected from contamination from other feathers. The removal of breast meat without associated plucking is not acceptable.

8.4.5 Sample inspection of small wild game

Setting the size of the sample is a decision for the inspector taking into account:

- information supplied by the trained hunter (if available)
- species of animal / bird presented for inspection
- general impression gained of the wild game presented for inspection (including uniformity of the sample and signs of decomposition)
- previous history of the source, such as the pattern of disease and proportion of decomposed and contaminated carcasses in previous batches
- prevailing climatic conditions
- FBO's procedures based on HACCP principles and acceptance of birds from hunters

Provided the batch of carcasses is relatively uniform, is made up of the same species and came from the same source on the same day, a minimum of 5% of the carcasses and viscera must be examined. Batches of less than 20 carcasses should be subject to 100% inspection.

8.4.6 No FSA daily attendance

Where there is no daily FSA attendance, the OV may arrange with the FBO a day for the inspection of 5% of each batch present and due to be processed. If they pass inspection, the FBO may proceed to the processing of those batches without the need for several FSA visits. Similarly, if 5% of a batch is retained for inspection, the remainder could be processed and held pending a satisfactory inspection of the 5%, with rejection of the whole batch if the inspection is unsatisfactory.

8.4.7 Other batch factors

In agreeing to inspect a proportion of carcasses from a batch, the inspector is making an assessment of the FBO's competence to recognise unfit or contaminated meat and to take appropriate corrective action. The proportion of a batch to be inspected should reflect the competence of the FBO and evidence of effective processing and hygiene management during uninspected and unattended processing periods.

As with conventional red meat and poultry inspection, decisions must be based on overall hygiene during the dressing process and particularly evidence of cross contamination or contamination associated with dressing procedures.

Poor practice during FSA inspection would provide little confidence that the remainder of the batch was dressed hygienically or that appropriate corrective action and rejections were made during dressing.

The proportion of a batch to be inspected may therefore be larger than 5%, but it must not be less than this.

8.4.8 FBO records

The inspector's checks should address the following aspects of the FBO records:

- Are there accurate intake records showing numbers of rejections and reasons for rejections?

- Are there records of rejections during processing and are they categorised?
- Can these records be reconciled with ABP records?
- Are there appropriate records of corrective actions?

8.4.9 Other inspection checks

Other checks which the inspector should consider include:

- Are dressing procedures, particularly contamination controls, satisfactory?
- During processing, are hand washing, knife practices and other sanitising procedures satisfactory?
- Are the levels of rejection comparable with those for the previously processed birds or animals from that batch?
- Are birds / animals for FSA inspection presented **after** the other part of the batch has been processed, or **before**?

8.4.10 Wild boar

Wild boar are susceptible to the same diseases as domestic pigs and thus it can be expected that a range of lesions similar to that found in farmed pigs will be encountered.

Note: Trichinella testing is required in wild boar. If the head is required for further use as a trophy, it may be sent to an ABP processing plant that has been approved for the production of trophies. The head may be dispatched pending a satisfactory trichinella test, provided that the identification of the head is maintained throughout the process.

8.4.11 FVC verification visits

The FVC must visit all the approved GHE in their area at least once per season to verify that official controls are carried out as per MOC instructions. To ensure all activities are verified during this visit you can use the aide memoires found at annex 12 (large wild game) and annex 13 (small wild game). These aide memoires may be used by the OV or inspector as a check list to ensure that all the official tasks are carried out.

When serious FBO non-compliances are identified, The FVC should discuss with the FVL the possibility of increasing the OV attendance in the plant and the OV flexible attendance should be reviewed.

Any findings identified during the FVC verification visit should be discussed with the service delivery partners (SDP) and if necessary dealt with via contract management.

8.4.12 Communication between OV and inspector

In approved GHE where there is OV flexibility implemented, there must be a written communication procedure in place between the inspector and the OV. The OV must be aware of any non-compliances identified by the inspectors when the OV is not present so enforcement action is taken if necessary.

This written communication procedure must be available for the FSA officers (FVL, FVC, VA) during the day of their visit for their assessment.

8.5 Inspection of deer

8.5.1 When to inspect

The carcasses of deer should be inspected after skinning in conjunction with the available correlated red offal, where available.

Note: Red offal will only be presented for inspection where the trained person has noted an abnormality or where they are unexpectedly unavailable.

Regulation: (EC) 853/2004, Annex III, Section IV, Chapter II, Paragraph 4 (a)-(c).

8.5.2 Minimum post-mortem requirements

Post-mortem inspection must consist of a visual examination of the carcase, its cavities and accompanying offal. In most cases, offal will not be available and in these circumstances, if a declaration from a trained person is not attached to the carcase or it is not identified to a declaration, it must be disposed of as ABP.

8.5.3 Bullet wounds

Carcases with damage caused by the entry of the bullet will require trimming of any bruised or contaminated meat.

Carcases where the bullet entered through the shoulder or the anterior thorax may have shattered bones and muscle damage requiring extensive trimming and rejection of the shoulder or quarter.

Where the bullet has entered through the abdomen, bruising, bone damage and contamination can be extensive and may warrant rejection of the entire carcass.

8.5.4 Contamination

Some damage to the heart, liver and lungs may occur as a result of shooting. Decomposition and contamination are common findings. As a consequence of rupture of the abdominal organs following shooting, or as a consequence of poor gralloching, leakage of gut contents into the abdominal cavity may occur.

The carcass may also become contaminated as a result of poor handling in the field or during transportation to the processing establishment. Any part of the carcass with visible contamination must be trimmed and rejected.

The retention of heavily contaminated meat in close proximity to potentially fit carcasses should be avoided. In those circumstances, where trimming precedes inspection, and to minimise potential contamination, trimmed meat should be hygienically retained so that a decision can be made based on the condition of the whole of the carcass. It may not be possible to make a decision if all parts of the carcass have not been retained and identified.

8.5.5 Total rejection

When carcasses have been stored under unacceptable conditions (such as high ambient temperatures or exposed to pests) conditions such as generalised decomposition or blowfly infestation will be encountered, and total rejection is necessary.

8.6 Processing in fur / in feather (IFIF) carcasses

8.6.1 IFIF trade

Approved premises, such as red or white meat cutting plants, cannot be regarded as a local retailer and therefore cannot receive exempt game or game meat directly from local producers or hunters.

If game is not supplied under any of the exemptions listed in the wild game guide, it must ultimately be processed and inspected in an approved GHE.

Approved GHEs can sell on unprocessed game that has not been subject to an inspection but only to another approved GHE either here or elsewhere in the EU.

An identification mark should be applied to small wild game if it has been handled in some way in an approved GHE before it is sent on to another approved GHE.

Temperature requirements apply (4°C small wild game and 7°C large wild game)

Regulation: (EC) 853/2004, Article 1, 3 (c) and (e).

8.6.2 Trade of unplucked / unskinned and uneviscerated small wild game

FSA staff shall be aware that where small wild game are to be traded unskinned / unplucked and uneviscerated they:

- may be frozen or deep frozen
- should be stored separately from fresh meat, poultry meat, and other wild game already skinned and plucked
- can be traded only to another approved GHE; sealed boxes and uneviscerated wild game cannot be factored by approved cutting plants even though the packaging is not opened

Note: Smithfield Market is not an approved GHE.

Regulation: (EC) 853/2004, Annex III, Section II, Chapter V 1 (c).

8.6.3 FBO duties

Where the FBO intends to trade small game unskinned / unplucked and uneviscerated they must inform FSA staff for monitoring and verification of this activity during the plant audit.

They should have procedures in place to ensure that there is no undue extra food risk in transporting the uneviscerated animals, for example, FBO presented procedures in place to ensure that chill chain is maintained when the viscera are still within the body cavity.

8.6.4 Inspection of small wild game to be traded

Where the FBO intends to trade small wild game, which is unskinned / unplucked and uneviscerated, the FSA staff must monitor and verify this activity as part of the establishment audit. Post-mortem inspection will take place at the receiving approved GHE.

8.6.5 ID marking of small wild game to be traded

An identification mark should be applied to unskinned / unplucked and uneviscerated small wild game, if it has been handled or graded in some way in an approved GHE before it is sent on to another approved GHE.

8.6.6 Intra-community trade

In-skin, in-feather and processed wild game can be consigned to and received from other Member States, subject to any animal health restrictions, and subject to the appropriate export / import certification being in place. If you are unclear as to whether exports or imports may take place during outbreaks of notifiable disease, contact APHA.

All game intended for export or import must have been examined by a trained person (where applicable) immediately after shooting and the game must be handled and transported hygienically in refrigerated transport. The Regulations place a responsibility on the supplier of such game to ensure that it is only consigned to approved premises and transported in hygienic conditions. Unskinned large wild game may be sent to a game handling establishment in another Member State only if it is accompanied by a certificate issued and signed by an official veterinarian. A copy of the certificate is at Annex 7.

8.7 Recording of inspection results

8.7.1 Duty of FSA Operations Group

If inspections reveal the presence of any disease or condition that might affect public or animal health or indicate that animal welfare has been compromised the OV is to inform the FBO.

Where lesions suggestive of tuberculosis (TB) are recorded on the trained person's declaration, the OV or MHI should confirm that this information has been passed to APHA. APHA should also be contacted if potential TB lesions are found during the inspection of large wild game carcasses.

Where the OV is not present the MHI shall contact the OV as soon as possible and discuss necessary action. In certain cases, this may require attendance of the OV at the approved GHE.

Where the problem arose during primary production, the OV shall gather all the information and cascade it to APHA where appropriate.

8.7.2 FBO's trained hunter's declaration and inspection record

The FBO must have a system in place to file the trained person's declarations (including trained person's inspection records) in such a way that the declarations can be identified clearly to the individual carcasses or batch of carcasses.

For large game, the declaration or a number repeated on and relating to the declaration must be attached to the carcass when it is presented for inspection. Carcasses without an attached hunter's declaration label or link to a declaration must be disposed of as ABP (unless presented with the head and all the viscera except for the stomach and intestines).

8.7.3 Post-mortem inspection results and recording of data

Results of post-mortem inspection should be recorded on IRIS. Where there is no IT system available in the plant, forms PMI 4/2 (Deer – Daily Record of Rejection Conditions) and PMI 4/12 (Weekly Record of Rejection Conditions – Wild Game) can be used to record condition data to be entered onto IRIS at a later date / time. This should be completed at the earliest opportunity, subject to IT availability.

The FSA and FBO must have a system in place to ensure that the results of ante and post-mortem inspections are recorded accurately and can be identified clearly to the batch of animals, or in some cases to the individual animal. The OV must be satisfied with the system for collecting the data at all points.

Reference: See chapter 9 on 'Forms'.

8.7.4 Database

Information is logged on an FSA national database and will be used by:

- Defra to analyse disease trends
- FSA to monitor disease status, for example, trichinella
- FVC when establishing OV attendance

Note: Additional information on Assessment for OV Flexible Attendance is available in the 'Policy and Procedure for Flexible Attendance at Slaughterhouses and Game Handling Establishments'.

9. Health and Identification Marking

9.1 Health marking

9.2 Identification marking

9.1 Health marking

9.1.1 Overview

The health mark indicates that the animals and the resulting carcass have undergone ante and post-mortem inspection in accordance with (EC) 854/2004 and there are no grounds for declaring the meat unfit for human consumption.

Reference: See the topic 9.2 on 'Identification marking' in this section for additional information.

9.1.2 Responsibility and health marking

The OV is responsible for ensuring the correct application of the health mark. The actual application of the health mark may be delegated to an MHI or to an FBO member of staff, but only under the effective supervision of the OV.

The health mark shall be applied when official controls have not identified any deficiencies that would make the meat unfit for human consumption and, where appropriate, TSE testing has been carried out with negative results.

9.1.3 Meat that should be health marked

The health mark is only applied to carcasses and wholesale cuts of:

- cattle, including buffalo and bison
- sheep, goats and pigs
- horses
- camelids
- ratites

- farmed deer and wild boar
- large wild game, deer and wild boar

Regulation: (EC) 854/2004, Article 5 (2).

9.1.4 Application

Health marks should be applied in the slaughterhouse or game-handling establishment so that if carcasses are cut into half or quarters or half carcasses are cut into 3 pieces, each bears such a health mark. The FBO should inform the AO how many pieces the carcass will be cut into if they wish the minimum number of marks to be applied.

9.1.5 Wild game

Meat from wild game can only bear a health mark if it is skinned in a game handling establishment, has undergone post-mortem inspection and been found fit for human consumption.

Regulation: (EC) 854/2004, Annex I, Section I, Chapter III, 8.

9.1.6 Application at inspection

A system should be in place so that the line speed and inspection facilities allow the health mark to be applied to the carcass at the time of post-mortem inspection.

9.1.7 Blurring

Blurred health marks are unacceptable and, if this is a problem, a system should be arranged so that:

- one health mark is applied if the carcass is fit at the time of inspection
- health marking is completed once the carcass has dried (in the chiller)

9.1.8 Health mark and trichinosis

Where a procedure is in place in the slaughterhouse to ensure that no part of carcasses examined leaves the premises until the result of the trichinella

examination is found to be negative and the procedure is formally approved by the OV, the health mark may be applied before the results of the trichinella examination are available.

The operator must have a written procedure agreed with the OV in place.

Where such system is not in place, the health mark must not be applied until a negative test result has been received.

9.1.9 Withheld health mark

The health mark can only be applied to the carcass of animals which have undergone ante and post-mortem inspections in accordance with (EC) 854/2004 and there are no grounds for declaring the meat unfit for human consumption. Examples of where the health mark should be withheld are:

- failure of ante-mortem and / or post-mortem inspection
- presence of SRM (except Vertebral Column of over 30 month bovines)
- carcasses presented for inspection with evidence of visible contamination or gross pathology
- where residues or contaminants are suspected
- carcasses produced in a slaughterhouse where the water supply is found to have been contaminated and a risk to public health exists
- where adequate facilities for inspection are not available and there is a risk that carcasses with visible contamination or gross pathology could be inadvertently health marked (that is it has not been possible to perform adequate inspection)
- carcasses from animals suffering from a notifiable disease
- meat declared by the OV to be unfit for human consumption

9.1.10 Recording marks used

To prevent fraudulent use of health marks and other stamps all members of the FSA staff must record in the daybook:

- the time of issue
- the number of the health mark stamp
- the time stamps are returned to secure storage

9.1.11 Security of the health mark

The security of the health mark stamp is the responsibility of the officer to whom it was issued.

- The health mark stamp must be kept in secure lockable facilities when not in use.
- The OV must be able to demonstrate the security of health marking equipment.
- The OV must have an auditable system in place to check that all health mark stamps have been returned at the end of each operational day.
- Anyone possessing or using health marking equipment, without the authority of the OV is committing an offence.

9.1.12 Reporting missing stamps

If a health mark stamp is stolen or lost, there is potential that it can be used for fraudulent activities and used for illegally killed animals. Missing stamps whether lost or stolen must be reported immediately to the OpA CSU at York (access contact details in chapter 1 on 'Introduction').

9.1.13 Meat not health marked

Unmarked meat that is required to be health marked cannot be sold for human consumption. The FBO is responsible for disposing of the meat in compliance with the animal by-products regulations.

Reference: Regulation (EC) 853/2004, Article 5

9.1.14 Health mark labels

For the health marking of lamb, kid and piglet carcasses the hygiene regulations no longer permit the use of health marks in the form of a label or tag instead of ink / hot branding as was permitted under the previous legislation.

Reference: Regulation (EC) No 2076/2005, Article 5.

9.2 Identification marking

9.2.1 Requirements

Carcases and wholesale cuts of red meat species, farmed game mammals (other than lagomorphs) and large wild game that have passed official controls at a game handling establishment should all be health marked. Other products of animal origin only require an identification mark.

9.2.2 Application

Identification marks are applied by the FBO. The FSA is required to verify compliance with the application of identification marks.

Reference: See the MIG for additional information.

10. *Campylobacter* in Broilers Monitoring Programme

- 10.1 Introduction
- 10.2 FSA role
- 10.3 Sampling programme
- 10.4 Sampling equipment
- 10.5 Collecting samples
- 10.6 Minimising the risk of sample contamination
- 10.7 Storage, packing and despatch of samples

10.1 Introduction

10.1.1 Survey overview

FSA is funding a research project to monitor *Campylobacter* contamination of broiler carcasses at slaughter, in order to support work to reduce the number of human *Campylobacter* cases as part of its Foodborne Disease Strategy.

The FSA Strategy 2010-2015 includes the outcome that 'Food produced or sold in the UK is safe to eat'. A main priority for this is to reduce foodborne disease using a targeted approach and tackling *Campylobacter* in chicken as a priority. FSA has developed a *Campylobacter* Risk Management Programme, working in partnership with stakeholders to achieve these aims by 2015. Part of this programme has involved establishing a joint target with industry for the reduction in levels of *Campylobacter* in raw chicken, which was published in December 2010. This target is to reduce the percentage of the most heavily contaminated chickens at the end of the slaughter process from 27% to 10% by 2015; it is estimated that achieving this could reduce the number of cases of food poisoning by up to 30% (approximately 90,000 cases per year).

The monitoring programme is part of a research study funded by the Food Standards Agency, managed by FSA Hygiene and Microbiology Division:

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Email: foodhygiene.Policy@food.gov.uk

The contractors for the monitoring programme are Animal and Plant Health Agency (APHA).

10.1.2 Target population

Broiler chickens, including conventionally reared, free-range and organic broilers. Spent hens and broiler breeders are excluded from the survey.

10.1.3 Survey requirements

FSA are required to sample a whole chilled carcase and, when specified, full and intact caeca from the same slaughter batch and despatch to APHA Weybridge for testing.

10.1.4 Relevant establishments

These instructions apply to FSA staff at plants participating in the *Campylobacter* monitoring programme. A list of participating establishments is held by SLA and Contracts Team at FSA York.

10.1.5 Co-ordination and collection

APHA is responsible for the co-ordination and management of this UK monitoring project and for the operation of the scheme in GB, under contract with FSA.

The total number of samples required from selected slaughterhouses is determined by FSA. APHA will then send sampling kits and request samples from participating establishments.

FSA Operations staff will undertake the collection of samples from approved slaughterhouses participating in the monitoring programme.

10.2 FSA role

10.2.1 FSA requirements

The OV must ensure:

- that only authorised FSA Operations Group staff carry out the sampling
- the correct number of samples are collected per slaughter batch sampled
- continuity of evidence when samples are collected, prepared, labelled, stored and despatched
- evidence of the origin of the broilers sampled is obtained
- the data collection form, APHA1 is fully completed, and two copies are taken; see Annex 3 for an example of the form
- one copy of the APHA1 form is sent with the samples, the second copy is given to the named FBO contact (which will be supplied by SLA and Contracts Team) and the third copy is retained

10.2.2 Time coding

All work undertaken as part of this survey in the collection, storage, packaging and despatch of samples is to be coded GVLA.

10.3 Sampling programme

10.3.1 Sampling requests

FSA Operations staff in plant will receive a sampling schedule prepared by APHA, from the FSA SLA and Contracts Team, which will list the number of batches that need to be sampled during the sampling period (a reminder of the schedule will be sent in advance either monthly or quarterly, as appropriate).

The schedule will provide details on the date of sampling, the number of batches that need to be sampled on a given day and the ID of the batch to sample.

As the sampling schedule is weighted according to plant throughput, larger processing plants will sample more regularly than smaller processing plants.

Note: The ID batch number refers to the sequence of slaughter batches going through the abattoir on the day of sampling. For example, ID batch 2 would be the second batch slaughtered on the given sampling day.

Example:

Allocated sampling days	ID of batch to sample	ID batch (1 st reserve)	ID batch (2 nd reserve)
08/11/12	5	7	15
13/11/12	2	6	24
13/11/12	3	9	17
05/12/12	7	2	5

10.3.2 Monitoring definitions

A 'slaughter batch' is defined as a quantity of broilers which has been raised on the same farm premises, in the same house, and delivered to the abattoir in the same vehicle.

10.3.3 Exclusion criteria

Slaughter batches from more than one house or from more than one farm are to be excluded from the monitoring programme.

10.3.4 Selection of slaughter batches

To avoid bias, slaughter batches must be randomly selected for sampling. Therefore, beside each allocated sampling day on the schedule there are three numbers per sampling batch labelled 'ID of batch to sample', 'ID batch (1st reserve)' and 'ID batch (2nd reserve)'. These are random numbers generated using the average number of batches processed during the abattoir's working day, and represent the particular batch that must be identified and sampled.

Batches from mixed houses or from more than one farm must be excluded. Therefore, if the selected batch is from a mixed house or from more than one farm, then the reserve batch should be sampled if that is not a mixed batch. The ID of the batch sampled should be marked clearly on the data collection form, APHA1.

Sampling for the monitoring programme will only be carried out Monday to Thursday. If you do not slaughter broilers on the specified sampling day, please sample the same ID batch number allocated but on the next processing day. For example, if the plant only slaughters broilers on Monday-Wednesday and the schedule includes a Thursday, please sample on the following Monday. If the

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plant operates on Tuesday, Wednesday and Friday and the scheduled sampling date is a Thursday, please sample on the following Tuesday.

The revised sampling date and the ID of the batch sampled should be marked clearly on the data collection form, APHA1.

If you are unable to collect a sample from a requested ID batch(es) or from the first or second reserve, please contact the SLA and Contracts team who will then notify APHA and a new sampling ID and date for collection will be generated.

If you collect the samples and you cannot despatch them on the same day, please contact the SLA and Contracts Team by phone (access contact details in chapter 1 on 'Introduction').

Reference: See Annex 3 for a sample copy of the APHA1 form and Annex 4 for guidance notes on completing the form.

Note: If you have any questions on the sampling schedule, contact the SLA and Contracts Team by phone (access contact details in chapter 1 on 'Introduction').

10.3.5 Selection process

The following table outlines the slaughter batch selection process:

Step	Description
1	If the batch identified for sampling is not eligible, it is not from a single house or cannot be sampled, sample the 1 st reserve batch
2	If the 1 st reserve batch is not eligible or cannot be sampled, sample the 2 nd reserve batch
3	If the 2 nd reserve batch is not eligible or cannot be sampled, sample the next available eligible batch on the same processing day (and mark the batch number clearly on the APHA 1 form)
4	If there are no more eligible batches processed on the same day, sample the first available eligible batch on the next processing day (and mark the date and batch number clearly on the APHA 1 form).

10.3.6 Sample size per batch

There are 2 levels of sampling within this monitoring programme; **carcase only** and **carcase and caeca** sampling. The information on which to carry out will be provided by APHA in advance, on the sampling schedule:

Chapter 2.4 Post-Mortem, Health and Identification Marking

Carcase sampling:

A single chilled broiler carcase from the selected slaughter batch will be collected and placed into one of the large labelled self-seal bags, sealed and then placed into the second large labelled bag and sealed. The carcase will be packed into the sample box and sent to APHA for testing.

Carcase and caeca sampling:

10 pairs of full and intact caeca will be sampled at the evisceration point from within the same slaughter batch from which the carcase is to be collected and each pair put into a separate screw-cap pot.

A single chilled broiler carcase from within the same slaughter batch from which the caeca was sampled is also to be collected and then placed into one of the large labelled self-seal bags, sealed and then placed into the second large labelled bag and sealed. Both caeca and carcase are to be packed into the sample box and sent to APHA for testing.

10.4 Sampling equipment

10.4.1 Introduction

APHA will provide the relevant establishments with sampling kits and the data collection form (APHA1). The SLA and Contracts Team will contact FSA staff at the establishments to inform them of delivery arrangements for sampling kits.

10.4.2 Non-delivery of sample kits

Sampling kits and form APHA1 should be received at least four days before sampling commences. If you do not receive the kit and form, or if any of the equipment listed below is missing, contact the SLA and Contracts Team by phone (access contact details in chapter 1 on 'Introduction').

10.4.3 Sampling kit contents

Carcase sampling kit – for sampling a whole chilled carcase includes:

- 1 x Biotherm 25 insulated shipping box
- 1 x document pouch
- 1 x data collection form

- gel freezer pack system (these must be kept away from direct contact with the samples using the polystyrene divider)
- 2 x large, labelled, sealable Pathoseal Liquitite bags for the whole chilled carcase
- 2 pair of gloves –for collection of the carcase (one spare pair provided)
- bubble wrap to stabilise the sample pots around the carcase.

Carcase and caeca kit– for sampling 10 caeca per slaughter batch and 1 whole chilled carcase includes:

- 1 x Biotherm 25 insulated shipping box
- a carcase sampling kit as described above plus
- 10 x 80ml screw-cap pots
- 5 x small Pathoseal absorbent bags for sample pots

Note: Gel freezer packs **must** be completely frozen when packed in the sampling box; therefore, ensure that they are placed in a freezer at least 48 hours before sampling.

10.5 Collecting samples

10.5.1 Carcase samples

One whole carcase per slaughter batch should be collected immediately after chilling but before further processing such as freezing, cutting or packaging.

If this is not possible, then a carcase should be collected as close as possible to chilling and chilled separately to below 5°C.

In the carcase + caeca sampling, the carcase **must** be from the same slaughter batch that was sampled for caeca.

For all samples, please avoid sampling from the first part of the batch and select a carcase with a neck skin flap still attached.

10.5.2 Caeca samples

Sampling is to be carried out at the time of evisceration. Birds are to be sampled at random during the selected batch avoiding the first part of the batch. Consecutive birds must not be sampled.

Depending on the line speed, and facilities available in each establishment, the paired caeca taken from each bird can be separated from the eviscerated intestines either on the slaughter line, or alternatively the whole offal can be removed and carried in a tray or similar receptacle to a separate area before removing the caeca.

Note: It is important that full and intact caeca are collected.

10.5.3 Sample handling

Samples must:

- be packaged according to the instructions in this topic
- be despatched separately from other samples, on the same day of collection
- arrive at APHA Weybridge no later than 24 hours after they have been collected

Reference: See topic 10.7 on 'Sampling, packing and despatch of samples' in this section for additional information.

10.6 Minimising the risk of sample contamination

10.6.1 Carcass sample contamination

Gloves supplied in the kit should be used to collect the carcass. Immediately after collection, the carcass should be placed into one of the large labelled self-seal bags from the kit, sealed and then placed into the second large labelled bag and sealed. Cross contamination with other chicken carcasses, caeca and abattoir surfaces should be avoided at all times.

10.6.2 Caeca sample contamination

The main objective is to collect the caeca whilst minimising any external contamination from caecal or intestinal content.

This is best achieved by careful manual traction to the portion of intestine either side of the caeca so that both caeca are removed intact with a short length of intestine. The sampler needs to verify that the caeca are intact and full. If they are not, the paired caeca should be disregarded and a new bird selected instead.

Each pair of caeca should be taken per broiler and put into a labelled pot. Each pot should then be sealed securely and placed into a small Pathoseal absorbent bag (two pots per bag).

Note: Caeca from different broilers should not be placed in the same pot.

10.7 Storage, packaging and despatch of samples

10.7.1 Chilling

Samples must be kept chilled (not frozen) from the time of sampling until delivery to APHA. Please place the closed sampling kit in a cool area and away from direct heat until the courier arrives. If a cool room is available the entire sampling kit can be stored here until despatch to APHA Weybridge.

Note: Samples must be kept cool by storing them inside the insulated shipping box containing the frozen gel packs.

10.7.2 Specimen collection and handling

Campylobacter analysis can be affected by the growth of other bacteria. Therefore, care must be taken to ensure that samples are taken appropriately, chilled as described and transported to APHA Weybridge as quickly as possible.

Extreme temperatures must be avoided.

10.7.3 Packing

Step	Action
1	Pack the double bagged chilled carcass in the box and use the bubble wrap to secure the carcass in the box.
2	For 'Carcass + Caeca sampling kit', pack the bagged sample pots around the carcass and secure using the bubble wrap provided.
3	Ensure that the APHA reference number at the top of the data collection form APHA1 matches the number on the sample pots and carcass bag.
4	Place polystyrene divider on top of the carcass and samples.
5	Freezer gel packs should be removed from the freezer and placed on top of the polystyrene divider. All freezer packs provided in the sampling kit should be used. Care must be taken not to place these in direct contact with the specimen pots or the bagged carcass.
6	Slide the completed form into the plastic document pouch to protect from any leakages that may occur and place into the sampling kit.
7	The sample box must be closed securely without delay. It is important that the pack should not be left open (or closed without freezer packs) for any length of time as this may damage the samples and the carcass.

10.7.4 Labelling cardboard outer cartons

Apply the adhesive address label provided by the carrier to the outer carton across the box flaps.

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10.7.5 Despatching samples

Samples are to be despatched to APHA using the Topspeed next day service.

Step	Action
1	Go to http://www.topspeedcouriers.co.uk/ and complete the online booking form. See Annex 9 for information on completing the online booking form.
2	Provide Topspeed with the following information: <ul style="list-style-type: none">• number of items (boxes) in consignment• kill date and time• name of person making the booking
3	Write the barcode nos. as reference for the collection. Topspeed to collect as arranged.

10.7.6 Despatch of all samples

Carcases and caeca samples are to be sent to:

FS241051 *Campylobacter* Monitoring Research Project
Bacteriology (*Campylobacter* Laboratory) Building 17
Animal and Plant Health Agency
Woodham Lane
New Haw
Addlestone
Surrey
KT15 3NB

10.7.7 Despatch failure

Should despatch fail, you must contact Topspeed and make an attempt to rearrange despatch, then notify APHA Weybridge by email to advise them of the despatch failure: campymonitoring@apha.gsi.gov.uk

10.7.8 Complaints procedure

Should Topspeed fail to collect samples within the agreed timeframe, contact the SLA and Contracts Team by phone (access contact details in chapter 1 on 'Introduction'), who will escalate the failure to Topspeed headquarters.

11. Edible Co-Products

11.1 Edible co-products

11.1 Edible co-products

11.1.1 Definition

Edible co-products are parts of slaughtered animals unsuitable for human consumption at the time of production in the slaughter house, but which can later be processed for use in human food.

Examples of edible co-products include:

- rendered animal fat and greaves
- treated stomachs bladders and intestines
- gelatine
- collagen

Regulation: (EC) 853/2004, Annex III, Sections XII, XIII, XIV and XV.

Detailed guidance is contained in the FSA guide: Industry Guide on Edible Co-products and Animal By-products. This can be found at the following page on the FSAs website:

<http://www.food.gov.uk/business-industry/guidancenotes/meatregsguid/coproductbyproductguide>

11.1.2 Feet for human consumption

Feet intended for human consumption are treated as edible offal. All feet intended for human consumption must be inspected.

Feet processed on site:

PMI can be done before or after further treatment (such as dehairing) on an individual basis or in batches. If PMI takes place before treatment, a further spot check will be needed to ensure that these feet are free from any pathology.

Feet processed at a different approved site:

PMI can be done before or after cleaning (washing) on an individual basis or in batches. If PMI takes place before cleaning, a further spot check will be needed to ensure that these feet are visibly clean before shipping for further processing.

In both cases a full correlation system must be implemented by the FBO to ensure that if a carcass is condemned, the correlated feet of the entire batch are disposed of as unfit for human consumption. FBOs may assist the inspection process and set aside feet with identified abnormalities.

Feet which have not been inspected, are not visibly clean or have not been processed cannot be despatched from the establishment as intended for human consumption.

11.1.3 FBO responsibility

The FBO should identify handle, process, store and despatch edible co-products in accordance with the guidance contained in the meat industry guide.

Co-products should be stored and despatched to appropriate destinations separate from animal by products, in accordance with the guidance.

Co-products should be despatched with the correct documentation, containing the information outlined in the specimen documents in the co-products guidance.

11.1.4 FSA responsibility

The OV is to check that:

- the FBO handles the co-products in accordance with the FSA guidance having due regard to hygienic processing, separation, storage and temperature requirements
- that the edible co-products are consigned to appropriate premises
- that adequate separation from ABP's is maintained, such as cattle hides intended for the production of gelatine for human consumption are stored and despatched with adequate separation from all other hides
- that a control system is in place for hides from bovines that require BSE testing, pending a negative test result

12. Slaughter Hygiene Verification System in Red Meat

- 12.1 Introduction
- 12.2 Slaughter hygiene verification
- 12.3 Process – hygiene verification
- 12.4 Product – carcass verification
- 12.5 Plant – establishment verification
- 12.6 HACCP based procedures verification
- 12.7 Microbiological verification

12.1 Introduction

12.1.1 Purpose

The SHV system focuses on gathering qualitative measures to assess FBO processing standards.

The SHV system monitors contamination at final inspection as a key point to satisfy FSA regulatory requirements, but also creates a more holistic approach to provide a more complete picture of the processing standards of the FBO, with the ultimate objective of providing clear evidence of improvements to carcass hygiene when required. The SHV system focuses on the need for FBOs to take the necessary corrective actions, quarantine and rectify contaminated carcass, take effective actions and prevent re-occurrence.

This guidance outlines a consistent approach on how and when OVs / AOs shall verify that FBOs have implemented effective slaughter hygiene practices and procedures which prevent contamination of carcasses with enteric pathogens and faecal contamination throughout the entire slaughter and dressing operation and that their food safety management systems demonstrate this control.

The results of verification checks can be used to:

- provide advice to assist the FBO with root cause analysis
- provide data for further trend analysis by FSA
- provide evidence for enforcement action
- justify health and identification marking
- inform the FBO audit process
- inform veterinary certification for third country export

12.1.2 Background

The FSA has developed SHV procedures by looking at the regulatory official control verification requirements at abattoirs.

With particular reference to slaughter hygiene, official controls must verify:

- FBO compliance with Regulations (EC) 852/2004 and (EC) 853/2004
- that FBOs apply procedures to ensure good hygiene practices continuously and properly
- that FBOs apply HACCP-based procedures continuously and properly

Verification is the responsibility of the OV, but information regarding good hygiene practices and HACCP based procedures can be gathered by the Official Auxiliary (OA) to assist the OV.

12.2 Slaughter hygiene verification

12.2.1 Key elements of the verification system

The verification system applies predetermined minimum frequencies of verification tasks, which provide information on the delivery of official controls, enforcement activity and objective evidence to support FBO audits.

Key summary points of the verification system are as follows:

- SHV checks should be carried out by OVs and AOs
- SHV must be completed in each establishment
- the number of verification checks can decrease or increase depending on findings

- the SHV system can be utilised by OVs / AOs and technical contract managers to assess performance and official control delivery to focus attention and discussions

12.2.2 Slaughter hygiene verification method

The verification system includes a number of tasks that must be carried out for each of the processed species and should cover the whole of the production process. Verification tasks are divided into the four following categories and have different frequencies based on the associated risks and possible impact on public health:

- process – hygiene verification
- product – carcase / offal verification
- plant – establishment verification
- HACCP and microbiological verification

A summary of all verification tasks and their frequencies can be found at Annex 8, a SHV Task Schedule at Annex 10 and a SHV flow chart at Annex 11.

The initial selection of carcasses for process hygiene and product verification should be random. However, based on the findings, the OV / AO may wish to target a specific type of process or animals to better assess FBO's controls.

If the outcome of the verification checks indicates poorly implemented FBO procedures, then the documented SOPs and records should also be considered as part of SHV verification checks.

12.2.3 Minimum requirements – assessment of samples

The OV / AO should select a point on the production line where suitable facilities are available to allow a thorough examination of all surfaces of the sampled carcasses.

Sufficient time must be allocated by the OV / AO to ensure a thorough examination of the carcase / side is performed and accurate data is collected and consistency is maintained.

12.2.4 Outcomes

Each verification area must be assessed by the OV / AO and scored-based on the outcome (compliant / non-compliant) and the level of the enforcement action taken.

Outcome	Description
Compliant: green	Food business is operating in accordance with its food safety management systems, food safety standards and has met the requirements of the regulations No enforcement action taken
Non-compliant: yellow	A non-compliance that resulted in a verbal advice
Non-compliant: amber	A non-compliance that resulted in a written advice
Non-compliant: red	A non-compliance that resulted in a formal enforcement action (service of legal notices, referral for investigation)

Using objective evidence, the type of deficiencies identified during the daily / weekly / monthly SHV checks and FBO's corrective action reflect the extent and effectiveness of performance and compliance.

12.2.5 Reporting arrangements

The K2 system will produce data reports with results of verification activity. The information must be utilised by OVs / AOs to monitor individual plant performance during the interim FBO audit period.

OV / AO must use the FSA Slaughter Hygiene Checklist (Annex 4) to record the outcome of verification checks and store it at the plant.

12.2.6 Use of verification data

The recorded daily outcomes of verification tasks will provide information about the level of current performance / compliance.

The gathered data will assist the OV / AO in defining reasonable expectations of operating standards.

Establishment trend analysis and professional judgement from the OV / AO is required for appropriate action. This will assist in compliance decisions and achieve consistency of approach.

The OV / AO should review the results on a daily, weekly, monthly basis and take the appropriate action as detailed in topics 12.3 to 12.6.

12.3 Process – hygiene verification

12.3.1 OV / AO responsibility

The OV / AO is expected to verify hygienic standard of the process to assess if the FBO has adequate controls in place to minimise contamination and if corrective actions are taken when contamination incidents occur.

12.3.2 Process scope

Verification Steps	Scope (all species)
1 Cleanliness of animals	Animals clean on arrival or measures taken by FBO to ensure that animals are clean before dressing commences or other measures taken to prevent cross contamination from dirty animals. OV/AO to record in K2 the number of carcasses checked, and the number of carcasses found not clean.
2 Bleeding	Bleeding does not result in carcase contamination. OV/AO to record in K2 the number of carcasses checked, and the number of carcasses found contaminated with faeces / ingesta after bleeding.
3 Skinning / hair removal	Meat contamination avoided (for example, contact between outside skin and carcasses prevented, operator / equipment in contact with the outside of hide / fleece not touching the meat) Skinning completed (no pieces of skin left) and bristles removed. OV/AO to record in K2 the number of carcasses checked, and the number of carcasses found not completely skinned (pieces of skin left / bristles not removed) and/or contaminated

	with faeces / ingesta / milk after skinning / hair removal.
4 Evisceration / udder removal	Spillage of digestive tract content prevented and removal of udder does not result in contamination of the carcass with milk or colostrum. OV/AO to record in K2 the number of carcasses checked, and the number of carcasses found contaminated with faeces / ingesta / milk after evisceration/udder removal.
5 Presentation for inspection	Carcasses and offal presented for inspection free from any visible contamination. OV/AO to record in K2 the number of carcasses / offal checked, and the number of carcasses / offal found contaminated with faeces / ingesta / milk at the step of presentation for inspection.

12.3.3 Process frequency and sample size

The verification checks in process hygiene areas have to be carried out every day **for every species slaughtered**. However, the frequency of verification checks at the steps: 'Cleanliness of animals', 'Bleeding', 'Skinning / hair removal' and 'Evisceration / udder removal' can be reduced to once a week, if the OV is satisfied with the hygienic standard of the establishment and certain conditions are met.

In order for the OV to consider the reduced frequency of verification checks, the establishment should meet the following criteria:

- 'Good' or 'Generally Satisfactory' outcome of the last FBO audit
- no formal enforcement related to the hygiene of production (no HINs, RANs, referrals for investigation) in the last 4 weeks
- less than 5% of carcasses presented contaminated for inspection in the last 4 weeks (daily percentage).

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Verification Step	Basic frequency	Reduced frequency
1 Cleanliness of animals	Daily	Once a week
2 Bleeding	Daily	Once a week
3 Skinning / hair removal	Daily	Once a week
4 Evisceration / udder removal	Daily	Once a week
5 Presentation for inspection	Daily	Daily

Note: The frequency of the verification checks at the step ‘Presentation for Inspection’ cannot be reduced and they should be always carried out daily.

The table below demonstrated how many carcasses – based on the establishment’s daily throughput – have to be verified daily at steps: ‘Cleanliness of animals’, ‘Bleeding’, ‘Skinning / hair removal’ and Evisceration / udder removal’.

The numbers provided in the previous table are a minimum and can be increased by the OV dependant on findings during checks.

Daily throughput	Minimum number of carcasses to be checked (at steps: ‘Cleanliness of animals’, ‘Bleeding’, ‘Skinning / hair removal’, Evisceration / udder removal’)
0-100	2
101-250	4
251-500	7
More than 500	11

The daily number of carcasses and offal that must be verified at the ‘Presentation for inspection’ step, with outcome recorded, depends on the daily throughput of **each slaughtered species**.

The following table demonstrates how many carcasses / offal should be selected for verification. All slaughtered species should be verified daily.

Daily throughput	Minimum number of carcasses and offal to check daily (at 'Presentation for inspection' step)
0 – 24	4
25 - 100	10
101 – 250	30
More than 250	60

Note: Any decision to increase the number of checks, above the minimum recommended in the table above, should be recorded in the plant daybook.

12.3.4 Process – unit size

For all species, a unit is defined as a whole carcass (with offal), regardless if split or not e.g. if a carcass is split into two sides then two sides have to be inspected to count it as a unit.

Due to different line set ups and arrangements it is possible to assess part carcasses / sides at random to achieve the required sample size, (for example: assess a run of beef hindquarters on the high stand and complete the monitoring from the low stand with a later run of forequarters).

Where carcasses or sides are divided into sections for assessment, all defects from the sections that make up one complete carcass must be added together to determine how the defect is scored for that carcass.

Carcass verification can be carried out 'on-line' at normal processing speeds or at a designated area.

12.3.5 Process – contamination

Any visible trace of faecal, ingesta and milk contamination must be counted and recorded. Each contaminated carcass or offal counts as one incident, regardless of the amount of contamination present.

In cases where contamination identified during verification checks is different to digestive tract content (faecal / ingesta) or milk, the OV / AO should bring it to the attention of the FBO and ask for it to be removed / trimmed. Such cases, however, do not have to be recorded. Examples of contamination other than digestive tract

content or milk include rail dust, hide / wool, bile and oil / grease. Excessive and frequent contamination of this type should trigger enforcement action.

Additional points for consideration when scoring:

- retained udder fragments are evidence of milk contamination
- gut segments, including oesophagus, are classified with faeces, ingesta, milk
- contamination issues already identified by the FBO (such as clearly marked carcasses for further rectification) are not to be added to the SHV form as those were already identified as part of the FBO's HACCP system
- however, excessive carcasses being removed from the processing line is a significant issue and appropriate OV action should be taken regardless of whether the FBO has identified these; detention logs and rejected meat records (IRIS) will provide appropriate evidence to utilise

12.3.6 Process – enforcement

The FSA supports a 'zero tolerance' approach to visible contamination on carcasses, which requires that all identified visible contamination on meat is removed by the FBO without delay by trimming or alternative method having an equivalent effect.

In cases where frequent and regular contamination problems are identified by OV / AO, an enforcement action must be taken in accordance with Chapter 7 'Enforcement'.

12.3.7 Process – digestive tract content

OVs / AOs are to identify foreign material as faeces or ingesta based on the characteristics of colour and texture and only when they are able to identify either colour or texture. Size is unimportant in identifying faecal or ingesta contamination however, as size decreases, colour and texture become more difficult to identify.

- The colour of faecal or ingesta contamination is:
 - cattle – yellow, green or brown
 - pigs – tan to dark brown
 - sheep and goats – brown to black
- Faecal or ingesta contamination has a fibrous or plant-like texture; for example, sheep and goat faeces and ingesta may be tarry, whilst pig faeces and ingesta may include identifiable grain particles

12.3.8 Process – milk

OVs / AOs are to identify foreign material as milk based on two factors: colour and consistency.

- The colour of milk ranges from clear to white to light yellow.
- The consistency of milk ranges from watery to ropy or curdy.

Milk, if present, tends to be found on the midline, during or after removal of mammary glands (udder).

12.4 Product – carcass / offal verification

12.4.1 Product – carcass / offal verification

On an ongoing basis, the OV will verify a sample of carcasses and offal (including fifth quarter product) that have been health marked. The verification checks should reflect the full range of species and age / type of animal being processed. Only the final product (carcasses or offal) should be verified and the following production stages could be selected for carrying out the checks:

- immediately after inspection points (after final rectification by the FBO) – to ensure real time checks
- in the chiller

Verification of offal includes parts that are fit for human consumption at the inspection point (such as liver, heart and skirt). Others intended as edible co-products which require further processing prior to being eaten (for example, tripe and casings) should also be included in the verification checks.

12.4.2 Product – carcass / offal verification scope

Product verification replaces the previous PMI verification checks and focuses on the FSA's performance. Therefore, the outcome should not be used as direct indication of the FBO's performance. However, frequent findings in this area could trigger additional checks as part of the process verification.

The following table details the scope of verification during product checks:

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Area of verification	Scope
1 Pathology	Meat is free from all pathological conditions
2 Statutory requirements	Post-mortem inspection has been carried out in accordance with legal requirement
3 Faecal / ingesta / milk	Meat is free from faecal / ingesta / milk contamination
4 Health marking	Meat is correctly and legibly health marked
5 Other	Record any identified deficiency (for example, contamination with bile / hair / wool, tonsils, stick wounds, SRM, rail flake)

12.4.3 Product – carcass / offal verification – frequency

Verification must be carried out on three operational days a week (if possible) or spread over the whole week in establishments with a very low throughput (less than 100 a week).

The number of carcasses to be checked depends on the weekly throughput (as in the following table):

Weekly throughput	Weekly total of carcasses and offal to check
More than 1000	60 carcasses and 60 sets of offal (20 carcasses and 20 sets of offal per species per day, 3 days per week)
101 – 1000	30 carcasses and 30 sets of offal (10 carcasses and 10 sets of offal per species per day, 3 days per week)
0 – 100	5 carcasses and 5 sets of offal (spread over the whole week, if possible)

Note: In OV-only establishments and plants with recognised OV flexibility (such as cold inspection) the product verification checks should be carried out during routine FVC or contractor management visits and documented on the K2 system by the FSA / SDP at least every three months. The FVC is accountable for ensuring these checks have been carried out and documented and is responsible for establishing the number of carcasses and offal that should be verified during those visits. The verification system should not impact on agreed resource and

business agreements as outlined in the Statement of Resources for the individual establishment.

Note: Any decision to increase the number of checks, above the minimum recommended in the table above, should be recorded in the plant daybook.

12.4.4 Product – carcase / offal verification – assessing results

Although product verification aims to measure the FSA's effectiveness as the inspection service, it is also an indication of the effectiveness of FBO controls.

The product verification is not subject to scoring. The OV is only required to record and input in the system the number of deficiencies identified and the total number of carcasses / offal checked.

Verification results should be assessed by the OV / FVC to monitor team performance. Variables in each establishment should be considered if concerns are raised following verification checks (for example, lighting, available inspection time and space, FBO performance, plant layout).

Note: The OV / FVC should maintain realistic expectations during the checks when assessing team performance from the product verification results, as minor incidents of contamination become more evident post-chilling, particularly with pig hair and wool.

12.5 Plant – establishment verification

12.5.1 Plant – establishment verification

Establishment verification tasks focus mainly on different parts of the establishment, equipment, cleanliness, hygiene arrangements and procedures.

The minimum frequency of establishment verification tasks depends on the FBO audit outcome. However, the OV can increase the frequency if considered necessary and should always score a relevant section when an intervention takes place that resulted in verbal, written or formal enforcement.

Some establishment verification tasks are considered essential and should be carried out and scored every day, regardless of the audit score awarded.

The following table lists the establishment verification areas and the minimum frequency of checks based on FBO audit outcome.

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Establishment verification tasks and their frequency	FBO audit outcome	
	Improvement necessary / Urgent improvement necessary	Good / Generally satisfactory
1 Intake / FCI	Daily	Daily
2 Ante-mortem arrangements	Daily	Daily
3 Correlation of carcasses and offal	Daily	Daily
4 Operational break / cleaning	Daily	Daily
5 General hygiene ¹	Daily	Daily
6 Handling of carcasses / offal during storage and despatch ²	Daily	Daily
7 Co-products and animal by-products ³	Daily	Daily
8 FBO pre-operational cleaning	Weekly	Monthly
9 Carcase and offal chilling	Weekly	Monthly
10 Premises ⁴	Weekly	Monthly

¹ 'General Hygiene' includes verification of hygienic practices (including staff movement, PPE provisions and practices, hand washing), hygienic facilities provided (hot water, soap, sterilisers), door policy, cross contamination controls.

² 'Handling of carcasses / offal during storage and dispatch' includes 5th quarter products (such as bones, tendons, feet).

³ 'Co-products and animal by-products' includes verification of separation of edible and non-edible materials and captures outcome of daily/weekly SRM checks (for details see MOC Chapter '2.7 Specified risk material controls' and Chapter '2.8 Animal By-Products').

⁴ 'Premises' includes verification of lairage / intake area, processing / dressing area, chillers, packing / packaging storage area, dispatch area, plant surrounds, fly screening / vermin entry prevention, control of waste water, drainage and effluent, and water testing.

Note: SHV K2 form should be also used to record monthly summary of FBO compliance with SRM controls. Details should be input in the relevant part of the SHV K2 form marked as 'ABP 7/5'.

12.6 HACCP verification

12.6.1 HACCP verification

The verification of the FBO's HACCP-based procedures is focused primarily on two areas: monitoring of CPs/CCPs and corrective actions.

The OV / AO is not expected to check all records, but must verify a sample to be satisfied that the FBO is following their own procedures for monitoring control points and that the FBO is taking and recording pre-established corrective actions when the control is lost.

Area of verification	Scope
1 Monitoring of CPs/CCPs	Monitoring procedures implemented, accurate records that reflect reality maintained (up to date)
2 Corrective actions	Correct actions taken when monitoring indicate loss of control, such as CPs/CCPs outside of limits (as per HACCP plan)

12.6.2 HACCP verification – frequency

The minimum frequency of verification of the FBO's HACCP-based procedures is pre-set and linked with the outcome of the last FBO audit. However, the OV can modify the frequency of those checks depending on the outcome or other findings indicating that the HACCP based procedures are not adequately implemented and / or risks are not sufficiently controlled (for example, high numbers of contaminated carcasses found during the process or product verification checks).

The following table specifies the minimum frequency of HACCP verification checks based on the audit score.

Area of verification	FBO audit outcome	
	Improvement necessary / Urgent improvement necessary'	Good / Generally satisfactory
1 Monitoring of CPs/CCPs	Weekly	Monthly
2 Corrective actions	Weekly	Monthly

12.7 Microbiological verification

12.7.1 Microbiological verification

All FBOs are required to comply with current EU law and ensure that meat and carcasses in the slaughterhouse are tested in accordance with Regulation (EC) 2073/2005. The OV / AO should verify on a monthly basis that the microbiological sampling is taking place as per the legislative requirement. This includes observing the FBO sampling procedures as well as verification of sampling frequency, sample size and parameters tested.

Area of verification	Scope
1 FBO sampling procedures	Microbiological sampling carried out as per legislative requirement (in accordance with Regulation (EC) 2073/2005, correct frequency of testing followed, correct sample size)
2 FBO analysis of results	Results / trends analysed and action taken when results indicate a problem

Note: In premises where microbiological testing is done less frequently than monthly, the verification frequency should be adjusted and aligned with that of the FBO's testing regime.

13. Slaughter Hygiene Verification System in Poultry

- 13.1 Introduction
- 13.2 Slaughter hygiene verification system
- 13.3 Process – hygiene verification
- 13.4 Product – carcass verification
- 13.5 Plant – establishment verification
- 13.6 HACCP – HACCP based procedures verification
- 13.7 Microbiological verification

13.1 Introduction

13.1.1 Purpose

This section describes the official control procedures for slaughter hygiene verification (SHV) in poultry abattoirs. The SHV system provides an ongoing assessment of FBO compliance with food hygiene requirements from acceptance of the animals for slaughter, through processing, offal harvesting and chilling to carcass and offal / co-product packing for despatch.

The verification objective is to provide assurance that only meat that is produced in accordance with legislative requirements is placed on the market.

This guidance outlines how and when OV's / AO's shall verify that FBO's have developed effective slaughter hygiene practices and that they are implementing effective procedures which:

- prevent contamination of carcasses with enteric pathogens and faecal contamination throughout the entire slaughter and processing operation, and that their food safety management systems demonstrate this control
- ensure that carcasses with visible faecal contamination are identified and rectified

- verify the monitoring procedures following findings of visible contamination and the corrective actions undertaken to bring the process back under control

The results of verification checks can be used to:

- provide advice to assist the FBO with root cause analysis
- provide evidence for enforcement action
- justify identification marking
- inform the FBO audit process
- inform veterinary certification for third country export

13.1.2 Background

FSA has developed SHV procedures by looking at the regulatory official control verification requirements at abattoirs.

With particular reference to slaughter hygiene, official controls must verify:

- FBO compliance with Regulations (EC) 852/2004 and 853/2004
- that FBOs apply procedures to ensure good hygiene practices continuously and properly
- that FBOs apply HACCP based procedures continuously and properly regarding:
 - acceptance for slaughter
 - compliance with microbiological criteria
 - freedom from foreign bodies
- that FBO procedures guarantee to the best possible extent that meat:
 - does not contain patho-physiological abnormalities or changes
 - does not bear faecal or other contamination

Verification is the responsibility of the OV, but information regarding good hygiene practices and HACCP based procedures can be gathered by Official Auxiliaries (OAs) to assist the OV.

The verification system focuses on gathering qualitative measures to assess FBO processing standards.

The SHV system creates a more holistic approach to provide a more complete picture of the FBOs processing standards with the ultimate objective of providing clear evidence of improvements to carcass hygiene when required.

13.2 Slaughter hygiene verification

13.2.1 Key elements of the verification system

The verification system applies predetermined minimum frequencies of verification tasks, which provide information on the delivery of official controls, enforcement activity and objective evidence to support FBO audits.

Key summary points of the verification system are:

- SHV checks should be carried out by OVs and AOs
- the number of checks can increase or decrease depending on findings
- the SHV system can be utilised by the OV / AO and technical contract managers to assess performance and official control delivery to focus attention and discussions

13.2.2 SHV method

The verification system includes a number of tasks that must be carried out, and should cover the whole production process. Verification tasks are divided into the four following categories and have different frequencies based on the associated risks and possible impact on public health:

- process – hygiene verification
- product – carcass / offal verification
- plant – establishment verification
- HACCP and microbiological verification

A summary of all verification tasks and their frequencies can be found in Annex 9.

The initial selection of carcasses for process hygiene and product verification should be random. However, based on the findings, the OV / AO may wish to target a specific type of process or animal to better assess FBO controls.

13.2.3 Minimum requirements – assessment of samples

The OV / AO should select a point on the production line where suitable facilities are available to allow an examination of surfaces of the sampled carcasses.

Adequate time must be allocated by the OV / AO to ensure an examination of the carcass is performed and accurate data is collected and consistency is maintained.

13.2.4 Outcomes

Each verification area must be assessed by the OV / AO and scored based on the outcome (compliant / non-compliant) and the level of the enforcement action taken. The score is recorded in the K2 system.

Outcome	Description
Compliant: Green	Food business is operating in accordance with its food safety management system, food safety standards and has met the requirements of the regulations; no enforcement action taken
Non-compliant: Yellow	A non-compliance that resulted in verbal advice
Non-compliant: Amber	A non-compliance that resulted in written advice
Non-compliant: Red	A non-compliance that resulted in formal enforcement action, such as service of legal notice, referral for investigation

13.2.5 Reporting arrangements

The K2 system will produce daily, weekly and monthly data reports of verification activity results. The information must be utilised by the OV / AO to monitor individual plant performance during the interim FBO audit period with the following objectives:

- drive consistency of enforcement
- encourage continuous improvement in FBO slaughter hygiene activities
- determine the level of current compliance within a production method

13.2.6 Use of verification data

The recorded daily outcomes of verification tasks will provide information about the level of current performance / compliance within a production method.

The data collection at plant level will assist the OV / AO in defining reasonable expectations of operating standards.

Establishment trend analysis and professional judgement from the OV / AO is required for appropriate action. This will assist in compliance decisions and achieve consistency of approach.

The OV / AO should review the results on a daily, weekly and monthly basis and take the appropriate action as detailed in sub-sections 13.3 to 13.6.

13.3 Process – hygiene verification

13.3.1 OV / AO responsibility

The OV / AO is expected to verify the efficacy of the evisceration and the hygiene standard of the process to assess:

- if the FBO has adequate controls in place to minimise contamination
- if corrective actions are taken when contamination incidents occur
- if corrective actions are taken when carcasses are not correctly eviscerated

13.3.2 Process scope

Inspection verification steps:	Scope (all species)
1. Contamination	Processing does not result in carcass contamination Measures taken to prevent the spillage of the digestive tract content during evisceration
2. Evisceration	Carcasses are eviscerated; offal is not missing and is presented for post-mortem inspection

13.3.3 Process frequency and sample size

The verification checks in the process hygiene area have to be carried out **every day** and at least **150 carcasses** should be verified. The number can be increased by the OV based on findings. Carcasses should be selected randomly and the checks should be spread throughout the day and cover the full range of species and age / type of animals being processed.

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During process hygiene checks it is not necessary to lift carcasses from the line. It is sufficient to inspect carcasses in a manner that is similar to regular post-mortem inspection at this point.

Note: It is not necessary to check 150 carcasses of each species slaughtered every day; 150 is the combined number of all species processed on site.

Inspection verification steps:	Frequency
1. Contamination	Daily
2. Evisceration	Daily

13.3.4 Process – location

Process hygiene verification checks should be carried out at, or prior to, the EV post-mortem inspection point, where the OV / AO can visually assess the carcasses.

13.3.5 Process – contamination

The OV / AO must record in relevant sections of the K2 system all instances of carcasses with faecal or ingesta contamination identified during the process hygiene verification checks, as well as the number of carcasses that were not eviscerated or presented for inspection without offal (offal was missing).

Any visible trace of faecal or ingesta contamination must be counted and recorded. Each contaminated carcass counts as one incident, regardless of the amount of contamination present.

In cases where contamination identified during verification checks is different to digestive tract content (faecal / ingesta), the OV / AO should bring it to the attention of the FBO. Such cases, however, do not have to be recorded in the SHV system. Examples of contamination other than digestive tract content include bile and oil / grease. Excessive and frequent contamination of this type should trigger enforcement action.

Note: When the nature of the process and product require that parts of viscera remain inside the bird, for example, delayed evisceration or partial evisceration – efile, those parts should not be counted as evisceration failure.

13.3.6 Process – enforcement

In cases where frequent and regular contamination problems are identified by the OV / AO, enforcement action must be taken in accordance with Chapter 7 Enforcement.

13.3.7 Process – digestive tract content

The OV / AO is to identify foreign material as faeces or ingesta based on the characteristics of colour, texture and composition. Size is unimportant in identifying faecal or ingesta contamination; however, as size decreases, colour and texture become more difficult to identify. The characteristics below are only listed as guidance and the OV / AO should use their professional judgement when making the decision.

Identification of contamination		
	Faecal	Ingesta
Colour	Varying shades of yellow to green, brown and white	Varies with diet
Consistency	Frequently semi-solid to paste	Characteristically solid or granular, occasionally digestive fluids are present
Composition	May or may not include plant material	Contains identifiable plant material

13.4 Product – carcass / offal verification

13.4.1 Product – carcass / offal verification

On an ongoing basis, the OV / AO will verify a sample of carcasses and offal destined for human consumption (including fifth quarter product) that have passed post-mortem inspection and are considered a final product (such as the FBO having finished any required rectification work). The verification checks should reflect the full range of species and age / type of animals being processed. Additionally, the OV / AO is required to verify the ID marking arrangements.

Carcass verification checks should be carried out after the final carcass washing process at a point that allows the OV / AO to lift carcasses and perform a detailed inspection (for example, grading, packing and despatch).

Verification of offal refers to parts that are to be sold as fit for human consumption (such as liver and heart). Other parts intended as edible co-products that require

further processing prior to being placed on the market (such as feet and tongues) should also be included in the verification checks. Offal verification checks should be carried out after the post-mortem inspection is completed and the product has been initially processed (separated, trimmed, washed).

13.4.2 Product – sample size / frequency

Each day, at least 60 carcasses and sets of offal (if fit for human consumption) should be checked. The checks should be spread across each day of production and carcasses / offal should be should be selected randomly. The detailed inspection of carcasses should include the inspection of external surfaces, the body cavity and the neck area.

The following guidance details how the product (carcass) inspection could be carried out:

Outside back	While holding the carcass, with the back of the carcass towards the observer, and starting at the hock area, observe the hock, back part of the legs, tail area, back of the carcass and top side of the wings.
Outside front	Turn the carcass and observe the bottom side of the wings, breast and front part of the legs.
Inside	Observe the inside surfaces of the carcass and the abdominal flaps and fat.
Neck flap area	Observe the neck flap and the thoracic inlet area.

13.4.3 Product – verification scope

Product verification focuses on the FSA's post-mortem inspection performance and the FBO's hygienic standard of operation and the effectiveness of rectification procedures; therefore, the product verification checks are separated into two areas:

- verification of post-mortem arrangement
- verification of FBO controls

Both areas can be verified at the same time when assessing the same sample of carcass / offal; however, verification of post-mortem arrangement cannot be carried out by OAs.

13.4.4 Product – verification of post-mortem arrangement

Verification of post-mortem arrangement must be carried out by the OV, and since it focuses on FSA's performance, it is not subject to scoring.

In the K2 system, the OV is only required to record the number of carcasses / offal checked and the number found affected by pathology missed by the inspection team.

The following table details the scope of product checks focused on verification of post-mortem arrangement.

Area of verification	Scope
Pathology	Meat is free from all pathological conditions

Verification results should be assessed by the OV / FVC to monitor team performance. Variables in each establishment should be considered if concerns are raised following verification checks (for example, lighting, available inspection time and plant layout). The OV / FVC should maintain realistic expectations during the checks when assessing team performance based on the product verification results.

Note: In:

- OV only establishments
- poultry establishments with a hybrid post-mortem inspection system (where the OV also undertakes post-mortem inspection along with OAs or PIAs)
- plants with recognised OV flexibility

the effectiveness of FSA's post-mortem performance should be verified during routine FVC or SDP management visits and documented on the K2 system by FSA / SDP at least every three months. The FVC is accountable for ensuring these checks have been carried out and documented, and is responsible for establishing the number of carcasses and offal that should be verified during those visits. The verification of FSA's post-mortem performance should not impact on agreed resource and business agreements as outlined in the Statement of Resources for the individual establishment.

13.4.5 Product – verification of FBO controls

Product verification checks that assess FBO controls focus on evisceration, contamination, ID marking and other deficiencies and are therefore subject to scoring.

The OV / AO is required to record and input into the K2 system:

- the number of carcasses and offal found to be non-compliant
- the total number of carcasses / offal checked
- the score indicating enforcement action taken (if any)

In addition, the OV / AO is required to verify the ID marking arrangements.

The following table details the scope of product checks focused on verification of FBO controls:

Area of verification	Scope
Evisceration	Carcasses fully eviscerated*
Faecal / ingesta	Meat is free from faecal / ingesta contamination
ID marking	Meat is correctly and legibly ID marked
Other	Record any identified deficiency (such as contamination with bile / grease, poor defeathering)
* Instances where a piece of digestive tract is found inside a carcass should be counted as evisceration failure. However, in those cases, it also should be verified if contamination with faeces / ingesta is visible and if it is found it should also be recorded under 'Faecal / Ingesta' contamination.	

In cases where frequent and regular problems (such as contamination) are identified by the OV / AO during the product verification checks focused on FBO controls, enforcement action must be taken in accordance with Chapter 7 Enforcement.

13.4.6 Rejected carcass checks

The OV is required to carry out a detailed inspection of a random sample, from each batch of birds having the same origin, of parts of birds or entire birds declared unfit for human consumption following post-mortem inspection on a daily basis. The number of birds checked, and the outcomes, should be recorded in the day book, not in the K2 system.

13.5 Plant – establishment verification

13.5.1 Plant – establishment verification

Establishment verification tasks focus mainly on different parts of the establishment, equipment, cleanliness, hygiene arrangements and procedures.

The minimum frequency of establishment verification tasks depends on the FBO audit outcome. However, the OV can increase the frequency if considered necessary and should always score a relevant section when an intervention takes place that resulted in verbal, written or formal enforcement.

Some establishment verification tasks are considered essential and should be carried out and scored every day, regardless of the audit score awarded.

The following table lists the establishment verification areas and the minimum frequency of checks based on FBO audit outcome.

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Establishment verification tasks and their frequency	FBO Audit Outcome	
	Improvement necessary / Urgent improvement necessary	Good / Generally satisfactory
1. Intake / food chain information	Daily	Daily
2. Ante-mortem arrangements / presentation	Daily	Daily
3. Correlation of carcasses and offal	Daily	Daily
4. Operational / break cleaning	Daily	Daily
5. General hygiene Includes verification of hygienic practices (inc staff movement, PPE provisions and practices, hand washing), hygienic facilities provided (inc hot water, soap, sterilisers), door policy and cross contamination controls	Daily	Daily
6. Handling of carcasses / offal during storage and despatch Includes fifth quarter products (inc tongues and feet)	Daily	Daily
7. Co-products and animal by-products Includes verification of separation of edible and non-edible materials	Daily	Daily
8. FBO's pre-operational cleaning	Weekly	Monthly
9. Carcase and offal chilling Includes verification that equipment was emptied, cleaned and disinfected at least once a day	Weekly	Monthly
10. Premises Includes verification of lairage / intake area, cleaning and disinfection of crates and modules, processing / dressing area, chillers, packing / packaging storage area, despatch area, plant surrounds, fly screening / vermin entry prevention, control of waste water, drainage and effluent, water testing	Weekly	Monthly

13.6 HACCP verification

13.6.1 HACCP verification

The verification of the FBO's HACCP based procedures is focused primarily on two areas: monitoring of control points (CPs), critical control points (CCPs) and corrective actions.

The OV / AO is not expected to check all records, but must verify a sample to be satisfied that the FBO is:

- following their own procedures for monitoring CPs/CCPs
- taking and recording pre-established corrective actions when the control is lost

Area of verification	Scope
Monitoring of CPs/CCPs	Monitoring procedures implemented, accurate records that reflect reality maintained (up to date)
Corrective actions	Correct actions taken when monitoring indicates loss of control, such as CPs/CCPs outside limits, as per HACCP plan

13.6.2 HACCP verification – frequency

The minimum frequency verification of the FBO's HACCP based procedures is pre-set and linked with the outcome of the last FBO audit. However, the OV can modify the frequency of those checks depending on the outcome or other findings, indicating that the HACCP based procedures are not adequately implemented and / or risks are not sufficiently controlled (for example, high numbers of contaminated carcasses found during the process or product verification checks).

The following table specifies the minimum frequency of HACCP verification checks based on the audit score.

Area of verification	FBO Audit Outcome	
	Improvement necessary / Urgent improvement necessary	Good / Generally satisfactory
Monitoring of CPs/CCPs	Weekly	Monthly
Corrective actions	Weekly	Monthly

13.7 Microbiological verification

13.7.1 Microbiological verification

All FBOs are required to comply with current EU law and ensure that meat and carcasses in the slaughterhouse are tested in accordance with Regulation (EC) 2073/2005. The OV / AO will verify on a monthly basis if the microbiological sampling is taking place as per the legislative requirements. This includes observing the FBO's sampling procedures as well as verification of other areas, such as sampling frequency, sample size, parameters tested.

Area of verification	Scope
FBO's sampling procedures	Microbiological sampling carried out as per legislative requirements (in accordance with Regulation (EC) 2073/2005, correct frequency of testing followed, correct sample size
FBO's analysis of results	Results / trends analysed and action taken when results indicate a problem

Note: In premises where microbiological testing is done less frequently than monthly, the verification frequency should be adjusted and aligned with that of the FBO's testing regime.

14. Annexes

Annex 1	Post-mortem inspection requirements summary
Annex 2	Sample: Aujeszky's disease – National Serum Survey submission form
Annex 3	Sample: APHA1 data collection form
Annex 4	Slaughter hygiene checklist
Annex 5	Model document: Health certificate for the trade of unskinned large wild game
Annex 6	Trichinella sampling kit order request form
Annex 7	Sample despatch process
Annex 8	Summary of verification checks and their frequencies
Annex 9	Poultry slaughter hygiene checklist
Annex 10	SHV task schedule
Annex 11	SHV flowchart
Annex 12	Aide memoire: Large wild game
Annex 13	Aide memoire: Small wild game