# codex alimentarius commission

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

WORLD HEALTH ORGANIZATION

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**Agenda Item 4** **CX/MPH 03/4**
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**JOINT FAO/WHO FOOD STANDARDS PROGRAMME**
**CODEX COMMITTEE ON MEAT AND POULTRY HYGIENE**
**Ninth Session**
**Wellington, New Zealand, 17-21 February 2003**

## PROPOSED DRAFT GENERAL CODE OF HYGIENIC PRACTICE FOR FRESH MEAT

(at Step 3 of the Codex Procedure)

Governments and interested international organisations are invited to comment on the attached proposed draft code of hygiene practice for fresh meat. Comments should be sent to:


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with a copy to the Secretary, Codex Alimentarius Commission, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy **not later than 31 December 2002.**

### BACKGROUND

The 8th Session (February 2002) of the Codex Committee on Meat and Poultry Hygiene (CCMPH)[1] discussed the proposed draft code of hygienic practice for fresh meat. The Committee agreed to specific revisions to Sections 1 through 4, and had limited discussions and made general comments and suggestions for revisions to Sections 5 through 14. All Sections of the proposed draft code were amended to incorporate minor consequential changes on the basis of the Committee's previous decisions on general principles and definitions. The Committee also agreed that all references, including footnote references to the proposed draft code should be updated with the latest information.

The Committee decided to append the proposed draft code of hygienic practice for fresh meat to its report[2] (see Appendix III) for comment at Step 3, with a comment deadline of 30 June 2002. The Committee agreed that a drafting group[3] would prepare a revised version of the proposed draft code for circulation, additional comment and further consideration at the 9th Session of CCMPH.

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1 ALINORM 03/16 paragraphs 28 - 75

2 ALINORM 03/16 Appendix III

3 Led by New Zealand with the assistance of Australia, Brazil, Canada, Denmark, Egypt, Germany, Greece, Korea, Malaysia, Netherlands, Norway, Philippines, South Africa, Thailand, United States, Consumers International, European Commission and the International Office of Epizootics

The Committee agreed that the proposed draft code of hygienic practice for fresh meat should be revised by the drafting group on the basis of the text in the report,[4] the discussions, written comments submitted at the 8th Session[5], written comments submitted by the comment deadline of 30 June 2002, and the proposed draft general principles of meat hygiene[6].

The drafting group examined a revised version of the proposed draft code of hygienic practice for meat based on all comments received and elaborated a new revised version, taking into consideration, new draft definitions relating to risk-based meat hygiene programmes, that were provided by Dr Steve Hathaway, Codex Consultant. As a risk-based approach to process control is a major theme in the redrafted code, an explanation of the proposed definitions relating to "risk-based" is supplied below.

**DRAFT DEFINITIONS**

**1. Risk-based**

Food control programmes have traditionally been based on good hygienic practice (GHP). Typically, the measures employed will:

- Have been derived from the empirical food safety knowledge available at the time;
- Be prescriptive in nature;
- Describe process rather than outcome, and therefore do not provide a measure of consumer protection.

HACCP is now accepted as the food control system of choice. The HACCP guidelines developed by Codex include recognition of the utility of GHP as a prerequisite programme, and reference to the "effectiveness" of the programme in terms of food safety outcomes. Introductory remarks to the Codex guidelines state that implementation of HACCP should be "guided by scientific evidence of risks to human health", and the reason for hazard analysis is described as "to identify for the HACCP plan which hazards are of such a nature that their elimination or reduction to acceptable levels is essential to the production of safe food". However, the guidelines do not develop the essential linkage between risk assessment and design of HACCP plans.

Throughout Codex, an increasing number of food safety texts are referring to the need for risk-based approaches e.g. the General Principles of Food Hygiene state that "In deciding whether a requirement is necessary or appropriate, an assessment of the risk should be made".

A risk-based food control programme requires some understanding of the level of consumer protection that is achieved by particular food control measures. This entails knowledge of the level of control of hazards that is attained in the food relative to the appropriate (expected) level of consumer protection (ALOP). This linkage may be expressed in quantitative terms e.g. by use of a risk assessment model, or in qualitative terms e.g. the level of consumer protection inherent in prescribed public health goals.

Validation and verification of a risk-based food control programme requires an objective measure of the required level of control of hazards. This is described in the broadest terms as a performance parameter.

The term "risk-based" can be applied to a food safety measure, a group of measures, a food safety programme or a food safety system. For the purposes of the CCMH, "risk-based" is defined as:

*Containing performance and/or process[7] parameters developed according to risk analysis principles.*

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4 ALINORM 03/16 Appendix III

5 CX/MPH 02/4 Add.1 and Conference Room Documents 2, 3, 4 and 5

6 ALINORM 03/16 Appendix II

7 See later definition

**2. Performance parameter**

A performance parameter provides a measure of the level of control of hazards that is required in a risk-based food control programme. It can be established at any step in the food chain, provided that there is an established link between the required level of control of hazards at that step and the ALOP.

For the purposes of the CCMH, a performance parameter is defined as:

*An expression of the required level of hazard control at a specified step that is considered necessary to achieve the appropriate level of protection.*

**3. Process parameter**

Performance parameters are unlikely to be of a nature that they can be verified on an on-going basis as part of a risk-based food control programme. In most situations, process parameters e.g. time/temperature that are validated as achieving performance parameters at a particular point in the food chain will be used. These process parameters will be readily measurable in real time, and will most likely constitute the critical limits at critical control points in HACCP plans.

For the purposes of the CCMH, a process parameter is defined as:

A measurable or quantifiable characteristic at a specified step or combination of steps that can achieve a performance parameter.

Note that for fresh foods such as fresh meat, process parameters may take various forms e.g. non-detection rates for organoleptic abnormalities or gross contamination, statistical process control parameters for indicator organisms such as generic *Escherichia coli.*

**4. Food safety objective**

Food safety objectives (FSOs) have been variously described in the recent food safety literature, and can be viewed as a particular type of performance parameter. In most cases they will be derived from a risk assessment model.

At the 2001 Session of the CCFH, it was recognised that the concept of a FSO was best limited to application at the point of consumption of food, and it was defined as "The maximum frequency and/or concentration of a [microbiological] hazard in food at the time of consumption that provides the appropriate level of consumer protection (ALOP)". However, this definition may not adequately reflect the stochastic nature of the relationship between the level of hazard control in food and the level of consumer protection achieved.

For the purposes of the CCMH, a FSO is defined as:

*A performance parameter at the point of consumption.*

FSOs will be unlikely to be subject to verification as part of a risk-based meat hygiene programme. However, performance and process parameters that meet the FSO can be established at other steps in the food chain.

**RECOMMENDATIONS**

It is recommended that the Committee consider the revised Proposed Draft Code of Hygienic Practice for Meat, including the draft definitions provided, and consider advancing the document to step 5 within the Codex step procedure.

**ANNEX I**

# PROPOSED DRAFT CODE OF HYGIENIC PRACTICE FOR FRESH MEAT

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**PROPOSED DRAFT CODE OF HYGIENIC PRACTICE FOR MEAT**

**(Advanced to Step 3)**

## 1. INTRODUCTION

1. Meat has traditionally been viewed as a vehicle for a significant proportion of human food-borne disease. Although the spectrum of meat-borne diseases of public health importance has changed with changing production and processing systems, continuation of the problem has been well illustrated in recent years by human surveillance studies of specific meat-borne pathogens such as *Escherichia coli* O157:H7, *Salmonella* spp., *Campylobacter* spp. and *Yersinia enterocolitica*. In addition to existing biological, chemical and physical hazards, new hazards are also appearing e.g., the agent of bovine spongiform encephalopathy (BSE). Furthermore consumers have expectations about suitability issues which are not necessarily of human health significance.

2. A contemporary risk-based approach to meat hygiene requires that hygiene measures should be applied at those points in the food chain where they will be of greatest value in reducing food-borne risks to consumers. This should be reflected in application of specific measures that are based on science and risk assessment and a greater emphasis on prevention and control of contamination during processing. Application of HACCP principles is an essential element. The measure of success of contemporary programmes is an objective demonstration of levels of hazard control in food that are correlated with required levels of consumer protection, rather than by concentrating on detailed and prescriptive measures that give an unknown outcome.

3. A number of national governments are implementing systems that redefine the respective roles of industry and government in delivering meat hygiene activities. Irrespective of the delivery systems the competent authority is responsible for defining the role of personnel involved in meat hygiene activities where appropriate, and verifying that all regulatory requirements are met.

4. The principles of food safety risk management[8] should be incorporated wherever appropriate in the design and implementation of meat hygiene programmes. Further, newly-recognised meat-borne risks to human health may require measures additional to those usually applied in meat hygiene, e.g., the potential for zoonotic transmission of central nervous system disorders of slaughtered livestock means that additional animal health surveillance programmes may need to be undertaken.

## 2. SCOPE AND USE OF THIS CODE

5. This proposed draft code of hygienic practice for meat further develops and applies 'The Recommended International Code of Practice: General Principles of Food Hygiene' [9] in the context of meat up to and including transportation. Where appropriate, the Annex to that code (Hazard Analysis and Critical Control Point System and Guidelines for its Application) and the Principles for the Establishment and Application of Microbiological Criteria for Foods[10] are further developed and applied in the specific context of meat hygiene.

6. For the purposes of this code, meat is that derived from domestic ungulates, domestic solipeds, domestic birds, lagomorphs, farmed game, farmed game birds (including ratites) and wild game. This Code of Practice may also be applied to other types of animals from which meat is derived, subject to any special hygienic measures required by the competent authority. Further to general hygiene measures applying to all species of animal as described above, this code also presents specific measures that apply to different species and classes of animals, e.g. wild game killed in the field.

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8 Proposed Draft Working Principles for Risk Analysis (CX/GP 02/3); Proposed Draft Working Principles for Microbiological Risk Management (CX/FH 01/7 and ALINORM 03/13 paras. 99-128 )

9 CAC/RCP 1-1969, Rev. 3-1997

10 CAC/GL 21-1997

7. Although the scope of this code is necessarily limited to production of meat, the hygiene measures that are applied should take into account further hygiene measures that are likely to be applied throughout later stages of the food chain.

8. Meat hygiene is by nature a complex activity, and this code refers to standards, texts and other recommendations developed elsewhere in the Codex system where linkages are appropriate, e.g., Principles for Food Import and Export Inspection and Certification (CAC/GL 20 - 1995), Proposed Draft Principles and Guidelines for the Conduct of Microbiological Risk Management (CX/FH 01/7 and ALINORM 03/13 paras. 99-128), General Guidelines for Use of the Term "Halal" (CAC/GL 24-1997) and recommendations of the *Ad hoc* Intergovernmental Task Force on Animal Feeding (ALINORM 01/38 and ALINORM 01/38A).

9. Subsets of the general principles (Section 4) are provided in subsequent sections within 'double-line boxes'. Where guidelines are provided at the section level, those that are more prescriptive in nature are presented in 'single-line boxes'. This is to indicate that they are recommendations based on current knowledge and practice. They should be regarded as being flexible in nature and subject to alternative provisions so long as required outcomes in terms of the safety and suitability of meat are met.

10. Traditional practices may result in departures from some of the meat hygiene recommendations presented in this code when meat is produced for local trade.

## 3. DEFINITIONS

11. For the purposes of this code, the following definitions apply. (Note that more general definitions relating to food hygiene appear in The Recommended International Code of Practice: General Principles of Food Hygiene[11]).

***Abattoir*** Any establishment where specified animals are slaughtered and dressed for human consumption and that is approved, registered and/or listed by the competent authority for such purposes.

***Animal*** Animals of the following types:

- Domestic ungulates;
- Domestic solipeds;
- Domestic birds i.e. poultry;
- Lagomorphs;
- Farmed game;
- Farmed game birds, including ratites;
- Wild game, i.e. wild land mammals and birds which are hunted (including those living in enclosed territory under conditions of freedom similar to those of wild game);
- Animals as otherwise specified by the competent authority.

***Ante-mortem examination*** Any procedure or test conducted by a competent person on live animals for the purpose of judgement of safety and suitability and disposition

***Carcass*** The whole body of an animal after slaughter and/or dressing.

***Chemical residues*** Residues of veterinary drugs and pesticides as described in the Definitions for the Purpose of the Codex Alimentarius[12].

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[11] Recommended International Code of Practice: General Principles of Food Hygiene (CAC/RCP 1-1969, Rev.3-1997, Amended 1999)

[12] Procedural Manual of the Codex Alimentarius Commission

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| ***Competent authority*** | The official authority charged by the government with the control of meat hygiene, including setting and enforcing regulatory meat hygiene requirements. |
| ***Competent body*** | A body officially recognised and overseen by the competent authority to undertake specified meat hygiene activities. |
| ***Competent person*** | A person who has the training, knowledge, skills and ability to perform an assigned task, and who is subject to any requirements of the competent authority. |
| ***Condemned*** | Examined and judged by a competent person, or otherwise determined by the competent authority, as being unsafe or unsuitable for human consumption and requiring appropriate disposal. |
| ***Contaminant*** | Any biological or chemical agent, foreign matter, or other substance not intentionally added to food that may compromise food safety or suitability.[13] |
| ***Disease or defect*** | Any abnormality affecting safety and/or suitability. |
| ***Dressing*** | The progressive separation of an animal into a carcass (or sides of a carcass), other edible parts, and inedible products. |
| ***Establishment*** | A building or area used for meat hygiene activities that is approved, registered and/or listed by the competent authority for such purposes. |
| ***Establishment operator*** | The person in control of an establishment who is responsible for ensuring that the regulatory meat hygiene requirements are met. |
| ***Equivalence*** | The capability of different meat hygiene systems to meet the same food safety and/or suitability objectives. |
| ***[Food safety objective] (FSO)*** | A performance parameter at the point of consumption. |
| ***Game depot*** | A building in which killed wild game is temporarily held prior to transfer to an establishment, and which is approved, registered and/or listed by the competent authority for this purpose. *(Note that for the purposes of this code, a game depot is a particular type of establishment).* |
| ***Good Hygienic Practice (GHP)*** | All practices regarding the conditions and measures necessary to ensure the safety and suitability of food at all stages of the food chain.[14] |
| ***Hazard*** | A biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect.[15] |
| ***Hunter*** | A person involved in the killing and/or bleeding, partial evisceration and partial field dressing of killed wild game. |
| ***Inedible*** | Examined and judged by a competent person, or otherwise determined by the competent authority to be unsuitable for human consumption. |
| ***Meat*** | All parts of an animal that:<br>• are intended for, or have been judged as safe and suitable for human consumption; and<br>• apart from chilling/freezing, modified atmosphere or vacuum packaging, have not been treated in any way for the purpose of preservation.[16] |

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13 Recommended International Code of Practice: General Principles of Food Hygiene (CAC/RCP 1-1969, Rev 3-1997, Amended 1999)

14 WHO Teachers Handbook, 1999

15 Definitions for the Purpose of the Codex Alimentarius. Procedural Manual, 12th edition, page 43

16 This does not preclude interventions for the purpose of pathogen reduction.

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| ***Meat hygiene*** | All conditions and measures necessary to ensure the safety and suitability of meat at all stages of the food chain. |
| ***Offal*** | Meat other than skeletal muscle. |
| ***Official inspector*** | A competent person who is appointed, accredited or otherwise recognised by the competent authority to perform official meat hygiene activities on behalf of, or under the supervision of the competent authority. |
| ***Organoleptic examination*** | Identification of diseases and defects of animals by sense of sight, touch and smell. |
| ***[Performance parameter]*** | An expression of the required level of hazard control at a specified step that is considered necessary to achieve the appropriate level of protection. |
| ***Primary production*** | All those steps in the food chain constituting animal production and transport of animals to the abattoir, or hunting and transporting wild game to a game depot. |
| ***[Process control]*** | All conditions and measures applied during the production process that are necessary to achieve safety and suitability of meat.[17] |
| ***Process parameter*** | A measurable or quantifiable characteristic (e.g. time/temperature) at a specified step or combination of steps that can achieve a performance parameter |
| ***Post-mortem examination*** | Any procedure or test conducted by a competent person to all relevant parts of slaughtered/killed animals for the purpose of judgement of safety and suitability and disposition. |
| ***Quality assurance (QA)*** | All the planned and systematic activities implemented within the quality system and demonstrated as needed, to provide adequate confidence that an entity will fulfil requirements for quality.[18] |
| ***[Quality assurance (QA) system]*** | The organisational structure, procedures, processes and resources needed to implement quality assurance.[19] |
| ***Risk-based*** | Containing performance and/or process parameters developed according to risk analysis principles. |
| ***Safe for human consumption*** | Safe for human consumption according to the following criteria:<br>• has been produced by applying all food safety requirements appropriate to its intended end-use;<br>• meets performance parameters for specified hazards; and<br>• does not contain chemical residues at levels that are unsafe for human consumption.[20] |
| ***Sanitation standard operating procedures (SSOPs)*** | A documented system for assuring that personnel, facilities, equipment and utensils are clean and where necessary, sanitised to specified levels prior to and during operations. |

17 The "process" includes ante- and post-mortem examination.

18 ISO 8402

19 This is an interim definition for the purposes of this Code that is subject to change depending on the final outcome from CCFICs

20 Most MRLs are not considered to be performance parameters

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| ***Suitable for human consumption*** | Suitable for human consumption according to the following criteria:<br>• has been produced by applying all consumer acceptability requirements within the scope of this code and appropriate to its intended end-use[21]; and<br>• meets outcome-based parameters for specified diseases or defects. |
| ***Verification (Operator)*** | The continual review of process control systems, including corrective and preventative actions to ensure that regulatory and/or specified requirements are met**.** |
| ***Verification*** | Activities performed by the competent authority and/or competent body to determine compliance with regulatory requirements. |
| ***Veterinary Inspector*** | An official inspector who is professionally qualified as a veterinarian. |

## 4. GENERAL PRINCIPLES OF MEAT HYGIENE

Under separate development (See ALINORM 03/16 Para. 61 and Appendix II)

## 5. PRIMARY PRODUCTION

12. Primary production is a significant source of hazards associated with meat. A number of hazards are present in animal populations intended for slaughter and their control during primary production, often presents considerable challenges, e.g., *E. coli* O157:H7, *Salmonella* spp. *Campylobacter* spp and various chemical and physical hazards. A risk-based approach to meat hygiene includes consideration of risk management options that may have a significant impact on risk reduction when applied at the level of primary production.[22]

13. Provision of relevant information on animals intended for slaughter facilitates application of risk-based meat hygiene programmes, and allows examination procedures to be tailor-made to the spectrum and prevalence of diseases and defects in the particular animal population.

14. The principles and guidelines presented in this section are supplemental to the objectives and guidelines in Section III of the Recommended International Code of Practice: General Principles of Food Hygiene (CAC/RCP 1-1969, Rev 3 1997).

### 5.1 PRINCIPLES OF MEAT HYGIENE APPLYING TO PRIMARY PRODUCTION

i. Primary production should be managed in a way that reduces the likelihood of introduction of hazards and appropriately contributes to meat being safe and suitable for human consumption.

ii. Whenever possible and practicable, systems should be established by the primary production sector and the competent authority, to collect, collate and make available, information on hazards and conditions that may be present in animal populations and that may affect the safety and suitability of meat. This may include information to support or assist in re-evaluation of HACCP-based process control at the establishment.

iii. Primary production should include official or officially-recognised programmes for the control and monitoring of zoonotic agents in animal populations and the environment as appropriate to the circumstances, and notifiable zoonotic diseases should be reported as required.

iv. Good hygienic practice (GHP) at the level of primary production should involve for example the health and hygiene of animals, records of treatments, feedingstuffs and relevant environmental factors, and should include application of HACCP principles to the greatest extent practicable.

v. Animal identification practices should allow trace-back to the place of origin to the extent practicable, to allow regulatory investigation where necessary.

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21 See for example the General Guidelines for Use of the Term "Halal" (CAC/GL 24-1997)

22 Proposed Draft Working Principles for Risk Analysis (CX/GP 02/3).

vi. Voluntary or officially recognised QA systems implemented at primary production should be appropriately taken into account during verification of regulatory requirements.

### 5.2 HYGIENE OF SLAUGHTER ANIMALS

15. Both primary producers and the competent authority should work together to implement meat hygiene programmes at the level of primary production that document the general health status of slaughter animals, and implement practices that maintain or improve that status, e.g., zoonoses control programmes. QA programmes at the level of primary production should be encouraged and may include application of HACCP principles as appropriate to the circumstances. Such programmes should be taken into account by the competent authority in the overall design and implementation of risk-based meat hygiene programmes.

So as to facilitate the application of risk-based meat hygiene programmes:

- Primary producers should record relevant information on the health status of animals as it relates to the production of meat that is safe and suitable for human consumption, e.g., traceability of feedingstuffs, treatment with veterinary drugs, details of mastitis control programmes. This information should be made available to the abattoir as appropriate to the circumstances.
- Systems should be in place for return from the abattoir to the primary producer, of information on the safety and suitability of slaughter animals and meat, so that such information can be incorporated into producer-led QA programmes to improve their effectiveness.
- The competent authority should systematically analyse monitoring and surveillance information from primary production so that meat hygiene requirements may be modified if necessary.

16. The competent authority should administer an official programme for control of specified zoonotic agents, chemical hazards and contaminants. This should be co-ordinated to the greatest extent possible with other competent authorities that may have responsibilities in public and animal health.

Official or officially-recognised programmes for specified zoonotic agents should include measures to:

- control and eradicate their presence in animal populations, or subsets of populations, e.g., particular poultry flocks;
- prevent the introduction of new zoonotic agents;
- provide monitoring systems that establish baseline data and guide a risk-based approach to control of such hazards in meat; and
- control movement of animals between primary production units, and to abattoirs, where populations are under quarantine restrictions.

Official or officially-recognised programmes for chemical hazards and contaminants should include measures to:

- control the registration and use of veterinary drugs and pesticides so that residues do not occur in meat at unsafe[23] levels that make the product unsafe for human consumption, and
- provide monitoring and surveillance systems that establish baseline data and guide a risk-based approach to control of such hazards in meat.

17. Animal identification systems, to the extent practicable, should be in place at primary production level so that the origin of meat can be traced back from the abattoir or establishment to the place of production of the animals.

18. Animals should not be loaded for transport to the abattoir when:

[23] Guidelines for the Establishment of a Regulatory Programme for Control of Veterinary Drug Residues in Foods (CAC/GL 16-1993)

- the degree of contamination of the external surfaces of the animal is likely to compromise hygienic slaughter and dressing, and suitable interventions in further processing are not available,
- information is available to suggest that animals may compromise the production of meat that is safe and suitable for human consumption, e.g., presence of specific disease conditions or recent administration of veterinary drugs. In some situations, transport may proceed if the animals have been specifically identified (e.g. as "suspects") and are to be slaughtered under special supervision; or
- animal stress issues may exist or arise e.g. injury or accident.

### 5.3 HYGIENE OF KILLED WILD GAME

19. Only limited knowledge can be gained on the health status of populations of wild game hunted for meat; however, the competent authority should consider all sources when gathering such information. In this respect, hunters should be encouraged to provide relevant information, e.g., geographical origin of wild game, and any clinical symptoms of disease observed in wild animal populations.

20. Wild game should be harvested in a manner so that:

- killing methods are consistent with the production of meat that is safe and suitable for human consumption; and
- their geographical origin is not subject to relevant official prohibitions on harvest, e.g., in the case of concurrent chemical pest control programmes or animal health quarantine.

21. Hunters are particularly important in providing information on killed animals. They should be aware of their responsibilities in terms of supplying to the establishment, all relevant information that may impact on the safety and suitability of killed wild game meat, e.g., symptoms of disease immediately before killing, grossly-apparent diseases and defects detected during partial field dressing and/or evisceration. The competent authority should require that hunters or other people involved in harvesting of wild game undergo basic training in meat hygiene appropriate to field procurement, e.g., recognition of diseases and defects, application of GHP in partial field dressing and transport to a game depot.

22. As wild game are killed in the field, appropriate hygienic practices immediately following death are essential to minimise contamination of edible parts. GHP should be applied to the extent practicable during bleeding, partial dressing, e.g., removal of the head, and/or partial evisceration (where allowed by the competent authority).[24]

Bleeding and partial dressing of killed wild game in the field should include:

- bleeding and partial evisceration as soon as possible after killing (unless exempted by the competent authority for a particular species of wild game);
- partial skinning and/or partial dressing in a manner that minimises the level of contamination of edible parts to the lowest level practicable;
- removal only of those parts of the animal that are not necessary for post-mortem examination and judgement; and
- retention of the lungs, liver, heart and kidneys as a minimum if partial evisceration is carried out, either by natural attachment to the carcass or identified and packaged as an attachment to the carcass.[25]

23. Game depots should not be simultaneously used for a purpose other than receiving and holding killed wild game, unless the competent authority specifies other uses and conditions.

24. Delivery of killed wild game to a game depot or an establishment should be within time limits established by the competent authority considering harvesting, environmental conditions and desired food safety outcomes. The body and other animal parts should not be frozen before dressing and post-mortem examination in an establishment, unless unavoidable due to ambient temperatures.

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[24] Partial evisceration usually only involves removal of the gastrointestinal tract, and this aides cooling

[25] In the case of small killed wild game, the competent authority may allow full evisceration

### 5.4 HYGIENE OF FEEDINGSTUFFS

25. Feeding of animals during primary production should be subject to good animal feeding practice in the procurement, handling, storage, processing and distribution of animal feedingstuffs, and in forage crop production and pasture feeding.[26] Records should be maintained at the manufacturing level, on the origin of feedingstuffs and/or their ingredients to facilitate verification.

26. There is a need for collaboration between all parties involved in feed production, feed manufacturing and use so as to establish any linkage between identified hazards and the level of risk to consumers that may result from transmission through the food chain.

Animals should not be fed feedingstuffs that:

- are recognised as likely to introduce zoonotic agents (including TSEs) to the slaughter population; or
- contain chemical substances, (e.g., veterinary drugs, pesticides ) or contaminants that could result in residues in meat at levels that make the product unsafe for human consumption.

27. The competent authority should implement appropriate legislation and controls governing the feeding of animal protein to animals where there is a likelihood of transmission of zoonotic agents, and this may include a ban on such feeding when justified by risk management. Any processed feedingstuff should be subject to appropriate microbiological and other criteria, e.g., negative for *Salmonella* spp. according to a specified sampling plan, and maximum limits for mycotoxins.

### 5.5 HYGIENE OF THE ENVIRONMENT

28. Primary production of animals should not be undertaken in areas where the presence of hazards in the environment could lead to an unacceptable level of such hazards in meat. The competent authority should design and administer monitoring and surveillance programmes appropriate to the circumstances

Control programmes with appropriate record keeping should be in place for:

- animal and plant pests that may compromise the production of meat that is safe and suitable for human consumption;
- environmental contaminants that may result in levels in meat that make the product unsafe for human consumption; and
- ensuring that water and other potential carriers, e.g., fertilizer, are not significant vehicles for transmission of hazards.

Facilities and procedures should be in place to ensure that:

- housing and feeding platforms where used, and other areas where zoonotic agents and other hazards may accumulate, can be effectively cleaned, and are maintained in a sanitary condition (refer to Section 10);
- systems for active processing and/or disposal of dead animals and waste should not constitute a possible source of food-borne hazards to human and animal health; and
- chemical hazards required for technological reasons are stored in a manner so that they do not contaminate the environment or feedingstuffs.

### 5.6 TRANSPORT

#### 5.6.1 Transport of slaughter animals

29. Transport of slaughter animals should be carried out in a manner that does not have an adverse impact on the safety and suitability of meat.

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[26] *Ad hoc* Intergovernmental Codex Task Force on Animal Feeding; Revised proposed draft Code of Practice on Good Animal Feeding (CL 2001/36-AF and CL 2001/37-AF)

Slaughter animals require transport facilities to the abattoir that ensure that:

- soiling and cross-contamination with faecal material is minimised;
- new hazards are not introduced during transport;
- animal identification as to the place of origin is maintained; and
- consideration is given to avoiding undue stress.

Transport vehicles should be designed and maintained so that:

- animals can be loaded and unloaded easily and with minimal risk of injury;
- animals of different species, and animals of the same species likely to cause injury to one another, are physically separated during transport;
- use of floor gratings, crates or similar devices limits soiling and cross-contamination with faecal material;
- where the vehicle has more than one deck, animals are protected from cross-contamination as appropriate ;
- ventilation is adequate; and
- cleaning and sanitising is readily achieved (refer to Section 10).

30. Transport vehicles, and crates where used should be cleaned and if necessary sanitised as soon as practicable after animals have been unloaded at the establishment.

### 5.6.2 Transport of killed wild game

31. Following killing and dressing in the field, the body and other parts should be transported to an establishment, including a game depot, without delay and in a manner that minimises contamination of edible parts. Vehicles used for this purpose should be consistent with good hygienic practice and any specific regulatory requirements.

32. Unless deemed unnecessary due to low environmental ambient temperatures, the temperature of the body should be actively reduced by chilling and freezing as quickly as possible after partial field dressing and transport.

## 6. PRESENTATION OF ANIMALS FOR SLAUGHTER

33. Only healthy and clean animals should be presented for slaughter.

34. Ante-mortem examination is an important pre-slaughter activity, and all relevant information on animals presented for slaughter should be continuously utilised in meat hygiene systems.

### 6.1 PRINCIPLES OF MEAT HYGIENE APPLYING TO ANIMALS PRESENTED FOR SLAUGHTER

i. Animals presented for slaughter should be sufficiently clean so that they do not compromise hygienic slaughter and dressing.

ii. The conditions of holding of animals presented for slaughter should minimise cross-contamination with food-borne pathogens and facilitate efficient slaughter and dressing.

iii. Slaughter animals should be subjected to ante-mortem examination, with the competent authority determining the procedures and tests to be used, how examination is to be implemented, and the necessary training, knowledge, skills and ability of personnel involved (including personnel employed by the establishment operator).

iv. Ante-mortem examination should be science- and risk-based as appropriate to the circumstances, and should take into account all relevant information from the level of primary production.

v. Relevant information from primary production where available and results of ante-mortem examination should be utilised in process control, preferably within the framework of HACCP (refer to Section 9).

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| vi. | Relevant information from ante-mortem examination should be analysed and returned to the primary producer as appropriate. |

### 6.2 CONDITIONS OF LAIRAGE

35. Holding of animals presented for slaughter has an important effect on many aspects of slaughter, dressing and the production of meat that is safe and suitable for human consumption. The cleanliness of animals has a major influence on the level of microbiological cross-contamination of the carcass and other edible parts during slaughter and dressing. A range of measures appropriate to the animal species may be applied to ensure that only animals that are sufficiently clean are slaughtered and to assist in reducing microbiological cross-contamination.

36. QA systems implemented by the establishment operator will enhance achievement of appropriate conditions of lairage on an on-going basis.

The establishment operator should ensure conditions of lairage that include:

- facilities are operated in a way that soiling and cross-contamination of animals with food-borne pathogens is minimised to the greatest extent practicable;
- holding of animals so that their physiological condition is not compromised and ante-mortem examination can be effectively carried out, e.g., animals should be adequately rested and not overcrowded and protected from weather where necessary;
- separation of different classes and types of slaughter animals as appropriate, e.g., sorting of animals by age so as to facilitate the efficiency of routine dressing, separation of animals with special dressing requirements, and separation of "suspects" that have been identified as having the potential to transfer specific food-borne pathogens to other animals (refer to 6.3);
- systems to ensure that only animals that are sufficiently clean are slaughtered;
- systems to ensure that feed has been appropriately withdrawn before slaughter, e.g., before transport to the abattoir in the case of poultry;
- maintenance of identification of animals (either individually, or as lots, e.g., poultry) until the time of slaughter and dressing; and
- conveying of relevant information on individual animals or lots of animals to facilitate ante- and post-mortem examination.

37. The competent authority or the competent body should take into account QA systems properly implemented by the establishment operator, in setting the frequency and intensity of verification activities necessary to determine that the conditions of lairage are in accordance with regulatory requirements. .

### 6.3 ANTE-MORTEM EXAMINATION

38. All animals presented for slaughter should be subjected to ante-mortem examination, by a competent person whether on an individual or a lot basis. Examination should include confirmation that the animals are properly identified, so that any special conditions pertaining to their place of primary production are considered in the ante-mortem examination, including relevant public and animal health quarantine controls..

39. Ante-mortem examination supports post-mortem examination by application of a specific range of procedures and/or tests that consider the behaviour, demeanour and appearance of the live animal.

40. Ante-mortem examination should be preceded by screening of animals by the establishment operator upon their arrival at the abattoir. Where abnormalities in behaviour or appearance suggest that an individual animal or a consignment of animals should be segregated, this should occur and the competent person undertaking ante-mortem examination, notified.

Animals described below should be subject to special controls imposed by the competent authority (which may include denial of entry to the abattoir) when:

- animals are not sufficiently clean;
- animals have died in transit;
- a zoonotic disease posing an immediate threat to either animals or humans is present, or suspected;
- an animal health disease subject to quarantine restrictions is present, or suspected;
- animal identification requirements are not met; or
- declarations from the primary producer, ifrequired by the competent authority (including compliance with good veterinary practice in the use of animal medicines), are absent or inadequate.

### 6.3.1 Design of ante-mortem examination systems

41. Ante-mortem examination should be included as an integral component of an overarching risk-based system for the production of meat, with systems for process control (refer to Section 9) incorporating appropriate components. Relevant information on the slaughter population, e.g., animal class, health status, geographical region of origin, should be utilised in both the design and implementation of ante-mortem examination systems.

42. Ante-mortem examination, including procedures and tests, should be established by the competent authority according to a science and risk-based approach. In the absence of a risk-based system, procedures will have to be based on current scientific knowledge and practice.

43. Where indicated by public health concerns, measures additional to routine ante-mortem examination may be required.

Characteristics of a risk-based ante-mortem examination programme are:

- procedures for confirmation of proper animal identification in accordance with national legislation;
- design and application of organoleptic procedures and tests that are relevant and proportional to meat-borne risks associated with clinical signs of illness and grossly-detectable abnormalities;
- tailoring of procedures to the spectrum and prevalence of diseases and defects reasonably likely to be present in the slaughter population, taking into account the type of animal, geographical origin and primary production system;
- integration with HACCP-based process control to the extent practicable, e.g., application of objective criteria for ensuring appropriate cleanliness of animals presented for slaughter;
- on-going tailoring of procedures to information received from the primary production unit, where practicable;
- use of laboratory tests for hazards that are unaddressed by organoleptic examination when their presence is suspected, e.g., chemical residues and contaminants; and
- return of information to the primary producer so as to seek continuous improvement in the safety and suitability status of animals presented for slaughter (refer to 6.4).

### 6.3.2 Implementation of ante-mortem examination

44. The competent authority should determine how ante-mortem examination is to be implemented, including identification of the components that may be applied at primary production rather than the abattoir, e.g., in the case of intensively-raised poultry.[27] The competent authority should establish the training, knowledge, skills and ability requirements of all personnel involved, including the role of the official inspector (and the veterinary inspector) (refer to 9.2). Verification of examination activities and judgements should be undertaken as appropriate by the competent authority or competent body. The final responsibility for verifying that all regulatory requirements are met should lie with the competent authority.

[27] In some cases the competent authority may allow slaughter on the farm for particular classes of animal, e.g., farmed game, and in such cases the slaughter animals should be subject to ante-mortem examination and other hygiene controls as determined by the competent authority

The responsibilities of the establishment operator in respect of ante-mortem examination include:

- presentation of a certificate to the competent person undertaking ante-mortem examination, stating that animals have passed ante-mortem examination when this has been carried out at the primary production unit;
- segregation of animals if, for example, they have recently given birth during transport or in lairages, or have recently aborted and/or show retained foetal membranes;
- applying identification systems for individual animals or lots of animals until the time of slaughter that document the outcome of ante-mortem examination, and after slaughter in the case of "suspect" animals;
- washing, drying and re-presentation of animals judged to be insufficiently clean; and
- prompt removal of animals that have died in the lairage, e.g., from metabolic disease, stress, suffocation, with the permission of the competent person undertaking ante-mortem examination.

45. Ante-mortem examination at the abattoir should occur as soon, as is practicable after delivery of slaughter animals. Only animals that are judged to be sufficiently rested should proceed to slaughter, but should not be withheld from slaughter any longer than necessary. Where there is an undue delay before slaughter, e.g., more than 24 hours, ante-mortem examination should be repeated.

Ante-mortem examination systems required by the competent authority should include the following:

- all relevant information from the level of primary production should be taken into account on an on-going basis, e.g., declarations from the primary producers relating to the use of veterinary drugs, information from official hazard control programmes;
- animals suspected as being unsafe or unsuitable for human consumption should be identified as such and handled separately from normal animals (refer to 6.2 and 8.2);
- results of ante-mortem examination are made available to the competent person undertaking post-mortem examination before animals are examined at the post-mortem stations so as to augment final judgement. This is particularly important when a competent person undertaking ante-mortem examination, judges that a suspect animal can proceed to slaughter under special hygiene conditions.;
- in more equivocal situations, the competent person undertaking ante-mortem examination may hold the animal (or lot) in special facilities for more detailed examination, diagnostic tests, and/or treatment;
- animals condemned as unsafe or unsuitable for human consumption should be immediately identified as such and handled in a manner that does not result in cross-contamination of other animals with food-borne hazards (refer to 8.2); and
- the reason for condemnation should be recorded, with confirmatory laboratory tests being carried out if deemed necessary. Feed back of this information to the primary producer should take place.

46. Slaughter of animals under an official or officially-recognised programme for the eradication or control of a specific zoonotic disease, e.g., salmonellosis, should only be carried out under the hygiene conditions specified by the competent authority.

### 6.3.3 Ante-mortem judgement categories

47. Diseases, defects and other conditions that may result in an animal, or edible parts of an animal, being judged as unsafe or unsuitable for human consumption are presented in Appendix II.

Ante-mortem judgement categories include:

- passed for slaughter;
- passed for slaughter after an additional holding period, e.g., when animals are insufficiently rested, or are temporarily affected by a physiological or metabolic condition;
- passed for slaughter under special conditions i.e. deferred slaughter as "suspects", where the competent person undertaking ante-mortem examination suspects that post-mortem examination findings could result in partial or total condemnation;

- condemned for public health reasons i.e. due to: meat-borne hazards, occupational health hazards, or likelihood of unacceptable contamination of the slaughter and dressing environment following slaughter[28] (refer to Appendix II);
- condemned for meat suitability reasons (refer to Appendix II);
- emergency slaughter for animal welfare reasons;[29]
- emergency slaughter, when an animal eligible for being passed under special conditions could deteriorate if there was a delay in slaughter, e.g., hypomagnesaemia in cattle; and
- condemned for animal health reasons, as specified in relevant national legislation, and disposed of accordingly.

### 6.4 INFORMATION ON ANIMALS PRESENTED FOR SLAUGHTER

48. Information provided on animals presented for slaughter may be an important determinant of optimal slaughter and dressing procedures and is a prerequisite for effective design and implementation of process control by the establishment operator. The competent authority should analyse relevant information and take it into account when setting hygiene requirements for risk-based hygiene systems throughout the entire food chain (refer to 9.2).

49. The competent authority may require monitoring of animals presented for slaughter to establish baseline information on the prevalence of hazards in the slaughter population, e.g., specified meat-borne pathogens, chemical residues greater than maximum residue limits. The competent authority should design and implement these monitoring activities according to national public health goals. Scientific analysis and dissemination of results to interested parties is the responsibility of the competent authority.

So as to facilitate risk-based meat hygiene throughout the entire food chain, systems should be in place that provide:

- on-going information on animals presented for slaughter for incorporation into HACCP plans and QA programmes that are part of process control;
- information back to the primary producer on the safety and suitability status of animals presented for slaughter; and
- information to the competent authority that facilitates on-going review.

## 7. PRESENTATION OF KILLED WILD GAME FOR DRESSING

50. Killed wild game presented at an establishment have been subject to different harvesting, handling and transportation arrangements compared to live animals presented for slaughter. Killed wild game should undergo an appropriate examination before dressing and full post-mortem examination commences, so as to prevent undue contamination of the dressing environment and wastage of resources.

### 7.1 PRINCIPLES OF MEAT HYGIENE APPLYING TO EXAMINATION OF KILLED WILD GAME PRESENTED FOR DRESSING

i. Examination of killed wild game for safety and suitability prior to dressing should be risk-based to the extent practicable, and should take into account relevant information available from the field.

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28 The competent person may judge, after post-mortem examination in special facilities, that edible parts of the animal can be salvaged for a particular purpose e.g. pet-food

29 Exceptions may be made in emergency situations where prolonged delay of slaughter will result in unacceptable conditions of animal welfare

### 7.2 EXAMINATION OF KILLED WILD GAME PRESENTED FOR DRESSING

51. The examination should determine to the extent possible whether hygienic practice for field-harvested animals has been appropriately applied, including an assessment of cleanliness sufficient for hygienic dressing. Special measures required by the competent authority to facilitate post-mortem examination, e.g., correct identification and attachment of viscera separated from the carcass (refer to 5.3), will need to be confirmed at this time.

52. The examination should take into account any information available from harvesting in the field, e.g., presence of abnormalities at the time of death, geographical location. Where practicable, the results should be returned to hunters or other people involved in harvesting of wild game so as to improve their knowledge of and contribution to meat hygiene.

53. Examination of killed wild game for safety and suitability prior to dressing should be risk-based to the extent practicable, given that the entire animal may not be presented for dressing, e.g., the gastrointestinal tract of large killed wild game will most likely have been discarded in the field. Examination procedures prior to dressing and post-mortem examination, will be necessarily limited in nature. They should be focused on detecting abnormalities intrinsic to field harvesting of wild game, e.g. signs of natural death or the animal being moribund at the time of death, the effects of a misplaced or expanding bullet, decomposition, and any evidence of intoxication with poisons or environmental contaminants. Systems for the implementation of examination procedures and judgements should be based on those used for ante-mortem examination of other classes of animals (refer to 6.3).

54. Identification of the carcass of an animal with other parts required for post-mortem examination should be maintained up to and including dressing, without removal of any tissues required for post-mortem examination.

## 8. ESTABLISHMENTS: DESIGN, FACILITIES AND EQUIPMENT

55. The principles and guidelines presented in this section are supplemental to the objectives and guidelines in Section IV of the Recommended International Code of Practice: General Principles of Food Hygiene (CAC/RCP 1-1969, Rev 3 1997).

56. The competent authority should allow variations in the design and construction of game depots and establishments processing killed wild game, and their facilities, where they are by necessity impermanent, as long as meat hygiene is not compromised.

### 8.1 PRINCIPLES OF MEAT HYGIENE APPLYING TO ESTABLISHMENTS, FACILITIES AND EQUIPMENT

i. Establishments should be located, designed and constructed so that contamination of meat is minimised to the greatest extent practicable.

ii. Facilities and equipment should be designed, constructed and maintained so that contamination of meat is minimised to the greatest extent practicable.

iii. Establishments, facilities and equipment should be designed to allow personnel to carry out their activities in a hygienic manner.

iv. Facilities and equipment that are in direct contact with edible parts of animals and meat, should be designed and constructed so that they can be effectively cleaned and monitored for their hygiene status.

v. Suitable equipment should be available for control of temperature, humidity and other factors as appropriate to the particular processing system for meat.

vi. Water should be potable except where water of a different standard can be used without leading to contamination of meat.

57. Each establishment should have appropriate facilities and equipment for competent persons to properly carry out their meat hygiene activities.

58. Laboratory facilities necessary to support meat hygiene activities may be located in the establishment or provided at a separate location.

### 8.2 DESIGN AND CONSTRUCTION OF LAIRAGES

59. Lairages should be designed and constructed so that they do not lead to undue soiling of the animal, cause undue stress of the animal, or otherwise adversely impact on the safety and suitability of meat derived from animals held therein.

60. Lairages should include appropriate layout and facilities for cleaning and/or drying of animals where appropriate for the given species.

Lairages should be designed and constructed so that:

- animals can be held without overcrowding or injury, and are not exposed to climatic stress;[30]
- ante-mortem examination is facilitated;
- floors are paved or slatted and allow good drainage;
- there is an adequate supply and reticulation of clean water for drinking and cleaning, and facilities are provided for feeding where necessary;
- there is a physical separation between lairages and areas of an abattoir where edible material may be present;
- "Suspect" animals can be segregated and examined in separate areas.[31] These areas should include facilities that are capable of secure holding of "suspect" animals pending slaughter under supervision, and should have separate and contained drainage; and
- there is an adjacent area with adequate facilities for cleaning and sanitation of transport vehicles and crates, unless there are facilities within close distance that are approved by the competent authority.

61. Special facilities may be required to handle condemned animals.

These facilities should be:

- constructed so that all parts, gut contents and faeces from condemned animals can be held under secure containment as appropriate to the circumstances; and
- constructed and equipped so as to facilitate effective cleaning and sanitation (refer to Section 10).

### 8.3 DESIGN AND CONSTRUCTION OF SLAUGHTER AREAS

62. Stunning and bleeding areas should be separated from dressing areas (either physically or by distance), so that cross-contamination of animals is minimised.

63. Areas for scalding, dehairing, defeathering, scraping and singeing (or similar operations) should also be appropriately separated from dressing areas.

64. Where slaughter is carried out the processing line should be designed so that there is constant progress of animals in a manner that does not cause cross-contamination.

65. Special facilities may be required to slaughter and dress "suspect" or injured animals.

Where these facilities exist they should be:

- easily accessed from pens containing "suspect" or injured animals;
- constructed with suitable facilities for hygienic storage of parts derived from "suspect" or injured animals; and

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30 In the case of poultry and farmed game birds, facilities should be available to park transport vehicles in areas that are well ventilated, and are protected from direct sunlight, inclement weather and extremes of temperature

31 In the case of poultry and farmed game birds, "suspect" birds are usually slaughtered on the slaughter line under special hygiene provisions

- constructed and equipped so as to facilitate effective cleaning and sanitising (refer to Section 10).

### 8.4 DESIGN AND CONSTRUCTION OF AREAS WHERE ANIMALS ARE DRESSED OR MEAT MAY OTHERWISE BE PRESENT

66. All areas and facilities where animals are dressed or meat may be present should be designed and constructed so that they allow GHP,[32] and contamination of meat is minimised to the greatest extent practicable.

Rooms and other areas in which animals are dressed or meat may be present should be designed and constructed so that:

- cross-contamination during operationsis minimised to the greatest extent practicable;
- effective cleaning, sanitation and maintenance can be carried out during and between periods of operation; (refer to Section 10)
- floors in areas where water is present should slope sufficiently to grilled or otherwise protected outlets so as to ensure continual drainage;
- angles between adjoining walls should be coved in areas where there is the potential for build-up of dirt and other contaminants;
- exterior doors should not open directly into the area;
- chutes separately conveying different parts of animals are fitted with examination and cleaning hatches where these are necessary for sanitation.
- separate rooms are used for:
  - skin-on dressing of pigs or other animals, when other classes of animals are being dressed at the same time
  - emptying and cleansing of alimentary tracts, and further preparation of clean alimentary tracts, unless such separation is deemed unnecessary
  - handling of meat and inedible parts of animals after they have been so designated, unless these products are otherwise separated by time or distance
  - storage of inedible animal parts such as hides, horns, hooves, feathers and inedible fats
- there is adequate natural or artificial lighting for hygienic process control;
- there are appropriate facilities for the preparation and storage of edible fats;
- access and harbouring of pests are effectively restricted; and
- adequate facilities are provided for secure storage of chemicals, (e.g., cleaning materials, lubricants, branding inks) and other hazardous substances so as to prevent accidental contamination of meat.

67. Appropriately designed and insulated rooms should be available as necessary for cooling, chilling and freezing of meat.

Establishments that de-bone or otherwise cut up meat should have for this purpose:

- facilities that allow constant progress of operations or that ensure separation between different production batches;
- a room or rooms, physically separated from other rooms, capable of being temperature-controlled; and
- separation of the boning, cutting and primary wrapping area from the packaging area, unless hygiene measures are in place to ensure that packaging does not contaminate meat.

68. Drainage and waste disposal systems should not be a source of contamination of meat, the potable water supply or the processing environment. All lines should be watertight and adequately trapped and vented, with

[32] Recommended International Code of Practice: General Principles of Food Hygiene (CAC/RCP 1 - 1969, Rev. 3-1997, Amended 1999)

catch basins, traps and sumps that are isolated from any area where animals are dressed or meat may be present.

69. Establishments should have an appropriate area, sufficiently protected from environmental contamination and capable of preventing adverse temperature variations, for dispatching meat.

### 8.5 DESIGN AND CONSTRUCTION OF EQUIPMENT WHERE ANIMALS ARE DRESSED OR MEAT MAY BE PRESENT

70. All equipment used in areas where animals are dressed or meat may be present should facilitate GHP. Equipment and containers in rooms and other areas where animals are dressed or meat may be present should be designed and constructed so that contamination is minimised. Meat should not be allowed to contact the floor and walls, or fixed structures not designed for such contact.

71. Where slaughter lines are operated, they should be designed so that there is constant progress of carcasses and other animal parts, in a manner that prevents cross-contamination between different parts of the slaughter line and between different slaughter lines.

72. All rooms and other areas in which animals are dressed or meat may be present should be equipped with adequate facilities for washing hands, and should be equipped with adequate facilities for cleaning and sanitation of implements where required (refer to Section 10).

Facilities for cleaning and sanitation of equipment should:

- be used solely for this purpose and be designed to effectively clean and sanitise the particular equipment;
- be located convenient to work stations; and
- have waste water ducted to drains.

73. Equipment and implements for use with inedible or condemned parts of animals should be distinctively identified.

74. Establishments should be provided with adequate means of natural or mechanical ventilation so as to prevent excessive heat, humidity and condensation, and ensure that air is not contaminated with odours, dust or smoke.

Ventilation systems should be designed and constructed so that:

- air-borne contamination from aerosols and condensation droplets is minimised;
- ambient temperatures, humidity and odours are controlled; and
- air flow from contaminated areas, (e.g., slaughter and dressing areas) to clean areas, (e.g., chilling rooms for carcasses) is minimised.

### 8.6 WATER SUPPLY

75. Adequate facilities should be provided for monitoring and maintaining potability, storage, temperature control, distribution of water and for the disposal of waste water.

Equipment should be installed that provides:

- an adequate and easily accessible supply of hot and cold potable water at all times;
- hot potable water for effective sanitising of equipment, or an equivalent sanitation system;
- potable water at a temperature appropriate for hand-washing; and
- sanitising solution used according to manufacturers' specifications supplied as and where necessary;

76. Where non-potable water is supplied for various uses e.g., fire fighting, steam production, refrigeration, reticulation systems should be designed so that cross-contamination of the potable water supply is prevented.

### 8.7 TEMPERATURE CONTROL

77. In the absence of suitable temperature, humidity and other environmental controls, meat is particularly vulnerable to survival and growth of pathogens and spoilage micro-organisms.

78. Facilities and equipment should be adequate for:

- Cooling, chilling and/or freezing of meat according to written specifications;
- Storage of meat at required temperatures;
- Monitoring of temperature, humidity, air flow and other environmental factors so as to assure that process control regimes are achieved.

### 8.8 FACILITIES AND EQUIPMENT FOR PERSONAL HYGIENE

79. Slaughter, dressing and further handling of animals and animal parts, present many opportunities for cross-contamination of meat by food handlers (refer to Section 11). Appropriate personal hygiene facilities are needed to minimise cross-contamination of meat from this source.

80. Facilities should be provided, designed and located so that meat safety is not compromised. Where necessary, separate amenities should be provided e.g. for staff handling live animals, condemned products (refer Section 11).

Facilities for personal hygiene should include:

- changing rooms, showers, flush toilets, hand-washing and hand-drying facilities where necessary, and separate areas for eating; and
- protective clothing that can be effectively cleaned and minimises accumulation of contaminants.

All areas in which exposed meat may be present, should be equipped with adequate facilities for washing hands that:

- are located convenient to work stations;
- have taps that are not operable by hand;
- supply water at an appropriate temperature, and are fitted with dispensers for liquid soap or other hand cleansing agents;
- include hand drying equipment where necessary, and receptacles for discarded paper towels; and
- have waste water ducted to drains.

### 8.9 TRANSPORT VEHICLES

Vehicles or shipping containers in which meat is transported should:

- be designed and equipped so that the meat does not contact the floor;
- have joint and door seals that prevent entry of all sources of contamination; and
- where necessary, be equipped so that temperature control and humidity can be maintained and monitored.

## 9. PROCESS CONTROL

81. An extensive range of hazards are associated with meat, e.g., *Salmonella* spp. and veterinary drug residues, the processing environment, e.g., *Listeria monocytogenes* and *Clostridium perfringens*, and food handlers themselves, e.g., *Staphylococcus aureus* and hepatitis viruses. Effective process control, that includes both GHP and HACCP, is necessary to produce meat that is safe and suitable for human consumption.

82. The principles and guidelines presented in this section should satisfy the general objectives and guidelines in Section V of the Recommended International Code of Practice: General Principles of Food Hygiene (CAC/RCP 1-1969, Rev 3-1997). They are developed in this section in respect of hazards in meat however they are equally applicable to suitability characteristics.

83. Many aspects of slaughter and dressing procedures have the potential to result in significant contamination of meat, e.g., hide/feather removal, evisceration, carcass washing, post-mortem examination, trimming, and further handling in the cold chain. Systems for process control should limit microbial cross-contamination in these circumstances to as low as practicably achievable, and reflect the proportional contribution of these controls in reducing meat-borne risks to human health.

**9.1 PRINCIPLES OF MEAT HYGIENE APPLYING TO PROCESS CONTROL**

i. Production of meat that is safe and suitable for human consumption requires that detailed attention be paid to the design, implementation, monitoring and review of process control.

ii. The establishment operator has the primary responsibility for implementing systems for process control. Where such systems are applied, the competent authority should verify that they achieve all meat hygiene requirements.

iii. Process control should limit the level of microbiological contamination to the lowest level practicable, according to a risk-based approach.

iv. HACCP should be applied wherever practicable as the system of choice for process control, and should be supported by prerequisite GHP that includes SSOPs.

v. Process control should reflect an integrated strategy for control of hazards throughout the food chain, with information available from primary production and pre-slaughter being taken into account wherever possible and practicable.

vi. All animals should be subjected to post-mortem examination that is science- and risk-based, and is tailored to the hazards and/or defects that are reasonably likely to be present in the animals presented for examination.[33]

vii. The competent authority should determine the procedures and tests to be used in post-mortem examination, how that examination is to be implemented, and the necessary training, knowledge, skills and ability required of personnel involved (including the role of veterinarians, and personnel employed by the establishment operator).

viii. Post-mortem examination should take into account all relevant information from primary production, ante-mortem examination, and from official or officially-recognised hazard control programmes.

ix. Post-mortem judgements should be based on: food-borne risks to human health, other human health risks, e.g., from occupational exposure or handling of meat in the home, food-borne risks to animal health as specified in relevant national legislation, and suitability characteristics.

x. Performance parameters for the outcome of process control and post-mortem examination activities should be established by the competent authority wherever practicable, and should be subject to verification by the competent authority.

xi. Competent bodies or competent persons may be engaged by the establishment operator to undertake prescribed process control activities[34], including ante-[35] and post-mortem examination.

xii. Voluntary or officially recognised QA systems maybe implemented by the establishment operator where they enhance meat hygiene activities, and they may be taken into account in the verification of regulatory requirements by the competent authority.

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[33] Where risk assessment capability is not available, post-mortem examination carried out according to current scientific knowledge and practice should be capable of achieving the level of consumer protection required

[34] Prescribed process control activities may include "Officially recognised inspection systems" (CAC/GL 20 - 1995)

### 9.2 PROCESS CONTROL SYSTEMS

84. Effective process control requires design and implementation of appropriate systems. Industry has the primary responsibility for applying and supervising process control systems to ensure the safety and suitability of meat, and these should incorporate prerequisite GHP and HACCP plans as appropriate to the circumstances.

85. A documented process control system should describe the meat hygiene activities applied (including any sampling procedures), performance parameters (if set), verification activities, and corrective and preventative actions.

86. Competent bodies or competent persons suitably recognised by the competent authority may be engaged by the establishment operator to undertake prescribed process control activities, including post-mortem examination. These activities should be part of HACCP or QA systems as appropriate to the circumstances.

87. Process control systems relating to food safety should incorporate a risk-based approach. Application of HACCP principles in the design and implementation of process control systems should be according to The Hazard Analysis and Critical Control Point (HACCP) System and Guidelines for its Application (CAC/RCP 1-1969, Rev. 3 1997). The Guidelines for the Design, Operation, Assessment and Accreditation of Food Import and Export Inspection and Certification Systems (CAC/GL 26-1997) provide general requirements for control of operations for food as they relate to international trade.

#### 9.2.1 Sanitation Standard Operating Procedures (SSOPs)

88. Pre-operational and operational SSOPs should minimise direct and indirect contamination of meat to the greatest extent possible and practicable. A properly implemented SSOP system should ensure that facilities and equipment are clean and sanitised prior to start of operations, and appropriate hygiene is maintained during operations. SSOP guidelines may be provided by the competent authority, which may include minimum regulatory requirements for general sanitation.

Characteristics of SSOPs are:

- development of a written SSOP programme by the establishment that describes the procedures involved and the frequency of application;
- identification of establishment personnel responsible for implementing and monitoring SSOPs;
- documentation of monitoring and any corrective and/or preventative actions taken, which is made available to the competent authority for purposes of verification;
- corrective actions that include appropriate disposition of product; and
- periodic evaluation of the effectiveness of the system by the establishment operator.

89. Microbiological verification of SSOPs can utilise a range of direct or indirect methods. Establishment operators should use statistical process control or other methods to monitor sanitation trends.

#### 9.2.2 Microbiological criteria

90. In some circumstances a performance parameter may be established as a microbiological criterion that defines the acceptability of a production lot, e.g. based on the presence/absence or number of microbes, and/or the quantity of their toxins or metabolytes according to a specified sampling plan.[36]

#### 9.2.3 HACCP

91. HACCP systems for production of meat are a proactive means of process control for food safety purposes.[37] Validation of a HACCP plan for meat should ensure that it is effective in meeting performance

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35 Ante-mortem examination as covered in Section 6.3

36 Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL -1997)

37 Hazard Analysis and Critical Control Point (HACCP) System and Guidelines for its Application, (Annex to CAC/RCP 1-1969, Rev. 3-1997)

parameters (refer 9.2.4), taking into account the degree of variability in presence of hazards that is normally associated with different lots of animals presented for processing.

92. Verification frequency may vary according to the operational aspects of process control, the historical performance of the establishment in application of the HACCP plan, and the results of verification itself. The competent authority may choose to approve HACCP plans and stipulate verification frequencies.

93. Although HACCP plans are generally limited to food safety, the concepts underlying HACCP may be used to design process control systems for food suitability. Process control systems for suitability characteristics should utilise overarching QA systems to the extent practicable (refer to 9.2.6).

### 9.2.4 Outcome-based parameters for process control outcomes

94. Verification of adequate process control is greatly enhanced by establishment of performance parameters for the outcome of specified activities. In most cases these will be established by the competent authority. When performance parameters are established, industry can readily demonstrate adequate process control for food safety characteristics of meat.

95. The establishment should have a documented process control system for implementing corrective actions that will allow it to consistently meet performance parameters. Process review and any other corrective actions required as a result of non-compliance with performance parameters should be properly recorded. The competent authority should implement a system for collecting and analysing results from all establishments to the greatest extent possible, and periodically review process control trends in relation to national meat hygiene goals.

96. Where possible, performance parameters should objectively express the level of hazard control as derived from the application of risk analysis principles. In the absence of sufficient knowledge of risks to human health performance parameters can initially be established from baseline surveys of current performance, and subsequently modified as appropriate to reflect public health goals. Where outcome-based parameters have been established for suitability characteristics of meat, outcomes should be practically achievable and reflect consumer expectations.

97. Organoleptic parameters may also be established e.g., "zero tolerance" for visible faecal contamination on carcasses.

Performance parameters for outcomes of process control systems act to:

- facilitate validation of process control systems;
- facilitate derivation of process parameters at various steps in the food production system;
- allow maximum flexibility and technical innovation in the way the establishment operator achieves the required level of performance;
- facilitate industry-wide consistency in performance;
- provide an objective basis for outcome-driven regulatory guidelines and standards, e.g., statistical process control requirements, prevalence of Salmonella spp.;
- improve hazard control over time so as to enhance the level of consumer protection; and
- facilitate determination of the equivalence of sanitary measures.

98. Where performance parameters are established as regulatory guidelines or standards, explanation of the linkage to an appropriate level of consumer protection should be provided to all interested parties, e.g., guidelines for allowable levels of generic *E. coli*, standards for absence of *E. coli* O157:H7, maximum residue limits for chemicals with acute toxicity.

99. Performance parameters for outcomes of process control may be an inadequate means to achieve the required level of consumer protection against hazards of concern, e.g., BSE, and the competent authority may need to implement special procedures and tests to achieve performance parameters, e.g., laboratory diagnostic testing of brains from all animals showing nervous symptoms at ante-mortem examination, routine condemnation of "specified risk materials", and prohibition of mechanically-recovered meat in regions where BSE has been found in slaughter populations. Specific measures such as these should be

implemented on the basis of risk assessment and full consideration of the effectiveness of all available risk management options[38].

### 9.2.5 Regulatory systems

100. The competent authority should have the legal power to set and enforce regulatory meat hygiene requirements, and has the final responsibility for verifying that all regulatory requirements are met. The competent authority has five essential functions in respect of process control:

i. Establish regulatory systems (e.g. recall and traceback) and requirements, e.g. training, knowledge, skills and ability of personnel (generally at a national level).

ii. Undertake specified meat hygiene controls that are designated activities of the competent authority, e.g., official sampling programmes, or official certification.

iii. Verify that process control systems implemented by the establishment operator meet regulatory requirements i.e. GHP, SSOPs, HACCP, as appropriate.

iv. Verify that competent bodies are carrying out functions as required.

v. Carry out enforcement actions as necessary.

The competent authority should verify compliance with:

- GHP requirements for: animals presented for slaughter (and killed wild game presented for dressing), establishments, facilities and equipment, process control, transport, and hygiene of personnel;
- SSOPs;
- HACCP plans;
- all regulatory requirements relating to ante- and post-mortem examination;
- performance and process parameters that are regulatory guidelines or standards, e.g., microbiological statistical process control requirements, standards for *Salmonella* spp.
- chemical residue and contaminant levels that are below maximum limits as described in relevant legislation and national sampling plans;
- official or "officially-recognised" zoonoses control programmes, e.g., microbiological tests for *E. coli* O157:H7; and
- where applicable, removal of "specified risk materials", e.g. that may constitute a potential for transmission of spongiform encephalopathies.

101. Verification activities may include assessment of processing activities carried out by establishment personnel, documentary checks, organoleptic examination of edible parts of animals and meat, and taking of samples for laboratory tests. Approval/registration/listing of an establishment may facilitate the ability of the competent authority to verify that it is operating in compliance with regulatory requirements.

102. The competent authority should verify appropriate supervision of verification activities, and the nature and intensity of that supervision should be risk-based. The official inspector (including the veterinary inspector) verifies compliance with the regulatory requirements and may use additional documentary checks, procedures and tests in this role. Rules governing the presence of the official inspector during ante- and post-mortem examination, and during processing, cutting, and storage of meat, should be determined by the competent authority in relation to deployment of other competent persons, and in relation to potential risks to human health associated with the classes of animals and meat involved.

103. A national meat hygiene programme should be subject to verification by the competent authority.

Where the establishment operator does not comply with regulatory requirements, the competent authority should carry out enforcement actions that may include:

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[38] Bovine spongiform encephalopathy. Chapter 2.3.13. International Animal Health Code - 2000. Office International des Epizooties

- slowing of production while the operator regains process control;
- stopping production, and withdrawing certification for meat deemed to be unsafe or unsuitable for its intended use;
- withdrawing competent personnel required by the competent authority;
- ordering specified treatment, recall or destruction of meat as necessary; and
- withdrawing or suspending all or part of the approval/registration/listing of the establishment if process control systems are invalid or repeatedly non-compliant.

### 9.2.6 Quality assurance (QA) systems

104. The competent authority should encourage voluntary, industry-driven QA systems throughout the whole food chain.

105. Wherever possible and practical, the establishment operator should implement QA systems so as to improve the effectiveness and efficiency of meat hygiene. QA systems operate through implementation of documented procedures and practices, and can provide an additional assurance by the establishment operator that process controls are in place and working correctly.

106. Competent bodies or competent persons suitably recognised by the competent authority may be engaged by the establishment operator to undertake prescribed meat hygiene activities within an overarching QA system. These alternative systems for carrying out meat hygiene activities should include:

- personnel that meet requirements for training, knowledge, skills and ability established by the competent authority;
- HACCP plans for control of relevant hazards;
- performance parameters for food safety characteristics of meat; and
- verification of process control activities by the competent authority.

107. The competent authority should take the contribution of such systems into account during verification of regulatory requirements, and this may include official recognition of a QA system.

QA systems implemented by the establishment operator may be officially recognised by the competent authority[39] and in such circumstances:

- official recognition can be achieved by an assessment of the system by the competent authority, or an officially-recognised competent body, that shows that the QA system meets specified criteria;
- where another party is granted the status of an officially-recognised assessment body, the competent authority should apply specified criteria and make that party subject to official verification procedures;
- there may be a reduced frequency of verification activities by the competent authority when the QA system consistently demonstrates compliance with regulatory requirements; and
- there should be a regulatory policy that suitably addresses non-performance and/or non-compliance of the QA system.

### 9.2.7 Equivalence

108. Equivalence is the state wherein hygiene measures applied in an exporting country, though different from the hygiene measures applied in an importing country, achieve, as demonstrated by the exporting country, the importing country's appropriate level of protection.[40] Where an equivalence determination[41] is sought and alternative systems for delivery of process control are being trialed in establishments before final

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[39] Proposed Draft Guidelines for the Utilisation of Quality Assurance Systems to Meet Requirements in Relation to Food (CX/FICS 02/6)

[40] Proposed Draft Guidelines on the Judgement of Equivalence of Sanitary Measures Associated with Food Inspection and Certification Systems.(ALINORM 01/30A, Appendix III)

[41] Guidelines for the Establishment of Equivalence Agreements Regarding Food Import and Export Inspection and Certification Systems (CAC/GL 34-1999)

judgement, the product involved should be eligible for export certification where required meat hygiene outcomes have been met.

### 9.3 GENERAL HYGIENE REQUIREMENTS FOR PROCESS CONTROL

109. Process control should meet the general hygiene requirements of the Recommended International Code of Practice: General Principles of Food Hygiene.[42]

General hygiene requirements for process control should include for example:

- water for cleaning and sanitising of a standard that is appropriate for the specific purpose, and used in a manner that does not directly or indirectly contaminate meat;
- cleaning of facilities and equipment that involves disassembly where necessary, removal of all debris, rinsing of parts, application of an approved cleaner, repeat rinsing, reassembly, and further sanitisation and rinsing as appropriate;
- handling and storage of containers and equipment in a way that minimises the potential for contamination of meat;
- assembly of containers or cartons in rooms or areas where meat may be present in such a manner that there is minimal possibility of contamination; and
- controlled access of personnel to processing areas.

110. The competent authority and industry should utilise appropriately accredited or otherwise recognised laboratories when verifying process control and carrying out other meat hygiene activities. Testing of samples should utilise validated analytical methods.[43]

Laboratory testing may be required for:

- verification of process control;
- application of performance parameters;
- residue monitoring;
- diagnosis of disease conditions affecting individual animals; and
- monitoring of zoonoses.

### 9.4 HYGIENE REQUIREMENTS FOR SLAUGHTER AND DRESSING

111. Only live animals intended for slaughter should be brought into an abattoir, with the exception of animals that have undergone emergency slaughter outside the slaughterhouse and have appropriate veterinary documentation.

112. No animal other than an animal intended for slaughter should enter an abattoir, with the exception of animals used for stock handling.

113. An animal should only be slaughtered or dressed in an abattoir if a competent person is available to undertake ante- and post-mortem examination. In cases of emergency slaughter where a competent person is not available, special provisions established by the competent authority will apply.

114. All animals brought to the slaughter floor should be slaughtered without delay, and stunning, sticking and bleeding of animals should not proceed at a rate faster than that at which carcasses can be accepted for dressing.

During initial dressing operations, and with due consideration to minimising contamination:

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42 Note that general requirements for control of incoming materials, use of water, packaging, documentation and records, and recall procedures are described in the recommended international code of practice: general principles of food hygiene (CAC/RCP 1 - 1969, Rev. 3 1997)

43 Guidelines for the assessment of the competence of testing laboratories involved in the Import and Export Control of Food (CAC/GL 27-1997)

- slaughtered animals that are scalded, flamed or similarly treated should be scoured of all bristles, hair, scurf, feathers, cuticles and dirt;
- the trachea and oesophagus should remain intact during bleeding, except in the case of ritual slaughter;
- bleeding should be as complete as possible; if blood is intended for food, it should be collected and handled in a hygienic manner;
- exposure of the tongue should be done in such a way that the tonsils are not cut;
- skinning of the head may not be required for some classes of animals e.g. goats, calves, sheep, provided that heads are handled in such a way as to avoid undue contamination of meat;
- before the removal from the head of any parts intended for human consumption, the head should be clean and, except in the case of scalded and dehaired carcasses, skinned to an extent sufficient to facilitate examination and the hygienic removal of specified parts;
- lactating or obviously-diseased udders should be removed from carcasses at the earliest opportunity;
- removal of udders should be done in such as way that the contents do not contaminate the carcass;
- gas skinning or dehiding (pumping of air or gas between the skin or hide and the underlying tissue to facilitate skinning) should only be permitted if it can be achieved with minimal contamination and meets required microbiological and organoleptic performance parameters; and
- hides/fleeces should not be washed, de-fleshed or left to accumulate in any part of an abattoir or establishment that is used for slaughter or dressing.

115. Poultry and farmed game birds, following de-feathering, can only be effectively cleaned of dust, feathers and other contaminants by the application of potable water. Washing of the carcasses of these animals at multiple steps in the dressing process, and as soon as possible after each contaminating step, reduces the adherence of bacteria to the skin can minimise overall carcass contamination. (Washing after evisceration and post-mortem is also necessary for technological reasons, as this is the only method available to routinely clean carcasses before entry to the chilling process). Washing may be carried out by several methods e.g., spraying, immersion washing.

116. Farmed ratites may have an excessive amount of dust and dirt trapped in their feathers, and this has the potential for significant contamination of the dressing area unless there is adequate separation by distance, physical barrier, or other means, e.g., positive ventilation.

117. Once the removal of the hide/fleece has commenced, or dehairing has occurred, carcasses should be separated from each other to avoid contact, and this should be maintained until each carcass has been examined and judged by a competent person undertaking post-mortem examination. (Note: Full separation of carcasses is not practicably achievable in the case of poultry and farmed game birds.)

During dressing, and with due consideration to minimising contamination:

- where animals are skinned, this process should be completed before evisceration;
- water in scalding tanks should be managed so that it is not excessively contaminated;
- evisceration should be carried out without delay;
- discharge or spillage of any material from the oesophagus, crop, stomach, intestines, cloaca or rectum, or from the gall bladder, urinary bladder, uterus or udder, should be prevented;
- intestines should not be severed from the stomach during evisceration and no other opening should be made into an intestine, unless the intestines are first effectively tied to prevent spillage, except in the case of poultry and game birds;
- stomachs and intestines and all inedible material derived from the slaughtering and/or dressing of animals should be removed as soon as possible from the dressing area, and processed in a manner that does not cause cross-contamination of meat;
- methods used to remove visible and microbial contamination should be demonstrated to be effective and meet other requirements as specified by the competent authority; and

- faecal and other material should be trimmed or otherwise removed from carcasses in a manner that does not result in further contamination, and which achieves appropriate performance parameters for process control.

118. Carcasses should not come into contact with surfaces or equipment unless practically unavoidable. Where use of equipment involves contact by design, e.g., in the case of automatic eviscerating machines, the hygiene of the equipment should be appropriately maintained and monitored.

119. Where a competent person undertaking post-mortem examination, considers that the manner in which animals are being slaughtered or dressed, or meat is further handled, will adversely affect the safety and suitability of meat, that competent person should enforce a reduction in the rate of production or the suspension of operations or other appropriate measures, as deemed necessary (refer to 9.2.5).

120. Establishment operators should meet the requirements of the competent authority in terms of presentation of edible parts of animals for post-mortem examination. Parts of slaughtered animals that have been removed before post-mortem examination is performed should remain identifiable, as belonging to a single carcass (or a group of carcasses) when required for post-mortem judgement.

121. Facilities and equipment for slaughtering and/or dressing may be used for other purposes provided appropriate cleaning and sanitation requirements are met.

122. The competent authority should encourage development and adoption of innovative technologies and procedures at the establishment level, that reduce cross-contamination and enhance food safety, e.g., enclosing the terminal rectal intestine in a bag and tying off.

### 9.5 POST-MORTEM EXAMINATION

123. All animals should be subjected to post-mortem examination, which preferably should be part of an overarching, risk-based system for the production of meat.

124. Post-mortem examination of animals should utilise information from primary production and ante-mortem examination, together with the findings from organoleptic examination of the head, carcass and viscera, to make a judgement on the safety and suitability of edible parts for human consumption. Where the results of organoleptic examination are insufficient to accurately judge edible parts of animals as safe or suitable for human consumption, the parts should be set aside and followed up with confirmatory examination procedures and/or tests.

#### 9.5.1 Design of post-mortem examination systems

125. Post-mortem examination procedures and tests should be established by the competent authority according to a science- and risk-based approach. The competent authority has responsibility for establishing judgement criteria and verifying the post-mortem examination system. In the absence of a risk-based system, procedures will have to be based on current scientific knowledge and practice.

126. Relevant information on the animal population, e.g., animal type, health status, geographical region of origin, should be utilised in both the design and implementation of post-mortem examination systems.

127. Where indicated by public health concerns, routine screening of edible parts of animals by methods other than organoleptic examination may be required for suspected hazards, e.g., testing for *Trichinella* spp.

Characteristics of a risk-based post-mortem examination programme are:

- design and application of organoleptic procedures and tests that are relevant and proportional to meat-borne risks associated with grossly-detectable abnormalities;
- tailoring of procedures to the spectrum and prevalence of diseases and defects reasonably likely to be present in the particular slaughter population, taking into account the type (age), geographical origin and primary production system of the slaughter animals, e.g., multiple incisions of relevant muscles in all pigs from geographical regions where *Taenia solium* is present;

- procedures that minimise cross-contamination through handling to the greatest extent practicable, and may include procedures that are limited to visual observation of animal parts in the first instance if justified by risk assessment;
- examination of non-edible parts of animals where they may play an indicator role in the judgement of edible parts;
- modification of traditional procedures where scientific investigation has shown them to be ineffective, or, of themselves, hazardous to food, e.g., routine incision of lymph nodes of young animals to detect granulomatous abnormalities;
- application of more intensive organoleptic procedures on a routine basis when a disease or condition capable of general distribution is found in a single part of an animal, e.g., cysts of *Taenia saginata* in cattle, xanthosis;
- application of additional risk-based examination procedures on a routine basis when live animals are positive to a diagnostic test, e.g., tuberculin test in cattle, mallein test in horses;
- use of laboratory tests for hazards that are unaddressed by organoleptic examination, e.g., *Trichinella* spp., chemical residues and contaminants;
- application of performance parameters for outcomes of organoleptic examination that reflect a risk-based approach;
- integration with HACCP plans for other process control activities, e.g., establishment of "zero faecal tolerance" criteria for faecal contamination of carcasses;
- on-going tailoring of procedures to take into consideration information received from the primary producer on a lot-by-lot basis; and
- return of information to the primary producer so as to seek continuous improvement in the safety and suitability status of animals presented for slaughter (refer to 6.4).

128. Post-mortem examination procedures that may provide a basis for development of a science- and risk-based examination system for a particular population of animals are presented in Appendix I.

### 9.5.2 Implementation of post-mortem examination

129. Post-mortem examination should occur as soon as is practicable after slaughter of animals, or delivery of killed wild game animals. Examination should take into account all relevant information from the level of primary production and ante-mortem examination, e.g. information from official or officially-recognised hazard control programmes, information on animals slaughtered as "suspects".

130. The competent authority should determine: how post-mortem examination is to be implemented, the training, knowledge, skills and ability required of personnel involved (including the role of the official inspector, the veterinary inspector, and any personnel not employed by the competent authority), and the frequency and intensity of verification activities (refer to 9.2.5). The final responsibility for verifying that all post-mortem examination and judgement requirements are met should lie with the competent authority.

131. Animals or parts of animals condemned by the competent person undertaking post-mortem examination, as unsafe or unsuitable for human consumption should be identified as appropriate and handled in a manner that does not result in cross-contamination of meat from other animals. The reason for condemnation should be recorded, and confirmatory laboratory tests may be taken if deemed necessary.

The responsibilities of the establishment operator in respect of post-mortem examination include:

- maintenance of the identity of all edible parts of an animal (including blood) until examination is complete;
- skinning and dressing of heads to the extent necessary to facilitate examination, e.g., partial skinning to allow access to sub-maxillary lymph nodes, detaching of the base of the tongue to allow access to the retropharyngeal lymph nodes;
- skinning of heads to the extent necessary to allow hygienic removal of edible parts, when this is a processing option;

- presentation of animal parts for examination according to the requirements of the competent authority;
- a prohibition on establishment personnel intentionally removing or modifying any evidence of a disease or defect, or animal identification mark, prior to post mortem examination;
- prompt removal of foetuses from the evisceration area, for rendering or other processes as allowed by the competent authority, e.g., collection of foetal blood;
- retention in the examination area of all parts of animals required for examination, until examination and judgement has been completed;
- provision of facilities for identifying and retaining all parts of animals that require more detailed examination and/or diagnostic tests before a judgement on safety and suitability can be made, in a manner that prevents cross-contamination of meat from other animals;
- condemnation of parts of the carcass trimmed from the region of the sticking wound;
- routine condemnation of the liver and/or kidneys from older animals where the competent authority has determined that there may be accumulation of heavy metals to an unacceptable level;
- use of health marks (as specified by the competent authority) that communicate the outcome of post-mortem examination; and
- co-operation with competent persons undertaking post-mortem examination, in all other ways necessary to facilitate effective post-mortem examination, e.g., access to processing records, and easy access to all animal parts.

Post-mortem examination systems, should include:

- procedures and tests that are risk-based to the extent possible and practicable (refer to 9.5.1);
- confirmation of proper stunning and bleeding;
- availability of examination immediately after completion of dressing;
- visual examination of animal parts, including inedible parts, as determined by the competent authority (refer to Appendix I);
- palpation and/or incision of animal parts, including inedible parts, as determined by the competent authority according to a risk-based approach (refer to Appendix I);
- additional palpation and/or incisions by the competent person undertaking post-mortem examination, as necessary to reach a judgement for an individual animal, and under appropriate hygiene control
- more detailed examination of edible parts intended for human consumption compared with examination of those parts for indicator purposes alone, as appropriate to the circumstances, e.g., incision of lungs and udders if intended for human consumption;
- systematic, multiple incisions of lymph nodes where incision is necessary;
- other organoleptic examination procedures, e.g., smell, touch;
- where necessary, laboratory diagnostic and other tests carried out by the competent authority or by the establishment operator under instruction;
- performance parameters for the outcomes of organoleptic examination;
- regulatory authority to slow or halt processing so as to allow adequate post-mortem examination at all times;
- removal of specified parts if required by the competent authority, e.g., “specified risk materials” for BSE; and
- proper use and secure storage of equipment for health marking.

132. The competent authority and industry should record and disseminate the results of post-mortem examination as appropriate. Notifiable human or animal health diseases and cases of non-complying residues or contaminants should be reported to national competent authorities as well as to the owner of the animal(s).

Analysis of the results of post-mortem examination over time is the responsibility of the competent authority, and the results of such analyses should be made available to all interested parties.

### 9.6 POST-MORTEM JUDGEMENT

133. Post-mortem judgement of edible parts of animals as safe and suitable for human consumption should primarily be based on food-borne risks to human health. Other risks to human health, e.g., from occupational exposure or from handling of meat in the home, also are an important consideration. Judgements in relation to suitability characteristics of meat should reflect consumer acceptability requirements appropriate to intended end-use. [44]

134. Although outside the mandate of Codex, post-mortem examination programmes may be utilised to identify and judge animals or parts of animals according to risks to animal health, as specified in relevant national legislation.

Judgement of edible parts as safe and suitable should take into account information from the following sources:

- information from primary production (refer to Section 6);
- observations made of animals in the lairage;
- ante-mortem examination; and
- post-mortem examination, including diagnostic tests, where required.

135. Judgements should be based on science and risks to human health to the greatest extent possible, with guidelines being provided by the competent authority. Judgements should only be made by competent persons. When edible parts with any abnormality are always judged to be unsafe and unsuitable for human consumption and appropriately disposed of, the level of training, knowledge, skills and ability required for judgement may be less than in situations where edible parts demonstrating an abnormality may not necessarily be removed from the food supply.

136. Judgement of edible parts of animals as unsafe or unsuitable for human consumption should be guided by general categories as presented in Appendix II.

137. Where the initial results of post-mortem examination are insufficient to accurately judge edible parts of animals as safe or suitable for human consumption, a provisional judgement should be followed up with more detailed examination procedures and/or tests. Pending the outcome of more detailed examination and/or diagnostic tests, all parts of the animal that are required for further investigation should be held under the control of the competent person undertaking these activities.

Judgement categories for edible parts of animals include:

- safe and suitable for human consumption;
- safe and suitable for human consumption, subject to application of a prescribed process, e.g., cooking, freezing[45];
- held on suspicion of being unsafe or unsuitable, pending the outcome of further procedures and/or tests;
- unsafe for human consumption i.e. due to meat-borne hazards or occupational health/meat handling hazards, but able to be used for some other purpose, e.g., pet-food, animal feedingstuffs, industrial non-food use, providing there are adequate hygiene controls to prevent any transmission of hazards, or illegal re-entry to the human food chain;
- unsafe for human consumption i.e. due to meat-borne hazards or occupational health/meat handling hazards, and requiring condemnation and destruction;

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[44] The competent authority may take into account varying needs of different consumer populations so that suitability judgements do not distort the economics of the food supply

[45] The competent personr can instruct that following post-mortem examination, edible parts held under suitable inventory control can be designated as safe and suitable when subjected to a particular process e.g. freezing, cooking, canning

- unsuitable for human consumption, but able to be used for some other purpose, e.g., pet-food, animal feedingstuffs, industrial non-food use, providing there are adequate controls to prevent illegal re-entry to the human food chain;
- unsuitable for human consumption, and requiring condemnation and destruction; and
- unsafe for animal health reasons as specified in national legislation, and disposed of accordingly.[46]

138. When edible parts of an animal are judged to be safe and suitable for human consumption subject to application of a prescribed process, the specifications for that process should be verified by the competent authority as sufficient to eliminate/reduce or adequately remove the hazard or condition of concern, e.g., specifications for retorting, high temperature rendering and freezing.

### 9.7 HYGIENE REQUIREMENTS FOR PROCESS CONTROL AFTER POST-MORTEM EXAMINATION

139. Operations following post-mortem examination include chilling of carcasses, de-boning and cutting, packaging, freezing and storing. Particular attention needs to paid to temperature control, with temperatures of freshly slaughtered and dressed carcasses and offal being reduced as rapidly as possible to a temperature that will not result in growth of micro-organisms or the formation of toxins that could constitute a risk to human health. It is also important that the cold chain is not interrupted except to the minimal extent necessary for practical operations, e.g., handling during transportation.

140. In the case of poultry and farmed game birds, viscera or parts of viscera, apart from kidneys, should be entirely removed as soon as possible, unless otherwise permitted by the competent authority.

Meat passed as safe and suitable for human consumption should be:

- removed without delay from the dressing area;
- handled, stored and transported in a manner that will protect it from contamination and deterioration;
- held under conditions that reduce its temperature and/or water activity as quickly as possible, unless cut up or de-boned pre-rigor; and
- held at temperatures that achieve safety and suitability objectives.

In the case of poultry or farmed game birds undergoing immersion chilling:

- the immersion chilling process should meet hygiene criteria as specified by the competent authority;
- the reduction in carcass temperature should be as rapid as possible;
- carcasses emerging from the process should have a lesser microbiological count for indicator organisms and pathogens than those entering the process; and
- sanitation requirements should include complete emptying, cleaning and sanitation of tanks as appropriate.

141. A health mark applied to meat, wrapping or packaging, may provide recognition that the product is in accordance with regulatory requirements, and should assist with trace-back to the establishment of origin if required. If used as part of an official meat hygiene programme, the health mark should include the approval/registration/listing number of the establishment, be applied in such a way that it cannot be re-used, and be legible. Other marks may denote conformance with commercial specifications, or unacceptability for human consumption, e.g., distinctive brands for pet-food.

142. Health marks may be applied directly to the product, wrapping or packaging, or be printed on a label affixed to the product, wrapping or packaging. In circumstances of bulk transport to another establishment for further handling, processing or wrapping, health marks may be applied to the external surface of the container or packaging.

Where carcasses, parts of carcasses or other meat is placed in a holding room:

[46] In some circumstances, edible parts may be judged as suitable for human consumption but subject to restricted distribution because the animals were sourced from geographical areas under quarantine for animal health reasons

- all requirements for hygienic control of operations must be adhered to e.g., chiller loading rates, stock rotation, specifications for temperature and relative humidity;
- carcasses and parts of carcasses, whether hung or placed in racks or trays, should be held in a manner permitting adequate circulation of air;
- the potential for cross-contamination via dripping of fluids should be prevented; and
- water dripping from overhead facilities and condensation should be prevented to the extent practicable.

143. Rooms and equipment for cutting, de-boning or further preparing meat should be reserved for those purposes alone, with rooms being maintained at a required temperature and humidity during operations. Meat intended for cutting or de-boning should be brought into work rooms progressively as needed, and should not accumulate on work tables. If meat is cut or de-boned prior to reaching temperatures that are appropriate for storage and transport, it must be immediately reduced in temperature to prescribed levels.

When meat is cut or de-boned pre-rigor:

- it should be transported directly from the dressing area to the cutting up or de-boning room;
- the cutting up or de-boning room should be temperature-controlled and directly linked to the dressing areas, unless the competent authority approves alternative procedures that provide an equivalent level of hygiene; and
- cutting up, de-boning and packing should be done without delay and should meet all requirements for hygienic process control.

Where meat is packaged or wrapped:

- packaging material should be suitable for use, stored and used in a hygienic manner; and
- cases or cartons should have a suitable inner liner or other means of protecting the meat, except that the liner or other protection may not be required if pieces of meat, such as cuts, are individually wrapped before packing.

Where meat is placed in a room for freezing:

- meat that is not in cartons should be hung or placed on racks or trays in a manner that allows adequate circulation of air;
- meat that is not in cartons should be held in a manner whereby the potential for cross-contamination via dripping of liquids is prevented;
- cartons containing meat should be stacked so as to permit adequate circulation of air; and
- meat held on trays should be placed so as to avoid contact with the base of an upper tray.

Where meat is held in a freezer room or storage facility:

- the temperature of the meat should have been reduced to an acceptable level before placement;
- exposed meat must be stored in such a way that the hygiene cannot be compromised by the presence of packaged meat or packaging material;
- meat, whether in carcass form or in cartons, should not be stacked directly on the floor and should be positioned so that there is adequate air circulation;
- the freezer store should be operated and maintained under conditions appropriate to maintaining the safety and suitability of meat;
- temperatures should be continuously recorded and monitored; and
- adequate inventory control should be maintained.

144. Where meat is thawed for further processing, hygiene controls should be such that thawing will not result in growth of micro-organisms or the formation of toxins to the extent that they may constitute a risk to human health. Hygiene controls should include adequate drainage of liquid run-off.

145. Where establishments are approved, registered and/or listed for different animal species, all operations must be controlled in terms of space or time so that there is no possibility of accidental mixing of meat from different slaughter species, and no mis-identification at the time of packaging.

### 9.8 HYGIENE REQUIREMENTS FOR EDIBLE PARTS OF ANIMALS DEEMED UNSAFE OR UNSUITABLE FOR HUMAN CONSUMPTION

146. Special hygiene measures should be applied to operations involving edible parts of animals deemed unsafe or unsuitable for human consumption. These measures should prevent cross-contamination to other edible parts and meat, and prevent any possibility of substitution.

Edible parts of animals deemed unsafe or unsuitable for human consumption should be:

- placed without delay into specifically identified chutes, containers, trolleys, or other handling facilities;
- identified by means as appropriate to the type and end use of the tissue;
- in the case of condemned material, handled in rooms reserved for that purpose and conveyed in a secure manner to a place of disposal (e.g. rendering station).

### 9.9 RECALL SYSTEMS

147. Establishments should have adequate systems that enable the tracing and withdrawal of product from the food chain. The competent authority should require verification that the systems are adequate. In the case of a recall, communication with consumers and interested parties should be considered, and undertaken where appropriate.

148. Recalled product may be used for purposes other than human consumption, where appropriate, or reprocessed in a manner that ensures safety and suitability.

Recall systems designed by the establishment operator should:

- utilise the approval/registration/listing number of the establishment as a means to identify meat to it's final destination;
- incorporate management systems and procedures that facilitate rapid and complete recall of implicated lots e.g. distribution records, lot coding;
- keep records that facilitate trace-back to the place of origin of the animals, to the extent practicable; and
- keep records that facilitate investigation of any processing inputs that may be implicated as a source of hazards.

## 10. ESTABLISHMENTS: MAINTENANCE AND SANITATION

149. The principles and guidelines presented in this section are supplemental to the objectives and guidelines in Section VI of the Recommended International Code of Practice: General Principles of Food Hygiene (CAC/RCP 1-1969, Rev 3 1997).

### 10.1 PRINCIPLES OF MEAT HYGIENE APPLYING TO MAINTENANCE AND SANITATION OF ESTABLISHMENTS, FACILITIES AND EQUIPMENT

i. Establishments, facilities and equipment should be maintained and sanitised in such a manner that contamination of meat is minimised to the greatest extent practicable.

ii. Documented programmes for effective and appropriate maintenance and sanitation should be in place (refer to 9.2.1).

iii. Monitoring of the effectiveness of maintenance and sanitation should be included as a basic component of meat hygiene programmes (refer to 9.2.1).

iv. Special sanitation requirements should be applied to the slaughter and dressing of animals that are condemned or designated as "suspects".

### 10.2 MAINTENANCE AND SANITATION

150. Establishments, facilities and equipment should be kept in an appropriate state of repair and condition to facilitate all sanitation procedures and prevent contamination of meat, e.g., from metal shards, flaking plaster and chemical contaminants.

151. SSOPs should specify the scope of the cleaning programme, cleaning specifications, persons responsible, and monitoring and record keeping requirements.

Cleaning procedures and programmes should:

- be specified in SSOPs as appropriate to the circumstances;
- provide for removal and storage of waste;
- ensure that there is no consequential contamination of meat with detergents or sanitising agents, unless allowable under conditions of use; and
- be monitored for their effectiveness, e.g., organoleptic checks and microbiological sampling of meat contact surfaces, and be redesigned if and when necessary.

152. Particular cleaning programmes are required for equipment used in the slaughter and dressing of carcasses e.g., knives, saws, machine cutters, evisceration machines and flushing nozzles.

Such equipment should be:

- clean and sanitised before each new period of work;
- cleaned, and sanitised, by immersion in hot water or alternative methods, with appropriate frequency during and/or between periods of work;
- immediately cleaned and sanitised when coming into contact with abnormal or diseased tissue that may harbour food-borne pathogens; and
- stored in designated areas in such a manner that it will not become contaminated.

153. Containers and equipment should not pass from an "inedible" area to an "edible" area before being cleaned and sanitised.

154. Pest control programmes are an essential part of maintenance and sanitation and should follow GHP as described in the Recommended International Code of Practice: General Principles of Food Hygiene.[47]

In particular:

- the programme should be properly documented and verified by the establishment operator;
- treatment of areas, rooms, facilities and equipment, with an approved pesticide should be carried out according to the conditions of use; and
- pesticides and other pest control chemicals should be kept in secure storage, with access being limited to authorised persons.

## 11. PERSONAL HYGIENE

155. Slaughter and dressing of animals, and handling and examination of meat, presents many opportunities for cross-contamination. Personal hygiene practices should prevent undue general

[47] Recommended International Code of Practice: General Principles of Food Hygiene (CAC/RCP 1 - 1969, Rev. 3-1997, Amended 1999)

contamination, and prevent cross-contamination with human pathogens that may cause food-borne disease. The guidelines presented in this section are supplemental to the objectives and guidelines in Section VII of the Recommended International Code of Practice: General Principles of Food Hygiene (CAC/RCP 1-1969, Rev 3 1997).

### 11.1 PERSONAL CLEANLINESS

156. Persons who come into direct or indirect contact with edible parts of animals or meat in the course of their work should maintain appropriate personal cleanliness and behaviour, and should not be clinically affected by communicable agents likely to be transmitted by meat.

Persons who come into direct or indirect contact with edible parts of animals or meat should:

- maintain an appropriate standard of personal cleanliness;
- wear protective clothing appropriate to the circumstances, and ensure that non-disposable protective clothing is cleaned before and during work;
- if wearing gloves during the slaughter and dressing of animals and the handling of meat, ensure that they are of an approved type for the particular activity, e.g., chain-mail stainless steel, synthetic fabric, latex, and they are used according to specifications, e.g., washing of hands before use, changing or sanitising gloves when contaminated;
- immediately wash and sanitise hands and protective clothing when there has been contact with abnormal animal parts that are likely to harbour food-borne pathogens;
- cover cuts and wounds with waterproof dressings; and
- store protective clothing and personal effects in amenities that are separate from areas where meat may be present.

### 11.2 PERSONAL HEALTH STATUS

157. The establishment should maintain relevant personal health records of personnel.

Persons who come into direct or indirect contact with edible parts of animals or meat in the course of their work should:

- where necessary, have a medical examination prior to and, during employment;
- not work while clinically affected by, or suspected to be carrying, communicable agents likely to be transmitted through meat; and
- be aware of and comply with reporting requirements to the establishment operator in respect of communicable agent.

## 12. TRANSPORTATION

158. The guidelines presented in this section are supplemental to the objectives and guidelines in Section VIII of the Recommended International Code of Practice: General Principles of Food Hygiene (CAC/RCP 1-1969, Rev 3-1997).

159. Due to the potential for growth of pathogenic and spoilage micro-organisms under conditions of inadequate temperature control, meat should be transported at temperatures that achieve safety and suitability objectives. Equipment for continuous monitoring and recording of temperatures should accompany transport vehicles and bulk containers wherever appropriate. Additionally, the conditions of transport should provide adequate protection from exogenous contamination and damage, and should prevent growth of pathogenic and spoilage micro-organisms.

160. If meat is inadvertently exposed to adverse temperature conditions or sources of contamination that may affect safety and suitability, an examination should be carried out by a competent person before further transport or distribution is allowed.

## 13. PRODUCT INFORMATION AND CONSUMER AWARENESS

161. Appropriate product information and adequate knowledge of food hygiene is necessary to prevent mishandling at later stages in the food chain. Pre-packaged foods should be labelled with clear instructions to enable the next person in the food chain to handle, display, store and use the product safely. Principles and guidelines for product information and consumer awareness in the context of safety and suitability of meat are described in general terms in Section IX of the Recommended International Code of Practice: General Principles of Food Hygiene (CAC/RCP 1-1969, Rev 3 1997).

## 14. TRAINING

162. Adequate training of competent personnel is of fundamental importance in the production of meat that is safe and suitable for human consumption. The principles and guidelines presented in this section are supplemental to the objectives and guidelines in Section X of the Recommended International Code of Practice: General Principles of Food Hygiene (CAC/RCP 1-1969, Rev 3 1997).

### 14.1 PRINCIPLES OF TRAINING IN MEAT HYGIENE

Persons engaged in meat hygiene activities should be trained, and/or instructed to a required level of training, knowledge, skills, and ability. Training should be:

i. appropriate to the activities and operations;

ii. proportional to the potential of the particular meat hygiene activity to impact on food-borne risks to human health;

iii. specified or recognised by the competent authority;

iv. verified as appropriate; and

v. subject to recognition by the competent authority where delivered by third parties.

### 14.2 TRAINING PROGRAMMES

Training programmes should:

- provide personnel with the training, knowledge, skills and ability to carry out specified meat hygiene tasks, e.g., post-mortem examination, verification of statistical process control, HACCP;
- provide practical training to the extent required;
- where necessary, arrange for formal testing of personnel;
- ensure that personnel involved in supervisory roles have appropriate skills;
- recognise and build on professional qualifications; and
- provide for the continuing education of competent persons.

**APPENDIX I**

## POST-MORTEM EXAMINATION PROCEDURES: GUIDELINES FOR DEVELOPMENT OF A RISK-BASED SYSTEM

Post-mortem examination procedures and tests should be established by the competent authority according to a science- and risk-based approach. In the absence of a risk-based system, procedures will have to be based on current scientific knowledge and practice.

Post-mortem examination procedures based on current knowledge and practice vary considerably in different countries. The procedures that are presented in the following tables are only intended to provide general guidance, and should be adapted by the competent authority as appropriate. In particular:

- Routine procedures may be supplemented by additional procedures to assist judgement.
- Young animals are likely to need less intensive examination than older animals, although some diseases are confined to young animals e.g. omphalophlebitis.
- In the case of farmed game and farmed game birds, post-mortem examination procedures established for similar domestic animals may act as a basis for their post-mortem examination. These may need to be modified as necessary.
- In the case of killed wild game and wild game birds, post-mortem examination procedures should reflect the particular circumstances of harvesting and transport to the establishment.
- Special post-mortem examination procedures may need to be applied to animals that have reacted to screening tests, e.g., animals which have reacted positively to a tuberculin test should be slaughtered under special hygiene conditions and be subject to more intensive examination procedures than non-reactor animals.
- Special post-mortem judgements may need to be applied to animals that have reacted to screening tests, e.g., irrespective of detection of lesions suggestive of infection, the udder, genital tract and blood of animals which have reacted positively to a brucellosis test should be judged as unfit for human consumption.

**Table 1: Examples of procedures for routine post-mortem examination of the head of animals intended for human consumption**

| | Cattle | Pigs | Sheep/goats | Horses | Deer | Poultry |
|---|---|---|---|---|---|---|
| External surfaces/oral cavity | V | V | V[a] | V | V | — |
| Submaxillary lymph nodes | V,I[b] | V, I | — | V, P | V, I | — |
| Parotid lymph nodes | V, I | — | — | V, P | V, I | — |
| Retrophraryngeal lymph nodes | V, I | — | — | V, P | V, I | — |
| Tongue | V, P[c] | V | — | V, P | V, P | — |
| Muscles of mastication | V, P, I[d] | V, P, I | — | — | — | — |
| Other | — | — | — | —[e] | | |

V is visual examination, P is examination by palpation, I is examination by incision.

[a] Notwithstanding post-mortem examination for animal health purposes, the head may be discarded if brains and tongues are not collected for human consumption

[b] Incision of lymph nodes of the head is not necessary in calves

[c] Palpation of the tongue is not necessary in calves

[d] The muscles of mastication should be incised according to the potential for infestation with cysts of *Taenia* pp.

[e] The nasal septum should be removed and examined if glanders is present in the slaughter population

**Table 2: Examples of procedures for routine post-mortem examination of the carcass of animals intended for human consumption**

| | Cattle | Pigs | Sheep/goats | Horses | Deer | Poultry |
|---|---|---|---|---|---|---|
| External surfaces | V | V[a] | V | V | V | V |
| Prescapular lymph nodes | V | — | V | — | V | — |
| Thoracic cavity/pleura | V | V | V | V | V | V |
| Abdominal cavity/peritoneum | V | V | V | V | V | V |
| Superficial inguinal lymph nodes | V, P | — | V, P | V, P | V, P | — |
| External/internal iliac lymph nodes | V, P | — | V, P | V, P | V | — |
| Supramammary lymph nodes | V, P[b] | V | V | V | — | — |
| Pre-pectoral lymph nodes | V, P | — | V, P | V, P | V, P | — |
| Popliteal lymph nodes | — | — | P | — | — | — |
| Renal lymph nodes | V, P | V, P | — | V, P | V | — |
| Diaphragm | V | V[c] | V | V | V | — |
| Other | —[d] | — | — | —[e] | — | — |

V is visual examination, P is examination by palpation, I is examination by incision.

**Note**: The umbilicus and joints of the limbs should be viewed and palpated in very young animals.

**Note**: A quality assurance system should be in place to ensure that all thyroid tissue has been removed from the throat.

[a] Castration sites should be palpated

[b] Supramammary lymph nodes should be incised in lactating animals

[c] The muscles of the diaphragm should be incised according to the potential for infestation with cysts of *Taenia* spp.

[d] The udder should be incised if it is intended for human consumption

[e] The muscles and lymph nodes beneath one of the two scapular cartilages should be examined for melanosis in all grey and white horses

**Table 3: Examples of procedures for routine post-mortem examination of the viscera of animals intended for human consumption**

| | Cattle | Pigs | Sheep/goats | Horses | Deer | Poultry |
|---|---|---|---|---|---|---|
| Lungs | V, P[a] | V, P | V, P | V, P | V, P | V |
| Oesophagus | V | V | V | V | V | — |
| Trachea | V | V | — | V | — | — |
| Bronchial lymph nodes | V, I[b] | V, P | V, P | V, P | V, I | — |
| Mediastinal lymph nodes | V, I | V, P | V, P | V, P | V, I | — |
| Heart | V, P, I[c] | V, P, I[c] | V, P | V, P, I | V, P | V |
| Pericardium | V | V | V | V | V | V |
| Liver | V, P | V, P | V, P | V, P | V, P | V |
| Portal lymph nodes | V, P | V, P | V | V, P | V, P | — |
| Gall bladder | V, I[d] | — | V, P | — | V, P | — |
| Kidneys | V | P | V | V[e] | V | V |
| Renal lymph nodes | V | — | — | — | V | — |
| Spleen | V | V | V | V | V | — |
| Gastrointestinal tract | V | V | V | V | V | V |
| Mesenteric lymph nodes | V, P | V, P | V | V, P | V, P | — |
| Genital organs[f] | V | V | — | V | V | V |

V is visual examination, P is examination by palpation, I is examination by incision.

[a] Incision of the diaphragmatic lobe can be used to examine the bronchii if lungs are intended for human consumption

[b] Incision of the bronchial and mediastinal lymph nodes is not necessary in calves

[c] The number and location of incisions in the heart muscle should be according to the potential for infestation with cysts of *Taenia* spp.

[d] An alternative to incision of the bile ducts for the deletion of distomatosis is incision through the gastric surface of the liver. Examination for distomatosis is not necessary in calves

[e] Kidneys should be palpated if intended for human consumption; kidneys of grey or white horses should be incised

[f] Palpation and incision should be carried out as appropriate if tissues are intended for human consumption e.g. uterus of heiters

**APPENDIX II**

## JUDGEMENT OF EDIBLE PARTS OF ANIMALS AS UNSAFE OR UNSUITABLE FOR HUMAN CONSUMPTION

**All edible parts judged unsafe or unsuitable for human consumption**

Following ante- and/or post-mortem examination,[37] all edible parts from animals affected with the following conditions may be judged unsafe or unsuitable for human consumption:

*Specific zoonotic diseases*

For example: BSE, acute salmonellosis, acute leptospirosis, acute brucellosis (unless specified otherwise by the competent authority), glanders, melioidosis, anthrax, Q fever, blackleg *(Clostridium chauvoei)*, braxy (*Cl. septicum*), lamb dysentery (*Cl. perfringens*), acute erysipelas, toxoplasmosis, listeriosis, yersiniosis, haemorrhagic septicaemia (*Pasteurella multocida*), *Trichinella* spp., *Cysticercus cellulosae*, *C. bovis*

*Generalised infectious disease, including septicaemia, pyaemia, toxaemia, viraemia and mycosis*

For example: tetanus, botulism, rabies, bovine leucosis, avian leucosis complex, necrobacillosis, caseous lymphadenitis, tuberculosis, actinobacillosis and actinomycosis

*Acute infectious conditions where there is a likelihood of generalised involvement*

For example: acute infectious conditions affecting the brain, lungs, heart, liver, kidneys, pleura, peritoneum, gastro-intestinal tract, bones, joints, uterus, udder or umbilicus, either alone or in combination

*Extensive chronic suppurative conditions of viscera where there is a likelihood of generalised involvement*

For example: pleurisy, peritonitis, pericarditis, hepatitis, nephritis, cystitis, retained placenta

*Generalised intoxication*

For example: consumption of toxic plants or heavy metals, ochratoxin in porcine kidneys above allowable levels

*Malignant tumours*

*Tumours with widespread distribution*

*Presence of residues or contaminants in excess of permitted levels*

*Generalised conditions that may make edible parts unsuitable for human consumption*

For example: parasitic infestations (such as sarcosporidiosis, *Cysticercus ovis*) xanthosis, icterus, physiological conditions (such as cachexia, oedema, ascites, pronounced sexual odour, "immaturity", severe non-infectious anaemia), metabolic disorders (such as hypomagnesaemia)

*Multiple and serious injuries*

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[37] If animals have not undergone ante-mortem examination (except in the case of wild game), or some edible parts, e.g., viscera, have not undergone post-mortem examination, the competent person should declare all edible parts unsafe and unsuitable for human consumption unless special circumstances apply

*Extensive defects of technical origin*

For example: post-mortem damage from machinery, excessive scalding (such as "cooked" poultry), dressing cuts

*Insufficient bleeding, generalised blood or serum infiltration, and extensive echymoses*

*Diseases transmissible to animals, as designated in relevant national animal health legislation*

*Any other condition as prescribed by the competent person undertaking examination activities*

For example: The presence of widespread contamination that cannot be effectively removed, any evidence of a chemical substance (administered or consumed) that may be a risk to human health, the presence of conditions in killed wild game that suggest the possibility of a risk to human health (such as significant abnormalities of colour, texture or smell of edible parts, presence of gas in the intestines, putrefaction of parts), the appearance of killed wild game that suggests death other than by killing (such as natural death, death by trapping)

**Edible parts judged unsafe or unsuitable for human consumption**

Following post-mortem examination, edible parts that exhibit the following conditions should be judged unsafe or unsuitable for human consumption:

*Gross evidence of contamination*[38]

For example: faecal material, ingesta, feathers, dirt, oil, or ingesta in lungs intended for human consumption

*Localised pathological lesions and defects of infectious, parasitic, traumatic, toxic or other origin*

For example: skin lesions, arthritis, nephritis, hepatitis, abscesses, other suppurative diseases[39], paratuberculosis, hepatic and renal aflatoxicosis, mycosis, distomatosis, hydatidosis, warbles, sarcoptic mange, tumours, fatty infiltration, degeneration, white muscle disease, other localised changes in muscle, pigmentation, fractures, bruising, wounds, haemorrhage, scarring, technological defects

*Cysts and malformations*

*Any other localised condition as judged by the competent person undertaking post-mortem examination*

For example: injection site lesions, other evidence of administration of chemical substances, presence of physical hazards, gunshot wounds in killed wild game

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38 Carcasses may be judged as safe and suitable for human consumption where gross evidence of contamination can be removed in a manner that does not lead to further contamination

39 Carcasses may be judged as safe and suitable for human consumption where gross evidence of contamination can be removed in a manner that does not lead to further contamination

**Edible parts judged unsafe and unsuitable for human consumption unless subjected to specified processing conditions**

Following post-mortem examination, edible parts from animals that exhibit the following conditions may be judged safe and suitable for human consumption if subjected to cooking, freezing or another process e.g. trimming, as prescribed by the competent authority[40] following removal of the affected parts:

Light infestations of C. cellulosae

Light infestations of C. bovis

Localised lesions of swine erysipelas

Localised lesions of bovine tuberculosis

Extensive lesions of sarcoptic mange

Other conditions as judged by the competent person undertaking post-mortem examination e.g. excessive male odour, localised infectious conditions

[40] Where an edible part is affected by caseous lymphadenitis but the condition is not generalised or associated with emaciation, the affected part together with its associated lymph node(s) should be judged unsafe for human consumption

**ANNEX II**

**COMMENTS**

**In response to CL 2002/06-MPH, Part B**

Australia, Germany, Indonesia, Korea, New Zealand, Sudan, Switzerland, Thailand, United States, the European Community.

These comments were considered with discussions, written comments submitted at the 8th Session[1].

## 1. INTRODUCTION

***PARAGRAPH 2***

**AUSTRALIA**

Delete '*unseen*' –superfluous. Add "*together with appropriate ante-mortem and post-mortem procedures*" to end of this sentence.

**THAILAND**

We propose to amend the second sentence in paragraph 2 by deleting the phrase

"……..and or greater emphasis on prevention and control of unseen microbiological contamination during processing". As the third sentence has been mentioned the application of HACCP principle which include the prevention and control of microbiological contamination. The text would read as follows:

"This should be reflected in application of specific measures that are based on science and risk assessment."

**UNITED STATES**

In the second paragraph, fourth line, delete the word "unseen."

New wording: "…prevention and control of microbiological contamination…"

Rationale: Unseen microbiological contamination is redundant since normally microbiological contamination would not be visible.

***PARAGRAPH 4***

**AUSTRALIA**

Reword 2nd sentence: (better clarity of meaning)

*Further, newly recognised meat-borne risks to human health may require measures additional to those traditionally applied in meat hygiene e.g.…*

**SWITZERLAND**

Replace "risk management" by "risk analysis". Risk management is part of the risk analysis process and therefore the more general term including risk management. In the footnote, reference is made to both risk management and risk analysis.

## 2. SCOPE AND USE OF THIS CODE

***PARAGRAPH 6***

**AUSTRALIA**

Better presentation than initial draft however Australia would prefer to see the closing example reworded as follows:

[1] CX/MPH 02/4 Add.1 and Conference Room Documents 2, 3, 4 and 5.

*"It is inevitable that game meat or poultry meat hazards will reflect their respective production environments and be different from those of red meat.'*

***PARAGRAPH 7***

**AUSTRALIA**

Will need to revisit depending on decision taken at CAC Exec on whether this code extends to meat processing.

***PARAGRAPH 8***

**INDONESIA**

Indonesia would like to stick with the input "General Guideline for the Use of the Term "Halal" (CAC/GL 24-1997) in scope of Proposed Draft Code of Hygienic Practice for Fresh Meat as agreed by Committee in the last meeting.

- Considering, the definition of "Suitable for human consumption", Indonesia endorse to the Committee conclusion to include term of Halal as a footnote.

## 3. DEFINITIONS

**AUSTRALIA**

The definitions for ***Carcase, Meat, Fresh Meat, Offal*** and ***Dressing*** are all interdependent. Getting the language right is very difficult, as is to maintain consistency throughout the text of the code.

It may be least confusing to drop the word ***offal*** as offals include thoracic and abdominal viscera as well as smooth and striated muscle tissues. (cheek, tongues, diaphragm). Linking offals to dressing becomes complex, as it requires a detailed definition of the process that separates meats from offals. Such detail does not add value to the text. It may be more appropriate to define:

**Dressing** –as drafted,

**Carcase –**the body of an animal after slaughter and dressing,

**Meat –** All edible parts of an animal (avoids confusion in text about inspection of meat - as defined it is parts of an animal that have passed inspection and therefore does not need further inspection)**.**

**Fresh Meat** – *Meat that has not been subject to preservation techniques other than refrigeration. (This will need some development to allow slaughter line and immediate post slaughter line treatments such as organic acid sprays or irradiation)*

***ANIMAL***

**SUDAN**

Animals of the following types:

Domestic ungulates i.e. Bovine, Porcine, Ovine, Caprine animals and Camelidae.

***ANTE-MORTEM INSPECTION***

**NEW ZEALAND**

New Zealand suggests that this definition be amended to read:

**Ante-mortem examination -** Any procedure or test conducted by a competent person on live animals to make judgements for safety and suitability for slaughter and processing and to determine disposition.

This would indicate that the term covers a range of activities of different types of which 'inspection' is only one such activity. The addition of the words 'to determine safety and suitability' indicates clearly what the purpose of the examination is. As reworded, New Zealand recommends the removal of the square brackets.

**SUDAN**

Any procedure visual or clinical inspection subjected to animals for the purpose of judgement and disposition.

**SWITZERLAND**

The term ”inspection” should be replaced by ”examination” because this is a more general term that could cover activities of different types of inspectors. The term ”inspection” should then be defined separately.

**THAILAND**

We propose to remove square brackets and retain the text as follows :

“***Ante-mortem inspection*** Any procedure or test applied ante-mortem to animals for the purpose of judgement and disposition”

**UNITED STATES**

***Ante-mortem inspection -*** The definition should indicate *inspection* is an activity performed by an *inspector*. New wording: “Any procedure or test applied ante-mortem to animals for the purpose of judgement and disposition by an inspector.”

Rationale: Inspection is an official activity and can not be performed by an employee of an abattoir.

***BRAND***

**SUDAN**

Any mark, or stamp approved by the competent authority and also include any tag or label bearing such mark or stamp for meat that safe and suitable for human consumption.

***CARCASS***

**GERMANY**

The term "slaughter" used in the definition of "Carcass“ does not cover the bagging of game. Thus the term "Carcass“ in conjunction with regulations on game obtained from animals bagged in a huntsmanlike manner does not apply. In Section 5.3, para. 23, or Section 7.2, para. 53, the term "Carcass“ should, therefore, be replaced by "wild game“.

**SUDAN**

The whole body of an slaughter animal after bleeding, dressing and evisceration.

***CONDEMNED***

**NEW ZEALAND**

New Zealand suggests that this definition be amended to read:

> *An animal or parts of an animal examined and judged by the competent person as being unsafe or unsuitable for human and/or animal consumption.*

The reference to destruction is unnecessary, as there is only one option for disposal if the animal material is not suitable for either human or animal consumption. We suggest that the words ‘and/or animal consumption’ be retained and the square brackets removed. The term ‘condemned’ does have a wider meaning than only being unsuitable for human consumption. Something unfit for human consumption may be fit for animal consumption or rendering, and such material would not be considered ‘condemned’.

**SUDAN**

The entire carcass and offal or apart of a carcass inspected and judged, or otherwise determined to be suitable for human [and / or animal] consumption and requiring [destruction].

**SWITZERLAND**

Remove all square brackets and keep text as it is. As the result of the post-mortem inspection, carcasses and by-products need to be classified into a number of mutually exclusive categories. These are: edible, inedible and condemned. The term ”edible” would need to be added.

**UNITED STATES**

***Condemned -*** An animal or its parts are *condemned* only for human consumption.

New wording: “An animal or parts of an animal inspected and judged, or otherwise determined, to be unsafe or unsuitable for human consumption and requiring denaturing or decharacterization.”

Rationale: Condemned product should be further identified or described if it is not permitted to be included in animal feed. Condemned product is not destroyed, since it may be used for animal feed. It is denatured or decharacterized.

***CONTAMINANT***

**SUDAN**

Any biological, chemical, physical agent or other substance not intentionally added to food that may compromise food safety or suitability.

***DISEASE OR DEFECT***

**NEW ZEALAND**

To simplify, improve clarity and to cover both outcomes, we suggest this definition be amended to read:

*Any abnormality affecting safety and/or suitability.*

As reworded New Zealand recommends the removal of the square brackets.

**THAILAND**

We propose that disease and defect should be separately defined as follows :

***“ Disease*** A pathological or physiological change.

***Defect*** Physical abnormality associated with food safety”

***ESTABLISHMENT OPERATOR***

**AUSTRALIA**

Replace the words after *‘. ensuring ..*’ with ‘*that the company’s program for meeting its meat hygiene requirement are fulfilled’* This then separates the respective responsibilities of the CA and the EO.

**SWITZERLAND**

Remove square brackets.

**THAILAND**

As the term “establishment” is defined as a building or area used for meat hygiene activities that is approved, registered and/or listed by the competent authority for such purposes. So it may be duplicated if the term establishment operator is defined as “……who is responsible for ensuring that the meat hygiene requirements are met”. We propose to amend as follows :

*"**Establishment operator***

*The owner or a person who is responsible for controlling of establishment"*

***FOOD SAFETY OBJECTIVE (FSO)***

**THAILAND**

We are of the opinion that food safety objectives should cover all hazards: microbiological, chemical and physical hazards. Therefore we propose to delete [microbiological] from the text.

***FRESH MEAT***

**AUSTRALIA**

(See also comments above) needs further work e.g. poultry processing allows use of organic acid and irradiation treatments. Red meat also uses interventions that don't fit the existing definition – are these decontamination steps or preservation?

***GOOD HYGIENIC PRACTICE (GHP)***

**KOREA**

Good Hygienic Practice (GHP) should be included in the list of definitions to make it easier to understand the Draft Code as follows. This definition is based on the "HACCP Principles and Practice: Teacher's Handbook" published by World Health Organization (WHO) and Industry Council for Development (ICD) in 1999.

Good Hygienic Practice (GHP): All practices regarding the conditions and measures necessary to ensure the safety and suitability of food at all stages of the food chain.

***INSPECTOR***

**KOREA**

The following definition is proposed to achieve greater clarity. Rewrite as follows:

[A person appointed, accredited or otherwise recognized by the competent authority for the purpose of meat inspection and control of hygiene, including veterinary inspector. The supervision of meat hygiene, including the inspection of meat, should be under the responsibility of a veterinary inspector.]

**NEW ZEALAND**

New Zealand recommends that this definition be deleted. The definition of 'competent person' covers this type of person.

**SUDAN**

A person appointed, accredited or other otherwise recognized by the competent authority for meat hygiene inspection supervised by a veterinary meat inspector.

**SWITZERLAND**

Remove square brackets.

**UNITED STATES**

***Inspector -*** New wording: "An official appointed, accredited, or otherwise recognized by the competent authority to perform official meat hygiene activities on behalf of, or under the supervision of the competent authority."

Rationale: An inspector can not be an employee of an abattoir.

***MEAT***

**SUDAN**

All parts of a carcass that are safe and suitable for human consumption according to religion and customs.

**UNITED STATES**

***Meat -*** *Meat* is generally recognized as muscle tissue.

New wording: The part of the muscle of any animal that is skeletal or that is found in the tongue, in the diaphragm, in the heart, or in the esophagus, with or without normally accompanying tissues.

Rationale: Other edible parts of animals should be defined as *offal* or *meat food product*.

***OFFAL***

**UNITED STATES**

***Offal -*** The U.S. suggests changing the term to *meat byproduct*, and amending the definition to exclude *meat*.

New wording: Any part of an animal capable of use as human food, other than meat.

Rationale: *Offal* is defined more narrowly in some countries.

***OFFICIAL INSPECTOR***

**NEW ZEALAND**

New Zealand suggests that this definition be amended to read:

*A competent person employed by government to perform official meat hygiene activities.*

As reworded New Zealand recommends the removal of the square brackets. Acceptance of this definition will mean that some consequential changes to the code itself will need to occur.

**SWITZERLAND**

Remove square brackets.

**UNITED STATES**

***Official inspector -***O*fficial inspector* should be deleted. Employment directly by the government is not a critical issue. Rather, it is critical an inspector not be employed by an abattoir.

Rationale: The term should be synonymous with inspector.

***ORGANOLEPTIC INSPECTION***

**NEW ZEALAND**

New Zealand suggests that this definition be amended to read: ***Organoleptic examination***

This would align the definition with suggested changes to ante- and post-mortem inspection.

**UNITED STATES**

***Organoleptic inspection -***The definition should indicate *inspection* is an activity performed by an official of the competent authority, or a competent person working for a competent body under supervision of the competent authority.

New wording: “Identification of diseases and defects of animals by sense of sight, touch, and smell by an inspector.”

Rationale: Inspection is an official activity and can not be performed by an employee of an abattoir.

***POST –MORTEM INSPECTION***

**NEW ZEALAND**

To maintain consistency with the definition for ante-mortem activities New Zealand suggests that this definition be amended to read:

> ***Post-mortem examination*** *– Any procedure or test conducted by a competent person to the heads, carcass, viscera and other parts of an animal to make judgements for safety and suitability and to determine disposition.*

**UNITED STATES**

***Post-mortem inspection -*** The definition should indicate *inspection* is an activity performed by an official of the competent authority, or a competent person working for a competent body under supervision of the competent authority.

New wording: "Any procedure or test applied post-mortem to the heads, carcass, viscera, and other parts of an animal for the purpose of judgement and disposition by an inspector."

Rationale: Inspection is an official activity and can not be performed by an employee of an abattoir.

***SAFE FOR HUMAN CONSUMPTION***

**NEW ZEALAND**

New Zealand recognises that many consumers and governments have particular concerns about chemical residues or contaminants. Chemical agents are one of the three agents specifically identified in the definition of a 'hazard' as potentially leading to adverse health effects. As such New Zealand suggests that it is unnecessary for the definition of 'Safe for human consumption' to list 'chemical residues or contaminants' as a separate criteria rather they should be included in the second criteria.

New Zealand suggests that this definition be amended to add the words 'including chemical residues or contaminants' at the end of the second bullet. The third bullet should be deleted.

**SWITZERLAND**

Delete third bullet point. This is already included in these *consumption:* second bullet point.

**THAILAND**

We are of the opinion that the text of the second bullet also cover the text in the third bullet. Therefore we propose to delete the third bullet.

***SLAUGHTER***

**SUDAN**

Severing of the skin of the neck with a sharp knife. Including the Trachea, jugular, esophagus and all tissues till the bone, leaving at least one tracheal ring or part of it at the head.

***SANITATION STANDARD OPERATING PROCEDURES (SSOPS)***

**KOREA**

This definition should be redefined to include the control operation and personal hygiene as follows:

A documented system for assuring that facilities, equipment and utensils are clean and sanitised prior to and during operation, employees during operation maintain an appropriate degree of personal cleanliness, and operations are carried out in a hygienic manner.

***SUITABLE FOR HUMAN CONSUMPTION***

**AUSTRALIA**

The first dot point 'all consumer acceptability requirements is too broad and should be limited to matters related to objectives of the code. Not animal welfare, environmental or other user expectations.

**THAILAND**

We propose to change the word "national legislation" in the third bullet to "international standard" to read as follows :

" • has not been treated with illegal substances as specified in relevant international standard".

**UNITED STATES**

***Suitable for human consumption -*** The U.S. has no objection to use of this term with the understanding its meaning ensures meat is processed under sanitary conditions, and meets meat hygiene standards established by the competent authority for processing defects and gross pathology that could make meat unsuitable for human consumption even though it might be safe. The term does not encompass production practices employed to meet preferences by individual countries (e.g., safe use of growth hormones in cattle).

***VERIFICATION***

**AUSTRALIA**

Australia believes that verification goes beyond merely ensuring that regulatory requirements are met and that "***The continual review of process control systems including corrective and preventative actions to ensure [specified][regulatory] requirements are met"*** would better reflect the meaning of the word.

**NEW ZEALAND**

New Zealand suggests that this definition be reviewed in line with its use throughout the Draft Code. This particularly relates to its application to the establishment operator or to the competent authority or competent body.

***VETERINARY INSPECTOR***

**NEW ZEALAND**

New Zealand suggest changing this definition to include the word 'official' as follows:

***Veterinary Inspector*** *– An official inspector who is professionally qualified as a veterinarian.*

**SWITZERLAND**

Remove square brackets.

## 5 PRIMARY PRODUCTION

***PARAGRAPH 11***

**AUSTRALIA**

Delete 'microbiological in 2nd sentence. There are a range of other hazards at primary production which must also be managed eg residues.

**THE EUROPEAN COMMUNITY**

In general: use 'primary production' or 'primary producers' throughout the text of the chapter, replacing words like 'farming industry'.

The second sentence of paragraph 11 should be amended as follows:

'A number of microbiological, *chemical and physical* hazards are present in animal populations intended for slaughter and their control at farm level often presents considerable challenges.' The examples at the end of the sentence should be deleted.

## 5.1 PRINCIPLES OF MEAT HYGIENE APPLYING TO PRIMARY PRODUCTION

### ***BULLET POINT II***

**AUSTRALIA**

5.1.ii - Needs stronger opening *eg 'Whenever possible systems should be established to collect, collate and disseminate information on hazards and conditions affecting the safety and suitability of fresh meat ……'*

### ***BULLET POINT IV***

**UNITED STATES**

**iv.** Omit the part of the sentence following first use of the word "HACCP."

New wording: "Good hygienic practice (GHP) at the level of primary production should involve the hygiene of animals, feedingstuffs and the environment, and should include application of the HACCP concept to the extent practicable."

Rationale: The principles that underlie HACCP should be applied to the extent practicable, but development of comprehensive HACCP systems is often not feasible in primary production.

**THAILAND**

We are of the opinion that the practicality of HACCP at the farm level should be flexible so we support the US comment to amend the fourth bullet as follows:

"Good Hygienic Practice (GHP) at the level of primary production should involve the hygienic of animals, feedingstuffs and the environment, and may include application of HACCP or the principles that underlie HACCP as appropriate to the circumstances"

**THE EUROPEAN COMMUNITY**

Point iv. should be amended as follows:

'Good hygienic practice (GHP) at the level of primary production should involve the hygiene of animals, feedingstuffs and the environment and should include *the* application of HACCP *principles to the greatest extent practicable*.'

### ***BULLET POINT V***

**AUSTRALIA**

5.1.v -Do we need a definition for place of origin? E.g. *place of husbandry for the animal immediately before it arrives at the abattoir.*

Few systems would be able to accommodate a whole of life history for all categories of livestock

Data for non-farmed animals eg game, will be variable and trace back may only be possible to a geographic area.

**KOREA**

*Because animal identification practices is not in place due to economic and technical constraints in many countries, especially in developing countries, we recommend that new words should be added as follows:*

> Animal identification practices, to the extent practicable, should allow trace-back to the place of origin in cases where regulatory investigation is required as a result of unacceptable levels of hazards (or suitability characteristics) being detected at later stages in the food chain.

**NEW ZEALAND**

Principles of Meat Hygiene Applying to Primary Production – Principle V

New Zealand suggests that the words 'to the extent practicable' be included after 'place of origin'. These principles are generic in nature and are intended to apply across the range of animals that will be covered by the code. It is not always reasonable or practical to suggest that the same practices can or should be applied across all species.

**UNITED STATES**

**v.** Omit this section.

Rationale: There is a role for animal identification to support trace-back in relation to food safety, however, inclusion of a principle related to trace-back in this document is premature. The work of other committees and task forces on trace-back in Codex should be completed, and the resulting paragraphs cited.

**THE EUROPEAN COMMUNITY**

Point v. should be amended as follows:

'Animal identification practices should allow trace-back to the place of origin~~. in cases where regulatory .....~~'

***BULLET POINT VI***

**THE EUROPEAN COMMUNITY**

Point vi. should be amended as follows:

**'***Voluntary* QA systems implemented by the farming industry during primary production *should* be appropriately *taken into account* by the competent authority *during verification* of regulatory requirements.'

## 5.2 HYGIENE OF SLAUGHTER ANIMALS

***PARAGRAPH 14***

**UNITED STATES**

**Sentence 1 -** Amend by inserting the term "science-based" after "…to implement…."

New wording: "Both farmers and the competent authority should work together to implement science-based meat hygiene programmes at the level of primary production that document the general health status of slaughter animals…."

Rationale: Meat hygiene programmes should have as their bases prevention or minimization of hazards, and prevention or minimization of diseases and conditions affecting hygienic processing.

***FIRST TEXT BOX***

**THE EUROPEAN COMMUNITY**

The first bullet of the box of paragraph 14 should be amended as follows: 'Farmers should record relevant information on the health status of ~~groups of slaughter~~ animals *(*as it relates to the production of fresh meat that is safe and suitable for human consumption*)*, e.g., origin of…'

Second bullet-point in the box of paragraph 14: 'incorporated into industry-led on-farm QA programmes to improve their effectiveness' should be replaced by 'used at primary production level to improve the health status of slaughter animals'. The third bullet-point can be removed.

***PARAGRAPH 15***

**AUSTRALIA**

Reword to:

The competent authority should administer an official program for control of specified zoonotic agents, chemical hazards and contaminants.

Does definition of *competent authority* need to have scope to include other agencies? As defined it is limited to meat hygiene. For some of these activities other government agencies will be responsible.

***SECOND TEXT BOX***

**THE EUROPEAN COMMUNITY**

The first sentence in the second box of paragraph 15 should be amended as follows: 'Official or officially-recognised programmes for chemical hazards *should* ~~may~~ include measures to:'

***THIRD TEXT BOX***

**KOREA**

**First bullet**

Replace with the following suggested wording, because chemical hazards include not only veterinary drugs but also pesticides, heavy metals and etc.;

> Control the registration and/or use of chemical substance (e.g., veterinary drugs, pesticides, heavy metals) or contaminants so that residues do not occur in fresh meat at levels that render the product unsafe for human consumption.

**NEW ZEALAND**

**First bullet**

New Zealand suggests changing 'render' to 'make'. 'Render' has specific connotations, which are not applicable in this context.

***PARAGRAPH 16***

**NEW ZEALAND**

New Zealand suggests that this paragraph be amended to read:

> Animal identification systems, **to the extent practicable**, should be in place at the farm level so that the origin of fresh meat can be reliably traced back from the abattoir or establishment to the place of production of the animals.

In line with our comments on section 5.1 – Principle V, identification systems should be in place to the extent practicable.

**UNITED STATES**

Omit this section.

Rationale: There is a role for animal identification to support trace-back in relation to food safety, however, the inclusion of a principle related to trace-back in this document is premature. The work of other committees and task forces on trace-back in Codex should be completed, and the resulting paragraphs cited.

**THE EUROPEAN COMMUNITY**

To be deleted in paragraph 16, the words: ' ... , ~~if required~~, .....'

***PARAGRAPH 17***

**AUSTRALIA**

Reword 1st dot point:

*The degree of contamination of the external surfaces of the animal is likely to compromise hygienic slaughter and dressing.*

**NEW ZEALAND**

New Zealand suggests that the first bullet be deleted. It is not clear if the point refers to the animals or the conveyance, in either case the matter of cleanliness in covered in sections 5.6 and 6.

**UNITED STATES**

**3rd Dot Point**

Omit this section.

Rationale: Animal welfare is an issue deserving attention by governments, but it is outside the scope of this Codex document.

## 5.3 HYGIENE OF WILD GAME

***PARAGRAPH 19***

**NEW ZEALAND**

New Zealand suggests that the first bullet be deleted. This is an animal welfare issue and it is inappropriate for a Codex document to address this issue. This section is dealing with wild game and the reality of the procurement of such animals should not be ignored.

***PARAGRAPH 20***

**AUSTRALIA**

Middle of clause would read better if " *In some situations etc* " were replaced with:

*"The competent authority should require that hunters and other people involved in harvesting of wild game undergo basic training in meat hygiene appropriate to field procurement ...*

Recognising the importance of proper handling at the commencement of the slaughtering transportation and dressing process. Untrained people can significantly influence the microbiological status of carcases.

**UNITED STATES**

In paragraph 20, third line, remove clinical

New wording: "…wild game meat, e.g., symptoms of disease…"

Rationale: Hunters will rarely be qualified to describe clinical symptoms.

**THE EUROPEAN COMMUNITY**

The second sentence of paragraph 20 should be amended as follows: '~~In some situations,~~ ~~t~~The competent authority ~~may~~ *should* require that hunters or other people involved in harvesting of wild game undergo basic training ….'

***PARAGRAPH 21***

**NEW ZEALAND**

The words in brackets 'where allowed by the competent authority' should also be used in respect of the second example given in this paragraph. The competent authority has an interest in partial evisceration as well as removal of the head because of post-mortem examination requirements for certain species.

***PARAGRAPH 23***

**AUSTRALIA**

Reword sentence to read;

*Delivery of wild game carcasses to a game depot or establishment should be within time limits established by the competent authority and in accordance with harvesting and environmental conditions and desired food safety outcomes.*

## 5.4 HYGIENE OF FEEDINGSTUFFS

**GERMANY**

This Section should be put in square brackets and reference be made to the Code of Practice on Good Animal Feeding being under preparation at the moment. The Ad hoc Intergovernmental Codex Task Force on Animal Feeding draws up a "Code of Practice on Good Animal Feeding".

Its tasks are to be concluded in 2004. The issues addressed in paras. 24 to 27 will be discussed in detail by this Task Force. One should not anticipate the outcome of these discussions. This applies in particular to the statement on the use of antibiotics as growth promoters in para. 25; at present Germany cannot agree to this statement.

**UNITED STATES**

Omit this section.

Rationale: Issues in this section are appropriately the responsibility of the *ad hoc* Intergovernmental Task Force on Animal Feeding.

***PARAGRAPH 26***

**AUSTRALIA**

Delete. Beyond the scope of this code, as is the second sentence in 25 (above). A separate Codex ad hoc committee is considering this issue. This issue may be best addressed by the inclusion of a footnote that makes reference to the work of other Codex Committees on this matter.

***TEXT BOX***

**AUSTRALIA**

Reword the sentence after dot point 2;

'*contain chemical substances (e.g. veterinary drugs, pesticides) or contaminants that could result in residues or contaminants in fresh meat at levels in violation of established limits'*

## 5.5 HYGIENE OF THE ENVIRONMENT

***PARAGRAPH 28***

**AUSTRALIA**

The code should not imply that the CA has a responsibility to undertake environmental monitoring per se. This is most likely the responsibility of other agencies, however it is appropriate for the CA to mandate monitoring/surveillance of animals when environmental factors indicate a need to do so. This keeps the scope of activities within this committee's ToR.

***PARAGRAPH 29***

**THE EUROPEAN COMMUNITY**

The first sentence of paragraph 29 should read: 'The *relevant* ~~competent~~ authority should design ..... '

***FIRST TEXT BOX***

**AUSTRALIA**

Dot point 2 - Reword as in 26 above;

*'...that result in levels in fresh meat in violation of established limits.'*

***SECOND TEXT BOX***

**THE EUROPEAN COMMUNITY**

In the second box of paragraph 29 – the first bullet point should read: 'housing *and* feeding platforms, *where used*, and other areas .... »

## 5.6.1 TRANSPORT OF SLAUGHTER ANIMALS

***FIRST TEXT BOX***

**UNITED STATES**

**Bullet 4, 1st box -** Omit "…animal welfare and…."

New wording: "• due consideration is given to avoiding stress."

Rationale: Animal welfare is an issue deserving attention by governments, but it is not appropriate to address the issue in a Codex document except as stress impacts pathogen shedding.

**THE EUROPEAN COMMUNITY**

The Spanish translation of the third bullet point of the first box of paragraph 30 should be adapted: it should read 'place of origin' and not 'place of marketing'.

***SECOND TEXT BOX***

**THAILAND**

We propose to add footnote for the fourth bullet of the second box as this provision should not include poultry. The footnote is read as follows:

***"Exception is made for poultry"***

***PARAGRAPH 31***

**NEW ZEALAND**

New Zealand suggests that this paragraph be amended to read:

> ***Conveyances*** *should be cleaned and if necessary disinfected as soon as practicable after animals have been unloaded at the abattoir.*

The term 'conveyances' covers both vehicles and crates or similar devices that may be used during transportation. The specific reference to poultry should be removed and other species of animals may also be transported in crates.

## 5.6.2 TRANSPORT OF WILD GAME ANIMALS

***PARAGRAPH 32***

**AUSTRALIA**

Movement of animals (eg kangaroos) to a field depot is not always in a closed vehicle. Partially dressed carcases are exposed to environmental contaminants and frequently come into contact with the transport vehicle's surfaces/framework. Accordingly only the first dot point in Section 8.10 box referring to the sanitation requirements applying to the transport of fresh meat is relevant. It may be more appropriate to refer to transport of game meat carcases following initial chilling e.g. from the field depot to a game establishment.

***PARAGRAPH 33***

**AUSTRALIA**

Suggest rephrase to; *Unless deemed unnecessary due to low ambient temperatures…*

**NEW ZEALAND**

***Paragraph 33*** – to improve clarity New Zealand suggests that this paragraph be amended to read:

> ***Except where the ambient temperature is satisfactory, the temperature of the carcass*** *should be actively reduced by refrigeration as quickly as possible after partial field dressing and transport.*

## 6.1 PRINCIPLES OF MEAT HYGIENE APPLYING TO ANIMALS PRESENTED FOR SLAUGHTER

***BULLET POINT I***

**THAILAND**

We propose to delete the phrase "…….so that they do not compromise hygienic slaughter and dressing". The text would read as follows :

> *"i Animals presented for slaughter should be sufficiently clean."*

***BULLET POINT III***

**THE EUROPEAN COMMUNITY**

Point iii. should be amended as follows: 'competencies and training' should be replaced with 'training, knowledge, skills and ability'.

***BULLET POINT IV***

**THAILAND**

We proposed to change the word "science- **and** risk-based" to "science- **or** risk-based". The text would read as follows:

> *"iv Ante-mortem inspection should be science- or risk-based as appropriate to the circumstances, and shall take into account all relevant information from the level of primary production."*

Science and risk-based should be amended to science or risk-based every point in this code for consistency.

***BULLET POINT V***

**KOREA**

Relevant information from primary production is not always available to the processing plant, especially developing countries. Replace with the following suggested wording :

> Relevant information from primary production and results of ante-mortem inspection, to the greatest extent, should be utilised in control of processing operations, preferably within the framework of HACCP(refer to Section 9)

***BULLET POINT VI***

**THE EUROPEAN COMMUNITY**

Point vi. should be amended as follows: 'The establishment operator and the competent authority should analyse ~~and return~~ *the* information from ante-mortem inspection *and the competent authority should ensure that return of this information to the primary producer takes place as appropriate.*'

## 6.2 CONDITIONS OF LAIRAGE

***PARAGRAPH 36***

**AUSTRALIA**

2nd sentence delete '*In particular…'*

Delete 3rd sentence. Doesn't add value to paragraph.

**THE EUROPEAN COMMUNITY**

The following sentence should be added to paragraph 36: 'Animals therefore should, to the greatest extent possible, be delivered clean to the slaughterhouse'.

***PARAGRAPH 37***

**AUSTRALIA**

Delete *unseen* in 2nd sentence.

**NEW ZEALAND**

Washing animals prior to slaughter is a known means of increasing microbiological contamination. New Zealand suggests that this paragraph be amended to read:

> *A range of measures may be applied to ensure that only animals that are sufficiently clean are slaughtered.* ***If washing is used,*** *e.g., manual washing by hosing, automated spray washes, swim washing,* ***this should be undertaken to the minimum extent necessary****. In the case of sheep, adequate drying of the fleece after washing* ***is*** *an important determinant of the level of microbiological cross-contamination from the fleece to the carcass during dressing.*

**THE EUROPEAN COMMUNITY**

The second sentence of paragraph 37 should be amended as follows: '~~In the case of sheep, a~~Adequate drying of the *hide or* fleece after washing may be an important determinant of the level of unseen microbiological cross-contamination from the *hide or* fleece to the carcass during dressing.'

***TEXT BOX***

**THE EUROPEAN COMMUNITY**

Last bullet-point of the box of paragraph 38: 'to the inspector undertaking post-mortem inspection' should be changed in 'to the inspectors undertaking ante- and post-mortem inspection'.

## 6.3 ANTE-MORTEM INSPECTION

***PARAGRAPH 40***

**AUSTRALIA**

1st Para after '*public*' add '*and animal'*.
**Or** 2nd sentence reword: "*Inspection should include verification that the animals are properly identified so that any special conditions pertaining to their place of primary production are considered in the ante-*

*mortem appraisal including possible public and animal health quarantines. Animals should be of a physical cleanliness such that they do not compromise hygienic slaughter and dressing.*"

On the footnote 16 (p40) CCMPH agreed that in such circumstances the meat from such animals could not enter the food chain.

**GERMANY**

The first sentence in para. 40 should be worded as follows:

"All animals presented for slaughter should be subjected to ante-mortem inspection performed by an official veterinary inspector or under the supervision of an official veterinary inspector whether on an individual or a lot basis."

The suggested addition is necessary to take due account of the first sentence in para. 2 of the Proposed Draft General Principles of Meat Hygiene as well as of the recommendation according to Section 6.3.2, para. 46, according to which the final responsibility for ensuring that all regulatory requirements are met should lie with the competent authority.

**THE EUROPEAN COMMUNITY**

The footnotes 16 and 17 should be deleted.

***TEXT BOX***

**AUSTRALIA**

**Box 5**

Replace the word '*denied*' with *'strictly controlled by the CA'*. The acceptance or otherwise of suspect animals into an abattoir needs to be decided by the official veterinarian (inspector?) on a case by case basis taking a number of factors into account. Paramount among these considerations is the potential impact on animal health/welfare and the achievement of safe food outcomes.

Dot point 5 – correct typo within brackets.'in the use *of* animal …'

Delete word *Alternatively* from footnote within box and/or make modified note a 6th dot point.

**KOREA**

Replace with the following suggested wording :

- Animal identification requirements, if practicable, are not met ; or
- Vendor declarations required by the competent authority (including compliance with good veterinary practice in the use animal medicine), to the extent practicable, are absent or inadequate.

**NEW ZEALAND**

New Zealand suggests that the last bullet be amended to read 'vendor declarations, where required by the competent authority …'. Such declaration may not be required in all circumstances for all species.

**THE EUROPEAN COMMUNITY**

This box is apparently indicating which animals should be denied entrance to the abattoir (including the lairage) by the operator, or eventually by the competent authority. It is questionable whether this box should be placed in the sub-chapter on ante-mortem inspection; it might alternatively be placed under the chapter on the control of processing-operations. It would be appropriate to add bullet-points saying that admission of animals to the abattoir should be denied when the animals are not sufficiently clean, or when there is evidence that the withdrawal time for veterinary drugs has not been respected. In the third bullet-point, the words 'subject to quarantine restrictions' should be deleted.

## 6.3.1 DESIGN OF ANTE-MORTEM INSPECTION SYSTEMS

***PARAGRAPH 43***

**AUSTRALIA**

Suggest replace with:

*'Ante-mortem examination (inspection) is an essential component of an overarching risk-based system for the production of safe fresh meat. The competent authority according to a science and risk-based approach, should establish the ante-mortem procedures and tests.*

*This may include examination of relevant information on the slaughter population including, for example, animal class, health status, and geographical region of origin, and individual animal history and treatments.'*

***PARAGRAPH 44***

**AUSTRALIA**

Rearrangement of paragraphs. This was 45

*'Where indicated by concern for public health examination of individual animals may utilise methods additional to organoleptic examination eg analysis for chemical residues or screening for BSE.'*

**THE EUROPEAN COMMUNITY**

The first sentence of paragraph 44 should be amended as follows: 'Ante-mortem inspection procedures *including clinical inspection* and tests should be established ..... '.

***PARAGRAPH 45***

**AUSTRALIA**

Rearrangement of paragraphs. This was second part of 44.

*'In the absence of a risk-based approach procedures should be based on current scientific knowledge and traditional meat examination systems'.*

**THE EUROPEAN COMMUNITY**

The first sentence of paragraph 45 should be amended as follows: 'Where indicated by public health concerns, screening of individual animals by methods other than *ante-mortem* ~~organoleoptic~~ inspection ..... '

***TEXT BOX***

**AUSTRALIA**

Dot point 2 - Reword; *'Design and application of organoleptic procedures and tests that are relevant and proportional to meat-borne risks associated with clinical signs of illness and detectable gross abnormalities'.*

**THAILAND**

We propose to amend the first bullet under para 45 as follows :

" • procedures for confirmation of proper animal identification, to the extent practicable."

**THE EUROPEAN COMMUNITY**

Box of paragraph 45: In the fifth bullet-point, the words 'on a lot-by-lot basis' should be deleted.

Box of paragraph 45: In the sixth bullet point, the words 'in individual animals' should be deleted.

## 6.3.2 IMPLEMENTATION OF ANTE-MORTEM INSPECTION

***PARAGRAPH 46***

**GERMANY**

In para. 46 the following sentence should be added after the first sentence:

"The competent authority should determine that the ante-mortem inspection, including the assessment according to Section 6.3.3, should be performed independently and that the establishment operator should not influence the inspectors undertaking this inspection and judgement."

The addition makes it clear that inspections and decisions taken on the basis of such inspections which are designed to protect health are performed on the basis of a technical assessment only.

***FIRST TEXT BOX***

**AUSTRALIA**

*Dot point 2 is probably not a good example – perhaps it would be preferable to be more general. E.g. "*withholding of animals from ante-mortem inspection and slaughter if they are in a state or have a condition worthy of special attention.*"*

**THE EUROPEAN COMMUNITY**

The second bullet-point should be deleted. In the fourth bullet-point, the word 'drying' should be added after the word 'washing'.

***PARAGRAPH 47***

**AUSTRALIA**

There should be a delivery appraisal that is not the same as ante-mortem examination that will take place within 'n' hours of slaughter.

**UNITED STATES**

**Sentence 2 -** Add ", but should not be withheld from slaughter any longer than is necessary." to the end.

New wording: "Only animals that are judged to be sufficiently rested should proceed to slaughter, but should not be withheld from slaughter any longer than is necessary."

Rationale: Consideration should be given to the fact that animals held in lairage pose cross-contamination risks that increase with time held.

***SECOND TEXT BOX***

**AUSTRALIA**

Ante-mortem inspection should have a system that can expeditiously handle injured animals- destruction or emergency slaughter- with salvage of edible parts.

**THE EUROPEAN COMMUNITY**

In the first bullet point, the words 'vendor declarations' should be replaced by the words 'declarations from the primary producers'.

In the last bullet point, the following sentence should be added: 'Feed-back of this information to the primary producer should take place.'

## 6.3.3 JUDGEMENT CATEGORIES

***TEXT BOX***

**THE EUROPEAN COMMUNITY**

Second bullet-point in the box of paragraph 49: This bullet-point should be changed to express that it concerns a delayed ante-mortem inspection, delayed until the animals are sufficiently rested or a temporarily physiological condition has passed.

## 6.4 INFORMATION ON PRE-SLAUGHTER ANIMALS

***PARAGRAPH 50***

**AUSTRALIA**

1st line reword opening sentence;

*"Comprehensive knowledge on the origin and history of animals presented for slaughter is an important component of risk assessment of slaughter animals and is a prerequisite for effective design and implementation of processing operations by the establishment operator*.'

**THE EUROPEAN COMMUNITY**

The last words of paragraph 50, 'including the formulation of FSOs', should be placed between brackets, in line with what was decided for general principle 6.

***PARAGRAPH 51***

**THE EUROPEAN COMMUNITY**

In the second bullet-point of the box of paragraph 51, the words 'for incorporation into QA programmes as appropriate' should be deleted as the feed-back of information to the farm should always take place, independently from the question whether a QA programme is in place at farm-level.

## 7. PRESENTATION OF WILD GAME FOR DRESSING

***PARAGRAPH 52***

**AUSTRALIA**

Delete *'have generally'*.

If we are to acknowledge that different circumstances apply, it would be preferable to delete 'hygienic practice' and substitute 'harvesting, handling and transportation arrangements'. This then acknowledges that in lieu of AM, particular attention needs to be given during dressing and PM inspection to ensure hygiene has not been compromised.

Suggest reword '*Killed wild game presented at an establishment have been subject to different harvesting, handling and transportation arrangements compared to live animals presented for slaughter.*

**NEW ZEALAND**

The term 'evaluation' is used throughout this section. New Zealand suggests that a more appropriate term would be 'examination'. 'Evaluation' is considered a more extensive and detailed task than 'examination'.

**THE EUROPEAN COMMUNITY**

The second sentence of paragraph 52 should be deleted, as this is not a realistic requirement in the case of wild game.

## 7.1 PRINCIPLES OF MEAT HYGIENE APPLYING TO EVALUATION OF WILD GAME PRESENTED FOR DRESSING

***BULLET POINT I***

**THE EUROPEAN COMMUNITY**

Point i. should be deleted, as this is not a realistic requirement in the case of wild game.

## 7.2 EVALUATION OF WILD GAME PRESENTED FOR DRESSING

***PARAGRAPH 55***

**AUSTRALIA**

Delete '*generally*' from 2nd sentence.

In example at end of paragraph re evaluation it may be useful to cite need to check on placement of bullet as poor placement may generate such extensive contamination that the carcass is not worth harvesting. *E.g. gross contamination from misplaced or expanding bullet, signs of natural death etc*

## 8.1 PRINCIPLES OF MEAT HYGIENE APPLYING TO ESTABLISHMENTS, FACILITIES AND EQUIPMENT

***BULLET POINT V***

**AUSTRALIA**

v. - Add '*Water pipes should be identified as to the potability or otherwise of the contents'.*

## 8.2 DESIGN AND CONSTRUCTION OF LAIRAGES

***PARAGRAPH 59***

**AUSTRALIA**

Replace *because of* with *due to* in 2nd line

***PARAGRAPH 60***

**NEW ZEALAND**

In line with the comments New Zealand made on paragraph 37, we suggest that words 'washing (and drying)' be deleted and replaced with 'handling'.

**UNITED STATES**

Insert "when appropriate for the given species," after "…animals…." Omit the clause "…that are not sufficiently clean for slaughter."

New wording: "Lairages should include appropriate layout and facilities for washing (and drying) of animals when appropriate for the given species."

Rationale: Washing and drying should be conducted for species in which the process has been demonstrated to be an effective risk management intervention.

**THE EUROPEAN COMMUNITY**

The first sentence of paragraph 60 should be deleted as it is not an appropriate requirement.

***FIRST TEXT BOX***

**AUSTRALIA**

Insert additional dot points;

- *Animals can be sorted (drafted) and segregated*

- *Hand wash facilities for staff at inspection area.*

***PARAGRAPH 61***

**AUSTRALIA**

Add another dot point;

- 'Alternatively systems can be established that allow suspects to be processed as a separate run, after slaughtering has ceased, allowing a full clean down after completion. Emergency kills can be interposed during a normal production run at the discretion of the official veterinarian.'

**NEW ZEALAND**

New Zealand considers that this paragraph, and the following single line box, should only refer to condemned animals. Suspect or injured animals may be slaughtered through the usual facility under specific conditions.

**UNITED STATES**

Omit the reference to condemned animals. Omit the requirement for separate slaughter facilities for "suspect" or injured animals.

New wording: "Injured or "suspect" animals should be slaughtered in a manner preventing cross contamination of healthy animals, and ensuring the safety and suitability of meat produced from healthy animals."

Rationale: Animals condemned at ante-mortem inspection should not be slaughtered. Injured or "suspect" animals clearly tagged and slaughtered separated from the general population by time or space can achieve the same outcomes as animals slaughtered in a separate facility.

**THE EUROPEAN COMMUNITY**

Paragraph 61 should be moved to Sub-Chapter 8.3, as it describes slaughter facilities. Facilities for separate slaughter of suspect or injured animals should not be required as such. This is not essential if this slaughter takes place in other establishments authorised by the competent authority for this purpose, or at the end of the normal slaughter period. The word 'condemned' should be deleted, as condemned animals are not slaughtered.

## 8.3 DESIGN AND CONSTRUCTION OF SLAUGHTER AREAS

***PARAGRAPH 62***

**NEW ZEALAND**

New Zealand suggests that the words 'including bleeding areas' be deleted. In many instances slaughter and bleeding commence at the same time.

***PARAGRAPH 64***

**NEW ZEALAND**

New Zealand suggests that this paragraph be deleted it is more appropriately covered by paragraph 71.

## 8.4 DESIGN AND CONSTRUCTION OF AREAS WHERE MEAT MAY BE PRESENT

***FIRST TEXT BOX***

**AUSTRALIA**

Dot point 4 - word is *'coved'*

**UNITED STATES**

**Bullet 8 -** Omit "…, as prescribed by the competent authority…"

New wording: "• there is adequate natural or artificial lighting for hygienic control of processing operations;"

Rationale: The change keeps the document consistent with good hygienic practices.

***PARAGRAPH 66***

**NEW ZEALAND**

New Zealand suggests that the words 'as necessary' be inserted after 'be available'. It may not be necessary for all slaughter establishments to have rooms for cooling, refrigeration and freezing, further chilling or freezing may take place in other establishments.

***PARAGRAPH 69***

**AUSTRALIA**

Suggest rewording;

*'Establishments should have an appropriate area, sufficiently protected from physical and environmental contamination and capable of preventing adverse temperature variations, for despatching fresh meat'.*

## 8.5 DESIGN AND CONSTRUCTION OF EQUIPMENT WHERE MEAT MAY BE PRESENT

***PARAGRAPH 71***

**AUSTRALIA**

Add second sentence;

*"Systems should be established to correlate each carcase and it's separated parts until disposition is made*." (This is picked up elsewhere)

***PARAGRAPH 72***

**NEW ZEALAND**

New Zealand suggests that cleaning and disinfection of implements should be 'as appropriate'. Not all implements need to be cleaned and disinfected in the room or other area where meat is present.

***SECOND TEXT BOX***

**AUSTRALIA**

Dot point 3 - Express more positively eg *'air flow systems shall be designed so that air flows from clean to contaminated areas."*

**NEW ZEALAND**

New Zealand suggests that the word "lines" be deleted in the last bullet – it implies closed pipes whereas ducting alone could be appropriate. A similar deletion should also be made in the second box ***after paragraph 79***.

## 8.6 WATER SUPPLY

***PARAGRAPH 75***

**AUSTRALIA**

Delete *'usually'* in 1st line. Add "*and for the disposal of waste fluids*" to end of 2nd sentence.

***TEXT BOX***

**GERMANY**

Replace in the box in para. 75 in the last bullet point the term "acceptable concentration" by "concentration according to producer information".

The amendment makes it clear under which conditions a sufficient cleaning effect is to be expected.

**UNITED STATES**

**Bullet 2 -** Omit the reference to a particular temperature.

New wording: "• hot potable water for effectively disinfecting equipment, or an effective sanitation system;"

Rationale: Effective disinfection is the goal of any sanitation process.

***PARAGRAPH 76***

**AUSTRALIA**

Add another dot point;

*'Pipes carrying non-potable water should be identified as to contents and direction of flow'*

## 8.7 TEMPERATURE CONTROL

**THAILAND**

We would like to propose that this code should provide temperature control for each meat processing according to its consumption and utility. In addition environmental temperature should suitable for all personel involved in the meat hygiene activities.

***PARAGRAPH 78***

**UNITED STATES**

**Bullet 2:** Replace "…at required temperatures" with "at temperatures suitable to minimize microbial growth."

New wording: "• Storage of chilled and frozen fresh meat at temperatures suitable to minimize microbial growth;"

Rationale: Minimizing microbial growth is the objective of required temperatures.

**THE EUROPEAN COMMUNITY**

The second bullet point of paragraph 78 should read: 'Storage of chilled and frozen fresh meat at *determined* ~~required~~ temperatures'.

## 8.8 FACILITIES AND EQUIPMENT FOR PERSONAL HYGIENE

***PARAGRAPH 79***

**AUSTRALIA**

Last sentence remove *'so that there is not undue'* and substitute *'to minimise'*. So will read *'Appropriate personal hygiene facilities are needed so as to minimise cross-contamination of fresh meat from this source'.*

***FIRST TEXT BOX***

**NEW ZEALAND**

New Zealand suggests that to give flexibility and recognise the realities of the processes involved in some establishments the first bullet include the words 'as appropriate' after 'showers' and the second bullet be amended to read:

*protective clothing that **allows effective cleaning and minimises the** accumulation of contaminants*

**THE EUROPEAN COMMUNITY**

The first bullet point in the first box of paragraph 79 should be amended as follows: '…., hand-washing taps *that are not operable by hand*, hand-drying facilities,…. **;'**

***SECOND TEXT BOX***

**AUSTRALIA**

2nd box - 1st sentence insert '*exposed*' in front of meat.

Dot point 2 – put this as a positive statement; '*taps operable other than by hand'.*

## 8.9 FACILITIES FOR CONTROL OF PROCESSING OPERATIONS

***PARAGRAPH 81***

**AUSTRALIA**

Suggest reword:

*"Facilities should be provided, designed and located so that meat safety is not compromised. Staff handling exposed meat should not share facilities with staff handling live animals, inedible or condemned products or working in laboratories, or other non-meat areas."*

**GERMANY**

The last sentence should be worded as follows:

"Laboratory facilities necessary to support meat hygiene activities may be located in the establishment or provided at a separate location".

This formulation makes it clear that laboratories performing tests within the framework of ante- and post-mortem inspections may also use facilities in an establishment.

## 9. CONTROL OF PROCESSING OPERATIONS

**NEW ZEALAND**

Section 9.2.3, 9.2.4, 9.2.5, 9.2.6 and 9.6 make reference to verification. New Zealand suggests that clarification is need about the role of the establishment operator and the role of the competent authority in respect of verification. Both need to undertake verification activities but for different reasons and at different levels (i.e. operator verification, and competent authority and/or competent body verification). Similarly the competent authority could require verification to be undertaken but may not necessarily undertake the function itself.

***PARAGRAPH 83***

**THE EUROPEAN COMMUNITY**

The first sentence of paragraph 83 should be amended as follows: 'An extensive range of *biological, chemical and physical* hazards are associated with fresh meat and these may arise from animal reservoirs, the processing environment and from food handlers themselves.'

***PARAGRAPH 85***

**AUSTRALIA**

Delete word ' *practicable'* – superfluous

## 9.1 PRINCIPLES OF MEAT HYGIENE APPLYING TO CONTROL OF PROCESSING OPERATIONS

***BULLET POINT III***

**AUSTRALIA**

9.1.iii - delete word *unseen*

**THE EUROPEAN COMMUNITY**

Point iii of the box should be modified, to reflect a risk-based approach.

***BULLET POINT VII***

**SUDAN**

The competent authority should determine the procedures, tests and/or including confirmatory diagnostic tests to be used in post-mortem inspection how that inspection is to be implemented and the necessary competencies and training of the personnel involved (including personnel employed by the establishment).

**THE EUROPEAN COMMUNITY**

The second part of the sentence (after 'implemented') should be amended as follows: 'and the necessary *training, knowledge, skills and ability* of personnel involved (including the *role of the veterinary inspector and* personnel employed by the establishment operator).

***BULLET POINT VIII***

**SUDAN**

Post-mortem should take into account all relevant information from primary production, ante-mortem inspection information and from official or officially recognised hazard control programmes.

***BULLET POINT IX***

**SUDAN**

Post-mortem judgement of edible parts of carcass should be based on food-borne risks to human health, other human health risks e.g. from chemical residues, occupational exposure or handling of fresh meat in the home food-borne risks to animal health as specified in relevant national legislation, and suitable characteristics.

***BULLET POINT X***

**UNITED STATES**

Omit "…microbiological…." Insert "by the competent authority" after "…established…."

New wording: "[FSOs and performance parameters] for the outcome of process control and post-mortem inspection activities should be established by the competent authority wherever practicable, …."

Rationale: Establishment of any FSOs, and establishment of performance parameters, if any, would be the responsibility of the competent authority.

***BULLET POINT XI***

**GERMANY**

This Section should be worded as follows:

"11. Competent persons employed by the establishment operator or independent competent bodies may under the conditions prescribed by the competent authority undertake prescribed control activities; these may include post-mortem inspection activities under the supervision of an official veterinary inspector."

This amendment makes it clear that in-house staff or independent private establishments should perform post-mortem inspections only under the supervision of an official veterinarian.

**UNITED STATES**

Omit "…, including post-mortem inspection…."

New wording: "Competent bodies or competent persons may be employed by the establishment operator to undertake prescribed process control activities."

Rationale: *Inspection* is an activity performed by an official of the competent authority, or a competent person working for a competent body under supervision of the competent authority.

***BULLET POINT XII***

**THE EUROPEAN COMMUNITY**

Should read: '*Voluntary* QA systems *may* ~~should~~ be implemented by the establishment operator …..'.

## 9.2 SYSTEMS FOR CONTROL OF PROCESSING OPERATIONS

***PARAGRAPH 86***

**GERMANY**

In para. 86 the second sentence should be worded as follows:

"Post-mortem inspection is a particular aspect of control of processing operations, and different components may be carried out by the competent authority or, under the supervision of an official veterinary inspector, by compent persons employed by the establishment operator or independent competent bodies."

***PARAGRAPH 88***

**GERMANY**

In para. 88 the first sentence should be worded as follows:

"Competent persons employed by the establishment operator or independent competent bodies suitably recognized by the competent authority may undertake prescribed process control activities; these may include post-mortem inspection activities under the supervision of an official veterinary inspector."

The suggested amendments result from the amendments suggested in Section 9.1.11.

**UNITED STATES**

Omit "…, including post-mortem inspection…."

New wording: "Competent bodies or competent persons may be employed by the establishment operator to undertake prescribed process control activities."

Rationale: *Inspection* is an activity performed by an official of the competent authority, or a competent person working for a competent body under supervision of the competent authority.

### 9.2.1 SANITATION STANDARD OPERATING PROCEDURES (SSOPs)

***TEXT BOX***

**AUSTRALIA**

Dot point 1 - Needs redrafting. The initial supply of SSOP templates is not a characteristic of SSOPs. Templates and guidelines are not the same. Delete this reference and suggest redraft stating that SSOPs should include minimum regulatory requirements for general sanitation.

Dot point 6 - Reword - '*Periodic evaluation of...'*

**THE EUROPEAN COMMUNITY**

The first bullet point in the box of paragraph 90 should be deleted. The last bullet point in the box should read: '*regular* ~~periodic~~ re-evaluation of the effectiveness of the system by the establishment operator.'

***PARAGRAPH 91***

**THE EUROPEAN COMMUNITY**

In paragraph 91, the words 'using ATP bioluminescence (results immediately available)' should be deleted.

### 9.2.3 HACCP

***PARAGRAPH 94***

**UNITED STATES**

Omit

Rationale: See comments on 9.2.4.

***PARAGRAPH 95***

**AUSTRALIA**

Delete '*In some situations*…' from the beginning of 2nd sentence.

**UNITED STATES**

**Sentence 2 -** Replace "…regulatory…" with "food safety."

New wording: "…the competent authority may choose to approve HACCP plans so as to facilitate achievement of food safety objectives."

Rationale: HACCP plans address food safety objectives.

***PARAGRAPH 96***

**THE EUROPEAN COMMUNITY**

Last sentence of paragraph 96: It is unclear why QA systems are needed for process control systems for suitability characteristics.

## 9.2.4 PERFORMANCE PARAMETERS FOR OUTCOMES OF PROCESS CONTROL

**UNITED STATES**

Omit

Rationale: The concept of performance parameters is more appropriately addressed in CCFH.

**THE EUROPEAN COMMUNITY**

The concept of performance parameters for outcomes of process control seems promising. However, a number of questions exist concerning the use of this concept in the document. First of all, it is not completely clear who is responsible for setting these performance parameters; is it the competent authority or is it the operator? If it is the competent authority, should the performance parameters be the same for all establishments? And do they apply only at the end of the process? What is the difference between performance parameters, performance criteria and process criteria? Finally, it is not clear how performance parameters for outcomes of process control systems could provide an objective basis for outcome-driven regulatory guidelines and standards?

The CCFH should continue and conclude its work in defining 'FSO' and 'performance criteria' and their respective relationship before Sub-chapter 9.1, point iii, and Sub-chapter 9.2.4 can be definitively settled in the CCMPH. It should for example be considered whether the term 'performance parameter' should be replaced by 'performance criteria' to reflect the discussions with took place in the framework of CCFH.

The second sentence of paragraph 99 should be placed between brackets pending a definition of FSO. The same applies for the paragraphs 101, 102 and 103.

***PARAGRAPH 97***

**AUSTRALIA**

2nd sentence - Reword to " *When performance parameters are used on a continuing basis, industry can….*

***PARAGRAPH 99***

**AUSTRALIA**

Remove '*practically*' from last sentence.

***PARAGRAPH 102***

**AUSTRALIA**

1st line replace '*of*' with '*or'*

## 9.2.5 REGULATORY SYSTEMS

***PARAGRAPH 104***

**AUSTRALIA**

Add point v " *Prevent product that does not meet regulatory requirements from reaching the consumer".*

**THE EUROPEAN COMMUNITY**

The first sentence of paragraph 104 should be put in line with general principle 2: 'has the final responsibility for ensuring that all regulatory requirements are met' should be changed in 'has final responsibility for verifying that regulatory meat hygiene requirements are met'.

In paragraph 104, the first sentence in the box should read: 'The competent authority should verify*, where appropriate,* continuous compliance with:'

The word 'competencies' in point i. of paragraph 104 should be replaced with 'training, knowledge, skills and ability'. This should apply throughout the text.

***FIRST TEXT BOX***

**SUDAN**

Bullet 5: Performance and process parameters that are regulatory guidelines or standards e.g. microbiological statistics process control requirement standards for any infectious pathogens.

Bullet 9: Hygiene requirements for specified risk materials e.g. removal of tissues that may constitute a risk of transmission of any zoonotic hazard pathogens.

**UNITED STATES**

**Bullet 5 -** Omit.

Rationale: See comments on 9.2.4.

**Bullet 9 -** Add "if a hazard has been identified in that country" after "…specified risk materials…."

New wording: "• hygiene requirements for "specified risk materials" if a hazard has been identified in that country…."

Rationale: The term "specified risk materials" is closely associated with a disease not found in all member countries.

***PARAGRAPH 105***

**UNITED STATES**

Replace "…oversight…" with *assessment*.

New wording: "Verification activities may include assessment of processing activities…."

Rationale: The term *assessment* implies a more active involvement of the competent authority than the term *oversight*.

***PARAGRAPH 106***

**AUSTRALIA**

The Veterinary inspector does not have overall responsibility for meat hygiene. The draft code stresses that the establishment operator has overall responsibility, (principle 2). The veterinary inspector, when present, verifies compliance with the regulatory requirements.

Delete word *veterinary* from text.

**UNITED STATES**

**2nd sentence** Replace "…supervision of meat hygiene…" with "…inspection activities…."

New wording: "The veterinary inspector who has overall responsibility for inspection activities in an establishment…."

Rationale: The competent authority should not supervise establishment actions, but should ensure the establishment performs appropriate meat hygiene activities.

**THE EUROPEAN COMMUNITY**

In the second sentence of paragraph 106, the words 'competent authority' should be replaced by *'competent persons'*.

***SECOND TEXT BOX***

**AUSTRALIA**

Dot point 1 - reword '*slowing production while the operator regains process control*'

Dot point 3 - add, *"... and any official stamps"*

Last dot point - after '*withdrawing*' add '*or amending registration/listing*'.

**UNITED STATES**

**1st sentence -** Insert "might" before "…include…."

New wording: "…, the competent authority should carry out enforcement actions that might include:"

Rationale: The competent authority must be free to implement enforcement actions appropriate to the situation.

**Bullet 4 -** Insert "unsuitable for human consumption" after "…meat…."

New wording: "• ordering specified treatment, recall or destruction of fresh meat unsuitable for human consumption; and"

Rationale: Regulatory requirements vary in applicability to food safety.

## 9.2.6 QUALITY ASSURANCE (QA) SYSTEMS

**UNITED STATES**

Omit

Rationale: QA concepts are being discussed in CCFICS. We should await the outcome of its deliberations.

***PARAGRAPH 109***

**AUSTRALIA**

Delete words *"and coordinate"*. If CA directly involved it is regulated not voluntary.

**NEW ZEALAND**

New Zealand suggests that the words 'as appropriate' be added after 'encourage and co-ordinate'. We do not believe that it is necessarily the role of the competent authority to co-ordinate voluntary industry driven QA systems.

**THE EUROPEAN COMMUNITY**

The words 'and co-ordinate' should be removed, as this is not a responsibility of the competent authority.

***PARAGRAPH 111***

**THE EUROPEAN COMMUNITY**

Paragraph 111 of this sub-chapter should be deleted as it seems to repeat what has been said previously in the draft Code.

***PARAGRAPH 112***

**AUSTRALIA**

Remove [….] from opening sentence and from box.

This should clearly reflect the agreed Principle 8 that the CA should take the contribution of voluntary quality assurance systems into account during verification of compliance with regulatory requirements.

***TEXT BOX***

**THE EUROPEAN COMMUNITY**

The box of paragraph 112 should be removed as QA systems should in principle not be officially recognised.

## 9.2.7 EQUIVALENCE

**UNITED STATES**

Omit this section.

Rationale: A section on equivalence is out of place in this code.

**THE EUROPEAN COMMUNITY**

This sub-chapter should be deleted as it is the competency of the Codex Committee on Food Import and Export Inspection and Certification Systems to define these rules.

***PARAGRAPH 113***

**AUSTRALIA**

Last sentence should be in [ ] until definition of FSO is resolved at CCFH.

***PARAGRAPH 114***

**AUSTRALIA**

Typo – should be … *entered*...

## 9.3 GENERAL HYGIENE REQUIREMENTS FOR ALL PROCESSING OPERATIONS

**THE EUROPEAN COMMUNITY**

The EC does not understand the aim of this subchapter 9.3, which tackles several subjects under one heading (the paragraphs 116 and 117). The list under 116 is not exhaustive and the use of such a list is questioned.

***PARAGRAPH 116***

**UNITED STATES**

Omit everything after paragraph 116.

Rationale: Sufficient general requirements exist in the reference cited in paragraph 116.

***FIRST TEXT BOX***

**AUSTRALIA**

Dot point 4 - insert word "*exposed"* in front of "*meat."*

***PARAGRAPH 117***

**THE EUROPEAN COMMUNITY**

Third bullet-point of the box of paragraph 117: The words 'and other testing for residues' should be added after 'national residue monitoring plans'.

***SECOND TEXT BOX***

**AUSTRALIA**

Insert extra dot point "*water testing"*

## 9.4 HYGIENE REQUIREMENTS FOR SLAUGHTER AND DRESSING

***PARAGRAPH 118***

**THE EUROPEAN COMMUNITY**

The words 'farmed game slaughtered at the place of production and wild game' should be added.

***PARAGRAPH 119***

**THE EUROPEAN COMMUNITY**

Re-wording of the first sentence is needed, as the meaning of the sentence should be clarified. It should be considered joining the paragraphs 118 and 119 together.

***PARAGRAPH 120***

**NEW ZEALAND**

New Zealand suggests that 'inspector' is replaced with 'competent person' because this would fit with our suggested changes to definitions.

**THE EUROPEAN COMMUNITY**

The words 'except under emergency slaughter provisions' should be deleted.

***FIRST TEXT BOX***

**AUSTRALIA**

Dot point 1 – add - defeathering and dehairing should be performed in a separate area.

Dot point 3 - Remove opening phrase –'*bleeding should be complete as possible*'

Dot point 8 - delete 2nd part of sentence after and...

Dot point 9 - reword- .....*the skin and the underlying tissue*. Not a carcass at this point as viscera etc still present.

***PARAGRAPH 121***

**AUSTRALIA**

Suggest redrafted wording:

'*Poultry and farmed game birds, following defeathering, can only be effectively cleaned of dust, feathers and other contaminants by the application of potable water. Washing of the carcases of these animals at multiple steps in the dressing process, and as soon as possible after each contamination step, reduces the adherence of bacteria to the skin and can minimise overall contamination'*.

***PARAGRAPH 123***

**UNITED STATES**

**Parenthetical sentence -** Put a period after "…minimised."

New wording: "(Note: Full separation of carcasses is not technologically achievable in the case of poultry and farmed game birds, however, cross-contamination should be minimised.)"

Rationale: The carcasses of large birds might contact adjacent birds by other than wings, but contact should be minimized to the extent practicable.

***SECOND TEXT BOX***

**AUSTRALIA**

*Should include* need for a separate area for defeathering/dehairing.

*Dot point 1- in box does not allow for skin on* – eg pigs and goats

Dot point 7 - in the box – suggest removal of the word '*faecal*' – the principle extends to all forms of contamination. The final sentence of this point should end after 'carcasses' i.e. delete '*to remove dust, feathers and other contaminants*'.

**KOREA**

The 7th bullet point should be deleted, because the paragraph is redundant when the 8th bullet point containing the same intent is considered.

~~Water should not be used as a means to remove faecal contamination from carcasses (Note that removal of gross faecal contamination is an inevitable consequence of routine washing of poultry and game bird carcass to remove dust, feathers and other contaminants)~~;

**NEW ZEALAND**

New Zealand suggests that the first bullet be amended by rewording as:

Unless the skin constitutes an edible part of the finished product, skinning should….

This would cover pigs, goats and other species as necessary, as well as poultry and game birds.

**SUDAN**

Bullet Point no.5 - Head of calves should be separated and skinned for further inspection.

**UNITED STATES**

Bullets 7,9 - Omit bullets 7 and 9. Replace with more scientific requirements.

New wording: "• Carcasses should not be cleaned or decontaminated except by methods demonstrated to be effective in removing visible and microbial contamination, and preventing cross-contamination."

Rationale: The requirements of this section should promote development and use of effective technologies to improve the safety and suitability of meat.

**THE EUROPEAN COMMUNITY**

The first bullet-point in the box of paragraph 123 should read: 'except in the case of *pigs,* poultry and game birds, ...'.

***PARAGRAPH 124***

**AUSTRALIA**

Remove *practically* from 1st sentence. Does not add value to meaning.

**THE EUROPEAN COMMUNITY**

The first sentence of paragraph 124 should be amended as follows: Carcasses should not come into contact with *floors, walls or work stands; furthermore, they should not come into contact with* equipment unless practically unavoidable.

***PARAGRAPH 125***

**UNITED STATES**

Amend the language to permit a broader range of actions.

New wording: "…the inspector should implement enforcement actions appropriate to the situation to bring the process under control."

Rationale: A change in the rate of production is not the solution to all problems affecting the safety or suitability of meat.

***PARAGRAPH 126***

**AUSTRALIA**

Add closing phrase "*..when required to aid disposition."*

**THE EUROPEAN COMMUNITY**

The last sentence of paragraph 126 should read: 'Parts of ~~slaughtered~~ animals ~~that have been~~ removed ~~before~~ prior to post-mortem inspection ~~is performed~~, *other than those parts that are not required for inspection or whose status will be unaffected by inspection judgements*, ~~should~~ *must* remain identifiable as belonging to a single carcass (or a group of carcasses, *provided compliance with all traceability requirements and other applicable requirements is guaranteed) until inspection is completed.'*

***PARAGRAPH 127***

**NEW ZEALAND**

It may be possible to separate activities by time and with appropriate cleaning and sanitation procedures etc the multiple use of equipment may be acceptable. It may be possible to delete the last sentence with this change included. New Zealand suggests that this change should be considered for ***Paragraph 150***.

***PARAGRAPH 128***

**AUSTRALIA**

Could be better worded eg

*"Competent authorities should encourage development and adoption of innovative technologies and procedures that reduce cross-contamination and enhance food safety"*

## 9.5 POST-MORTEM INSPECTION

***PARAGRAPH 129***

**GERMANY**

Para. 129 should be worded as follows:

"129. All animals should be subjected to post-mortem inspection performed by an official veterinary inspector or under the supervision of an official veterinary inspector."

The suggested addition is necessary to take due account of the first sentence in para. 2 of the Proposed Draft General Principles of Meat Hygiene as well as of the recommendation according to Section 9.5.2, para. 136, according to which the final responsibility for ensuring that all post-mortem inspection and judgement requirements should lie with the competent authority.

## 9.5.1 DESIGN OF POST-MORTEM INSPECTION SYSTEMS

***PARAGRAPH 131***

**THE EUROPEAN COMMUNITY**

Paragraph 131. In the last sentence the following words should be deleted: « In the absence of a risk-based system; procedures will have to be based on current scientific knowledge and practice. ~~and it is probable that~~

~~procedures of increased range and intensity will need to be applied to achieve required levels of consumer protection. »~~

***TEXT BOX***

**AUSTRALIA**

Dot point 1- reverse words to …*detectable gross abnormalities*

Dot point 10- Delete example. Does not add value to sentence.

**UNITED STATES**

**Bullet 9 -** Omit.

Rationale: It is premature to discuss the concept of performance parameters here. It is currently being addressed in CCFH.

**THE EUROPEAN COMMUNITY**

In the fifth bullet point in the box of paragraph 133, the word 'deletion' should be replaced by the word '*modification'*. The meaning of the sixth bullet-point in the box of paragraph 133 should be clarified. The ninth bullet-point of that box should be clarified as well.

## 9.5.2 IMPLEMENTATION OF POST-MORTEM INSPECTION

***PARAGRAPH 135***

**AUSTRALIA**

Clause should start: *Post-mortem inspection should commence as soon as practicable*.....Not quite the same as occurring.

***PARAGRAPH 136***

**GERMANY**

Add a new sentence in para. 136:

"The competent authority should determine that the post-mortem inspection, including the assessment according to Section 9.6, should be performed independently and that the establishment operator should not influence the inspectors undertaking this inspection and judgement."

The addition makes it clear that inspections and decisions based on such inspections which are designed to protect health are performed on the basis of a technical assessment only.

**THE EUROPEAN COMMUNITY**

The first sentence of paragraph 136 should be reworded as follows:

'The competent authority should determine: how post-mortem inspection is to be implemented, the *training, knowledge, skills and ability* of personnel involved (including *the role of the veterinary inspector and* personnel not employed by the competent authority), and the frequency and intensity of verification activities (refer to 9.2.5).'

***FIRST TEXT BOX***

**AUSTRALIA**

Dot point 1 - Delete word '*unique*' and phrase in brackets '(*including blood*)' from text. Blood is usually composited and does not fit well into this clause

Dot point 10 – would it be preferable to make this more general e.g. routine condemnation of edible parts, as determined by the CA based on scientific risk analysis.

**KOREA**

The 11th bullet point should be deleted, because the use of health marks in meat inspection is under the responsibility of the competent authority in many countries including Korea.

- ~~Use of health marks that communicate the outcome of post-mortem inspection, as specified by the competent authority;~~ and

**SUDAN**

2nd bullet point: Skinning and complete removal of head of cattle and calves for the purpose of post-mortem inspection and avoid contamination of other safe and suitable meat.

11th bullet point: Use of brand that communicates the outcome of post-mortem inspection, as specified by the competent authority.

**THE EUROPEAN COMMUNITY**

The eleventh bullet-point of the first box of paragraph 137 should be moved from this box to the second box of paragraph 137.

***SECOND TEXT BOX***

**AUSTRALIA**

Dot point 6 - Australia would prefer to finish the sentence after 'control' and not give this example. And add "*incising should be kept to an absolute minimum to minimise further contamination*."

Dot point 9 - . Should read "*other organoleptic examination procedures*".

**SUDAN**

4th bullet point: Visual inspection of carcass, including inedible parts as determined by the competent authority (refer to Appendix 1).

6th bullet point: Additional palpation and/or incision by the inspector as necessary to reach a judgement for a carcass, and under an appropriate hygiene control, e.g. opening of infected arthritic joints should be carried out in an area where there will be no cross-contamination to meat from other carcasses.

13th bullet point: Verification of routine removal required by the competent authority e.g. zoonotic hazard pathogen.

14th bullet point: Verification of proper and secure storage of equipment for brand.

**THE EUROPEAN COMMUNITY**

In the first sentence in the second box of paragraph 137, the words 'on behalf of the competent authority' should be deleted, and could be replaced by 'under supervision of the competent authority'

## 9.6 POST MORTEM

***FIRST TEXT BOX***

**AUSTRALIA**

Dot point 2 – Replace with "*Observations made of animals in the lairage"*

Dot point 4 possibly improves with addition of words *"..where required"*

**SUDAN**

4th bullet point: Post-mortem inspection, including confirmatory diagnostic tests.

***PARAGRAPH 141***

**THE EUROPEAN COMMUNITY**

The second sentence of paragraph 141 should read: 'Judgements should only be made by *competent persons. Ultimate responsibility should lie with the veterinary inspector.'*

## 9.7 HYGIENE REQUIREMENTS FOR PROCESSING OPERATIONS AFTER POST-MORTEM INSPECTION

***PARAGRAPH 146***

**UNITED STATES**

**Sentence 1 -** Include "packaging" in the list of operations following post-mortem inspection.

New wording: "Operations following post-mortem inspection include chilling of carcasses, de-boning and cutting, packaging, and freezing and storing."

Rationale: Packaging is an important modern processing technology.

***PARAGRAPH 147***

**AUSTRALIA**

Might read better as; *"In the case of poultry and farmed game birds viscera or parts of viscera, apart from kidneys, should be entirely removed as soon as possible unless otherwise permitted by the competent authority."*

***FIRST TEXT BOX***

**AUSTRALIA**

1st line - Conflict with definition of meat as meat as defined has been passed safe and suitable for consumption.

**UNITED STATES**

Bullet 4 **-** Omit temperature examples.

New wording: "• held at temperatures that achieve safety and suitability objectives."

Rationale: The temperatures in the examples might be understood to be optimum requirements.

***PARAGRAPH 148***

**SUDAN**

A brand applied to meat, wrapping or packaging may provide recognition that the production accordance with regulatory requirements, and should assist with trace-back to the establishment of origin if required. If used as a part of an official meat hygiene programme, the brand should include the registration number of the establishment, be applied in such a way that it cannot be re-used, and be legible other brand may denote conformance with commercial specification, or unacceptability for human consumption, e.g. distinctive brand for pet-food.

**THE EUROPEAN COMMUNITY**

The first sentence of paragraph 148 should be reworded. The health mark is not a guarantee that the product is in accordance with all regulatory requirements, it is rather communicating that the product has been inspected under responsibility and supervision of an official veterinary inspector.

***PARAGRAPH 149***

**SUDAN**

Brand may be applied direct to the product, wrapping or packaging or be printed on a label affixed to the product, wrapping or packaging. In circumstances of bulk transport to another establishment for further handling processing or wrapping, brand may be applied to external to the surface of the container on packaging.

***PARAGRAPH 150***

**AUSTRALIA**

Insert new sentence before last sentence *" Product should not accumulate on work tables"*.

**THE EUROPEAN COMMUNITY**

In the last box of paragraph 150, the following wording should be added: *'Exposed meat must be stored in such a way that the hygiene cannot be compromised by the presence of packaged meat or packaging material.'*

***PARAGRAPH 152***

**UNITED STATES**

Insert "accidental" before the word "…mixing…."

New wording: '…all operations must be controlled in terms of space or time so that there is no possibility of accidental mixing of meat from different slaughter species…."

Rationale: In some instances (e.g., producing sausage) processors intend to mix species.

## 9.8 HYGIENE REQUIREMENTS FOR EDIBLE PARTS OF ANIMALS AND MEAT THAT ARE CONDEMNED OR OTHERWISE DEEMED UNACCEPTABLE FOR HUMAN CONSUMPTION

**UNITED STATES**

**Sentence 2 -** Insert ", such as decharacterization," after "…measures…."

New wording: These measures, such as decharacterization, should prevent cross-contamination to other edible parts and meat…."

Rationale: Decharacterization of condemned or inedible tissue is a common method of preventing cross-contamination or substitution of edible product.

## 9.9 RECALL SYSTEMS

***PARAGRAPH 154***

**UNITED STATES**

Insert "product" after "meat" in both instances.

New wording: "Establishments should have adequate systems in place to trace and withdraw fresh meat products from the food chain if it is suspected or confirmed that the meat product constitutes an unacceptable level of risk to the consumer."

Rationale: Many meat items are multi-ingredient products.

**THE EUROPEAN COMMUNITY**

In paragraph 154, the 2nd part of the sentence should be deleted: '...., ~~if it is suspected or confirmed that the meat constitutes an unacceptable level of risk to the consumer~~.'

***TEXT BOX***

**AUSTRALIA**

Dot points 3 & 4 - replace "*allow"* with " *facilitate"*

Dot point 4 really refers to total record system and perhaps should be cited in a production heading.

**KOREA**

*We suggest modifying the following expression:*

"Recall system designed by the establishment operator, to the greatest extent practicable, should: "

**UNITED STATES**

**Bullet 3 -** Replace "…origin…" with "purchase."

New wording: "• keep records that allow trace-back to the place of purchase of the animals; and"

Rationale: The extension of trace-back capability to place of origin is premature. The work of other committees and task forces on trace-back in Codex should be completed, and the resulting paragraphs cited.

## 10 ESTABLISHMENTS: MAINTENANCE AND SANITATION

***PARAGRAPH 156***

**AUSTRALIA**

General comment on use in text of "contamination …minimise to greatest extent possible" eg (10.1(1)) Maybe better to talk about " not jeopardising food safety" because in some circumstances what 'is possible' may still lead to loss of safety.

## 10.2 MAINTENANCE AND SANITATION

***FIRST TEXT BOX***

**AUSTRALIA**

Dot points 3 & 4 seem to contradict.

Suggest rewording dot points 3 & 4 '*ensure that detergents, sanitising agents or disinfectants are used according to approved procedures and that there is no consequential contamination of fresh meat*'

***SECOND TEXT BOX***

**AUSTRALIA**

*Dot point 1- "*at the start of..*" has different connotations to "* before*"*

## 11.2 PERSONAL HEALTH STATUS

***TEXT BOX***

**THE EUROPEAN COMMUNITY**

In paragraph 164, a change should be carried through in the first bullet-point and a fourth bullet-point should be added:

- *'have a medical examination prior to employment. This should especially target infectious diseases transmittable through meat.'*
- unchanged
- unchanged
- *'Further medical examination may be required at regular intervals during employment, or where the establishment operator or the competent authority considers it necessary.'*

## 12. TRANSPORTATION

***PARAGRAPH 166***

**THE EUROPEAN COMMUNITY**

In paragraph 166, the 1st sentence of paragraph 166 should read: *'The transportation of meat should fulfil* the objectives and guidelines ..... '. The third and the fifth bullet-points in the box should be deleted. In the fourth bullet-point, the word 'closed' should be removed

***TEXT BOX***

**SUDAN**

Vehicles in which meat is transported need to be designed, contracted and equipped to prevent contamination of the meat.

Vehicles or shipping containers in which meat is to be transported should:

a) Have all internal finishing made of corrosion resistant material that is smooth, impervious and easy to clean and disinfect.

b) Have joints and doors sealed so as to prevent the entry of pests and other sources of contamination.

c) Be designed, constructed and equipped such that required temperature can be maintained while meat is being carried.

d) Be designed, constructed and equipped such that meat doesn't come into contact with the floor.

**UNITED STATES**

**Bullet 1 -** Insert "in a manner that prevents contamination, such" after "…quarters…." Omit "…, unless they are wrapped and frozen." Insert "or wrapping;" after "…racks,…."

New wording: "• transport of carcasses, sides or quarters in a manner that prevents contamination, such as a hanging load or on racks, or wrapping;

Rationale: The bullet should encourage other effective means of transport. Freezing is not necessary.

## 14.1 PRINCIPLES OF TRAINING IN MEAT HYGIENE

***BULLET POINT I***

**THE EUROPEAN COMMUNITY**

Point i. should be amended as follows:

'Persons engaged in meat hygiene should *have a level of training, knowledge, skills and ability* that is appropriate to the activities and operations they perform.'

***BULLET POINT II***

**THE EUROPEAN COMMUNITY**

Point ii. should be amended as follows:

The level of *training, knowledge, skills and ability* should be proportional to the potential of the particular meat hygiene activity to impact on food-borne risks to human health.

***BULLET POINT III***

**NEW ZEALAND**

New Zealand suggests that it may not be necessary for the competent authority to establish all personnel competency levels, rather only those that relate to key meat hygiene activities as appropriate. The establishment operator should establish other levels of competency and verify that they continue to be appropriate.

**UNITED STATES**

Omit iii.

Rationale: The competent authority should verify the establishment is producing safe and suitable food. The competent authority need not necessarily verify establishment personnel competence, or recognize training programs.

**THE EUROPEAN COMMUNITY**

Point iii. should read: 'The competent authorities should establish and *can* verify the *appropriate* level of *training, knowledge, skills and ability* of ~~all~~ personnel involved in meat hygiene activities.'

***BULLET POINT IV***

**UNITED STATES**

Omit iv.

Rationale: The competent authority should verify the establishment is producing safe and suitable food. The competent authority need not necessarily verify establishment personnel competence, or recognize training programs.

## 14.2 TRAINING PROGRAMMES

**SUDAN**

Training programmes should:

- provide inspectors with the technical skill to carry out meat hygiene tasks at specified levels of competency e.g. hazard analysis, verification of statistical process control, HACCP, ISO and risk assessment.

**UNITED STATES**

Omit.

Rationale: This section is outside the scope of the document.

**THE EUROPEAN COMMUNITY**

The first bullet-point should be amended as follows:

'Training programmes should provide inspectors with the *knowledge and* ~~technical~~ skills to carry out meat hygiene tasks at specified levels of *proficiency* ~~competency~~, e.g. hazard analysis, verification of statistical process control, HACCP, etc... "

In the third bullet point, the word 'competency' should be deleted.

## APPENDIX I – TABLE 1

**SUDAN**

| | **Cattle** | **Pigs** | **Sheep/goats** | **Horses** | **Deer** | **Poultry** | ***Camel*** |
|---|---|---|---|---|---|---|---|
| External surfaces/oral cavity | V | V | V | V | V | — | ***V*** |
| Submaxillary lymph nodes | V,I | V, I | ***V, I*** | V, P | V, I | — | ***V*** |
| Parotid lymph nodes | V, I | — | ***V, I*** | V, P | V, I | — | ***V*** |
| Retrophraryngeal lymph nodes | V, I | — | ***V, I*** | V, P | V, I | — | ***V*** |
| ***Pharynx, Gum, Palates*** | ***V*** | — | ***V*** | — | — | — | ***V*** |
| Tongue | V, P, ***I*** | V | V, I | V, P | V, P | — | ***V*** |
| Muscles of mastication | V, ***I*** | — | — | — | — | — | ***V*** |
| Other | — | — | — | — | | | ***V*** |

## APPENDIX I – TABLE 2

**SUDAN**

| | **Cattle** | **Pigs** | **Sheeps /goats** | **Horses** | **Deer** | **Poultry** | ***Camel*** |
|---|---|---|---|---|---|---|---|
| External surfaces | V, ***P, I*** | V | V, ***P, I*** | V | V | ***V*** | ***V*** |
| Prescapular lymph nodes | V, ***I*** | - | V, ***P, I*** | - | V | - | ***V*** |
| Thoracic cavity / pleura. | V | V | V | V | V | V | ***V*** |
| Abdominal cavity / peritoneum | V | V | V | V | V | V | ***V*** |
| Superficial inguinal lymph nodes | V, ***I*** | - | V, P, ***I*** | V, P | V, P | - | ***V*** |
| External/internal iliac lymph nodes | V, P | - | V, P | V, P | V | - | ***V*** |
| Supramammary lymph nodes | V, P, ***I*** | V | V, ***I*** | V | - | - | ***V*** |
| Pre-pectoral lymph nodes | V, P, ***I*** | - | V, P, ***I*** | V, P, ***I*** | V, P | - | ***V*** |
| Popliteal lymph nodes | - | - | P, ***I*** | - | - | - | ***V*** |
| Renal lymph nodes | V, P | V, P | ***V, P*** | V, P | V | - | ***V*** |
| ***Ischial lymph nodes*** | - | - | ***V, P, I*** | - | - | - | ***V*** |
| Diaphragm | V | V, ***P*** | V, ***P*** | - | - | - | - |
| Others | - | - | - | - | - | - | - |

## APPENDIX I – TABLE 3

**INDONESIA**

On Document Proposed Draft Code of Hygienic Practice for Fresh Meat, Table 3 of Appendix 1 (Guidelines for Routine post-mortem Inspection of Viscera…….etc; we propose to add initial I (Incision examination) for:

- Lung in Pig, becoming V,P,$I^a$ (initial I with superscript a)
- Lung in Cattle becoming V, P, $I^d$ (initial I with superscript d)

(This incision inspection is needed because most of developing countries usually treat lungs and liveer as food)

**SUDAN**

| | **Cattle** | **Pigs** | **Sheep/goats** | **Horses** | **Deer** | **Poultry** | ***Camel*** |
|---|---|---|---|---|---|---|---|
| Lungs | V, P | V, P | V, P | V, P | V, P | V, P | ***V, P, I*** |
| Oesophagus | V | V | V | V | V | - | ***V*** |
| Trachea | V | V | ***V*** | V | - | - | ***V*** |
| Bronchial lymph nodes | V, I | V, P | V, P | V, P | V, I | - | ***V*** |
| Medianistal lymph nodes | V, I | V, P | V, P | V, P | V, I | - | ***V*** |
| Heart | ***V, I*** | V, P, I | ***V*** | V, P, I | V, P | V | ***V*** |
| Pericardium | V | V | V | V | V | V | ***V*** |
| Liver | V, P, ***I*** | V, P | V, P, ***I*** | V, P | V, P | V | ***V, P, I*** |
| Portal lymph nodes | V, P, ***I*** | V, P | V, ***P*** | V, P | V, P | - | ***V*** |
| Gall bladder | V, ***P,*** I | ***V, P*** | V, P | ***V, P*** | V, P | ***V*** | ***V*** |
| ***Bile Capillaries*** | ***V, P, I*** | - | ***V, I*** | - | - | - | ***V, I*** |
| Kidneys | V, ***I*** | P | V | V | V | V | ***V, I*** |
| ~~***Renal lymph nodes***~~ | ~~***V***~~ | - | - | - | ~~***V***~~ | - | |
| Spleen | V | V | V | V | V | - | ***V*** |
| Gastrointestinal tract | V | V | V | V | V | V | ***V*** |
| Mesenteric lymph nodes | V, P, ***I*** | V, P | V, ***P*** | V, P | V, P | - | ***V*** |
| Genital organs | V | V | ***V*** | V | V | V | ***V*** |

## APPENDIX II

**GERMANY**

The grouping and enumeration of the reasons of complaints seem on the whole to be rather arbitrary. They should be reworded according to plausible ciriteria such as pathogens, clinical symptoms and/or pathological-anatomic criteria.

Thus intoxication (botulismus) and toxious infection (tetanus) are put on a par as "generalised infectious diseases“ with tuberculosis which in turn must not be generalised.

**INDONESIA**

The underlined words are proposed to be added.

“Insufficient bleeding, generalized blood or serum infiltration, and extensive echymoses”. We propose to add: “for example blood splashing”.

“Any other condition as prescribed by the inspector”. For example: The presence of widespread contamination that can not ……..etc …… of a chemical substances (administered or consumed) that may be a risk to human health, the abnormalities of color, texture and water holding capacity (such as pale, soft and exudative/PSE) which must be judged as unsuitable for human consumption, the presence of condition in wild game……..etc.