

**RECOMMENDED INTERNATIONAL CODE OF HYGIENIC PRACTICE FOR GAME**  
**CAC/RCP 29-1983, Rev. 1 (1993)**

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**RECOMMENDED INTERNATIONAL CODE OF HYGIENIC PRACTICE FOR GAME  
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**PREAMBLE**

Veterinary science and the science of meat hygiene should be applied throughout the food chain that produces game meat, starting in the field, so that game meat is safe and wholesome. This Code describes requirements necessary to achieve that goal. Traditional practices may permit departures from some of the requirements when game meat is produced for local trade.

**PRINCIPLES AND OBJECTIVES OF HYGIENIC GAME MEAT PRODUCTION**

1. Inspection of game animal carcasses and the maintenance of hygienic practice is carried out to ensure that game meat produced for human consumption is safe and wholesome.
2. Rules of game meat inspection and hygienic practice that are described in this Code of Practice provide the requirements that have been developed from current scientific knowledge and practice.
3. Risk analysis based on accepted scientific methodology should be undertaken wherever possible, so as to improve current knowledge. These analyses will promote the following principles of game meat hygiene:
  - (a) there should be consistently applied food safety standards so as to assure that any game meat supply is safe and wholesome; if an adequate food supply is threatened in some local trade situations, safety standards may include treatment sufficient to remove any hazard;
  - (b) inspection procedures should be appropriate to the species and to the spectrum and prevalence of diseases and defects present in the particular population of game animals being harvested;
  - (c) process control systems should limit microbial contamination of game meat to as low a practicable level as possible, and prevent subsequent growth to levels that may constitute a hazard;
  - (d) Hazard Analysis Critical Control Point (HACCP)<sup>1</sup> under the control and supervision of the controlling authority provides a scientific approach to food safety and wholesomeness throughout the harvesting, processing and distribution of game meat, and the HACCP approach should wherever possible, together with other quality assurance procedures, be utilized in the application of this Code; and

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<sup>1</sup> The considerable benefits that Hazard Analysis Critical Control Point (HACCP) offers with respect to food safety are recognized within the Codex Alimentarius, and the inclusion of HACCP in codes of practice has been endorsed. HACCP provides a systematic approach to sanitation and process control in food production, thereby assuring safe and wholesome food. A HACCP plan should be based on an assessment, as appropriate to the

- (e) where risk analysis has shown that safety is not compromised by the failure to remove a defect of a type specified by the controlling authority, and any necessary product identification procedures are in place, the controlling authority should allow production for the end use it specifies.

4. The responsibility for production of safe and wholesome game meat should be shared by industry and the controlling authority. Industry personnel should be involved as widely as possible in voluntary quality assurance systems and in the monitoring and control of game meat hygiene, with supervision and audit by the controlling authority to ensure compliance with requirements. Training and education programmes involving both industry and the controlling authority are necessary to meet this objective. These principles also should be applied, to the extent possible, to the operation of harvesting game animals.

5. The controlling authority should be adequately resourced, have the legal power to enforce requirements necessary to produce game meat that is safe and wholesome, and be independent of the management of the game establishment and of other industry interests. There should be a legal obligation on managers to comply with game meat hygiene and inspection instructions and to provide such information and to give such assistance as may be reasonably required by the controlling authority.

6. In meeting the goal of reducing game meat borne hazards, the controlling authority should maintain cost effective and efficient allocation of resources.

7. A knowledge of the health status of wildlife harvested for game meat production is important for the application of control measures and requires an adequate system for data collection.

8. Game meat hygiene regulations should be scientifically based and should protect the health of consumers and facilitate fair practices in the international trading of game meat. Policies of equivalence<sup>2</sup>, for countries or parts of countries, that provide the same safety and wholesomeness guarantees remove the necessity of replicating individual country requirements or applying identical procedures.

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circumstances, of the risks to human health and animal health, taking into account accepted risk analysis techniques. A specific HACCP system, tailored to its individual product, processing and distribution conditions, should be developed by each game operation. The principles and applications of HACCP, as they apply generally to Codex codes of practice, are documented elsewhere in the Codex Alimentarius.

<sup>2</sup> *Equivalence* is not separately defined for the purposes of this Code, but rather is as determined by the General Agreement on Tariff and Trade (GATT). The following text, relating to Sanitary and Phytosanitary Measures, is an extract from the Draft Final Act of the Uruguay Round of the Multilateral Trade Negotiations:

"Contracting parties shall accept the sanitary or phytosanitary measures of other contracting parties as equivalent, even if these measures differ from their own or from those used by other contracting parties trading in the same product, if the exporting contracting party objectively demonstrates to the importing contracting party that its measures achieve the importing contracting party's appropriate level of sanitary or phytosanitary protection. For this purpose, reasonable access shall be given, upon request, to the importing contracting party for inspection, testing and other relevant procedures.

"Contracting parties shall, upon request, enter into consultations with the aim of achieving bilateral and multilateral agreements on recognition of the equivalence of specified sanitary or phytosanitary measures."

9. The controlling authority should facilitate adoption of new technologies and developments, provided they are consistent with the safe and wholesome production of game meat.

#### NOTE

The contents of this Code are not intended to:

- (a) preclude the adoption of technical and other innovations by; or
- (b) restrict the throughput or productivity of;

the game meat industry provided innovations and production are consistent with the hygienic production of safe and wholesome game meat.

This Code pursues the same public health objectives for, and applies the same hygiene standards to, game meat as pertain to fresh meat derived from slaughter animals. The nature of game animal harvesting and subsequent field operations imposes some practical limitations on the application of these objectives and standards to that phase of the production of game meat that takes place prior to the arrival of game animal carcasses at a game depot or game establishment.

#### SECTION I - SCOPE

This Code of hygienic practice applies to fresh game meat<sup>3</sup>, whether sold direct to the consumer in that form or after further processing. It contains the minimum requirements of hygiene in harvesting of game animals, the transfer of game animal carcasses to game establishments, the dressing of game animal carcasses, and the packaging, storage and transport of game meat, but does not contain product description requirements for game meat<sup>4</sup>. Provision is made for all vertebrate animals encompassed by the definition of game animal, whether large or small, and whether mammal, bird, reptile or of any other Class within the animal kingdom other than fish.

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<sup>3</sup> International trade in meat derived from many wildlife species is either banned or controlled under the provisions of the Convention on International Trade of Endangered Wildlife Species (CITES).

<sup>4</sup> For this reason, nothing in this Code prevents the describing of meat prepared in accordance with the provisions of both:

- (a) the Code of Hygienic Practice for Fresh Meat; and
- (b) the Code for Ante-mortem and Post-mortem Inspection of Slaughter Animals and for Ante-mortem and Post-mortem Judgement of Slaughter Animals and Meat;

(and therefore the product of an ante-mortem and post-mortem inspection system, and sometimes known as *slaughter game*) as game meat.

This Code also recognizes that in some cases game depots and game establishments are by necessity impermanent, and requirements for structure and facilities described would be unpractical. In such circumstances the controlling authority may permit variations but needs to then ensure that the structures and facilities that are in use will enable production and processes that satisfy the hygiene, operational, inspection and judgement requirements in this Code.

## SECTION II - OBJECTIVES OF THIS CODE

The objectives of this Code are to ensure:

- (a) game meat is safe and wholesome;
- (b) recognition of the unique nature of game animal harvesting and the constraints this introduces in terms of game meat hygiene;
- (c) hygienic premises, facilities and equipment, at game depots and game establishments;
- (d) hygienic practices through all stages of game meat production;
- (e) inspection procedures and judgements appropriate to game meat inspection; and
- (f) controlling authorities can accommodate hygiene requirements for a wide range of animal species.

## SECTION III - DEFINITIONS

For the purposes of this Code:

1. **Brand** means any mark or stamp approved by the controlling authority and also includes any tag or label bearing such mark or stamp.
2. **Cleaning** means the removal of objectionable matter.
3. **Condemned**, in relation to a game animal carcass or game meat, means inspected and judged as, or otherwise officially determined to be, unfit for human consumption and requiring destruction. Total condemnation means the entire game animal carcass and offal are condemned. Partial condemnation, means only parts of the game animal carcass are condemned, while others are judged otherwise.
4. **Contamination** means objectionable matter, and includes substances and/or microorganisms that make game meat unsafe and/or unwholesome.
5. **Controlling authority** means the official authority charged by the government with the control of game meat hygiene, including game meat inspection.

6. **Disease or defect** means a pathological change or other abnormality.
7. **Diseased or defective** means:
  - (a) related to organs, the organ or organs in which pathological changes or other abnormalities are found;
  - (b) related to parts of an organ, the parts of an organ in which pathological changes or other abnormalities are found and which may be separated from the other parts of the organ that are not affected; and
  - (c) related to parts of the game animal carcass, the parts of the carcass in which pathological changes or other abnormalities are found and that may be separated from the other parts of the carcass that are not affected.
8. **Disinfection**, of plant, facilities and equipment, means the reduction, without adversely affecting the game meat, by means of hygienically satisfactory chemical agents and/or physical methods, of the number of microorganisms to a minimum.
9. **Edible game offal** means offal, taken from a game animal carcass, that has been passed by an inspector as fit for human consumption.
10. **Fit for human consumption** in relation to game meat means game meat that has been passed by an inspector as safe and wholesome, unless found unwholesome in subsequent examinations, which may include laboratory tests.
11. **Fresh game meat** means game meat that has not yet been treated in any way other than by modified atmosphere packaging or vacuum packaging to ensure its preservation, except that if it has been subjected only to refrigeration, it continues to be considered fresh for the purposes of this Code.
12. **Game animal** means any animal that:
  - (a) has not been herded or handled in the manner of a farmed animal and has of necessity to be killed in a location where it is not available for ante-mortem inspection by an inspector; and
  - (b) is of a species the carcass of which may legally be dressed in a game establishment.
13. **Game animal carcass** means the undressed, partially dressed or dressed body of a game animal that is being, or is intended to be, dressed or prepared in a game establishment, and includes any associated organs.
14. **Game carcass** means the body of a game animal that has been dressed or prepared in a game establishment, and that has been passed by an inspector as fit for human consumption.

15. **Game depot** means any premises that is approved by the controlling authority for the temporary holding of game animal carcasses prior to their transfer to a game establishment.
16. **Game establishment** means any premises that is approved and registered by the controlling authority to dress, prepare, handle, pack or store game animal carcasses, game carcasses or game meat, but does not include a game depot.
17. **Game meat** means the edible part of any game animal that has been dressed or prepared in a game establishment and passed by an inspector as fit for human consumption, and includes edible game offal.
18. **Hunter** means any person involved in the killing of game animals and/or the bleeding, partial evisceration and limited field dressing of game animal carcasses, whether as part of a commercial harvesting operation or otherwise.
19. **Inedible** means inspected and judged to be, or otherwise officially determined to be, unfit for human consumption but not requiring destruction.
20. **Inspector** means a properly trained officer appointed by the controlling authority for the purpose of game meat inspection and control of hygiene, and includes a veterinary inspector. The supervision of game meat hygiene, including the inspection of game animal carcasses and game meat, should be under the responsibility of a veterinary inspector.
21. **Manager** in relation to game harvesting, a game depot or a game establishment includes any person for the time being responsible for the management of the harvesting, the depot or the establishment.
22. **Offal** in relation to a game animal carcass or a game carcass means any edible or non-edible part of the animal other than the carcass.
23. **Potable water** means water that is pure and wholesome at the point of usage in accordance with requirements contained in the WHO publication *Guidelines for drinking-water quality*.
24. **Protective clothing** means special garments intended to prevent the contamination of game meat and used as outer wear by persons in a game establishment, and includes head coverings and footwear.
25. **Residues** means residues of veterinary drugs, pesticide residues, and contaminants, as defined for the purposes of the Codex Alimentarius<sup>5</sup>.

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<sup>5</sup> **Definitions for the Purpose of the Codex Alimentarius** are as follows (*Codex Alimentarius* Second Edition, Volume 1, p11-13):

**Veterinary drug** means any substance applied or administered to any food-producing animal, such as meat or milk-producing animals, poultry, fish or bees, whether used for therapeutic, prophylactic or diagnostic purposes or for modification of physiological functions or behaviour.

**Residues of veterinary drugs** include the parent compounds and/or their metabolites in any edible portion of the animal product, and include residues of associated impurities of the veterinary drug concerned.

**Pesticide** means any substance intended for preventing, destroying, attracting, repelling, or controlling any



26. **Retained** means held under the control and security of the controlling authority pending final judgement.
27. **Risk analysis** includes risk assessment, risk management and risk communication, all of which are essential to the decision making process that determines acceptable levels of risk, and the implementation of those decisions.
28. **Safe and wholesome** refers to game meat that has been passed as fit for human consumption using the criteria that it:
- (a) will not cause food borne infection or intoxication when properly handled and prepared with respect to the intended use;
  - (b) does not contain residues in excess of established Codex limits;
  - (c) is free of contamination to the extent consistent with consumer expectations of game meat;
  - (d) is free of defects that are generally recognized as objectionable to consumers; and
  - (e) has been produced under adequate hygiene control.
29. **Veterinary Inspector** means an inspector who is professionally qualified as a veterinarian.
30. **Viscera** means the organs of the thoracic and abdominal cavity and includes the kidneys.

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pest including unwanted species of plants or animals during the production, storage, transport, distribution and processing of food, agricultural commodities, or animal feeds or which may be administered to animals for the control of ectoparasites. The term includes substances intended for use as a plant-growth regulator, defoliant, desiccant, fruit thinning agent, or sprouting inhibitor and substances applied to crops either before or after harvest to protect the commodity from deterioration during storage and transport. The term normally excludes fertilizers, plant and animal nutrients, food additives, and animal drugs.

**Pesticide Residue** means any specified substance in food, agricultural commodities, or animal feed resulting from the use of a pesticide. The term includes any derivatives of a pesticide, such as conversion products, metabolites, reaction products, and impurities considered to be of toxicological significance.

**Contaminant** means any substance not intentionally added to food, which is present in such food as a result of the production (including operations carried out in crop husbandry, animal husbandry and veterinary medicine), manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food or as a result of environmental contamination. The term does not include insect fragments, rodent hairs and other extraneous matter.

## SECTION IV - HARVESTING, FIELD DRESSING, COLLECTION AND HOLDING IN A GAME DEPOT

**Game animals need to be harvested with due cognisance of potential environmental hazards and field operations should be such that contamination is limited to the greatest practical extent.**

*The natural environment in which game animals live affects the safety and wholesomeness of game meat. The potential exists for contamination of the tissues of game animals with chemical residues and this must be considered along with the more general health status of game animal populations and the health status of any farmed animals that share their habitat.*

*As game animals are unhusbanded their likely status with respect to chemical residues may not be well known. Obtaining all data that is available on potential chemical contamination, as well as on health status, is vital. The responsibility in this area that rests with hunters should not be overlooked.*

*The way in which game animals are killed, the hygiene of the bleeding and evisceration of game animal carcasses when this is undertaken in the field, and their post-harvest handling, has a major impact on the safety and wholesomeness of game meat. Both the controlling authority and the operators of game establishments should undertake whatever measures are necessary to ensure that hunters and employees of game meat enterprises are aware of their obligations for hygienic harvesting of game animals and hygienic handling of game animal carcasses. Where necessary the controlling authority should have a system in place to monitor field aspects of game meat production.*

### **Harvesting of game animals**

*Game animals are shot or otherwise killed in the field, and the humaneness with which this is carried out is an important consideration. Care needs to be taken that game animals are not harvested from areas where hazards that may effect the safety of game meat exist. Likewise, the hunter is expected to accept responsibility for only harvesting apparently normal animals, or of reporting signs of disease.*

31. Game animals should be killed by a method that:
  - (a) will not contaminate the game animal carcass in a way inconsistent with the production of hygienic game meat; and
  - (b) can be reliably expected to cause immediate death.
32. Game animals should not be harvested for the production of game meat from areas that are subject to an official prohibition on such harvesting, whether that prohibition be for reasons of conservation, animal health, animal or plant chemical control, or any other reason.
33. Hunters should note any abnormal condition they detect in the live game animal, or during

the evisceration or bleeding of a game animal carcass, and such abnormal condition should be reported to an inspector if that game animal carcass is taken to a game establishment.

### **Evisceration and field dressing of game animal carcasses**

*It is necessary with the carcasses of most species of game animals that they be bled and part eviscerated as soon as possible after killing. Part evisceration (normally restricted to removal of the intact gastrointestinal tract) serves to reduce the weight and bulk of the carcass and to speed cooling. Other parts, such as heads, tails and legs, may also be removed and discarded to facilitate handling. Such removal should be restricted to those parts the removal of which will not increase exposure to contamination to an unacceptable level and which the controlling authority determines are not required for inspection judgement.*

34. A game animal carcass should be bled and eviscerated without undue delay once a game animal is killed, except in the following circumstances. With the consent of the controlling authority and subject to any conditions it determines, for specified species of game animals, bleeding may be omitted, evisceration delayed and the carcasses of those game animals conveyed to a game establishment without having first been eviscerated or bled.

35. Additional field dressing procedures (such as removal of the head and/or feet) may be permitted by the controlling authority where it is satisfied that they will not impede subsequent inspection or jeopardize the hygiene of game meat.

36. Where a game animal carcass is eviscerated in the field, the lungs, liver, heart and kidneys should be left in the carcass attached by their natural attachments (though they may be partially freed) to enable an inspector to inspect them in correlation with the carcass. However, with the consent of the controlling authority and subject to any conditions it determines, the lungs, liver and heart of designated species of game animals may be removed from the carcass provided that they are presented for inspection in correlation with the carcass.

37. A game animal carcass should not be skinned or dressed beyond the extent required by paragraphs 34 and 35 other than in a game establishment.

38. Game animal carcasses should be removed to a game depot or game establishment without undue delay.

### **Cooling of game animal carcasses**

*It is normal, but not always necessary, to rapidly reduce the temperature of game animal carcasses using active refrigeration, either in a game depot or in a game establishment. This steps necessary to achieve adequate cooling vary according to the prevailing ambient temperature.*

39. Game animal carcasses, and any organs being recovered, should be rapidly and effectively cooled to a temperature not exceeding 7°C (or 4°C in the case of small game animal carcasses). Except where the ambient temperature is sufficiently low to achieve this, game animal carcasses should be placed under refrigeration soon after harvesting, either in a game depot, game establishment or other specifically approved facility.

## Transport of game animal carcasses

*The transport of game animal carcasses from where they were harvested, mostly to a game depot but occasionally direct to a game establishment, may either be in small numbers by casual hunters or in larger numbers by professional hunters who work with the game processing operation in an ongoing commercial venture. Good hygienic practices should be required, particularly in the case of the latter. Transport of game animal carcasses from a game depot to a game establishment is undertaken on behalf of the manager of the game processing operation, and hence greater control can be exercised.*

40. Vehicles used as part of a commercial operation to transport game animal carcasses from the place the game animal was killed to either a game depot or a game establishment should be so constructed that:

- (a) game animal carcasses can be loaded, transported and unloaded without being contaminated; and
- (b) they can be readily cleaned.

41. Vehicles used as part of a commercial operation to transport game animal carcasses from the place the game animal was killed to either a game depot or a game establishment should be maintained in good repair and cleaned as necessary to ensure the production of hygienic game meat.

42. Vehicles used to transport game animal carcasses from a game depot to a game establishment should be so constructed that:

- (a) game animal carcasses can be loaded, transported and unloaded without being contaminated; and
- (b) they can be readily cleaned.

43. Vehicles used to transport game animal carcasses from a game depot to a game establishment should be cleaned as soon as practicable after game animal carcasses have been unloaded.

44. The transport of game animal carcasses should be such that identification back to the time and place of harvesting is not lost.

## General provisions

45. Where necessary to maintain standards of hygiene, contamination should be removed from a game animal carcass prior to it being transported to a game establishment, by trimming or other means approved by the controlling authority.

46. Game animal carcasses should be protected from contamination and against deterioration by whatever means is necessary to maintain standards of hygiene, during transport and at all other times prior to their arrival at a game establishment.

47. Game depots should not be used simultaneously for any purpose other than the collection and interim holding of game animal carcasses that are to be transferred to a game establishment.
48. Game animal carcasses should not be frozen, except where this occurs naturally in cold climates, before arrival at a game establishment or inspection by an inspector.
49. A game animal carcass should arrive at a game establishment not later than 24 hours after the game animal has been killed or as soon as practicable in the case of chilled game animal carcasses. The controlling authority may extend the 24 hour limit if it is satisfied that the conditions of handling, chilling and transport are such that an extension will not lead to a deterioration in the standard of hygiene of the resulting game meat.

## SECTION V - PLANT AND FACILITIES

**Plant and facilities in game depots and game establishments for dressing, further processing and distribution should provide an environment that allows the application of consistently applied minimum food safety requirements. The structure of the game depot or game establishment and the equipment used should limit microbial contamination to as low a practicable level as possible and prevent subsequent growth to levels that may constitute a hazard. The structure and equipment should also protect game meat from contamination from outside sources.**

### **Game depot structure and facilities**

*Game depots are premises, located in areas where game animals are harvested, in which game animal carcasses may be held temporarily prior to their transfer to a game establishment. Their purpose is two fold; firstly to provide a hygienic environment in which game animal carcasses may be cooled and secondly to enable the accumulation of carcasses in sufficient numbers for economical transportation. The standard of construction of, and equipment in, game depots is in general the same as for game establishments, though they are usually more basic because no dressing or inspection takes place in them.*

50. Game depots should comply with all relevant provisions for game establishments as set out in paragraphs 51 and 53, and should include a suitable storage area for game animal carcasses that is equipped where necessary with refrigeration adequate to effectively cool such carcasses.

## Game establishment structure and facilities

*Game establishments are frequently simple in design and usually do not include the full range of ancillary operations normally found in abattoirs. The facilities need to be such that all services necessary to support hygienic operations (including game meat inspection) are available and are laid out in a manner that enables personnel to operate effectively and safely. The standard of design and construction needs to be in keeping with that in an abattoir, and not pose a risk of directly or indirectly contaminating game meat. The establishment and its equipment must be capable of being kept acceptably clean while operations are taking place and of being readily cleaned when operations have concluded. Any support facilities need to be of a standard appropriate to a food producing establishment. The structural and equipment provisions that follow should be interpreted in the context of this paragraph.*

51. Game establishments should:

- (a) be located in areas that are not subject to regular or frequent flooding, and that are free from objectionable odours, smoke, dust or other contaminants;
- (b) have adequate working space for the satisfactory performance of all operations;
- (c) be soundly constructed and ensure adequate ventilation, good natural or artificial lighting and easy cleaning;
- (d) with respect to both the building and the facilities it contains, be kept in good repair at all times;
- (e) be laid out and equipped so as to facilitate proper supervision of game meat hygiene, including the carrying out of inspection;
- (f) be constructed so as to protect against the entrance and harbouring of insects, birds, rodents and other vermin;
- (g) have a physical separation between departments in which edible material is handled and any departments set aside for the handling of inedible material;
- (h) in all rooms, other than rooms provided for the accommodation of employees and inspectors, have:
  - (i) floors that are of waterproof, non-toxic, non-absorbent materials and that are easy to clean and disinfect;
  - (ii) floors that are non-slip and without crevices and (except in the case of rooms where game meat is frozen or stored frozen) that slope sufficiently for liquids to be drained off to trapped outlets that are protected by a grill;
  - (iii) walls that are of waterproof, non-toxic, non-absorbent materials, light coloured, easy to clean and disinfect, smooth, and of a height appropriate to the operation conducted;

- (iv) the angles between adjoining walls, and the angles at wall to floor junctions, coved; and
- (v) ceilings so designed and constructed as to prevent the accumulation of dirt and condensation and that are light coloured and easy to clean; and
- (i) have an efficient effluent and waste disposal system:
  - (i) that is maintained at all times in good order and repair;
  - (ii) in which all lines, including sewer lines, are large enough to carry peak loads;
  - (iii) in which all lines are watertight and adequately trapped and vented;
  - (iv) with catch basins, traps, save-alls and sumps that are fully separate from any department in which game meat is prepared, handled, packed or stored;
  - (v) from which waste is disposed of in such a manner as to avoid contamination of potable water supplies;
  - (vi) with waste lines from toilets not joining the plant effluent system prior to the final save-all; and
  - (vii) that is approved by the controlling authority.

52. Game establishments should include:

- (a) areas reserved for the use of the inspection service that comply with the requirements set out in paragraphs 108 to 112 ;
- (b) suitable storage areas for game animal carcasses awaiting dressing and inspection;
- (c) dressing areas that enable work to be performed in a satisfactory manner and that are capable of being temperature controlled to the extent necessary to enable compliance with the provision of paragraph 80 ;
- (d) equipment in dressing areas being constructed of impermeable, corrosion-resistant materials, capable of being easily cleaned, and designed, constructed and installed such that game meat will not touch the floor;
- (e) a separate room for emptying and, where undertaken, cleansing alimentary tracts should these operations occur within the game establishment<sup>6</sup>;

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However, the controlling authority may approve other systems in the light of technological

- (f) refrigerated rooms suitable for the effective cooling and cool storage of game meat;
- (g) facilities in the form of a room or portion of a room capable of being set aside and controlled and capable of being locked whenever required, for storing suspect game meat, and designed so as to prevent the risk of contaminating other game meat and the risk of substitution;
- (h) facilities in the form of a room or portion of a room capable of being locked and suitable for the secure holding of condemned game meat, unless other adequate arrangements for disposal exist;
- (i) facilities for the control of the entrances and exits; and
- (j) suitable facilities for the adequate cleaning and disinfecting of transport vehicles (except that the controlling authority may instead permit a satisfactory operational alternative to facilities located on the game establishment).

53. Game establishments should be designed, constructed and equipped such that:

- (a) those operations that carry a risk of contamination of game meat are sufficiently separated from game meat to avoid the risk of such contamination;
- (b) game meat does not come into contact with floors, walls or fixed structures, other than those that are specifically designed for such contact;
- (c) where necessary there is an overhead rail, so installed as to avoid contamination of game meat, for the moving of game animal carcasses, game carcasses and game meat;
- (d) there is an ample supply of potable water under adequate pressure, together with facilities for its storage and distribution under conditions that guard against back siphonage and adequately protect against contamination;
- (e) there is equipment installed capable of providing an adequate supply of:
  - (i) hot potable water at no less than 82°C; and
  - (ii) hot and cold running water or water premixed to a suitable temperature for hand washing; or
  - (iii) cold or warm sanitising solution of acceptable concentration;
- (f) where a supply of non-potable water exists under circumstances set out in

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developments which will ensure that contamination is prevented to an equivalent extent.



paragraph 85:

- (i) that supply is completely separate from the supply of potable water; and
  - (ii) all pipes and any vessels within which it is contained are distinctively identified by colour or by other means approved by the controlling authority;
- (g) there is adequate natural or artificial lighting installed throughout the premises of a type that does not alter colours and that is capable of providing illumination of an intensity not less than that detailed in paragraphs 82 and 109;
- (h) where light bulbs or light fixtures are located over game animal carcasses, game carcasses or game meat, they are of the safety type, or otherwise protected so as to prevent contamination of game meat in case of breakage;
- (i) there is adequate ventilation provided to prevent excessive heat, steam and condensation and to ensure that the air of premises is not contaminated with odours, dust, vapour or smoke;
- (j) any windows are fitted with whole panes and that those that open, and any other ventilation openings, are fitted with screens of a type that are easily removable for cleaning;
- (k) door ways are sufficiently wide to permit ready traffic;
- (l) doors that open from departments where edible material is handled, unless fitted with an effective air screen, are solid and:
- (i) as far as practicable self-closing; or
  - (ii) snug-fitting and of the double action type;
- (m) any stairs located in a room where edible material is handled are constructed so that they can be easily cleaned and no contamination can be caused by material falling from them;
- (n) any lift cage is so constructed as to afford adequate protection of game meat against contamination and it and its shaft are capable of being effectively cleaned;
- (o) any platform, ladder, chute or similar equipment in a room used for the preparation of game meat is constructed so as to be capable of being effectively cleaned and is of material that is:
- (i) resistant to fracture, abrasion and corrosion; and
  - (ii) capable of being effectively cleaned;

- (p) any chutes are fitted with inspection and cleaning hatches where these are necessary to ensure cleanliness;
- (q) all rooms used for dressing of game animal carcasses, or the deboning, preparation, packaging or other handling of game carcasses or game meat, are equipped with adequate facilities for washing hands, and these facilities:
  - (i) have waste water lines leading to drains;
  - (ii) are conveniently located for the use of personnel who will work in the room;
  - (iii) are connected to a warm water supply;
  - (iv) have taps of a non-hand operable type; and
  - (v) are fitted with a dispenser (or dispensers, as appropriate) for liquid soap or other hand cleansing agent;
- (r) all rooms used for dressing of game animal carcasses, or the deboning, preparation, packaging or other handling of game carcasses or game meat are equipped with adequate facilities for the cleaning and disinfecting of implements, and these:
  - (i) have waste water lines leading to drains;
  - (ii) are conveniently located for the use of personnel who will use the implements;
  - (iii) are set aside exclusively for the cleaning and disinfection of knives, steels, cleavers, saws and other implements; and
  - (iv) are of such nature and size as to permit proper cleaning and disinfection of implements;
- (s) all rooms in which game animal carcasses, or game carcasses, parts of game carcasses or edible game offals, are placed for chilling, freezing or refrigerated storage are fitted with temperature recorders; and
- (t) all rooms in which game carcasses, parts of game carcasses or edible game offals are placed for chilling have proper insulation of walls and ceilings and:
  - (i) if overhead refrigerating coils are installed, have insulated drip pans fitted beneath them; and
  - (ii) if floor type refrigerating units are installed, they are placed within curbed and separately drained areas unless located adjacent to floor drains.

54. The construction and layout of any chilling room, freezing room, freezer store or freezer

should satisfy the relevant provisions of paragraph 53.

55. Game establishments in which game carcasses are deboned and/or game meat is cut up should have:

- (a) a room or rooms, capable of being temperature controlled, for the holding of game carcasses unless deboning and/or cutting up is undertaken as part of a line operation after game animal carcase dressing without intervening storage;
- (b) a room or rooms, physically separated from other rooms and capable of being temperature controlled, for deboning of game carcasses and cutting up of game meat; and
- (c) separation of the area in which deboning, cutting and primary wrapping operations are to be undertaken from the place where packaging is to be undertaken, unless the controlling authority permits an operational approach to prevent the packaging causing contamination of game meat.

### **Amenities**

56. Each game establishment should include amenities for employees that:

- (a) are commensurate in size with the number of employees;
- (b) include changing room, separate area for eating meals, toilets with flushing water closets, and showers;
- (c) have hand washing facilities, in close association with toilets, that:
  - (i) are connected to a warm water supply;
  - (ii) have taps of a non-hand operable type;
  - (iii) are fitted with a dispenser (or dispensers, as appropriate) for liquid soap or other hand cleansing agent; and
  - (iv) are associated with suitable hygienic means of drying hands;
- (d) are equipped to permit adequate lighting, ventilation and, where necessary, heating; and
- (e) do not open directly to any work area.

57. Each game establishment should have adequate and suitably equipped working areas and amenities for game meat inspection personnel and office accommodation for the inspection service that complies with the requirements set out in paragraphs 108 to 112.

## Equipment and related items

58. All equipment, implements and utensils used in game establishments that come in contact with game animal carcasses or game meat should be of a design and construction that facilitates cleaning, and:

- (a) have smooth impervious surfaces;
- (b) be resistant to corrosion and made of a material that is non-toxic and does not transmit odour or taste;
- (c) be smooth, free from pits and crevices; and
- (d) be capable of withstanding repeated exposure to normal cleaning and disinfection;

and if fixed or stationary, be installed in such a manner as to permit easy access and thorough cleaning.

59. Equipment and utensils for use with inedible or condemned materials should be distinctively identified.

## Transport vehicles

*Vehicles in which game meat is transported from a game establishment should be designed, constructed and equipped to prevent contamination of that game meat and to prevent or limit the growth of microbes.*

60. Vehicles or shipping containers in which game carcasses or game meat is to be transported should:

- (a) have all internal finishes 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 the required temperature can be maintained while game carcasses or game meat is being carried; and
- (d) be designed, constructed and equipped such that game carcasses or game meat does not come into contact with the floor.

## SECTION VI - HYGIENIC OPERATING REQUIREMENTS AND PRACTICES

Operations and practices for holding, dressing, further processing and distribution should ensure the application of consistently applied minimum food safety standards. Hygienic operations and practices should limit microbial contamination to as low a practicable level as possible and prevent subsequent growth to levels that may constitute a hazard. Operations and practices should also protect game meat from other sources of contamination. A process control system should be in place to prevent hazards in game meat and should be based on the HACCP approach.

### Health of persons

*Personnel who work in the game meat industry, whether in the field, in game depots or in game establishments, should have a health status that does not contribute to the transmission of food-borne diseases.*

#### 61. Persons:

- (a) who as part of a commercial operation, bleed and eviscerate game animal carcasses in the field; as well as persons
- (b) who come in contact with game animal carcasses, game carcasses or game meat in the course of their work in a game depot or game establishment;

should have a medical examination prior to their employment if the controlling authority, acting on medical advice, considers that this is necessary. In such circumstances, the manager of the field operation or the manager of the game depot or game establishment, as appropriate, should maintain the medical certificates of employees in a systematic manner and they should be available for perusal by an inspector. Medical examination of such persons should be carried out at other times when clinically or epidemiologically indicated or as prescribed by the controlling authority.

62. Care should be taken to ensure that persons, while known or suspected to be suffering from, or to be a carrier of a disease likely to be transmitted through game meat or while afflicted with infected wounds, skin infections, sores or with diarrhoea, are:

- (a) not permitted to bleed and eviscerate game animal carcasses in the field as part of a commercial operation; or
- (b) not permitted to work or be present in any area of a game depot or game establishment in any capacity in which there is any likelihood of them directly or indirectly contaminating game meat with pathogenic microorganisms.

Any person so affected should immediately report that condition to the manager.

## Cleanliness of premises

*Cleanliness of plant and equipment so that there is neither direct nor indirect contamination of game meat is a fundamental principle of game meat hygiene.*

63. For game depots, a cleaning and sanitation programme should be established by the manager that ensures:
- (a) the premises, including any amenities, and any equipment and utensils, are kept clean and are immediately and effectively cleaned and disinfected whenever they come into contact with pathological material, infective material or otherwise become contaminated;
  - (b) game animal carcasses are not contaminated during cleaning or disinfection of the premises or of any equipment or utensils;
  - (c) that no detergents, sanitising agents or disinfectants are allowed to come into either direct or indirect contact with game animal carcasses unless they conform to public health requirements for such contact; and
  - (d) no cleaning preparation or material, or any paint or other surface treatment, likely to contaminate game meat, is used in any part of a game depot where such contamination is possible.
64. For game establishments, a cleaning and sanitation programme should be established by the manager that ensures:
- (a) the premises, including the amenities, are kept clean;
  - (b) equipment, implements and utensils (including knives, knife pouches, cleavers, saws and trays) are:
    - (i) cleaned at frequent intervals during and/or between periods of work;
    - (ii) immediately and effectively cleaned and disinfected whenever they come into contact with pathological material, infective material or otherwise become contaminated; and
    - (iii) in a clean and disinfected state at the beginning of each working day;
  - (c) washing down, cleaning and disinfection are carried out in compliance with this Code;
  - (d) game animal carcasses, game carcasses or game meat are not contaminated during cleaning or disinfection of rooms, equipment or utensils;
  - (e) that no detergents, sanitising agents or disinfectants are allowed to come into

either direct or indirect contact with game animal carcasses, game carcasses or game meat unless they conform to public health requirements for such contact;

- (f) any residue of detergents, sanitising agents or disinfectants used for the washing of floors, walls or edible product equipment are removed by thorough rinsing with potable water before the area or equipment is again used; and
- (g) no cleaning preparation or material, or any paint or other surface treatment, likely to contaminate game animal carcasses, game carcasses or game meat, is used in any part of a game establishment where game animal carcasses are dressed or where game carcasses or game meat is prepared, handled, packaged or stored.

## **Pest control**

*Pests always retain the potential to contaminate game meat by direct or indirect contact. Pest control programmes are an integral part of game meat hygiene, with caution being required that the means of control does not in itself become a source of contamination.*

65. An effective and continuous programme for the control of pests, including insects, birds, rodents and other vermin, should be maintained in game depots and game establishments, and should include:

- (a) detailed documentation of the programme;
- (b) the programme being under the direct control of a representative of the manager who is suitably qualified for the task;
- (c) the regular examination of the surroundings for evidence of infestation with pests;
- (d) if pests are in evidence, eradication measures carried out under skilled supervision and with the knowledge of an inspector;
- (e) only the use of pesticides approved for such use by the controlling authority;
- (f) ensuring that chemicals used for pest control purposes do not contaminate game animal carcasses, game carcasses or game meat;
- (g) the use of pesticides only if other control methods cannot be used effectively;
- (h) the removal of all game animal carcasses, game carcasses or game meat from rooms to be treated before pesticides are used;
- (i) the thorough washing of all equipment and utensils that are in a room that has been treated with pesticides before they are used again; and
- (j) the storage of any pesticides or other toxic substances used for pest control in separate locked rooms or locked cabinets with access to them limited to authorized

and properly trained personnel acting in accordance with the pest control programme.

### **General operational hygiene**

*All operations and practices should be carried out in a manner that limits contamination to as low a level as possible. Good personal hygiene and adequate training programmes are important components, as is adequate supervision to ensure compliance with operational requirements.*

66. Managers of:

- (a) the field segment of a commercial game animal harvesting operation;
- (b) game depots; and
- (c) game establishments;

should arrange for adequate and continuing training of all employees who work in the production of game meat, and of hunters with whom they have a continuing commercial relationship, in hygienic handling of game meat and in personal hygiene. Instruction should include relevant parts of this Code.

67. Managers of game depots and managers of game establishments should promote the principles of, and offer instructions in, the hygienic handling of game animal carcasses to hunters with whom they have no continuing commercial relationship but who may supply them with game animal carcasses. Such promotion and instruction should include relevant parts of this Code.

68. Every person, including a visitor, in an area of a game establishment where game animal carcasses are stored or dressed or game meat is prepared or handled, should maintain a high degree of personal cleanliness, and at all times while in the area wear suitable light coloured protective clothing including:

- (a) head covering; and
- (b) footwear;

that is washable (unless disposable) and that is maintained in a clean condition consistent with the nature of the work in which the person is engaged.

69. Personal effects and clothing should not be deposited or stored in an area of a game depot or of a game establishment used for holding or dressing game animal carcasses, or the preparation, handling, packaging or storing of game carcasses or game meat. Protective clothing, knife pouches, belts and working implements not being used should be kept in a place provided for the purpose where they will not contaminate game meat or become contaminated themselves.

70. All persons at a game establishment, while engaged in the dressing of game animal carcasses or the preparation, handling, packaging or transport of game meat, should wash their



hands frequently and thoroughly with a liquid soap under running warm potable water.

71. All persons working at a game depot or game establishment should always wash their hands before commencing work, immediately after using the toilet, after handling contaminated material and whenever else necessary. After handling any material that might be capable of transmitting disease, hands should immediately be washed and disinfected. Notices requiring hand washing should be prominently displayed.

72. Gloves, if used in the handling of game meat, should be maintained in a sound, clean and sanitary condition. The wearing of gloves does not exempt any person from having thoroughly washed hands. Gloves should be made of an impermeable material except where their usage would be inappropriate or incompatible with the work involved and where the use of gloves of permeable material does not adversely affect hygiene.

73. Any behaviour or unhygienic practices that could potentially result in contamination of game meat should be prohibited in any part of a game depot or game establishment.

74. Any person in a game depot or game establishment who has a cut or wound should discontinue handling game animal carcasses or game meat, or game meat contact surfaces, until the injury is completely protected by a water proof covering that is firmly secured, and that is conspicuous in colour. Adequate first aid facilities should be provided for this purpose.

75. Doors opening to the outside from departments where game animal carcasses are held or dressed, or game meat is handled, unless protected by an effective air screen, should be kept closed as far as practicable.

76. In game establishments, where a skip or trolley, or any container used in a department where edible material is handled, enters an area set aside for the handling or storage of inedible material, it should not re-enter any edible department until it has been cleaned and disinfected.

77. Where containers or cartons are assembled in parts of a game establishment where game animal carcasses are dressed, or where game meat is cut up or deboned, prepared, handled, packaged or stored, they should be assembled in such a manner that there is minimal risk of contaminating game meat.

78. Where containers, equipment and utensils are held in any area of a game establishment where game animal carcasses are dressed, or where game meat is cut up or deboned, prepared, handled, packaged or stored, they should be held in such a manner that there is minimal risk of contaminating game meat.

79. Aprons and other items of protective clothing, other than footwear, should not be washed on the floor.

80. Work areas of a game establishment, including areas in which game animal carcasses are dressed, should be temperature controlled where this is necessary to prevent a rise in the temperature of game animal carcasses, game carcasses and game meat that is of sufficient magnitude to jeopardize safety and wholesomeness.

81. Effective ventilation should be provided in work areas of a game establishment to prevent

excessive heat, steam and condensation and to ensure that the air is not contaminated with odours.

82. Lighting intensity throughout a game establishment should not be less than:
- (a) 540 lux in areas where detailed examination or trimming is undertaken;
  - (b) 220 lux elsewhere in work rooms; and
  - (c) 110 lux in other areas;

while the dressing of game animal carcasses is being undertaken, and when game meat is being deboned or prepared.

83. No animal should enter any part of a game depot or game establishment.

84. Notwithstanding anything elsewhere in this Code, materials employed in the construction or maintenance of a game depot or game establishment may be used at any time that such use is necessary, provided there would be no danger of contamination of game animal carcasses or game meat.

### **Water and operational hygiene**

*Water is used in game depots and game establishments both for cleaning and disinfecting. Water itself can carry contaminants and it is therefore important that its quality is appropriate to the operation and that it is used carefully to prevent inadvertent direct or indirect cross contamination.*

85. All water used in game depots and game establishments should be potable, except that water that falls outside of the standard for potable water because of physical and/or chemical characteristics may be used in situations where there is no risk of contamination of either game animal carcasses or game meat.

86. In game establishments, there should be an adequate supply of hot potable water at not less than 82°C, and of warm potable water for hand washing, at all times while dressing of game animal carcasses is being undertaken, and when game meat is being deboned or prepared.

87. Sterilizers should be reserved exclusively for cleaning and disinfection of knives, steels, cleavers, saws and other such implements.

88. Soap and detergent dispensers located in areas that are in use should be adequately filled.

89. Hand drying facilities that have been provided should be useable in any area where persons are working with game meat. When this entails the provision of disposable towels, suitable receptacles for used towels should be available and be used.

## **Process control programmes**

*The process of game meat production, right from the harvesting of game animals through to the transport of the finally prepared game meat, involves many steps; at each of these steps there can be risk to safety and wholesomeness. To adequately control those risks and protect the consumer requires a systematic approach to the process. A process control programme includes systematic identification of hazards (raw materials, processes, procedures), establishment of target levels and tolerances, monitoring, corrective actions, verification procedures and documentation. The HACCP approach is a valuable tool to this end and efficient process control programmes require a joint approach by industry and the controlling authority.*

*Both the game meat industry and the controlling authority have important roles in process control. This necessitates a joint approach.*

*There are advantages in standardisation of process control systems in game meat operations (such as the facilitating of training, the assessment of compliance and the certification of fresh meat) but each programme should be individually designed on a premises-by-premises basis for the particular circumstances in which it is to operate.*

90. Each step in the production of game meat should be the subject of an effective process control programme. The process control programme should be designed specifically for the operation concerned and have as its objective the production of safe and hygienic game meat that complies with all the provisions of this Code, as well as any additional requirements prescribed by the controlling authority.

91. The manager of a game depot, game establishment or game animal harvesting operation should be responsible for the development and continuance of the process control program. While the manager may delegate supervision of the process control programme to a properly trained subordinate, overall responsibility should never be delegated. The successful application of a process control programme requires a team approach, and the full commitment and involvement of management and employees.

92. An inspector should monitor the application and results of the process control programme with respect to all matters touching on the safety and hygiene of game meat as well as all matters relating to additional requirements imposed by the controlling authority.

93. The details of measures that comprise the process control programme should be fully documented and reviewed as frequently as necessary to ensure their continued relevance; the inspector with responsibility for monitoring the programme should have unrestricted access to details of the programme, as well as to records of the results of monitoring the process.

## **Operational hygiene of dressing in a game establishment**

*There is a particular risk of contamination, both seen and unseen, in the dressing of game animal carcasses in a game establishment. This arises because game animals are harvested in the wild, usually part dressed in the field, and often reach the game establishment via a game depot after some delay. Good hygienic practice and good manufacturing practice are therefore particularly important to minimize this risk. Training programmes are an important component in achieving hygienic dressing, even with small work forces; adequate supervision to ensure compliance with operational requirements is particularly important.*

94. Dressing of game animal carcasses should be carried out in a manner that ensures the production of clean game meat.

95. Once the removal of the hide, skin, pelt or feathers has commenced, game animal carcasses should be separated from each other to avoid contact between them and the risk of cross contamination. Separation of game animal carcasses should be maintained until they have been examined and passed by an inspector. Carcasses should only come into contact with surfaces or equipment essential to handling, dressing and inspection.

96. The following should apply in skinning and associated dressing operations in a game establishment:

- (a) game animal carcasses should be skinned in a manner that avoids contamination of game meat;
- (b) pumping of air or gas between the skin and the carcass to facilitate skinning should only be permitted if it is of such nature and quality that it does not contaminate the game meat;
- (c) skinned game animal carcasses should not normally be washed prior to inspection but this may be allowed subject to the prior approval of an inspector or under circumstances determined by the controlling authority;
- (d) game animal carcasses that have been eviscerated should not be dehaired or defeathered by immersion scalding;
- (e) game animal carcasses that are scalded, flamed or similarly treated should be scoured of all bristles, hair, scurf and dirt;
- (f) the water in scalding tanks should be changed as frequently as practicable; and
- (g) with respect to udders:
  - (i) lactating or obviously diseased udders should be removed at the earliest appropriate time during dressing; and
  - (ii) no secretion from, or contents of, udders should be allowed to contaminate the carcass and therefore udders should be removed in such a manner that teat and udder substance remains intact and milk ducts or sinuses are not opened.

97. With respect to further dressing in a game establishment:

- (a) where evisceration is undertaken, it should be undertaken in a hygienic manner;
- (b) no paper, cloth, wad, sponge or brush should be used in the washing of any game animal carcass or game carcass;

- (c) no game animal carcass, game carcass, game meat or offal should be inflated with air or gas in a way that alters its appearance prior to inspection or causes contamination;
- (d) no hide, skin, pelt or feathers should be washed, defleshed or left in any part of a game establishment used for the dressing of game animal carcasses or for the preparation or holding of game meat;
- (e) all inedible material derived from the dressing of game animal carcasses should:
  - (i) be removed, as soon as the inspection procedure permits, from the dressing area in a manner that avoids contaminating the area or game meat; and
  - (ii) after removal from the dressing area, if subsequently treated in parts of the game establishment, be treated in areas intended for this purpose in a way that does not risk contamination of game meat;
- (f) faecal and other objectionable matter that contaminates game animal carcasses should be carefully trimmed off; and
- (g) where an inspector considers that the manner in which game animal carcasses are being dressed or under which the game carcasses or game meat are being handled, prepared or packaged, will adversely affect:
  - (i) the safety and wholesomeness of the game carcass or game meat;
  - (ii) the hygiene of production; or
  - (iii) the efficiency of game meat inspection;

and the manager has not taken effective action to correct the problem, the inspector should have the power to require a reduction in the rate of production or the suspension of operations for the time being in any specified area of the game establishment.

### **Operational hygiene after dressing**

*Any operations following dressing and inspection, including deboning and cutting, freezing and storing, also entail a risk of contamination, and a risk of growth of microbial contaminants. Good hygienic practice and good manufacturing practice will minimize this risk. Time, temperature and water activity are all important interacting factors in controlling microbial growth and they need to be controlled in such a way that the growth of microbiological contaminants is limited to non-hazardous levels.*

*Packaging and wrapping is used to protect game meat from external contamination during handling, storage and transport. It is important that neither the packaging nor wrapping itself, nor the packaging or wrapping procedure, causes contamination of game meat.*

98. Game carcasses and game meat passed as fit for human consumption should be:
- (a) handled, stored or transported in a manner that will protect it from contamination and deterioration;
  - (b) removed without delay from the dressing area; and
  - (c) held and handled under conditions that maintain its internal temperature at not higher than 7°C (or 4°C in the case of small game animal carcasses).
99. Rooms, equipment and utensils set aside for cutting-up, deboning or further preparing game carcasses and game meat should be reserved for those purposes and not used for any other purpose.
100. Rooms in which deboning or cutting is in progress should be maintained at a temperature and humidity appropriate to the operation.
101. If game meat is packaged or wrapped:
- (a) packaging material should be stored and used in a clean and sanitary manner;
  - (b) wrapping and packaging should be sufficient for the purpose of protecting the game meat from contamination in the conditions under which it is to be handled, transported and/or stored;
  - (c) wrapping should be non-toxic and should not leave harmful deposits of any kind on the game meat, or otherwise contaminate it; and
  - (d) cases or cartons used should be provided with a suitable inner liner or other satisfactory means of protecting game meat, except that the liner or other protection may not be required if individual pieces of game meat, such as cuts, are individually wrapped before packing.
102. Inventory control should be maintained over all frozen game meat and there should be effective monitoring of the freezing and storage process to ensure that time and temperature parameters are met.
103. Where game carcasses, parts of game carcasses or game meat are placed in a freezing room for freezing, the following provisions should be observed:
- (a) game meat that is not in cartons should be hung or placed on suitable corrosion resistant trays in a manner permitting adequate circulation of air around the game meat;
  - (b) cartons that contain game meat should be stacked so as to permit adequate circulation of air around each carton;

- (c) game meat that is not in cartons should be held in a manner that precludes drip from one piece of game meat falling on to any other piece; and
- (d) care should be taken where game meat is held on trays to avoid contact between the base of any tray and any game meat stored beneath that tray.

104. Where game carcasses, parts of game carcasses or game meat are placed in any freezer store, the following provisions should be observed:

- (a) game meat, whether in carcase form or in cartons, should not be stacked directly on the floor and should be positioned so that there is adequate air circulation; and
- (b) the freezer store should be operated and maintained at a temperature that will give adequate protection to the game meat.

105. Where game carcasses, parts of game carcasses or game meat are placed in freezing rooms or frozen storage rooms:

- (a) entry to those rooms should be restricted to personnel necessary to carry out operations;
- (b) doors of those rooms should not be left open for extended periods and should when possible be closed immediately after use; and
- (c) temperatures should be recorded.

### **Operational hygiene of transportation of game meat**

*Transportation of game meat from a game establishment is an area of particular risk for contamination of game meat from a variety of sources and of increased difficulty in maintaining water activity and temperature parameters that assure safety and wholesomeness. Particular care should be taken during transportation to prevent the growth of microorganisms that might be present.*

106. Game meat should only be transported:

- (a) in a means of transport that was clean and in good repair before loading and, if necessary, disinfected;
- (b) if with other goods, in a way that does not adversely affect the game meat;
- (c) if game carcasses, sides or quarters, as a hanging load or in a suitable manner on racks or similar equipment, except that if they are adequately wrapped and frozen, they may be carried under other hygienic arrangements;
- (d) if unwrapped and unfrozen edible game offal, in suitable closed containers;

- (e) so that it does not contact the floor;
- (f) in a vehicle or container that prevents the entry of pests and other sources of contamination; and
- (g) in a way that prevents unacceptable rises in temperature.

107. Where game meat is accidentally exposed to adverse conditions during transport and its wholesomeness is in doubt it should be examined and evaluated by a veterinary inspector, or by another suitably qualified person who is accountable to a veterinary inspector, before any further step is taken.

## **SECTION VII - SPECIAL REQUIREMENTS FOR INSPECTION**

**Facilities and equipment should be provided that allow adequate monitoring and control of game meat hygiene by industry personnel and the controlling authority. All aspects of game meat hygiene should be supervised by an official veterinarian. Each game establishment and its supervising veterinarian should have access to laboratory facilities and analytical procedures to support hygienic practices and process control programmes.**

### **Facilities and equipment**

108. Game establishments should be laid out and equipped so as to facilitate proper supervision of game meat hygiene including the performance of game meat inspection.

109. Lighting intensity at all inspection points should not be less than 540 lux.

110. Each game establishment should include amenities for game meat inspection personnel that are commensurate in size with the number of inspectors and that comply with the requirements of sub-paragraphs (b) to (e) of paragraph 56 of this Code.

111. Suitably equipped office accommodation should be provided for the exclusive use of the game meat inspection service.

112. Laboratory facilities should be readily available for the purpose of game meat inspection and game meat hygiene.

### **Veterinary supervision of game meat hygiene**

113. All game meat hygiene requirements in this Code should be supervised by an official veterinarian (though those requirements prior to the arrival of game animal carcasses at a game establishment may be supervised by a separate authority in strict collaboration with the official veterinarian). For every game establishment there should be at least one official veterinarian appointed to supervise hygiene, including game meat inspection.



## Laboratory control procedures

114. It is desirable that the management of each game establishment, in its own interest, have access to laboratory services. Analytical procedures used should follow recognized or standard methods in order that the results may be readily interpreted.

### SECTION VIII - GAME MEAT INSPECTION

**Inspection should be carried out in a systematic manner and should take account of all available information from the field.**

**Game meat inspection procedures should ensure the absence of all contamination identifiable at inspection and should limit the potential for unseen contamination to as low a level as possible.**

*Game meat inspection is of necessity limited in scope because no ante-mortem inspection is possible and, further, because the gastrointestinal tract (and possibly other parts) has usually been discarded in the field. In addition, the different species that may be harvested as game and the various diseases to which those species are susceptible, add to the challenge of establishing appropriate inspection procedures. During inspection, the inspector correlates any information that may be available from the field with what can be discerned by examining the game animal carcass and those organs that are available. Inspection should be efficient and effective and this implies tailoring procedures to the particular circumstances. To do this properly necessitates formal risk analysis.*

115. Information available from the field, whether originating from hunters or elsewhere, should be used in an effective and appropriate manner if optimal inspection is to be achieved. Inspection should be carried out with a full knowledge of all relevant information available pertaining to the game animal carcasses, and the game animals from which those carcasses were derived, prior to their arrival at the game establishment.

116. No game animal carcass should proceed for dressing until it has been checked by an inspector, or by a suitably qualified employee responsible for this function to an inspector, to determine whether or not it is suitable for dressing for the production of game meat. Game animal carcasses found by this check to be unsuitable for this purpose, whether because of deterioration or any other means, should immediately be removed from any room in which carcasses awaiting dressing are held and be disposed of as unsuitable for human consumption.

117. Where a lymph node, organ or any carcass tissue is being incised for inspection, the cut surface should be cleanly sliced to present a view that is not distorted. Where an incision is required to be made, it should as far as possible be made in a way that overcomes any risk of contamination, whether to game meat, premises, equipment or personnel.

118. Parts of a game animal carcass required for inspection should be identifiable with the carcass from which they were removed until inspection has been completed.

119. No person should remove from the inspection area of a game establishment any part of any game animal carcass, organ, or any viscera (other than a part, organ or viscera that is not being recovered for human or animal consumption and is not required for inspection), until the

inspector has completed the inspection and a decision has been made.

120. Except with the permission of the inspector, or in accordance with arrangements established by the controlling authority in the case of certain categories of defect, no person in a game establishment should, prior to the inspection of any game animal carcass being completed:

- (a) remove any serous membrane or any other part from the carcass;
- (b) remove, modify, or obliterate any evidence of disease or defect in the carcass or organ; or
- (c) remove any mark or identification from the hide or any other part;

until the inspector has completed the inspection and given a decision.

121. Parts that are to be inspected should be dressed to the extent necessary to facilitate inspection.

122. Any game animal carcass or part thereof suspected of being unfit for human consumption but which requires a more detailed examination before a decision can be made, should be suitably identified and retained, separate from other game meat, under the control of an inspector. The relevant parts of that game animal carcass should be assembled for further examination. This examination, and any laboratory test or other examination deemed necessary by a veterinary inspector for reaching a final decision, should be undertaken.

123. The method of identification that denotes that a game animal carcass and part thereof have been retained for further inspection should be laid down by the controlling authority.

124. The final responsibility for inspection decisions on fitness for human consumption rests with a veterinary inspector.

## SECTION IX - GAME MEAT INSPECTION PROCEDURES

**The controlling authority should establish standard procedures to inspect game animal carcasses and any individual tissues and organs that are required to be presented for inspection. The procedures should be determined on the basis of the species of animal, the public health risks that might be anticipated and the animal health situation.**

*The procedures for game meat inspection should be based on current practice and knowledge and the risk analysis approach. Undertaking risk analysis of different game meat inspection procedures is highly desirable and enables the development of procedures that correctly reflect advances in the science of game meat hygiene and what can be known of the health status of the animals to be inspected. The procedures that are most appropriate to any particular line of game animal carcasses will vary not only according to species, but also with whatever other information may be available about the wildlife population from which they were harvested. Minimum inspection procedures as set out in the Code for Ante-mortem and*

*Post-mortem Inspection of Slaughter Animals and for Ante-mortem and Post-mortem Judgement of Slaughter Animals and Meat are a useful commencing point in developing appropriate procedures.*

125. Game meat inspection should be carried out in a systematic manner and should ensure that game meat passed for human consumption is safe and wholesome. Inspection procedures should ensure the absence of all contamination identifiable at post-mortem inspection and should limit the potential for unseen contamination to as low a practicable level as possible.

126. The controlling authority should establish for each species of game animal carcase permitted entry to a game establishment the standard procedures required to inspect the available tissues and organs. These procedures should be established on the basis of risk analysis and risk management, with particular emphasis on the animal health status of the region from which harvesting of game animals may be undertaken.

127. An inspector should carry out additional inspection procedures whenever necessary in cases of suspicion of a disease or defect, and be provided with adequate facilities to do so.

128. In the course of inspection the inspector should pay particular attention to:

- (a) signs consistent with natural death, death by trapping or of a moribund state at the time of death;
- (b) indications of decomposition;
- (c) signs of disease transmissible to man or animals;
- (d) presence of parasites in the skin or muscular systems;
- (e) evidence consistent with poisoning or intoxication from environmental contaminants;
- (f) evidence of residues of poisons or pesticides;
- (g) injuries or swelling, presence of oedema or fluid, emaciation;
- (h) unusual colour or smell or deviation detected by sensory means; and
- (i) contamination that cannot be removed by cleaning or trimming.

129. Tissues and organs not intended for human consumption should be inspected in terms of relevance to overall judgements and dispositions for the game animal carcase and other parts. Additional sentinel procedures may be periodically required to check for diseases that may occur unexpectedly in a game animal population that is subject to harvesting for game meat production.

130. Countries should have measures in force in their game meat inspection system to protect the public from trichinosis.

## SECTION X - GAME MEAT INSPECTION JUDGEMENTS AND ENFORCEMENT

**Judgement of game animal carcasses and game meat should ensure that game carcasses are, and game meat is, safe and wholesome.**

*The process of inspection judgement begins with decisions at the time of pre-dressing inspection of game animal carcasses in a game establishment, and normally ends with final judgement at the completion of the routine inspection specified by the controlling authority. A judgement is first taken as to whether a game animal carcass is suitable to be dressed for human consumption; an inspector then takes a judgement following dressing and inspection into which of three categories meat from dressed game animal carcasses should be placed. It is usual to judge game animal carcasses more severely than would be the case of similar carcasses in an abattoir because there is limited information available on the pre-harvest health of game animals and usually less organs are available for post-mortem inspection. While the whole range of judgements available for abattoir inspection may be available, it is usual to restrict judgements to three categories<sup>7</sup>. These are:*

- (a) unconditionally safe and wholesome and therefore fit for human consumption;*
- (b) totally unfit for human consumption, and therefore requiring to be condemned or otherwise disposed of; if unfit for human consumption, a subsequent decision has to be taken as to whether the game meat can be recovered for some other purpose such as for animal feeding or whether it needs to be destroyed; and*
- (c) partially unfit for human consumption, which requires the removal and disposal of abnormal parts, typically wounds, before the remainder can be passed as fit for human consumption.*

*Judgement is aimed at protecting:*

- (a) consumers against food borne infection, intoxication, and hazards associated with residues;*
- (b) food handlers against occupational zoonoses;*
- (c) livestock against the spread of infections, intoxications and other diseases of socioeconomic importance, in particular notifiable contagious diseases, officially*

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<sup>7</sup> The additional judgement categories available, as detailed in Section VIII of the Code for Ante-mortem and Post-mortem Inspection of Slaughter Animals and for Ante-mortem and Post-mortem Judgement of Slaughter Animals and Meat, are:

conditionally approved as fit for human consumption;

meat showing minor deviations from normal but fit for human consumption; and

approved as fit for human consumption, with distribution restricted to limited areas.

*controlled diseases and toxic effects originating from feed or the environment;*

- (d) companion and other animals that closely associate with humans, and wild fauna, against zoonoses they may transmit to humans; and*
- (e) consumers (and indirectly the game meat processing industry) against economic damage from game meat of inferior standard or abnormal properties.*

131. Consideration should be taken of any infection, disease or defect encountered and an appropriate final judgement made based on all available evidence, such as reports received from hunters, observations made during collection and transport of game animal carcasses, findings made at inspection and the results of any laboratory examinations that may be required.

132. In case of suspicion, and if the initial findings at inspection do not enable the drawing of final conclusions, a provisional decision should be taken or the game animal carcass condemned. A game animal carcass that is awaiting a final judgement should be "retained for further inspection" or "retained pending laboratory examination", and remain under the control of an inspector until further information enables a final judgement to be made. If the necessary further examinations or tests cannot be made, or are not made, and the suspicions cannot be dismissed by any other means, the game animal carcass should be condemned or otherwise judged as consistent with the confirmation of the disease or defect suspected.

133. Game meat that has been conditionally approved as fit for human consumption should remain under the control of a veterinary inspector, or of another person who is accountable to a veterinary inspector, until the required treatment has been applied. The game meat should be condemned or otherwise disposed of if the required treatment is not applied.

134. Judgement should be based on the relevant legislation administered by the controlling authority. While safeguarding human health and animal health, judgements should not impose unnecessary costs on industry.

135. It is important that the individual inspector making judgements is fully supported by legislation and indemnified against the consequences of decisions taken in good faith.

136. The controlling authority should have ultimate responsibility for all decisions concerning all inspection judgements.

137. If the decision of the controlling authority is contested, the national legislation for arbitration should apply. The contesting of a decision should not, however, delay the taking of any action when the controlling authority decides such delay would jeopardize human health or animal health.

## Judgement categories

138. The decisions at inspection are classed into the following categories of judgement:

1. Approved as fit for human consumption
2. Totally unfit for human consumption
3. Partially condemned or otherwise disposed of as unfit for human consumption.

139. The following should be the general criteria and principles of implementation for the categories of judgement:

### CATEGORY 1 - Approved as fit for human consumption

140. When the inspection and any other information available has revealed no evidence of any unacceptable disease or defect and if the dressing operation has been implemented in accordance with hygienic requirements, the game carcase and offals being recovered for edible purposes should be approved as fit for human consumption without any restriction, and as such may enter unrestricted trade, provided no animal health restrictions are otherwise applicable.

### CATEGORY 2 - Totally unfit for human consumption

141. The game animal carcase and all offals should be condemned or otherwise disposed of for inedible purposes in one or more of the following circumstances:

- (a) they are hazardous to food handlers, consumers, livestock and/or wildlife;
- (b) they show signs consistent with natural death, death by trapping or of a moribund state at the time of death;
- (c) they show indications of decomposition;
- (d) they show extensive injuries or swellings, considerable oedema or fluid, or emaciation;
- (e) they contain residues that exceed the established limits;
- (f) there are unacceptable deviations, detectable by sensory means, from normal game meat; or
- (g) there is contamination that cannot be removed by cleaning or trimming.

142. The disposal and utilization of game animal carcasses and parts of game animal carcasses judged unfit for human consumption should reliably prevent such game meat from causing a pollution problem, endangering human health or animal health, or illegally re-entering the human

food chain.

143. Wherever feasible, game meat that is unfit for human consumption may be authorized to be used for animal feeding, provided there are adequate precautions to prevent misuse and to avoid dangers to human health and animal health.

144. In general terms game meat that is unfit for human consumption may be utilized for animal feeding if there is no health hazard involved, and if deviation from the authorized purpose can be reliably prevented.

CATEGORY 3 - Partially condemned or otherwise disposed of as unfit for human consumption

145. Where lesions are localized, affecting only part of the game animal carcass or offals, the affected parts should be removed, and the unaffected parts passed as fit for human consumption (unconditionally and unrestricted, or conditionally, or otherwise as appropriate). The methods for the disposal or utilization of the removed parts should be the same as those applicable under judgement Category 2 (totally unfit for human consumption).

## SECTION XI - DISPOSITION AND BRANDING

*After a decision has been made by an inspector that game meat is fit for human consumption, conditionally fit for human consumption or unfit for human consumption, it is necessary that it be marked in a systematic manner to show the result of inspection. This is to enable control and proper handling/disposal prior to its reaching the consumer as well as to assure consumers of the official guarantee of safety and wholesomeness of game meat.*

146. The size, shape, and wording of any brand, as well as the colour and composition of marking ink used for the branding of game meat, should be laid down by the controlling authority. The design of brands for application to game meat should be distinctively different from that applied to meat derived from slaughter animals and should be uniform throughout the country. Consideration should be given at the design stage to the need to achieve legible impressions of brands under working conditions. Only firebrands or brands comprising suitable ink should be applied to the game meat.

147. Game carcasses and game offal that as a result of inspection are passed as fit for human consumption without further restrictions should be legibly and appropriately branded.

148. All game animal carcasses, parts of carcasses, organs and viscera that are found at inspection to be unfit for human consumption should be held securely to the satisfaction of the inspector until they are branded, stained, rendered, denatured or otherwise destroyed, so excluding them from the human food chain.

149. Brands and stamps used to apply the marks of inspection should be kept clean while in use. They should be held under the control of the inspector and used only under an inspector's supervision.

## SECTION XII - UTILIZATION OF GAME MEAT INSPECTION FINDINGS

*The controlling authority should make game meat inspection findings available to assist other agencies involved in human health, animal health and game animal management. Where possible the controlling authority should take an active role in programmes that assure a safe and wholesome game meat supply and information on zoonotic disease should be provided to the appropriate agencies.*

150. The controlling authority should closely collaborate with the authorities responsible for:

- (a) game animal management, conservation and/or control;
- (b) animal disease control; and
- (c) public health;

so that the greatest possible use can be made of game meat inspection findings.

151. Research and surveillance activities should be distinguished from routine game meat inspection and from those laboratory examinations that may be required for the immediate purpose of decision making, and should have no delaying effect upon the normal course of inspection judgement.

152. Notifiable animal disease reported by hunters or detected at inspection should be reported directly to the veterinary authority responsible for animal disease control.

153. The controlling authority should periodically assemble and evaluate statistics relating to game meat inspection findings and of the judgement decisions taken. These statistics should be made available to relevant authorities, for the monitoring of fluctuations in the animal health situation, as reflected by game meat inspection findings.