

**codex alimentarius commission**

FOOD AND AGRICULTURE ORGANIZATION OF THE  
UNITED NATIONS

WORLD HEALTH  
ORGANIZATION

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ALINORM 93/16

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

20th Session

Geneva, Switzerland, 28 June – 7 July 1993

REPORT OF THE 6TH SESSION OF THE CODEX COMMITTEE ON MEAT HYGIENE  
Rome, 14–18 October 1991

**N.B.:** This document contains also Circular Letter CL 1991/25-MH.

TO: - Codex Contact Points  
- Participants at the 6th Session of the Codex Committee on Meat Hygiene  
- Interested International Organizations

FROM: Chief, Joint FAO/WHO Food Standards Programme FAO, Via delle Terme di Caracalla, 00100 Rome, Italy

SUBJECT: Distribution of the Report of the 6th Session of the Codex Committee on Meat Hygiene, Rome, 14–18 October 1991, ALINORM 93/16

**A. DRAFT REVISED CODES**

1. Draft Revised Code of Hygienic Practice for Fresh Meat (ALINORM 93/16, paras 10–59 and Appendix II)

The Committee discussed at length the Proposed Revised Draft and noting that several substantive changes had been made and that new material had been included or which Government comments was desirable, decided to return the Code to Step 3 for further comment and review at its next session.

2. Draft Revised Code for Ante-Mortem and Post-Mortem Inspection of Slaughter Animals (ALINORM 93/16, paras 60–76 and Appendix III), and Draft Revised Code of Practice for Ante-Mortem and Post-Mortem Judgement of Slaughter Animals and Meat (ALINORM 93/16, paras 77–87 and Appendix IV)

The Committee reviewed at length separately these two Codes and agreed to attach them to this report for information and reference. The Committee also agreed, in the first instance, to combine the two drafts and to circulate the combined Code separately for comments at Step 3 (para. 87).

The final Judgement Tables, which will be annexed to the combined Code, need extensive review and the Committee agreed that the Tables would be revised in cooperation with OIE, FAO, WHO and submitted for comments (para. 86).

3. Recommended International Code of Practice for Game

It was agreed that this Code should be revised and that the revised text should be distributed for comments at Step 3 (para. 88).

The Secretariat considered that, in view of the interrelation between the Codes as well as the further work related to their revision, it was logical and advisable to give Governments and interested International Organizations the possibility to review all documents together when they become available. It is planned to have all documents ready for distribution for comments by the end of May 1992. This will allow reasonable time for review and comments as well as for the preparation of the corresponding working papers for the next session of the Codex Committee on Meat Hygiene, scheduled for late March 1993.

**B. REQUEST FOR OTHER INFORMATION AND COMMENTS**

1. Harmonization of Brands and Other Marking Procedures (ALINORM 93/16, para. 72)

During the discussion of Section VII "Disposition and Branding" of the Draft Revised Code for Ante-Mortem and Post-Mortem Inspection of Slaughter Animals, the

Committee agreed that it would be appropriate to determine whether work should be undertaken on the harmonization of brands and other marking procedures, and agreed to request Government comments on this matter by means of a Circular Letter.

Comments and suggestions on B.1 above should be sent before 28 February 1992 to:

Mr. Gilbert H. Boyd  
Manager (International Affairs)  
MAF Policy  
Ministry of Agriculture and Fisheries  
P.O. Box 2526  
Wellington, New Zealand

with a copy to this Office.

## **SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS**

The Sixth Session of the Codex Committee on Meat Hygiene (Rome, 14-18 1991, ALINORM 93/16), reached the following conclusions and recommendations:

### Matters of Interest to the Commission

#### The Committee:

- Revised and agreed to return the Code on Fresh Meat to Step Government comments and review at its next session (para. 59).
- Revised the Inspection Code and the Judgement Code and decided to combine them in one consolidated Code and to circulate it for Government comments at Step 3 (para. 87).
- Agreed to have the Code of Practice for Game revised in the light of the deliberations of the other three Codes and to circulate this revised Code to Governments for comments at Step 3 (para. 88).
- Agreed on the text of the Preamble, and the Principles and Objectives, that were common to all three Codes and which outlined the main concepts on which the revised texts were based such as a risk assessment based approach to determine appropriate inspection procedures and judgements, the responsibility for ensuring the consumer receives safe and wholesome meat being shared by industry and government inspection services, and acceptance of the concept of equivalence of public health standards in the international trading of meat (paras 12-20).
- Adopted a new style which includes the insertion of "principles and objectives", together with more specific and informal narrative designed to act as a bridge between the general statements and the detailed requirements and to assist in the interpretation of the latter. This new style and the emphasis on principles rather than detail was designed to give the Codes a more flexible framework.
- Agreed to take into account the livestock production phase of the meat industry that precedes the arrival of animals at the abattoir, and that such a change required an amendment to the draft Preamble to all Codes to indicate that meat hygiene principles begin at the farm of origin (para. 66).

#### Other Matters

#### The Committee:

- Agreed to have the Post-Mortem Judgement Tables of the Judgement Code revised in cooperation with the International Office of Epizooties (OIE), FAO and WHO, and other interested parties and submitted for Government comments before the next session of the Committee (para. 86).
- Accepted the Secretariat's offer to prepare a paper for the Committee's next session which would outline the Current Status and Future Programmes of Work of the Codex Alimentarius Commission on Residues, including Contaminants (para. 89).

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**INTRODUCTION**

1. The Codex Committee on Meat Hygiene held its Sixth Session at FAO Headquarters in Rome from 14 to 18 October 1991 by courtesy of the Government of New Zealand. The meeting was chaired by Dr. R. Ballard, Director-General of the New Zealand Ministry of Agriculture and Fisheries and was attended by delegates from 33 countries, and observers representing 3 international organizations. Appendix I comprises a list of participants, including officers and advisors from FAO and WHO.

**OPENING OF THE SESSION (Agenda Item 1)**

2. Delegates were welcomed, and the meeting formally opened, by His Excellency Mr. P.R. Bennett, the New Zealand Ambassador to Italy, on behalf of the Government of New Zealand. His Excellency noted that revision of the four meat hygiene codes was influenced by moves in the sanitary and phytosanitary field, in the current Uruguay Round of GATT, to ensure that international standards were scientifically as up-to-date as possible, employed risk assessment methodologies, and reflected other modern developments. Commenting that the GATT negotiations in the sanitary/phytosanitary and technical barriers to trade areas were of immense importance in the Codex context, His Excellency expressed New Zealand's belief that a successful outcome to the Uruguay Round was essential in the interests of world trade. His Excellency saw the Committee as having a responsibility of helping to simplify, from a technical point of view, the very significant international trade in meat.

3. Dr. B.P. Dutia, Assistant Director-General, Economic and Social Policy Department, FAO, welcomed participants on behalf of the Directors-General of FAO and WHO. He expressed the appreciation of both agencies to the Government of New Zealand for its generous support of the Joint FAO/WHO Food Standards Programme by acting as host government for the Codex Committee on Meat Hygiene. Dr. Dutia referred to the timeliness of the revision of the four Codex Codes on Meat Hygiene, from the point of view of ensuring that they represented current scientific knowledge and opinion. He also stated that the revision would ensure that the Codes would be consistent with the GATT moves to apply discipline to the measures taken by governments to protect human and animal health in a manner which prevented these measures from being used as technical barriers to trade. He expressed FAO's fullest support for the objectives of the Uruguay Round, especially in relation to agriculture, as a means of ensuring fair trade practices and alleviating the serious difficulties facing the agricultural sector in the present trading environment in developing countries, as well as developed countries that are heavily dependent on agriculture exports. Dr. Dutia noted that it was important to explain clearly that Codex recommendations based on objective scientific evaluations provided adequate protection to the consumer when properly applied.

**APPOINTMENT OF RAPPORTEURS**

4. On the proposal of the Chairman, the Committee appointed Mr. S.C. Hutchins (UK) and Mme. D. Tissot (France) as rapporteurs in English and French, respectively. As there were no Spanish speaking delegations with sufficient numbers to provide a rapporteur in Spanish, no such rapporteur was appointed.

**ADOPTION OF THE AGENDA (Agenda Item 2)**

5. The Committee adopted the provisional agenda, CX/MH 91/1.

**MATTERS OF INTEREST TO THE COMMITTEE ARISING FROM THE 19TH SESSION OF THE CODEX ALIMENTARIUS COMMISSION, THE FAO/WHO CONFERENCE ON FOOD STANDARDS, CHEMICALS IN FOOD AND FOOD TRADE, AND OTHER CODEX COMMITTEES (Agenda Item 3)**

6. For this Agenda Item the Committee had before it working paper CX/MH 91/2 which summarized selected matters and events of interest to the Committee. In introducing the paper, the Secretariat highlighted the important decisions taken by the 19th Session of the Commission on the recommendations of the FAO/WHO Conference on Food Standards, Chemicals in Food and Food Trade (18-27 March 1991).

7. The Committee was informed about the encouragement given by the Commission to increased consumer participation and inputs from industry at national level and in the early stages of the harmonization process.

8. The Committee took note of the wide ranging review of Codex standards and elaboration procedures undertaken by the Commission aimed at further improving the efficiency and expediency of its work. The Committee welcomed the Commission's endorsement of the views expressed by the Conference concerning the need for transparency and uniformity of risk assessment. The Committee noted that the risk assessment approach was at the basis of the revision of the Codes undertaken by the Committee. The Committee recognized the importance of the Commission's recommendations that all Codex texts, including Codes of Practice, Guidelines, etc. should be developed openly and with the same scientific rigour. It was noted that this requirement had particular implications for international trade, especially within the framework of the possible agreement on sanitary and phytosanitary measures of the Uruguay Round of GATT negotiations.

9. The Committee particularly noted the strong support expressed at the Commission for the statement of the Conference concerning the general problem of hygienic production of foods, which was a very important problem from the point of view of public health protection and one which had repercussions on the movement of food in world trade. It was noted that the Conference had recommended that WHO, FAO and the CAC give priority attention to the subject of microbiological contamination of foods and increase their efforts in this area to ensure that consumers throughout the world had available products containing the minimum contamination possible, from the standpoint of protecting human health.

**CONSIDERATION OF THE DRAFT REVISED CODE OF HYGIENIC PRACTICE FOR FRESH MEAT AT STEP 4 (Agenda Item 4)<sup>1</sup>**

10. The Committee had before it document CX/MH 91/3, the Draft Revised Code of Practice for Fresh Meat. Comments received from governments in reply to Circular Letter 1991/1-MH were contained in document CX/MH 91/3 Add.I (Costa Rica, New Zealand, Tanzania and the United States), and Conference Room Documents 2 (Australia) and 5 (EEC). In addition, general comments on all of the Codes under consideration by the Committee were available in Conference Room Document 1 (Australia and United States). The Chairman, in introducing the item, noted that the Draft Revised Code had been prepared by a consultant (Mr C.G. Field, Australia) on the basis of comments on the existing Code of Hygienic Practice (CAC/RCP 11/1976) requested by means of Circular Letter 1989/32-MH. These comments had been discussed by an informal meeting convened by New Zealand and consisting of officials from of Argentina, New Zealand, United States, the Commission of the European Community, FAO, WHO and the OIE.

<sup>1</sup> This Report summarizes the discussions, and subsequent decisions, of the Committee where significant amendments were made to the draft codes as a consequence of written comments submitted by Member Governments or following discussion within the Committee. In the interests of brevity, it does not attempt to provide a detailed record of editorial amendments, minor changes which were agreed unanimously or comments which were withdrawn in the light of the Committee's discussions. All the changes referred to are, however, included in the amended draft codes.

11. The Committee noted that the Preamble and the statements of Principles and Objectives in the present document were common to the Draft Revised Codes under discussion under Agenda Items 4, 5 and 6.

### **PREAMBLE**

12. The Committee, aware that the science of meat hygiene was multidisciplinary and included aspects of veterinary science, recognized that veterinary science was also multidisciplinary and that aspects of meat hygiene were included in it. It therefore agreed to refer to both sciences equally in the Preamble.

### **PRINCIPLES AND OBJECTIVES OF THE CODE OF HYGIENIC PRACTICE FOR FRESH MEAT AND ASSOCIATED CODES OF PRACTICE**

13. So as to define better the obligations and status of the controlling authority, the Committee agreed to draw together the paragraphs on this subject (paragraphs 2 and 6 of CX/MH 91/3)<sup>1</sup> and to ensure uniformity of wording and meaning between the texts in the different languages. It was agreed to include a reference to the fact that the draft Code reflected current scientific knowledge and practice (paragraph 3).

14. The Committee was aware that the application of risk assessment principles was in accordance with the expressed wish of the 19th Session of the Codex Alimentarius Commission (see ALINORM 91/40, para 78). However it also noted that a Codex-wide approach to procedures for the uniform application of assessment procedures had not yet been developed. Noting that the Secretariat was taking steps to provide initial guidance in this area, the Committee agreed to retain the statement contained in the footnote to paragraph 4, but to place it in square brackets for further consideration at its next session. The term "quantitative" was deleted as some aspects of risk assessment were recognized to be subjective.

15. The Committee noted the concerns expressed by several delegations that the principle expressed in paragraph 4(a) might lead to double safety standards if separate conditions were to be applied to some local trade situations. The Delegation of Sweden, on the other hand, referred to the special needs of small slaughterhouses or those which handled special products such as reindeer meat. The Committee agreed to recognize the need to assure a safe, wholesome and adequate food supply in special local trade situations, and recognized that safety standards under such situations could include treatments which removed potential hazards.

16. The Committee agreed to place the footnote describing the application of the Hazard Analysis of Critical Control Points (HACCP) system in square brackets, until such time as a uniform text for application throughout Codex standards and recommendations had been developed by the Codex Committee on Food Hygiene and adopted by the Commission. However, the Committee also noted that the HACCP system was only one of several systems being used to assure quality throughout the food chain and between food chain partners. It therefore agreed to refer to the use of the HACCP approach in association with other quality assurance systems, such as those in the ISO 9000 series, wherever possible.

<sup>1</sup> In all cases references to numbered paragraphs are to the documents which were before the Committee for consideration'.



17. In reference to paragraph 4(e), several delegations expressed the need for scientific advice from an expert review panel on the application of risk assessment. The Secretariat noted that such advice would usually be provided through the Regular Programme activities of FAO and WHO, but that it was unlikely that such a panel could be convened in the near future. It was agreed to await the outcome of the Secretariat report on the incorporation of risk assessment principles into Codes recommendations noted in para. 16 above.

18. The Committee agreed to place additional emphasis on the role of voluntary quality assurance systems by industry as part of the responsibility for the production of safe and wholesome meat (paragraph 5). Nevertheless, it agreed that such systems should be subject to supervision *and audit* by the controlling authority.

19. It was agreed that a knowledge of the health status of all livestock presented for slaughter was not always possible, in the case for example of slaughter of feral animals, but that it was important (paragraph 7).

20. The Committee noted that the statement on "equivalence" in the footnote to paragraph 8 had been taken from the draft GATT text on sanitary and phytosanitary measures (MTN GNG/NG5/WG SP/7), and that this text had not been finalized by the Uruguay Round negotiators. The Committee agreed therefore that the footnote should be enclosed in square brackets for the time being. The Committee also agreed to strengthen the requirement that principles of equivalence must provide the same safety and wholesomeness guarantees for the consumer.

## CODE OF HYGIENIC PRACTICE FOR FRESH MEAT

### SECTION I - SCOPE

21. The Committee agreed to state that those commodities covered by other Codex Codes of Hygienic Practice, namely poultry, fish and game, would be excluded from the Scope of the present Code.

### SECTION II - OBJECTIVES OF THE CODE

22. No changes were made to this Section.

### SECTION III - DEFINITIONS

23. The Committee noted potential overlap between the definitions of "*Abattoir*"(1) and "*Establishment*"(12) and noted proposals of the EEC for new definitions, as well as definitions for "*cutting plant*" and "*cold store*". It deferred consideration of these definitions until such time as the effect of the proposed changes on the contents of the Code could be evaluated. See also para". 46 below.

24. The Committee agreed to retain the definition in the existing Code for "*Cleaning*"(4), as several delegations were of the opinion that the proposed revised definition could imply treatment of the meat for the removal of microbiological contamination. The definition of "*Disinfection*"(9) was similarly amended to include reference to "plant, facilities, and equipment".

25. The Committee agreed in principle to retain the former definition for "*Condemned*" (5) , on the basis that it provided for both partial and total condemnation. However, it decided to remove the requirement that condemned meat be branded in all cases as situations existed where meat and carcasses could be immediately destroyed. It also agreed to retain the concept that condemnation could result from official actions other than inspection and judgement, for example on the basis of results of laboratory

examinations. A similar amendment was made to the definition of "*Fit for human consumption*"(13).

26. The definition of "*Contamination*" (6) was reworded to make it more general and clearer.

27. The Committee agreed to amend the definition for "*Dressing*" (10) so as to provide additional detail as to the operations involved and to make the definition consistent with the definition for "*Carcase*"(3).

28. The definition of "*Fresh meat*"(14) was amended so as to make reference to vacuum-packed meat.

29. As noted above in relation to the General Principles, the definition of "*HACCP (Hazard Analysis of Critical Control Points)*"(15) was placed in square brackets pending advice from the Codex Committee on Food Hygiene.

30. The Committee agreed to include a statement under the definition of "*Inspector*"(17) that "The supervision of meat hygiene, including the inspection of meat, should be under the responsibility of a veterinary inspector".

31. Although noting that the definition of "*Meat*"(19) differed from the definitions contained in other Codex Codes, the Committee agreed to retain the proposed broad definition for the purpose of this Code, and to include a reference to edible offal.

32. In reference to the definition of "*Residues*"(22), the Committee noted that pesticide residues, residues of veterinary drugs in foods, and contaminants, which include environmental and processing contaminants were defined in the Procedural Manual for the purposes of the Codex Alimentarius. It was agreed that for the purposes of the present Code a definition encompassing all of these aspects was required. The Committee agreed to include the following text:

Residues means residues of veterinary drugs and pesticide residues as defined in the Codex Alimentarius, and contaminants as defined in the Codex Alimentarius.

33. The Committee considered at length the definition of "*Safe and wholesome*" (23) and in particular whether or not the expression was sufficiently clear in itself that a definition may not be required. It was agreed to include a definition which linked the expression to the judgement criteria used to determine fitness for human consumption as follows:

Safe and wholesome refers to meat that has been passed as being 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 limits [elaborated as maximum residue limits by the Codex Alimentarius Commission];
- (c) is free of disease, particularly those of zoonotic or animal health importance;
- (d) is free of obvious contamination;
- (e) is free of defects that are generally recognized as objectionable to the consumer;

- (f) has been produced under adequate hygiene control; and
- (g) fulfils the expectation of the consumer in regard to composition [and method of production].

34. The Committee accepted the observations of several delegations and observers that the revised definition contained too much new material to be included without further reflection, especially in regard to the material contained in square brackets, to the question of responsibility for the proper subsequent handling and preparation of meat, and to the question of whether there was some inconsistency or overlap between points (a) and (c). The Committee therefore agreed to place the entire definition in square brackets and requested that governments give particular attention to the definition when providing further comments.

35. The Committee agreed to delete the phrase "other than a bird" from the definition of "*Slaughter animal*"(24), but decided to amend the Scope of the Code as indicated in para. 21 above so as to prevent duplication with Codex Codes on Poultry Processing, and Fish.

#### SECTION IV - ANIMAL PRODUCTION FOR FRESH MEAT

36. The Committee amended the introductory narrative to allow for the controlled introduction of animals into abattoirs under veterinary control in the framework of eradication campaigns of infectious diseases that could not be transmitted through meat. It also agreed to indicate that, in addition to any other person, the owner of the animal had special responsibility to determine whether or not an animal should be sent to slaughter, and amended paragraph 26 accordingly.

#### SECTION V - TRANSPORT OF SLAUGHTER ANIMALS

37. It was agreed to amend paragraph 27(a) to indicate that there should be minimal risk to the animals during loading and unloading to and from transport. The Committee noted the opinions of some delegations that disinfection of means of transport may not always be necessary, and decided to place the words "if necessary" in paragraph 28 in square brackets for further comment.

#### SECTION VI - REQUIREMENTS FOR ANIMALS PRESENTED FOR SLAUGHTER

38. The Committee noted that the narratives under Parts D, E, F and G would be combined so as to improve presentation and ease of reference. The Committee agreed that the information relating to animals requiring special attention could be obtained at any stage through to and including postmortem and amended paragraph 31 accordingly. The introductory narrative to Part H. Veterinary Responsibility was reworded to indicate clearly that the final responsibility as to fitness of animals for slaughter lay with the veterinary inspector, although it was recognized that non-veterinary inspectors could have a role to play in the ante-mortem inspection procedure.

#### SECTION VII - ABATTOIR AND ESTABLISHMENT PLANT AND FACILITIES

39. The Committee amended the introductory statement of principles to indicate that the production environment should be consistent with minimum food safety requirements, and that microbial contamination should be limited to as low a practical level as possible. It also agreed to include the word "objectionable" in reference to "odours" in the last sentence of the introductory narrative.

40. The Committee noted the written comment of the EEC on paragraph 39(j)(vi) on not ruling out the connection of waste line from toilets and other effluent lines prior to the

save-all, but agreed not to amend the text. It also noted the comment of the United States in regard to paragraph 40(c)(iii) requiring the separation of drainage from areas where sick animals or animals that were suspected of being sick were kept from other drainage areas. The Delegation of the United States commented that the provision may be seen as unnecessarily strict if principles of risk assessment were applied. Nevertheless, no change was made to the provision.

41. Noting that modern slaughter technologies could permit the bleeding and dressing of animals in orientations other than the vertical, the Committee agreed to amend paragraph 40(e) to broaden its application to all types of equipment used in slaughter areas. The Committee also agreed to extend the application of paragraphs 40(f) and 40(g) to animals other than pigs, for example large birds, which might require similar treatment for dressing, and to stress that these areas needed to be adequately separated from other areas. It was noted that separation in time was adequately covered by the present text.

42. The Committee noted the proposal of the Delegation of Italy that edible fats, if stored for extended periods required proper storage facilities which, in the opinion of the Delegation, could include refrigeration, if required. Paragraph 40(j) was amended accordingly.

43. The Committee noted the opinions expressed by several delegations that the requirement in paragraph 40(m), namely to have separate facilities for the slaughter and dressing of animals specified in Paragraphs 30 and 31 of the Code for Ante-mortem and Postmortem Inspection of Slaughter Animals, did not allow for hygienically adequate alternative arrangements. It therefore agreed to provide for such specified alternative arrangements.

44. The Committee agreed to make provision in paragraph 41(e) for the use of hot and cold running water delivered through mixers for hand-washing, and for the use of warm or cold sanitizing solutions of an acceptable concentration.

45. The Committee decided to delete the word "automatic" in reference to temperature recorders in paragraph 41(s). The Delegations of Australia and the United States expressed their dissent on the basis that the requirement to have temperature recorders was unnecessarily restrictive. It was agreed to delete paragraph 43(a) and cover its provisions by a slight amendment to paragraph 45.

46. Having reviewed the provisions dealing with abattoir and establishment plant and facilities, the Committee agreed that the definitions for "Abattoir" (1) and "Establishment" (12) were adequate for the purposes of the Code, and therefore agreed to retain them without change. See paragraph 23 above.

#### SECTION VIII - HYGIENIC OPERATING REQUIREMENTS AND PRACTICES

47. The Committee agreed that medical examinations of meat handling personnel should also be carried out when prescribed by the controlling authority, and amended paragraph 49 accordingly. It also agreed to extend the provisions of paragraph 50 to restrict the presence of afflicted persons in areas where meat was being handled.

48. The Committee agreed to simplify the introductory narrative to Section B. Cleanliness of Premises by making it more consistent with the definition of "Contamination"(6). It also agreed to amend paragraph 51(b)(i) to allow for the cleaning of equipment outside of periods of work, and paragraph 51(b)(iii) to indicate that

equipment and the like, should be in a clean and disinfected state at the beginning of each working day.

49. Several delegations and the Representative of the EEC expressed concern that the wording of paragraph 51(e) could allow the direct use of sanitizers on meat. These Delegations proposed the deletion of the words starting with "unless ..." as a means of preventing all direct and indirect contact. Other Delegations considered that such a move was too restrictive and did not take into account current practices. The Committee agreed to place these words in square brackets for further consideration by governments.

50. In paragraph 62, the Committee deleted reference to wooden crates and boxes, as these were no longer in common use. Editorial amendments were made to this paragraph and paragraph 63 so as to refer to "minimum risk" instead of zero risk. See paragraph 37 above.

51. The Committee agreed to the New Zealand proposal to increase the flexibility of paragraph 75 by adding the following sentence: "In some situations, preparatory operations such as partial deboning of the neck, or removal of head meats, may be acceptable to the controlling authority once the carcass has passed inspection."

52. The Committee agreed to amend paragraph 82 to provide for incomplete skinning of the head where this was sufficient for adequate inspection and dressing.

53. The Committee agreed that modern practices employing the use of air for skinning did not lead to contamination when air of suitable quality was used, and was therefore acceptable (paragraph 84(b)). The Committee extended the application of paragraph 84(d) to animals other than pigs, and to treatments other than scalding, including singeing.

54. Several delegations requested removal of the reference to water activity in paragraph 86(c) so as to allow spray cooling techniques to be used. Other delegations noted that reduction of water activity was an appropriate means of preventing microbial growth. In view of the variety of techniques used worldwide, the Committee agreed to refer to the reduction of "temperature and/or water activity". Paragraph 87(f) was amended to specify that dripping water, including dripping condensate, should be prevented.

55. The Committee agreed to accept new wording by New Zealand for paragraph 91 (b) which strengthened the meaning of the paragraph, and agreed, upon the proposal of the Delegation of Italy, to modify subparagraph (c) to indicate that hot-boned products, after packaging, should be quickly removed to cold storage and chilling areas when they were not to be used immediately.

56. The Committee recognized that the accidental thawing of meat, as referred to in paragraph 97, was only one of the possible adverse conditions which could be encountered during transport. It agreed therefore to redraft the paragraph in general terms. In view of the wide range of problems covered by the paragraph as redrafted, the Committee decided to provide for the inspection of meat the wholesomeness of which was in doubt by suitably qualified persons other than veterinary inspectors provided that they would be accountable to a veterinary inspector before any further steps were taken in regard to the meat.

## SECTION IX - SPECIAL REQUIREMENTS FOR INSPECTION

57. The Committee noted the concerns expressed by several countries that the supervision of small or relatively isolated abattoirs and establishments did not warrant the fulltime presence of a veterinary inspector. It nevertheless agreed that all of the meat hygiene provisions of the present Code subsequent to Section V, should be under the supervision of a veterinary inspector and that there should be a veterinary inspector appointed to supervise hygiene, including meat inspection. It was also agreed that there was a need for close collaboration between the veterinary inspector and any other authority responsible for the application of Sections IV and V. Paragraph- 107 was amended accordingly.

58. The Committee noted that some parts of several paragraphs of the Proposed Draft Revised Code had been placed in square brackets by the Consultant who had drafted the Code on the advice of the small group of officials which had met in-September 1990. As no comments were received on these paragraphs, the Committee decided to delete the material placed in square brackets. The paragraphs affected were 44(b) - two words only, paragraph 58, and paragraph 85(d).

### Status of the Proposed Draft Revised Code of Hygienic Practice for Fresh Meat

59. The Committee, noting that several substantive changes had been made to the Proposed Draft Revised Code and that new material had been included on which Government Comments were specifically requested, decided to return the Code to Step 3 for further comment and review at its next session. The new text of the Proposed Draft Revised Code of Hygienic Practice for Fresh Meat is attached as Appendix II<sup>1</sup>.

### **DRAFT REVISED CODE FOR ANTE-MORTEM AND POST-MORTEM INSPECTION OF SLAUGHTER ANIMALS (Agenda Item 5)**

60. For consideration of this agenda item the Committee had before it working papers CX/MH 91/4 which contained the text of the revised code circulated for comments, CX/MH 91/4 Add.I containing written comments from Costa Rica, New Zealand, Tanzania and the United States of America; and Conference Room Documents 1 and 3 containing the comments of Australia, and the comments of the European Community. The Committee noted that it had already agreed upon substantial elements of the code, including the Principles and Objectives, the Preamble and most of the definitions, when discussing the previous Agenda Item.

61. Prior to an in-depth discussion of the draft revised code, the Representative of the EEC, proposed that the three codes (Fresh Meat, Ante-Mortem and Post-Mortem Inspection, and Judgement) be combined into a single document for convenience of use. The Representative noted that some provisions which had been tentatively agreed, such as risk assessment, equivalence, and the definition of "*safe and wholesome*" had yet to be incorporated definitively into the Fresh Meat Code, and that the implications of their use in the other codes had to be studied. Furthermore, the Representative stated that the Codes should include provisions to link inspections at the level of the originating farm to the point of inspection and judgement at the abattoir. The Representative proposed that discussion of the two remaining codes be postponed until these points could be resolved. These views were supported by several of the Delegations present.

62. Other delegations pointed out that tracing the link between the animal brought to slaughter and the originating farm could be extremely difficult in some circumstances and practically impossible to achieve under condition prevailing in many regions of the

world. In addition, it was difficult to determine the risk factors which would need to be taken into account, as the necessary assessment of risk had not been fully researched, and therefore such codes would not at this stage be scientifically based. The Committee, while recognizing the desirability of establishing the link between farm practices and ante-and post-mortem judgements, noted that incorporating such links into codes was not currently feasible. The Committee further discussed the question of linkage in the context of Section IV of the Code (see paragraph 66 below).

<sup>1</sup> At the adoption of the Report the Delegation of France noted that the three revised drafts of the Codes (Appendices II, III and IV) were not available in the French language

## SECTION I -SCOPE

63. No changes were made to this section.

## SECTION II - PRINCIPLES AND OBJECTIVES OF CODE

64. The Committee agreed to refer to "public health" rather than "consumer safety" in subparagraph (b) and also agreed to make reference to national and regional disease status in the context of subparagraph (e).

## SECTION III - DEFINITIONS

65. The Committee agreed to widen the definition of "viscera"(21) to include kidneys.

## SECTION IV - ANTE-MORTEM INSPECTION

66. Referring to its discussion on the need for control throughout the food chain, starting from the farm of origin, the Committee agreed to include a new sub-objective referring to the health status of the farm of origin and husbandry of the slaughter animals and their effect on the safety and wholesomeness of meat. It was agreed that all efforts should be made to collect and evaluate information which might have influence on ante-mortem and postmortem inspection. The introductory narrative to the section was expanded to include this sub-objective and a new paragraph 22 was inserted to read " Information available from the farm of origin should be used in an effective and appropriate manner if optimal ante-mortem and postmortem inspection is to be achieved." The Committee agreed that such a significant change required an amendment to the previously accepted Preamble to all of the Codes to indicate that meat hygiene principles began at the farm of origin.

67. The Committee agreed that "Animals should be inspected as soon as practicable possible after delivery" rather than specifying a fixed time period (paragraph 23). The rest of the paragraph was unchanged.

68. In regard to animals known to be carrying residues (paragraph 33), the Committee agreed to specify that the residues should be excreted or metabolized to levels so that they did not exceed established safety levels. The Representative of the EEC stated that a distinction had to be made between residues occurring as a result of authorized use and those occurring as a result of illegal use. The Committee noted the opinion of the Secretariat that illegal administration of drugs, was considered as prima facie evidence of lack of safety, as there was no evaluation which could establish the safety of the residue.

69. The Committee agreed to strengthen the text of paragraph 35 to ensure that precautions were in place to prevent misuse of animals that have died or have been condemned and killed, and to require handling so as to protect human and animal health. In the case of animals that have died, the Committee recognized the need to

undertake a postmortem inspection, unless the cause of death was known, and agreed to include a new paragraph containing this provision.

#### SECTION V - POST-MORTEM INSPECTION

70. The Committee agreed to include the word "hide," in the text of paragraph 40(c).

#### SECTION VI - POST-MORTEM INSPECTION PROCEDURES

71. The Committee agreed to include a new subparagraph in paragraph 46 to specify that tissues and organs that are usually discarded should, when recovered for human consumption, be inspected as appropriate. It agreed to add diaphragmatic and abdominal muscles to the list of tissues to be inspected for *Cysticercus cellulosae* (paragraph 46 (h)) and to state that the public should be protected - without qualification - from trichinosis (paragraph 47).

#### SECTION VII - DISPOSITION AND BRANDING

72. The Committee noted that the use of computer generated tags, as a replacement for traditional branding, was becoming more common but believed that it was already provided for in the definitions and provisions of this Code. In paragraph 50, it was agreed that the requirement to brand the products concerned may be overly strict in some cases, and amended the paragraph to state that these materials "should be suitably identified and, if necessary, branded as such". In relation to a question posed by the Representative of OIE, the Committee agreed that it would be appropriate to determine whether work should be undertaken on the harmonization of brands and other marking procedures, and agreed to request government comment on this matter by means of a Circular Letter.

#### SECTION VIII - UTILIZATION OF MEAT INSPECTION FINDINGS

73. No changes were made to this section.

#### TABLES OF MINIMUM POST-MORTEM INSPECTION REQUIREMENTS

74. The Committee noted the comments of the Delegation of New Zealand that the scientific basis of meat inspection had been under active research in recent years. It was known that national requirements were contradictory and inconsistent, and that it would not be possible to produce generic inspection tables that would be applicable to all species across different regions. The Delegation pointed out that countries would need to develop appropriate inspection tables based on scientific considerations, accepted risk assessment principles and equivalence. The procedures contained in the present Code should therefore be viewed as minimum requirements where properly conducted risk assessment had not been undertaken.

75. The Committee agreed to amend the requirement for incision of the bile duct and to delete the requirement for palpation of the testicles in view of the decision to make reference to such organs recovered for human consumption as indicated in paragraph 71 above.

#### Status of the Draft Revised Code of Practice for Ante-Mortem and Post-Mortem Inspection of Slaughter Animals

76. See paragraph 87 below.



## **DRAFT REVISED CODE OF PRACTICE FOR ANTE-MORTEM AND POST-MORTEM JUDGEMENT OF SLAUGHTER ANIMALS AND MEAT (Agenda Item 6)**

77. The Committee had before it document CX/MH 91/5, containing the Draft Revised Code, and the comments of governments as contained in CX/MH 91/5 Add.I (Costa Rica, New Zealand, Tanzania, United States of America) and Conference Room Document 4 (Australia). The Committee noted that substantial elements of the code, including the Principles and Objectives, the Preamble and most of the definitions had been discussed under previous Agenda Items and changes made.

### SECTION I - SCOPE

#### SECTION II - PRINCIPLES AND OBJECTIVES OF CODE

78. No additional changes were made to these Sections.

#### SECTION III - DEFINITIONS

79. The Committee agreed to amend the definition of "*Emergency slaughter*"(15) by deleting the words after "lesions" in subparagraph (a) and including the words "injury, and is judged to be in pain; or".

#### SECTION IV - INSPECTION JUDGEMENTS AND ENFORCEMENT

80. At the suggestion of the Representative of WHO, it was agreed to include in paragraph 35 reference to "infection" as well as "disease or defect" so as to cover hidden conditions not detectable by clinical means. The part of the paragraph referring to the use of results of laboratory examinations was strengthened.

81. The Committee agreed to amend paragraph 37 to make it consistent with its previous decisions concerning the relative responsibilities of inspectors and veterinary inspectors (revised paragraph 97 of the Code of Practice for Ante-Mortem and Post-Mortem Inspection of Slaughter Animals), and to improve the clarity of the text. References to the responsibility of the controlling authority contained in paragraphs 38 to 41 were maintained as these were intended to make clear that all veterinary inspection and judgement was carried out within the legislative framework of the controlling authority. The Committee also agreed to amend paragraph 38 slightly so as to refer to "unnecessary", rather than "unavoidable" costs.

#### SECTION V - ANTE-MORTEM AND POST-MORTEM JUDGEMENTS

82. The Committee agreed to reword paragraphs 42 and 43, and to include an additional paragraph at this point to resolve the concerns expressed by some countries that the text appeared to require ante-mortem inspection immediately on arrival at the slaughterhouse and again before slaughter for all animals.

83. In regard to the concerns expressed by the Representative of OIE as to the meaning of the term "unacceptable health hazard" in paragraph 45(a), it was pointed out that such hazards were the result of various factors which differed from country to country and at different times. It was agreed that reference to the list of diseases established and maintained by OIE would be included by the Secretariat at the appropriate place in the Ante-mortem and Post-mortem Inspection Code when the code was further revised.

84. The Committee noted that paragraph 47 served as an introduction to succeeding paragraphs which described in detail the various categories of judgement. It also noted

that the expression "*acceptee pour la consommation humaine sous certaines conditions*" was a more accurate description in French of Category 4.

85. The Committee agreed to delete the second sentence of paragraph 63, as it appeared not to add anything of substance to the paragraph. The Delegation of Italy expressed its reservation concerning the inclusion of Category 5, stating that the need for this Category no longer existed where supplies of meat were adequate to meet the needs of the population. The Delegation noted however, that in countries where meat supplies were inadequate, this Category might be maintained, and that this Category should be specified in the Code.

#### SECTION VI - RECOMMENDED FINAL JUDGEMENTS (TABLES')

86. The Committee noted that these tables had not been reproduced in the current revision. Some delegations referred to the need to update the Tables and made reference to recent OIE studies of conditions such as Bovine Spongiform Encephalopathy (BSE). It was agreed that the Tables would be revised in cooperation with OIE, FAO and WHO and other interested parties and submitted to governments for comment at the earliest opportunity.

#### Status of the Draft Revised Code of Practice for Ante-Mortem and Post-Mortem Judgement of Slaughter Animals and Meat

87. The Committee noted proposals to combine all four Codes into a single document. However the Committee noted that the Code of Hygienic Practice for Fresh Meat and the Code of Practice for Game were directed to management as well to control authorities whereas the Inspection and Judgement Codes were directed primarily to controlling authorities. It was agreed in the first instance to combine the Draft Revised Code of Practice for Ante-Mortem and Post-Mortem Inspection of Slaughter Animals with the Draft Revised Code of Practice for Ante-Mortem and Post-Mortem Judgement of Slaughter Animals and Meat and to circulate the combined text to governments for comments at Step 3 as a paper separate to this report. The Committee also agreed to attach the two revised codes to this Report as Appendices 3 and 4.

#### **CONSIDERATION OF THE REVISION OF THE RECOMMENDED INTERNATIONAL CODE OF PRACTICE FOR GAME (Agenda Item 7)**

88. The New Zealand Secretariat reminded the meeting that in CL 1991/1-MH it was mentioned that revision of this Code should be deferred at this time; a view based on the belief that its revision will be relatively simple once the other three are further progressed. The Delegation of Australia expressed the need for the scope of the Code to be extended to include all animals which might be commercially processed. The Codex Secretariat agreed that it would now instruct the Consultant to revise this Code, based on deliberations during the session, and would distribute the text next year for government comments at Step 3. The Representative of the OIE drew attention to the need for the Code to take account of protection applying to certain animals under international law.

#### **OTHER BUSINESS (Agenda Item 8)**

89. Several delegations were of the opinion that monitoring of residues was an essential part of meat inspection. It was proposed that the Committee would examine work being undertaken in other Committees on monitoring of residues and that it would determine at its next session what activities might need to be undertaken to ensure that such work was consistent with the codes elaborated by the Committee and the principles

of meat hygiene. The Committee accepted the Secretariat's offer to prepare a paper for the Committee's next Session which would outline the current status and future programmes of work of the Codex Alimentarius Commission on residues, which in this case included contaminants.

**DATE AND PLACE OF NEXT MEETING (Agenda Item 9)**

90. The session was advised that the Nineteenth Session of the Codex Alimentarius Commission had approved the holding of the 7th Session of the Committee during the week of 29 March to 2 April 1993 in Rome.

91. As a session of the Codex Alimentarius Commission was not scheduled before the Committee's next session, the New Zealand Secretariat advised that the revised codes (including the revised Game Code) would be circulated to member countries next year for further comments, including economic impact reports. It observed that if similar progress were made at the Seventh Session, it might be possible to submit all codes to the Twentieth Session of the Codex Alimentarius Commission for adoption at Step 8. The Committee called for a timely submission of comments of the text being circulated in order to facilitate discussion at its next session.

## SUMMARY STATUS OF WORK

Subject Matter	Step	Action by	Document Ref.
1. Proposed Revised Draft Code of Practice for Fresh Meat -Comments	3	Government's Secretariat CCMH (7th)	ALINORM 93/16, para. 59 Appendix II
2. Merging of the Draft Revised Code of Practice for Ante-Mortem/Post-Mortem Inspection of Slaughter Animals with the Draft Revised Code of Ante-Mortem/Post-Mortem Judgement of Slaughter Animals and Meat and circulation of the combined Code for comments.	3	Government's Secretariat CCMH (7th)	ALINORM 93/16, para. 87
3. Preparation of new draft Post-Mortem Judgement Tables, to be annexed to the combined Inspection-Judgement Code and their circulation for comments.	-	FAO, WHO, OIE Government's Secretariat	ALINORM 93/16 para. 86
4. Canvassing of Government comments on whether work should be undertaken to harmonize the branding of meat.	-	Government's Secretariat CCMH (7th)	ALINORM 93/16 para. 72
5. Preparation of a proposed Draft Revision of the Code of Practice for Game and its circulation for comments.	3	Government's Secretariat CCMH (7th)	ALINORM 93/16 para. 88
6. Review Paper on Current Status and Future Programmes of Work of the Codex Alimentarius Commission on Residues including Contaminants.	-	Secretariat CCMH (7th)	ALINORM 93/16, para. 89
7. Development of additional text related to on-farm production systems for the Fresh Meat Code.	-	Secretariat	ALINORM 93/16, Appendix II - Section IV

**ALINORM 93/16**  
**APPENDIX 1**

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Les chefs de délégation figurent en tête et les suppléants, conseillers et consultants sont énumérés par ordre alphabétique.  
Figuran en primer lugar los Jefes de las delegaciones; los Suplentes, Asesores y Consultores aparecen por orden alfabético.

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DRAFT REVISED CODE OF HYGIENIC PRACTICE FOR FRESH MEAT  
(CAC/RCP 11-1976)  
October 1991

PREAMBLE

Veterinary science and the science of meat hygiene should be applied throughout the food chain, starting at the farm of origin, so that fresh meat produced from slaughtered animals is safe and wholesome. The Code of Hygienic Practice for Fresh Meat, together with the Code for Ante-mortem and Post-mortem Inspection of Slaughter Animals and the Code of Practice for Ante-mortem and Post-mortem Judgement of Slaughter Animals and Meat, describes requirements necessary to achieve this goal. Traditional practices may permit departures from some of the requirements when fresh meat is produced for local trade.

PRINCIPLES AND OBJECTIVES OF THE CODE OF HYGIENIC PRACTICE FOR  
FRESH MEAT AND ASSOCIATED CODES OF PRACTICE

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

<sup>a</sup> ["risk assessment" is a systematic process that combines the quantitative analytical steps of risk identification and estimation with a qualitative evaluation of those risks. Quantification allows an estimation of the magnitude and frequency of adverse outcomes, the setting of priorities, and the making of comparisons. Risk evaluation allows an interpretation of the significance of the risks and the determination of levels of acceptable risk. In determining the appropriate level of protection, the controlling authority should take into account the desirability of maximising trade opportunities while ensuring protection of human health and animal health.]

<sup>b</sup> ["Hazard Analysis Critical Control Point (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 circumstances, of the risks to human health and animal health, taking into account accepted risk assessment techniques. The HACCP approach includes identification and ranking of all hazards associated with each operational step, defining of critical limits and the monitoring necessary at critical control points, and the establishing of record keeping and verification procedures. A specific HACCP system, tailored to its individual product, processing and distribution conditions, should be developed by each abattoir or establishment. An appendix to this Code includes further material on HACCP.]

4. The responsibility for production of safe and wholesome 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 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.

5. The controlling authority should be adequately resourced, have the legal power to enforce requirements necessary to produce meat that is safe and wholesome meat, and be independent of the management of the establishment and of other industry interests. There should be a legal obligation on managers to comply with 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 meat borne hazards, the controlling authority should maintain cost effective and efficient allocation of resources.

7. Monitoring to identify meat borne hazards introduced at the point of production is an important component of a meat hygiene programme. A knowledge of the health status of livestock presented for slaughter is important for the application of control measures and requires an adequate system for data collection.

8. Meat hygiene regulations should be scientifically based, should protect the health of consumers and facilitate fair practices in the international trading of meat. Policies of equivalence<sup>c</sup> that provide the same safety and wholesomeness guarantees remove the necessity of replicating individual country requirements, and therefore all countries need not apply identical procedures.

<sup>c</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). In November 1990, the DRAFT TEXT ON SANITARY AND PHYTOSANITARY MEASURES developed within the Uruguay Round of the Multilateral Trade Negotiations (MTN) read as follows:

"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 commodity, 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 fresh meat.
10. Controlling authorities should promote integrated food safety practices, taking into account the entire spectrum of food safety concerns and knowledge. This should be combined with international cooperation in food safety programmes.



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## CODE OF HYGIENIC PRACTICE FOR FRESH 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 meat industry provided innovations and production are consistent with the hygienic production of safe and wholesome meat.

### SECTION I - SCOPE

This Code of Hygienic Practice applies to fresh meat, other than commodities covered by other Codex codes, namely poultry, fish and game, intended for human consumption, whether sold direct to the consumer in that form or after further processing. It contains the minimum requirements of meat hygiene up to and including the transport of meat. This Code should be read in conjunction with the Code for Ante-mortem and Post-mortem Inspection of Slaughter Animals and the Code of Practice for Ante-mortem and Post-mortem Judgement of Slaughter Animals and Meat.

### SECTION II - OBJECTIVES OF CODE

The objectives of this Code are to ensure:

- (a) hygienic practices during animal production and transport of animals to slaughter;
- (b) availability of information on hazards that may be present in slaughter animals;
- (c) hygienic facilities and equipment for holding, slaughter, dressing and further processing, storage and distribution;
- (d) hygienic practices during holding, slaughter, processing, storage and distribution; and
- (e) provision of adequate facilities for inspection activities.

### SECTION III - DEFINITIONS

For the purposes of this Code:

1. "Abattoir" means any premises that is approved and registered by the controlling authority in which fresh meat is prepared, handled, packed or stored, and in which animals are slaughtered and dressed for human consumption.
2. "Brand" means any mark or stamp approved by the controlling authority and also includes any tag or label bearing such mark or stamp.
3. "Carcase" means the body of any slaughtered animal after bleeding and dressing.
4. "Cleaning" means the removal of objectionable matter.
5. "Condemned" means a slaughter animal or meat means inspected and judged as, or otherwise officially determined to be, unfit for human consumption and requiring destruction. "Total condemnation" if the entire carcass and offal are condemned (Judgement symbol T). "Partial Condemnation", if only parts of the slaughtered animal

are condemned, while others are judged otherwise (Judgement symbol D for the condemned diseased or defective parts).

6. "Contamination" means objectionable matter, and includes substances and/or microorganisms that make fresh meat unsafe and/or unwholesome.

7. "Controlling authority" means the official authority charged by the government with the control of meat hygiene, including meat inspection.

8. "Disease or defect" means a pathological change or other abnormality.

9. "Disinfection", of plant, facilities and equipment, means the reduction, without adversely affecting the meat, by means of hygienically satisfactory chemical agents and/or physical methods, of the number of microorganisms to a minimum.

10. "Dressing" means the progressive separation on the dressing floor of a slaughter animal into a carcass (or sides of a carcass), offals and inedible by-products and may include the removal of the head. Examples of dressing include the removal of the head, hide or skin, genital organs, urinary bladder, feet, and udders of lactating animals.

11. "Edible offal" in relation to slaughtered animals means offals that have been passed as fit for human consumption.

12. "Establishment" means any premises other than an abattoir that is approved and registered by the controlling authority in which fresh meat is prepared, handled, packed or stored.

13. "Fit for human consumption" in relation to meat means meat that has been passed by an inspector as safe and wholesome, unless found unwholesome in subsequent examinations, including laboratory tests.

14. "Fresh meat" means 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 to refrigeration, it continues to be considered as "fresh" for the purposes of this Code.

15. ["HACCP" (Hazard Analysis Critical Control Point) 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 circumstances, of the risks to human health and animal health, taking into account accepted risk assessment techniques. The HACCP approach includes identification and ranking of all hazards associated with each operational step, defining of critical limits and the monitoring necessary at critical control points, and the establishing of record keeping and verification procedures. A specific HACCP system, tailored to its individual product, processing and distribution conditions, should be developed by each abattoir or establishment.]

16. "Inedible" means inspected and judged to be, or otherwise officially determined to be, unfit for human consumption but not requiring destruction.

17. "Inspector" means a properly trained officer appointed by the controlling authority for the purpose of meat inspection and control of hygiene, and includes a veterinary inspector. The supervision of meat hygiene, including the inspection of meat, should be under the responsibility of a veterinary inspector.

18. "Manager" in relation to an abattoir or establishment includes any person for the time being responsible for the management of the abattoir or establishment.

19. "Meat" means the edible part of any slaughter animal slaughtered in an abattoir and includes edible offal.

20. "Potable water" means water that is pure and wholesome at the point of usage in accordance with WHO requirements contained in the "International Standards for Drinking Water".

21. "Protective clothing" means special garments intended to prevent the contamination of meat and used as outer wear by persons in an abattoir or establishment, and includes head coverings and footwear.

22. "Residues" means residues of veterinary drugs and pesticide as defined in the Codex Alimentarius, and contaminants as defined in the Codex Alimentarius.

23. ["Safe and wholesome" refers to meat that has been passed as being 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 limits [elaborated as maximum residue limits by the Codex Alimentarius Commission];

(c) is free of disease, particularly those of zoonotic or animal health importance ;

(d) is free of obvious contamination;

(e) is free of defects that are generally recognised as objectionable to consumers;

(f) has been produced under adequate hygiene control; and

(g) fulfils the expectation of the consumer in regard to composition [and method of production].]

24. "Slaughter animal" means any animal lawfully brought into an abattoir for slaughter."

25. "Veterinary Inspector" means an inspector who is professionally qualified as a veterinarian.

#### SECTION IV - ANIMAL PRODUCTION FOR FRESH MEAT

The controlling authority should encourage all aspects of the health management of food animals that improve the safety and wholesomeness of fresh meat produced for human consumption.

*The conditions under which animals are raised for meat production should be conducive to the production of meat that is safe and wholesome. Of importance is the disposal of animal wastes, the control over treatments to ensure the absence of harmful residues in the meat and the monitoring of the health status of the animal population.*

*The health of animals should be monitored so that information that is relevant at the abattoir to assist in dressing, inspection and judgements can be made available. To get the full benefit of this information requires an effective information transfer system as well as an identification system to identify animals with their place of production.*

*The animal health situation in the area in which animals are raised or have transited should be monitored and the controlling authority should have the ability to prevent or to control the movement of animals to abattoirs from areas under sanitary restriction. Similar controls may be required to enforce withdrawal periods following drug treatment or exposure to residue forming substances prior to animals being transferred to an abattoir.*

*Full consideration needs to be taken of the environment in which the animals are raised or have transited so that all factors that might influence the safety and wholesomeness of meat can be considered.*

26. Where the owner or any other person has reason to believe that, as a result of:
- (a) any accident;
  - (b) any disease or defect;
  - (c) the administration of any drug or chemical; or
  - (d) any treatment;

the meat derived from any animal might not be suitable for human consumption, that person should not send the animal to an abattoir unless the animal is the subject of veterinary certification to the effect that it has been attended by a veterinarian who is of the opinion that it is suitable to be slaughtered for human consumption. However, irrespective of any certificate that may have been given, a veterinary inspector should be the sole judge of whether an animal is fit for slaughter.

(provisions relating to animal production for meat are to be further developed at the next stage of drafting)

## SECTION V - TRANSPORT OF SLAUGHTER ANIMALS

Food animals need to be transported in such a way that they are not unduly contaminated or stressed, that the spread of pathogens is minimised, that the identification to place of production is maintained and that animal welfare considerations are met.

### A. Construction and maintenance of means of transport

27. Livestock transport vehicles should be so constructed that:

- (a) animals can be loaded and unloaded easily and with minimal risk of injury;
- (b) animals of different species are physically separated during transport;
- (c) soiling of animals by excreta deposited on the floor of vehicles is minimised by the use of floor gratings or similar devices;
- (d) ventilation is adequate;
- (e) where they have more than one deck, animals conveyed on a lower deck are protected by an impervious floor to the deck above; and
- (f) they can be readily cleaned and disinfected.

28. Vehicles used to transport animals to an abattoir should be maintained in good repair. They should be cleaned and [if necessary] disinfected as soon as practicable after animals have been unloaded.

### B. Maintenance of identification

29. The transport of slaughter animals to an abattoir should be in a manner that ensures their identification back to the place of production is not lost.

## SECTION VI - REQUIREMENTS FOR ANIMALS PRESENTED FOR SLAUGHTER

The controlling authority should have access to all information on the production history that is relevant to the processing and inspection of slaughter animals. Differential allocation of processing and inspection resources is dependent on acquiring detailed information on animals presented for slaughter.

*A knowledge of the health and condition of the animals that comprise the raw material for meat production is important in determining optimal dressing and inspection procedures. Identification of animals both to their place of production and throughout their time at the abattoir is a prerequisite to adequate veterinary control and appropriate information systems are necessary to optimise the use of available data.*

### A. Identification of animals

30. While being handled and held on an abattoir prior to slaughter, all necessary measures should be taken to ensure that the ability to identify slaughter animals back to their place of production is retained.

### B. Identification of animals requiring special attention

31. Where a slaughter animal has been identified prior to its arrival at an abattoir or at Ante-mortem inspection, or its carcass has been identified at Post-mortem inspection

or during dressing as requiring special attention, all necessary measures should be taken to ensure that the animal or carcase and the information relating to it can be correlated.

C. Information systems and segregation at the abattoir

32. An effective system should be in place to ensure that information concerning slaughter animals that is relevant to Post-mortem inspection or to special dressing requirements, whether originating prior to arrival at the abattoir or from Ante-mortem inspection, is conveyed to the inspector undertaking Post-mortem inspection and, in the case of special dressing requirements, to those persons involved in dressing of carcasses.

D. Adequate rest for slaughter

*Animals need to be rested prior to slaughter so as to optimise their physiological condition and ensure that evidence of any diseases or defects that may be present is not masked. Animals found to be diseased or defective need to be separated from others, to enable them to receive any special attention they require and to prevent cross contamination to normal animals or facilities.*

*Separation of different categories of animals within species allows better application of processing and inspection resources, and facilitates hygienic dressing. The level of cleanliness of animals prior to slaughter also has a significant effect on hygienic slaughter and dressing.*

33. Slaughter animals should be adequately rested prior to being slaughtered.

34. Animals that have been identified as being affected by any disease or defect that affects, or might affect, the suitability of their meat for human consumption, should be segregated from other animals.

35. If during the Ante-mortem inspection a disease or defect has been detected that does not prevent an animal from being slaughtered for human consumption, it should be identified and released for slaughter and Post-mortem veterinary inspection.

36. Groups of animals that are found to be normal at Ante-mortem inspection but that are of different categories with respect to age and system of production, should be slaughtered and dressed as separate lines

37. Any animal that is in an unreasonably dirty condition should be cleaned to the extent necessary to lessen the risk of contamination of meat and the slaughter and dressing areas before it is allowed to enter the killing floor.

E. Veterinary responsibility

All animals should be inspected Ante-mortem. A veterinary inspector should have the final responsibility as to fitness for, and any conditions applying to, slaughter of animals for the production of fresh meat.

38. The ultimate decision as to whether or not an animal may be slaughtered and dressed in an abattoir, and any conditions applying to such slaughter and dressing, should rest with a veterinary inspector.

## SECTION VII - ABATTOIR AND ESTABLISHMENT PLANT AND FACILITIES

Abattoir and establishment plant and facilities for holding, slaughter, dressing, further processing and distribution should provide an environment: that allows the application of consistently applied minimum food safety requirements. The structure of the abattoir or 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 meat from contamination from outside sources.

*Some level of microbial contamination is inevitable in the abattoir environment and facilities should be such that dressing and further processing can take place in an environment: that minimises contamination of the meat. The facilities need to be such that all services necessary to support hygienic operations (including 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 of both the building and equipment contained within it needs to be such that they do not themselves pose a risk of directly or indirectly contaminating meat and furthermore the rooms within the building and the equipment can be kept acceptably clean while operations are taking place and be readily cleaned when operations have concluded. Support areas, such as areas set aside for inedible material, all contribute to the general environment and need to be of a standard appropriate to a food producing establishment. The overall design and construction of the premises needs to be such that contamination from exogenous sources such as objectionable odours, dust and pests is prevented. A process control system that prevents hazards in fresh meat should be in place and this should be based on the HACCP approach.*

### A. Structure

#### 39. Abattoirs and 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 meat hygiene, including the carrying out of meat 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 departments set aside for the handling of inedible material;
- (h) have a physical separation between departments in which edible material is handled and places where animals are held;
- (i) in all rooms, other than rooms provided for the accommodation of workers and inspectors, have;
  - (i) floors that are of waterproof, nontoxic, nonabsorbent 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 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, nontoxic, nonabsorbent 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
- (j) 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 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.

40. Abattoirs should include:

- (a) areas reserved for the use of the meat inspection service that comply with the requirements set out in section IX of this Code;
- (b) suitable accommodation for animals that:
  - (i) is large enough to house all animals that are to be held;
  - (ii) is covered, except where climate permits otherwise;
  - (iii) is so arranged and fitted out as to permit the proper inspection of animals before slaughter;

- (iv) has a sufficient number of pens to facilitate Ante-mortem inspection;
  - (v) is suitably constructed and maintained;
  - (vi) is paved or slatted and is well drained;
  - (vii) is provided with an adequate water supply;
  - (viii) is so provided with hose connection points as to enable lairages, yards, races, unloading ramps and livestock transport vehicles to be cleaned; and
  - (ix) has suitable restraining devices for the close examination of animals;
- (c) separate facilities for the physical isolation of sick animals or animals suspected of being sick, and that:
- (i) are covered if climatic conditions so require;
  - (ii) are capable of being locked; and
  - (iii) have drainage that is separate and does not connect with any open drain that runs through other lairages and yards;
- (d) slaughter and dressing areas that enable work to be performed in a satisfactory manner;
- (e) equipment in slaughter areas should be constructed of corrosion-resistant materials, be capable of being easily cleaned, and be designed, constructed and installed such that meat will not touch the floor;
- (f) a separate area reserved for the skin-on dressing of pigs or other animals where other classes of animals are dressed at the same time;
- (g) where animals are dressed, facilities for their scalding and dehairing or similar operation that are situated in an area adequately separated from other areas;
- (h) a separate room for emptying and cleansing alimentary tracts; <sup>1/</sup>
- (i) a separate room for the further preparation of emptied and rinsed alimentary tracts where these are to be prepared for human consumption: <sup>1</sup>
- (j) if necessary, separate facilities for the preparation of edible fats and, if they are not removed daily from the premises, proper facilities for their storage;
- (k) separate rooms for the storing of hides, horns and hooves, and inedible animal fats unless these are removed daily from the abattoir;
- (l) refrigerated rooms suitable for the effective cooling and storage of meat;
- (m) except where the national rules of the controlling authority either prohibit the killing of such animals in abattoirs or specify hygienically acceptable alternate arrangements, separate facilities for the slaughter and dressing of animals as specified in paragraphs 30 and 31 of the Code for Ante-mortem and Post-mortem Inspection of Slaughter Animals, that:
- (i) are capable of being locked;

- (ii) are solely for the slaughter and dressing of such animals and the holding of meat derived from them; and
- (iii) are located within easy reach of the pens reserved for isolation of such animals;
- (n) separate facilities in the form of a separate room or portion of a room capable of being controlled and capable of being locked whenever required, for storing suspect meat, and designed so as to prevent the risk of contaminating other meat and the risk of substitution;
- (o) a room capable of being locked and suitable for the secure holding of condemned meat, unless other adequate arrangements for disposal exist;
- (p) facilities for the control of the entrances and exits;
- (q) suitable facilities for the adequate cleaning and disinfecting of vehicles (except that the controlling authority may instead permit a satisfactory operational alternative to facilities located on the abattoir); and
- (r) suitable facilities for the hygienic collection and subsequent disposal of manure.

<sup>1</sup> However, the controlling authority may approve other systems in the light of technological developments which will ensure that contamination is prevented to an equivalent extent.

41. Abattoirs and establishments should be designed, constructed and equipped such that:

- (a) those operations that carry a risk of contamination of meat are sufficiently separated from that meat to avoid the risk of such contamination;
- (b) meat does not come into contact with floors, walls or fixed structures, other than those that are specifically designed for such contact;
- (c) there is an overhead rail, so installed as to avoid contamination of meat, for the moving of 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 non-potable supply of water is reticulated under circumstances set out in paragraph 70, it is carried in completely separate lines that:
  - (i) have no cross connection with potable water lines; and
  - (ii) are distinctively identified by colour or such 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 66 and 103;

- (h) where light bulbs or light fixtures are suspended over meat, they are of the safety type, or otherwise protected so as to prevent contamination of 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 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 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 slaughtering, dressing, deboning, preparation, packaging or other handling of 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 slaughtering, dressing, deboning, preparation, packaging or other handling of 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 carcasses, parts of carcasses or edible offals are placed for chilling, freezing or refrigerated storage are fitted with temperature recorders; and
- (t) all rooms in which carcasses, parts of carcasses or edible 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.

42. The construction and layout of any chilling room, freezing room, freezer store or freezer should satisfy the relevant provisions of paragraph 41.

43. Abattoirs and establishments in which meat is deboned and/or cut up should have:

- (a) a room or rooms, capable of being temperature controlled, for the holding of meat;
- (b) a room or rooms, physically separated from other rooms and capable of being temperature controlled, for deboning and cutting up of 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 meat.

**B. Amenities**

44. Each abattoir or establishment should include amenities for employees that:

- (a) are commensurate in size with the number of employees;
- (b) include changing room, lunch room, 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.

45. Each abattoir or establishment should have adequate and suitably equipped working areas and amenities for meat inspection personnel and office accommodation for the meat inspection service that complies with the requirements set out in section IX of this Code.

C. Equipment and related items

46. All equipment, implements and utensils used in abattoirs or establishments that come in contact with 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 nontoxic 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.

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

D. Transport vehicles

*Vehicles in which meat is transported need to be designed, constructed and equipped to prevent contamination of meat, whether from external sources or from the vehicle itself, and to prevent or limit the growth of microbes.*

48. Vehicles or shipping containers in which 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 meat is being carried; and

(d) be designed, constructed and equipped such that meat does not come into contact with the floor.

## SECTION VIII - HYGIENIC OPERATING REQUIREMENTS AND PRACTICES

Operations and practices for holding, slaughter, 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 meat from other sources of contamination. A process control system should be in place to prevent hazards in fresh meat and should be based on the HACCP approach.

### A. Health of persons

*Personnel who work in abattoirs and establishments should have a health status consistent with the prevention of the contamination of meat.*

49. Persons who come in contact with fresh meat in the course of their work 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 should maintain the medical certificates of employees in a systematic manner and they should be available for perusal by an inspector. Medical examination of a person who handles fresh meat should be carried out at other times when clinically or epidemiologically indicated or as prescribed by the controlling authority.

50. Care should be taken to ensure that no person, while known or suspected to be suffering from, or to be a carrier of a disease likely to be transmitted through meat or while afflicted with infected wounds, skin infections, sores or with diarrhoea, is permitted to work or be present in any meat handling area of an abattoir or establishment in any capacity in which there is any likelihood of such a person directly or indirectly contaminating meat with pathogenic microorganisms. Any person so affected should immediately report that illness to the manager.

### B. Cleanliness of premises

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

51. 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) carcasses or 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 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 for handling meat; and
- (g) no cleaning preparation or material, or any paint or other surface treatment, likely to contaminate meat, is used in any part of an abattoir or establishment where animals are slaughtered or dressed or meat is prepared, handled, packaged or stored.

C. Pest control

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

52. An effective and continuous programme for the control of pests, including insects, birds, rodents and other vermin, should be maintained in abattoirs and 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 the 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 meat;
- (g) the use of pesticides only if other control methods cannot be used effectively;
- (h) the removal of all 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.

D. 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.*

53. Managers of abattoirs and establishments should arrange for adequate and continuing training of all employees who work in the production of fresh meat in hygienic handling of meat and in personal hygiene. Instruction should include relevant parts of this Code.

54. Every person, including a visitor, in an area of an abattoir or establishment where 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.

55. Personal effects and clothing should not be deposited or stored in an area of an abattoir or establishment used for slaughter of animals, dressing of carcasses, or the preparation, handling, packaging or storing of 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 meat or become contaminated themselves.

56. All persons, while engaged in the preparation, handling, packaging or transport of meat, should wash their hands frequently and thoroughly with a liquid soap under running warm potable water. Hands should always be washed 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.

57. Gloves, if used in the handling of 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.

58. Any behaviour or unhygienic practices that could potentially result in contamination of meat should be prohibited in any part of an abattoir or establishment.

59. Any person in an abattoir or establishment who has a cut or wound should discontinue handling meat or 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.

60. Doors opening to the outside from departments where edible material is handled, unless protected by an effective air screen, should be kept closed as far as practicable.

61. 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 reenter any edible department until it has been cleaned and disinfected.

62. Where containers or cartons are assembled in parts of an abattoir or establishment where animals are slaughtered or dressed, or where 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 meat.

63. Where containers, equipment and utensils are held in any area of an abattoir or establishment where animals are slaughtered or dressed, or where 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 meat.

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

65. Effective ventilation should be provided in work areas of an abattoir or establishment to prevent excessive heat, steam and condensation and to ensure that the air is not contaminated with odours.

66. Lighting intensity throughout an abattoir or establishment should not be less than:

a. 540 lux (50 foot candles) in areas where detailed examination or trimming is undertaken;

b. 220 lux (20 foot candles) elsewhere in work rooms; and

c. 110 lux (10 foot candles) in other areas;

while slaughtering and dressing of animals is being undertaken, and when meat is being deboned or prepared.

67. No animal other than an animal for slaughter, or an animal used for transport or for stock handling, should enter any part of an abattoir. Animals present in an abattoir for purposes of transport or stock control should be kept outside or have entry restricted to lairages, and should be kept under control.

68. No animal should enter any part of an establishment.

69. Notwithstanding anything elsewhere in this Code, materials employed in the construction or maintenance of an abattoir or establishment may be used at any time that such use is necessary, provided an inspector is satisfied that there would be no danger of contamination of meat.

#### E. Water and Operational Hygiene

*Water is used extensively in abattoirs and 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.*

70. All water used in abattoirs and 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 meat.

71. 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 slaughtering and dressing of animals is being undertaken, and when meat is being deboned or prepared.

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

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

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

F. Process control programmes

(provisions relating to process control programmes are to be developed at next stage of drafting)

G. Operational hygiene of slaughtering and dressing

*There is a substantial risk of seen and unseen contamination of meat during slaughtering and dressing. Good hygienic practice and good manufacturing practice will minimise this risk. Training programmes also are an important component in achieving hygienic slaughtering and dressing as is adequate supervision to ensure compliance with operational requirements.*

75. Rooms, equipment and utensils for slaughtering and dressing should be used for that purpose only and not for cutting-up or deboning. However, in some situations, preparatory operations such as partial deboning of the neck, or removal of head meat, may be acceptable to the controlling authority once the carcass has passed inspection.

76. Except under emergency slaughter provisions described in paragraph 22 of the Code for Ante-mortem and Post-mortem Inspection of Slaughter Animals, an animal should not be slaughtered or dressed in any abattoir except when an inspector is present.

77. All animals brought into the killing floor should be slaughtered without delay.

78. Stunning, sticking and bleeding of animals should not proceed at a rate faster than that: at which carcasses can be promptly accepted for dressing.

79. Sticking, bleeding and dressing should be carried out so as to ensure the production of clean meat.

80. Bleeding should be as complete as possible. If blood is intended to be used in food preparation, it should be collected and handled hygienically and, if stirred, should only be stirred with hygienically acceptable implements and never with the hand.

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

82. Before the removal from any head of any meat or brain intended for human consumption, the head should be clean and, except in the case of scalded and dehaired carcasses, be skinned to a sufficient extent to facilitate inspection and the hygienic removal of head meat and/or the brain.

83. Where the tongue is dropped this should be done in such a way that the tonsils are not cut.
84. The following should apply in skinning and associated dressing operations:
- (a) where carcasses are skinned, skinning should be done before evisceration, in a manner that avoids contamination of 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 meat;
  - (c) skinned carcasses that are uneviscerated, if washed, should only be washed in a manner that does not allow water to enter either the abdominal or thoracic cavities;
  - (d) slaughtered animals that are scalded, flamed or otherwise treated should be scoured of all bristles, hair, scurf and dirt;
  - (e) the water in scalding tanks should be changed as frequently as practicable; and
  - (f) 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.
85. With respect to further dressing:
- (a) evisceration should be undertaken without delay and in a hygienic manner;
  - (b) discharge of any material from the oesophagus, stomach or stomachs, intestines or rectum, or from the gall bladder, urinary bladder, uterus or udder should be effectively prevented;
  - (c) intestines should not be severed from the stomach during evisceration and no other opening should be made during evisceration into any intestine, unless the intestines are first effectively tied to prevent spillage;
  - (d) No paper, cloth, wad, sponge or brush should be used in the washing of any carcass, except that brushes may be used in the dressing of singed pig carcasses provided this is done as the next operation after singeing;
  - (e) no carcass, meat or edible offal should be inflated with air or gas in a way that alters its appearance prior to Post-mortem inspection or causes contamination;
  - (f) no hide, skin or pelt should be washed, defleshed or left in any part of an abattoir or establishment used for the slaughtering or dressing of animals or for the preparation or holding of meat intended for human consumption;
  - (g) stomachs and intestines and all inedible material derived from the slaughtering or dressing of animals should:

- (i) be removed, as soon as the inspection procedure permits, from the dressing area in a manner that avoids contaminating the area or meat; and
  - (ii) after removal from the dressing area, be subsequently treated in parts of the abattoir intended for this purpose in a way that does not risk contamination of meat;
- (h) faecal and other objectionable matter that contaminates carcasses during dressing should be carefully trimmed off; and
- (i) where an inspector considers that the manner in which animals are being slaughtered or dressed or under which the carcasses or meat are being handled, prepared or packaged, will adversely affect:
- (i) the safety and wholesomeness of the carcase or meat;
  - (ii) the hygiene of production; or
  - (iii) 7/15/2006the efficiency of 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 section of an abattoir.

**H. Operational hygiene after slaughtering and dressing**

*The operations following slaughter, dressing and inspection, including deboning and cutting, freezing and storing, also provide a risk of contamination, and a risk of growth of microbial contaminants. Good hygienic practice and good manufacturing practice will minimise 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 meat from external contamination during handling, storage and transport. It is important that neither the packaging or wrapping itself, nor the packaging or wrapping procedures, causes contamination of meat.*

86. Meat passed as fit for human consumption should:
- (a) be handled, stored or transported in a manner that will protect it from contamination and deterioration;
  - (b) be removed without delay from the dressing area; and
  - (c) unless cut up or deboned pre-rigor, be held under conditions that reduce its temperature and/or water activity.
87. where carcasses, parts of carcasses or edible offals are placed in a holding room:
- (a) there should be a reliable method of monitoring the process control programme;
  - (b) carcasses should be hung in a manner permitting adequate circulation of air around them;
  - (c) parts of carcasses should be hung, or placed in suitable corrosion resistant trays, in a manner permitting adequate circulation of air around the meat;

- (d) they should be held in a manner that precludes drip from one piece falling on to any other piece;
  - (e) temperature, degree of relative humidity and air flow should be maintained in accordance with the process control programme; and
  - (f) dripping water, including dripping condensation should be prevented.
88. Rooms, equipment and utensils for cutting-up, deboning or further preparing meat should be reserved for those purposes and not used for any other purpose.
89. Rooms in which deboning or cutting is in progress should be maintained at a temperature and humidity appropriate to the operation.
90. If meat is cut up or deboned pre-rigor:
- (a) it should be transported directly from the dressing area to the cutting up or deboning room;
  - (b) the cutting up or deboning room should be temperature controlled and directly linked to the dressing areas, except that the controlling authority may approve alternative procedures that provide the same degree of hygienic protection; and
  - (c) cutting up, deboning and packing should be done without delay and it should be handled or held in accordance with a suitable process control programme, that programme to include the rapid reduction of temperature where appropriate.
91. If 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 meat from contamination in the conditions under which it is to be handled, transported and/or stored;
  - (c) wrapping should be nontoxic and should not leave harmful deposits of any kind on the 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 meat, except that the liner or other protection may not be required if individual pieces of meat, such as cuts, are individually wrapped before packing.
92. Inventory control should be maintained over all frozen meat and there should be effective monitoring of the freezing and storage process to ensure that time and temperature parameters are met.
93. Where carcasses, parts of carcasses or edible offals are placed in a freezing room for freezing, the following provisions should be observed:
- (a) 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 meat;
  - (b) cartons that contain meat should be stacked so as to permit adequate circulation of air around each carton;

- (c) meat that is not in cartons should be held in a manner that precludes drip from one piece of meat falling on to any other piece; and
  - (d) care should be taken where meat is held on trays to avoid contact between the base of any tray and any meat stored beneath that tray.
94. Where carcasses, parts of carcasses or edible offals are placed in any freezer store, the following provisions should be observed:
- (a) they should not be placed in that freezer store until the temperature of the meat has been reduced to an acceptable level;
  - (b) 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
  - (c) the freezer store should be operated and maintained at a temperature that will give adequate protection to the meat.
95. Where carcasses, parts of carcasses or edible offals 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.

I. Operational hygiene of transportation

*Transportation is an area of particular risk for contamination of 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.*

96. 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 meat;
  - (c) in the case of stomachs, if they have been cleaned or scalded;
  - (d) in the case of heads and trotters, if they have been skinned, or scalded and dehaired;
  - (e) if carcasses, sides and 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;
  - (f) if unwrapped and unfrozen edible offal, in suitable closed containers;
  - (g) so that it does not contact the floor;
  - (h) in a vehicle or container that prevents the entry of pests and other sources of contamination; and
  - (i) in a way that prevents unacceptable rises in temperature;

97. Where meat is accidentally exposed to adverse conditions during transport and the wholesomeness of the meat 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.

J. Operational hygiene for separate slaughter

98. Particular care should be exercised over the operational hygiene of the slaughter and dressing of animals of a category that a veterinary inspector has decided should be slaughtered and dressed in the separate facility specified in subparagraph 40 (m) of this Code. Slaughter and dressing should be consistent with the requirements set out in subsection G of section VIII above.

99. Meat from animals slaughtered and dressed in the separate facility specified in subparagraph 40 (m) of this Code that is being held pending a decision on its fitness for human consumption, and any suspect meat, should be held under conditions that prevent it contaminating other meat and preclude it being substituted.

L. Operational hygiene for meat condemned or otherwise unfit for human consumption

*Particular care and attention needs to be paid to handling practices for meat that has not been passed for human consumption and is either designated condemned or inedible, or is being held pending further investigatory testing. This meat must be prevented from being mixed with, substituted for, or in any way contaminating meat for human consumption.*

100. Rooms, equipment and utensils for use with inedible or condemned materials should be reserved for that purpose and not used for edible product.

101. Meat that has been condemned or is otherwise unfit for human consumption, under supervision by a veterinary inspector:

- (a) without delay into clearly identified chutes, containers, trucks, trolleys, skips, or rooms, or handled in accordance with other adequate arrangements provided for these purposes;
- (b) may be identified by means of cuts or brands provided these clearly identify the meat as condemned or unfit for human consumption; and
- (c) should be conveyed to the rendering station or other place of destruction in a manner that ensures that no removal of such meat is possible and no contamination can be caused.



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

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

### **A. Facilities and equipment**

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

103. Lighting intensity at all inspection points should not be less than 540 lux (50 foot candles).

104. Each abattoir or establishment should include amenities for meat inspection personnel that are commensurate in size with the number of meat inspectors and that comply with the requirements of subparagraphs (b) to (e) of paragraph 44 of this Code. However; in the case of establishments, the controlling authority may waive this requirement where satisfactory arrangements are made for access to amenities elsewhere so long as they are conveniently located and meet the above requirements.

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

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

### **B. Veterinary supervision of meat hygiene**

107. All meat hygiene requirements in this Code should be supervised by an official veterinarian (though those in Sections IV and V may be supervised by a separate authority in strict collaboration with the official veterinarian). For every abattoir or establishment there should be at least one official veterinarian appointed to supervise hygiene, including meat inspection.

### **C Laboratory Control Procedures**

108. It is desirable that the management of each abattoir or 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.

## PRINCIPLES OF HAZARD ANALYSIS CRITICAL CONTROL POINT (HACCP)

HACCP provides a systematic approach to sanitation and process<sup>1</sup> control in food production so as to ensure safety and wholesomeness. A HACCP plan should be primarily based on an assessment, in the particular circumstances, of the risks to human health and animal health, using accepted risk assessment techniques. The HACCP approach includes the identification and ranking of all hazards associated with each operational step, the defining of critical limits and monitoring needs at critical control points, and the establishing of record keeping and verification procedures. A HACCP system tailored to its individual product, processing and distribution conditions should be developed by the management of each abattoir or establishment.

HACCP is an effective and scientific inspectional approach to the assurance of food safety and wholesomeness and incorporates many aspects of the risk assessment approach to the allocation of meat inspection resources. The HACCP approach identifies the facilities, equipment and operational requirements needed to control microbiological and other hazards in meat, and augments and refines the codes of good manufacturing practice undertaken by industry. Although achievement of microbiological safety during slaughter, dressing and further processing is a primary focus of the Code of Hygienic Practice for Fresh Meat, there also should be control over raw material and the production/processing environment as early in the meat production system as possible. The HACCP approach can be applied all the way from the farm through to the consumer and in this way HACCP can be used to control any point in the meat production system where a hazardous and/or critical situation could result, whether due to microorganisms, parasites, chemical residues, physical contamination or other problems affecting safety and wholesomeness. The goal is an improvement in safety and wholesomeness, brought about by preventive measures rather than by intensive end product testing.

Critical control points (CCPs) are any locations, procedures or processes where control can be exercised over one or more factors that, if controlled, can prevent or minimise a hazard. An important priority is to identify CCPs that minimise contamination with enteropathogenic microorganisms during slaughter, dressing and the subsequent handling of fresh meat.

A HACCP plan is a document that is formulated from HACCP principles and that describes the formal procedures to be followed in a particular application. A HACCP system is the result of the implementation of a HACCP plan.

### PRINCIPLES OF HACCP

#### **1. Hazard analysis: Identify and assess hazards associated with each operational step**

All potential hazards that may contribute to an unacceptable level of safety or wholesomeness should be systematically identified and ranked according to severity and likely frequency. Hazard analysis and risk categorisation is necessary to determine the CCPs that prevent or minimise the introduction of hazards to the meat production system.

<sup>1</sup> Throughout this appendix, "process", "processes" and "processing" relates to the process of producing fresh meat.

## **2. Determine CCPs (location, procedure or process) required to control identified hazards**

A CCP that will assure control of a hazard that has the potential to affect safety and wholesomeness is defined as a CCP 1, whereas a CCP that will minimise a hazard but not assure control of that hazard is defined as a CCP 2. Determination of both types of CCP should reflect integration of sanitation requirements and direct process control.

## **3. Establish the critical limits that must be met at each CCP**

A critical limit is defined as one or more prescribed tolerance that must be met to ensure that the CCP effectively controls a hazard. Critical limits must be met at each identified CCP. There may be more than one critical limit at a CCP.

## **4. Establish procedures to monitor CCPs**

Monitoring is the scheduled testing or observation of a CCP and its limits. Monitoring procedures need to satisfy requirements for utility, reliability and accuracy, and production decisions should be rapidly accessible if a CCP is outside critical limits. Monitoring is most often achieved by physical and chemical tests (eg. temperature, time, moisture level, pH, available chlorine) as well as by observation and other organoleptic tests. The results of monitoring should be fully documented. Statistical methods of analysis allow for some variation to occur within a process; however, to be sure that product is safe and wholesome, variation must remain within critical limits.

## **5. Establish corrective actions to be taken when there is deviation identified by monitoring of a CCP**

Corrective action should eliminate the actual or potential hazard that resulted from deviation from the HACCP plan and assure appropriate disposition of the product involved. Records should demonstrate that the process was brought under control once the deviation was corrected. The guidelines for resolution of deviations at CCPs will be different from those applied to control points (or CPs) that are not CCPs.

## **6. Establish effective record keeping systems**

Documentation of the HACCP plan, monitoring records, response to deviations and disposition of product, and modification of the plan should be on file and at all times be freely available to the controlling authority.

## **7. Establish verification procedures**

Verification is distinct from monitoring in its form and requirements, and includes methods, procedures and analytical tests to determine that the HACCP system is working. Both management and the controlling authority have a role in verifying compliance with the HACCP plan, and the controlling authority should have opportunity to verify at any time that the records represent the actual condition of the product.

Verification requires statistically based sampling plans that may include microbiological specifications for the end product<sup>2</sup>. Although HACCP emphasises physical, chemical and organoleptic tests to prevent problems and achieve continuous process control, microbiological tests and guidelines<sup>3</sup> are necessary to measure the results of the HACCP system and ensure that all potential hazards have been addressed and controlled.

## **PRINCIPLES OF APPLICATION**

1. All aspects of HACCP plans should be developed in cooperation with the industry, as industry is responsible for the daily monitoring and verification of the system. HACCP demands a mutually cooperative relationship between industry and the controlling authority; industry designed and implemented programmes provide a good framework for regulatory control.
2. HACCP plans should remain flexible enough to accommodate technological advances and changes in processes, equipment and premises design.
3. The HACCP approach should be nationally standardised so as to create uniformity in training and application. For each abattoir or establishment, a trained and competent representative of the management should have overall responsibility for the HACCP system and its documentation, and the supervision of the management's personnel. The controlling authority has a responsibility to provide trained inspectors to monitor the results of the HACCP system.
4. HACCP plans should be developed specifically for each abattoir or establishment and be tailor made to meet the particular processing requirements. Supervision of the HACCP system should not be undertaken by a person who is responsible for production.
5. In the application of HACCP, the use of microbiological testing is seldom an effective means of monitoring CCPs due to the delay in obtaining results. In most instances, monitoring can best be achieved by physical and/or chemical testing, by observation and/or by other organoleptic testing. Microbiological testing has a role in verifying that the HACCP system is working.
6. Microbiological criteria included in a HACCP system need to be highly relevant and closely linked to food safety.

<sup>2</sup> A microbiological end product specification serves as a guide to the controlling authority and is intended to increase assurance that the provisions determining safety and wholesomeness contained in the codes of practice have been met. It may include microorganisms that are not of direct public health significance.

<sup>3</sup> A microbiological guideline is applied at a specified point during or after processing to monitor hygiene. It is intended to guide the processor and controlling authority and is not intended for official control purposes.

DRAFT REVISED CODE FOR ANTE-MORTEM AND POST-MORTEM INSPECTION  
OF SLAUGHTER ANIMALS  
(CAC/RCP 12-1976)  
October 1991

PREAMBLE

Veterinary science and the science of meat hygiene should be applied throughout the food chain, starting at the farm of origin, so that fresh meat produced from slaughtered animals is safe and wholesome. The Code for Ante-mortem and Post-mortem Inspection of Slaughter Animals, together with the Code of Hygienic Practice for Fresh Meat and the Code of Practice for Ante-mortem and Post-mortem Judgement of Slaughter Animals and Meat, describes requirements necessary to achieve this goal. Traditional practices may permit departures from some of the requirements when fresh meat is produced for local trade.

PRINCIPLES AND OBJECTIVES OF THE CODE OF HYGIENIC PRACTICE FOR  
FRESH MEAT AND ASSOCIATED CODES OF PRACTICE

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

<sup>1</sup> ["risk assessment" is a systematic process that combines the quantitative analytical steps of risk identification and estimation with a qualitative evaluation of those risks. Quantification allows an estimation of the magnitude and frequency of adverse outcomes, the setting of priorities, and the making of comparisons. Risk evaluation allows an interpretation of the significance of the risks and the determination of levels of acceptable risk. In determining the appropriate level of protection, the controlling authority should take into account the desirability of maximising trade opportunities while ensuring protection of human health and animal health.]

<sup>2</sup> ["Hazard Analysis Critical Control Point (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 circumstances, of the risks to human health and animal health, taking into account accepted risk assessment techniques. The HACCP approach includes identification and ranking of all hazards associated with each operational step, defining of critical limits and the monitoring necessary at critical control points, and the establishing of record keeping and verification procedures. A specific HACCP system, tailored to its individual product, processing and distribution conditions, should be developed by each abattoir or establishment. An appendix to this Code includes further material on HACCP.]

4. The responsibility for production of safe and wholesome 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 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.

5. The controlling authority should be adequately resourced, have the legal power to enforce requirements necessary to produce meat that is safe and wholesome meat, and be independent of the management of the establishment and of other industry interests. There should be a legal obligation on managers to comply with 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 meat borne hazards, the controlling authority should maintain cost effective and efficient allocation of resources.

7. Monitoring to identify meat borne hazards introduced at the point of production is an important component of a meat hygiene programme. A knowledge of the health status of livestock presented for slaughter is important for the application of control measures and requires an adequate system for data collection.

8. Meat hygiene regulations should be scientifically based, should protect the health of consumers and facilitate fair practices in the international trading of meat. Policies of equivalence<sup>3</sup> that provide the same safety and wholesomeness guarantees remove the necessity of replicating individual country requirements, and therefore all countries need not apply identical procedures.

<sup>3</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). In November 1990, the DRAFT TEXT ON SANITARY AND PHYTOSANITARY MEASURES developed within the Uruguay Round of the Multilateral Trade Negotiations (MTN) read as follows:

"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 commodity, 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 fresh meat.

10. Controlling authorities should promote integrated food safety practices, taking into account the entire spectrum of food safety concerns and knowledge. This should be combined with international cooperation in food safety programmes.

# RECOMMENDED INTERNATIONAL CODE FOR ANTE-MORTEM AND POST-MORTEM INSPECTION OF SLAUGHTER ANIMALS

## SECTION I - SCOPE

This Code applies to the Ante-mortem and Post-mortem inspection of slaughter animals other than poultry intended for human consumption. It should be read in conjunction with the Code of Hygienic Practice for Fresh Meat and the Code of Practice for Ante-mortem and Post-mortem Judgement of Slaughter Animals and Meat.

## SECTION II - PRINCIPLES AND OBJECTIVES OF CODE

The principles and objectives of this Code are as set out below.

- (a) Ante-mortem and Post-mortem inspection of slaughter animals is carried out to ensure that fresh meat intended for human consumption is safe and wholesome. The responsibility for achieving this objective should be shared by the controlling authority and industry.
- (b) Ante-mortem and Post-mortem inspection should be carried out under the responsibility and supervision of a veterinary inspector. The basis for allowing animals to enter the food chain should primarily be a consideration of public health with the economic worth of the animal being secondary.
- (c) Ante-mortem and Post-mortem inspection programmes should be applied in a cost effective and efficient manner and should reflect a risk based allocation of inspection resources throughout the entire inspection system.
- (d) Acquisition of all relevant information on the health status of animals presented for slaughter is necessary for optimal Ante-mortem and Post-mortem inspection.
- (e) Inspection procedures applied to each species of slaughtered animal should be appropriate to the spectrum and prevalence of diseases and defects in each class of livestock. The production history, origin of the slaughter animals, and the national or regional disease status should be taken into account.
- (f) The inspection requirements described in this Code are based on current practice and scientific knowledge. Risk assessment should be undertaken to enable the development of inspection programmes and procedures that reflect advances in the science of meat hygiene.
- (g) Controlling authorities should accept equivalence of different inspection procedures where risk assessments have shown that they achieve the same guarantees of safety and wholesomeness.
- (h) Controlling authorities should make available meat inspection findings that can be used by other agencies to improve human and animal health.

## SECTION III - DEFINITIONS

For the purposes of this Code:

1. "Abattoir" means any premises that is approved and registered by the controlling authority in which fresh meat is prepared, handled, packed or stored, and in which animals are slaughtered and dressed for human consumption.
2. "Brand" means any mark or stamp approved by the controlling authority and also includes any tag or label bearing such mark or stamp.



3. "Carcase" means the body of any slaughtered animal after bleeding and dressing.
4. "Cleaning" means the removal of objectionable matter.
5. "Contamination" means objectionable matter, and includes substances and/or microorganisms that make fresh meat unsafe and/or unwholesome.
6. "Controlling authority" means the official authority charged by the government with the control of meat hygiene, including meat inspection.
7. "Disease or defect" means a pathological change or other abnormality.
8. "Dressing" means the progressive separation on the dressing floor of a slaughter animal into a carcass (or sides of a carcass), offals and inedible byproducts and may include the removal of the head. Examples of dressing include the removal of the head, hide or skin, genital organs, urinary bladder, feet, and udders of lactating animals.
9. "Emergency slaughter" means slaughter by necessity of any animal that:
  - (a) has recently suffered traumatic injury and is judged to be in pain; or
  - (b) is affected by a condition that does not preclude its partial or conditional fitness for human consumption, but that is likely to deteriorate unless slaughter takes place immediately.
10. "Fit for human consumption" in relation to meat means meat that has been passed by an inspector as safe and wholesome, unless found unwholesome in subsequent examinations, including laboratory tests.
11. "Inspector" means a properly trained officer appointed by the controlling authority for the purpose of meat inspection and control of hygiene, and includes a veterinary inspector. The supervision of meat hygiene, including the inspection of meat, should be under the responsibility of a veterinary inspector.
12. "Manager" in relation to an abattoir or establishment includes any person for the time being responsible for the management of the abattoir or establishment.
13. "Meat" means the edible part of any slaughter animal slaughtered in an abattoir and includes edible offal.
14. "Potable water" means water that is pure and wholesome at the point of usage in accordance with WHO requirements contained in the "International Standards for Drinking Water".
15. "Residues" means residues of veterinary drugs and pesticide as defined in the Codex Alimentarius, and contaminants as defined in the Codex Alimentarius.
16. "Retained" means held under the control and security of the controlling authority pending final judgement.
17. ["Safe and wholesome" means meat that has been passed as being fit for human consumption using the criteria that it:
  - (a) will not cause food borne infection or intoxication when properly handled and prepared;
  - (b) does not contain residues in excess of established limits [elaborated as maximum residue limits in the Codex Alimentarius];

- (c) is free of disease, particularly those of zoonotic or animal health importance;
  - (d) is free of visible contamination;
  - (e) is free of defects that are generally recognised as objectionable to consumers;
  - (f) has been produced under adequate hygiene control; and
  - (g) fulfils the expectation of the consumer in regard to its composition [and method of production]
18. "Slaughter animal" means any animal lawfully brought into an abattoir for slaughter.
19. "Veterinary Inspector" means an inspector who is professionally qualified as a veterinarian.
20. "Viscera" means the organs of the thoracic and abdominal cavity and includes the kidneys.

#### SECTION IV - ANTE-MORTEM INSPECTION

The health status of the farm of origin and the husbandry of slaughter animals has a significant effect on the safety and wholesomeness of meat. In this respect, all efforts should be made to collect and evaluate information that might have influence on Ante-mortem and Post-mortem inspection.

Ante-mortem inspection should be carried out in a systematic manner in accordance with routine procedures established by the controlling authority, and should ensure that animals found to be affected by a disease or defect that would render their meat unfit for human consumption are removed from the human food chain and so identified.

Ante-mortem inspection should ensure that animals whose meat may be fit for human consumption but that require special handling during slaughter and dressing, and animals that will require special attention during Post-mortem inspection, are segregated and so handled or inspected.

*Adequate animal identification and record keeping systems are essential if full use is to be made of onfarm information relevant to Ante-mortem and Post-mortem inspection. Data collection and recording systems should accurately reflect onfarm health status and allow meaningful epidemiological analysis. In addition, the data collection and recording system should be capable of responding to changes in local or regional human health and animal health status.*

*One of the most important functions of Ante-mortem inspection is to ensure that animals are rested sufficiently so that signs important to inspection disposition are not masked. It also ensures that signs that are important to inspection disposition but that may be less readily observed (or not evident) at Post-mortem inspection can be taken into account in*

*reaching a decision as to safety and wholesomeness of meat. When it is found on Ante-mortem inspection that an animal is not fit to be slaughtered for human consumption, a judgement should be based on that finding and not delayed until after slaughter and Post-mortem inspection. Ante-mortem inspection enables animals that require special handling on the slaughter and dressing floor (whether because of uncleanliness, disease or defect) to be identified and given that special handling, as well as permitting the identification of animals' requiring special Post-mortem inspection.*

21. Information available from the farm of origin should be used in an effective and appropriate manner if optimal Ante-mortem and Post-mortem inspection is to be achieved.

22. No animal should proceed for slaughter until an inspector has carried out an Ante-mortem inspection and has passed it for slaughter. Exceptions may be made under emergency slaughter provisions where a delay in carrying out Ante-mortem inspection would result in undue suffering.

23. Animals should be inspected as soon as practicable after delivery to the abattoir. If an animal is kept for more than 24 hours after its post-arrival Ante-mortem inspection, the Ante-mortem inspection should be repeated so that it takes place within 24 hours of slaughter.

24. Inspected animals should be identified and correlated with Ante-mortem inspection findings by a method that is approved by the controlling authority.

25. The manager should provide every assistance necessary to enable an adequate Ante-mortem inspection to be carried out.

26. Ante-mortem inspection should be carried out with a full knowledge of all relevant information gained on the animals prior to their arrival at the abattoir.

27. Animals should be inspected in a way that allows the inspector to detect deviations from normality, whether of demeanour, behaviour, appearance or other clinical signs, that might indicate a disease or defect requiring special handling or closer examination. The inspector should also consider the cleanliness of animals when determining fitness for slaughter.

28. The inspector undertaking Post-mortem inspection should be notified in a systematic manner of the result of the Ante-mortem inspection.

29. An animal should be released for slaughter without: any restriction when an Ante-mortem inspection has revealed that it is adequately rested, that there are no diseases or defects that would render it unfit for slaughter for human consumption or require special attention during dressing or Post-mortem inspection, and that it is not unacceptably dirty.

30. If during the Ante-mortem inspection any disease or defect has been noted that does not prevent the animal from being slaughtered for human consumption but may influence the Post-mortem inspection or judgement, the animal should be identified and released by a veterinary inspector for slaughter and Post-mortem inspection.

31. Where signs of disease are equivocal, the animal should be withdrawn from normal slaughter and placed in an isolation pen set aside for that purpose for:

- (a) detailed examination, observation or treatment; or

- (b) slaughter under special conditions so as to preclude contamination of the premises, equipment and personnel.
32. Where signs of disease indicate a systemic involvement, communicability to humans, or toxicity from chemical or biological agents that do or may render the meat unsound, the animal so affected should be:
- (a) condemned forthwith as unfit for human consumption; or
- (b) where appropriate, set aside and remain under the control of an inspector until a further decision regarding disposition is taken.
33. Animals exhibiting normal behaviour but known to be carrying residues should either be condemned or withheld from slaughter until the residues are excreted or metabolized to levels so that they do not exceed established safety levels. In cases of doubt the animal should be identified and slaughtered and the carcass and viscera should be subjected to all necessary laboratory examinations.
34. Any animal that as a result of Ante-mortem inspection is not passed for slaughter should be examined for a final decision on its disposition by a veterinary inspector.
35. The remains of animals that have died, and of those that have been condemned at Ante-mortem inspection and killed, should be removed immediately to the rendering station or other place of destruction and there are adequate precautions to prevent misuse, and to avoid danger to human health and animal health. Unless the cause of death of such animals is known, it is desirable that they undergo Post-mortem examination so that their disease status can be further established and human and animal disease surveillance requirements satisfied.

#### SECTION V - POST-MORTEM INSPECTION

Post-mortem inspection should be carried out in a systematic manner and should ensure that 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 level as possible.

*During Post-mortem inspection, the inspector correlates information available from the field and from Ante-mortem inspection with what can be discerned by examining the head, carcass and viscera. When a decision cannot be taken at that stage as to suitability or otherwise for human consumption, the carcass and all its relevant parts can be set aside under suitable safeguards and further testing arranged. Post-mortem inspection should be efficient and effective and this implies tailoring procedures to the particular circumstances. To do this properly necessitates formal risk assessment. Monitoring of stunning and bleeding is required to ensure adequate animal welfare and hygienic practices.*

36. Post-mortem inspection should be undertaken as soon as the orderly dressing of a carcass allows and should not be delayed.
37. 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 meat, premises, equipment or personnel.

38. The head, organs, viscera and any other part of a carcass required for Post-mortem inspection should be identifiable with the carcass from which they were removed until inspection has been completed. Blood of slaughtered animals, when intended for human consumption should, until inspection of the carcass from which it was recovered has been completed, be so kept as to permit its condemnation should this be necessary.

39. No person should remove from the inspection area of an abattoir any part of any 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 examination and a decision has been made.

40. 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 should, prior to the inspection of any 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, carcass, head or viscera;

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

41. Heads that are to be inspected should be skinned to the extent necessary to facilitate inspection and be clean. The base of the tongue should be detached or dropped where this is necessary to give access to the masticatory muscles and lymph nodes. Where head loops are used to hold heads for inspection and incision of lymph nodes is required, the lymph nodes may be incised and examined before the tongue is dropped.

42. Any carcass or viscera 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 meat, under the control of an inspector. The relevant parts of that animal 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.

43. The method of identification that denotes that a carcass and viscera have been retained for further inspection should be laid down by the controlling authority.

44. Where in the opinion of an inspector:

- (a) a more detailed Post-mortem examination;
- (b) a laboratory test; or
- (c) any other examination necessary to render a judgement on a carcass or viscera;

is required, an inspector should take all the necessary specimens from such carcass or viscera.]

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

## SECTION VI - POST-MORTEM INSPECTION PROCEDURES

The controlling authority should establish the routine procedures required to inspect individual tissues and organs. The procedures described in this Code are the minimum requirements.

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

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

*The Post-mortem inspection procedures set out in the tables attached to this Code (Tables A, B and C) are based on current practice and knowledge and are the minimum that should be carried out if the formal risk assessment approach has not been undertaken and more appropriate procedures developed. Undertaking risk assessment of different meat inspection procedures is highly desirable and enables the development of procedures that correctly reflect advances in the science of meat hygiene and the health status of the animals to be inspected. It is only when the most effective and efficient Post-mortem inspection procedures for detecting diseases and defects that are, or may be, present in the line of animals being inspected are applied, that Post-mortem inspection is optimised. The procedures that are most appropriate to any particular line of animals will vary not only according to species, but also with such factors as the system under which they were produced, treatments and other procedures to which they were subjected, their age and the animal health situation in the areas from which they were derived or transited. An outline of the risk assessment approach to meat inspection is an appendix to this Code.*

*In interpreting the attached Post-mortem inspection tables, it is important to appreciate that they are minimum inspection requirements, and additional inspection procedures should be undertaken whenever necessary to resolve a suspicion or clarify a situation. In the tables, the words "palpate" and "incise" are to be clearly understood to include visual examination where possible.*

46. Minimum Post-mortem inspection procedures that should be undertaken are set out in the inspection tables attached to this Code (Tables A, B and C). Further minimum Post-mortem inspection requirements that are not detailed in the inspection tables are:

(a) in all animals in which a systemic or generalized disease is suspected, in all animals positive to a diagnostic test for tuberculosis, in all animals in which lesions suggestive of tuberculosis are found at Post-mortem inspection, and in all horses reacting to the mallien test, the main carcase lymph nodes (being the precural, popliteal, anal, superficial inguinal, ischiatic, internal and external iliac,

- lumbar, renal, sternal, prepectoral, prescapular and atlantal nodes), as well as the lymph nodes of the head and viscera, should be incised and examined;
- (b) udders that are to be recovered for human consumption should be inspected by incision;
  - (c) tissues and organs that are usually discarded should, when recovered for human consumption, be inspected as appropriate;
  - (d) except in calves up to six weeks of age, the oesophagus of all cattle and calves should be separated from its attachment to the trachea, and viewed;
  - (e) as part of the inspection of all cattle and calves over the age of 6 weeks for *Cysticercus bovis*, the muscles of mastication should be viewed and one or more linear incisions made parallel to the lower jaw into the external and internal muscles of mastication;
  - (f) the hearts of all cattle and calves over the age of 6 weeks should be inspected for *Cysticercus bovis* either by making one or more incisions from base to apex or by everting the heart and making shallow incisions that enable the cardiac valves and muscle tissue to be inspected - this inspection of the heart should also be undertaken in calves up to six weeks of age from areas where *Cysticercus bovis* is endemic.
  - (g) the head should be split lengthwise in the medial line and the nasal septum removed and examined in all horses from areas where glanders is endemic;
  - (h) the muscles and lymph nodes (lymphonodi sub-rhomboides) beneath one of the two scapular cartilages of all grey or white horses should be examined for melanosis after loosening the attachment of one shoulder;
  - (i) where there is a risk of *Cysticercus cellulosae* being present, the outer muscle of mastication, the abdominal and diaphragmatic muscles and the root of the tongue of all pigs should be incised and the lade of the tongue viewed and palpated;
  - (j) the heart of all pigs derived from areas where there is a risk of *Cysticercus cellulosae* being present should be opened up and a deep incision made into the septum.
47. Countries should have measures in force in their meat inspection system to protect the public from trichinosis.

#### SECTION VII - DISPOSITION AND BRANDING

- After a decision has been made by an inspector that meat is fit for human consumption, conditionally fit for human consumption or unfit for human consumption, it is necessary that the meat 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 meat.*
48. The size, shape, and wording of any brand, as well as the colour and composition of marking ink used for the branding of meat, should be laid down by the controlling authority 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 of suitable ink should be applied to the meat.

49. Carcasses, heads, organs and viscera that as a result of Ante-mortem and Post-mortem inspection are passed as fit for human consumption without further restrictions should be legibly and appropriately branded.

50. Any meat, heads, organs and viscera that require treatment by heat or by freezing to render them fit for human consumption should be suitably identified and, if necessary, branded as such and kept under the supervision of an inspector until the necessary treatment has been completed and the carcass can be passed as fit for human consumption.

51. All carcasses, parts of carcasses, organs and viscera that as a result of Ante-mortem and Post-mortem inspection are found to be unfit for human consumption, and fetuses, 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.

52. Brands and stamps bearing 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 VIII - UTILIZATION OF MEAT INSPECTION FINDINGS

*The controlling authority should make meat inspection findings available to assist other agencies involved in human health and animal health. In meeting this objective, the controlling authority should ensure that surveillance activities are distinguished from normal meat inspection activities, and do not jeopardise the efficient delivery of meat inspection services or the efficient operation of the meat industry. Where possible the controlling authority should take an active role in animal health management programmes that assure a safe and wholesome food supply and information on zoonotic disease should be provided to the appropriate agencies.*

53. The controlling authority should closely collaborate with the authorities responsible for animal disease control and with the public health authorities so that the greatest possible use can be made of meat inspection findings.

54. Research and surveillance activities should be distinguished from routine 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 Post-mortem judgement.

55. Notifiable animal disease detected at Ante-mortem or Post-mortem inspection should be reported directly to the veterinary authorities who have responsibility for animal disease control.

56. In the framework of surveys related to special disease control or eradication schemes, full use should be made of Ante-mortem and Post-mortem inspection findings, including saving or recording details from animal identification devices (ear tags, tattoos, brands, etc.) from diseased animals. If required as part of such schemes, specific diagnostic tests should be permitted in addition to the normal inspection procedures in the abattoir, provided that this can be done without detriment to the normal meat inspection and abattoir management operations.



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

58. Where applicable, veterinary inspectors in abattoirs should take an active part in animal disease and health control, not only as providers of feedback information but also as associates in the field control of animal health.

TABLE A MINIMUM POST-MORTEM INSPECTION REQUIREMENTS - HEADS

	CATTLE (including calves)	HORSES	SHEEP & GOATS (including lambs)	PIGS
GENERAL	View external surfaces. For cattle, nasal cavities. horses and pigs view the oral and cavities			
LYMPH NODES SUBMAXILLARY PAROTID RETROPHARYNGEAL	Incise (*) Incise (*) Incise (*)	Incise Incise Incise	----- ----- -----	Incise ----- -----
TONGUE	Palpate (*)	Palpate	-----	-----
OTHER	Inspection for <u>C. bovis</u> as per sub-paragraph 46 (d) of Code.	Inspection for glanders as per sub-paragraph 46 (f) of Code.		Inspection for <u>C. cellulosa</u> as per sub-paragraph 46 (h) of Code

- NOTES - "incise" as used above means to examine by viewing and multiple incision or slicing.
- "palpate" as used above means to view and palpate.
  - "submaxillary" are the lymph nodes lymphonodi mandibulares.
  - "parotid" are the lymph nodes lymphonodi parotidei.
  - "retropharyngeal" are the lymph nodes lymphonodi retropharyngei.
  - (\*) means minimum inspection is view only in calves up to 6 weeks of age.

TABLE B MINIMUM POST-MORTEM INSPECTION REQUIREMENTS - VISCERA

	CATTLE (including calves)	HORSES	SHEEP & GOATS (including lambs)	PIGS
LYMPH NODES MESENTERIC PORTAL BRONCHIAL & MEDIASTINAL	View Incise (*) Incise (*)	View Palpate Incise	View Palpate Palpate	Palpate (a) Palpate Incise
GASTRO-INTESTINAL TRACT SPLEEN	View (*) Palpate	View Palpate	View View	View View
LIVER	Palpate. View the gall bladder (does not apply to horses). For cattle over 6 weeks of age, incision as deemed appropriate to detect liver fluke.			
LUNGS	Palpate. Except in sheep and goats, the bronchi should be opened up by a transverse incision across the diaphragmatic lobe. For horses, the larynx, trachea and main bronchi should be incised.			
HEART	View after removal of the pericardium. Additional inspection requirements for cattle over 6 weeks of age are set out in subparagraph 46 (f) of the Code. Conditional additional inspection requirements for pigs are set out in subparagraph 46 (j) of the Code.			
KIDNEYS	View after enucleation. In grey or white horses incise entire kidney.			
UTERUS (ADULTS)	Palpate	View	View	View

NOTES - "incise" as used above means to examine by viewing and multiple incision or slicing.

- "palpate" as used above means to view and palpate.
- "mesenteric" are the lymph nodes lymphonodi mesenterici.
- "portal" are the lymph nodes lymphonodi hepatici (portales).
- "bronchial and mediastinal" are the lymph nodes lymphonodi tracheobronchiales et mediastinales.
- (\*) means minimum inspection is view only in calves up to 6 weeks of age.
- (a) means incise if any lesions were observed in the submaxillary lymph nodes.

TABLE C MINIMUM POST-MORTEM INSPECTION REQUIREMENTS - CARCASSES

	CATTLE (including calves)	HORSES	SHEEP & GOATS (including lambs)	PIGS
GENERAL	Examine carcasses (including musculature, exposed bone, joints, tendon sheaths etc) to determine any disease or defect. Attention should be paid to bodily condition, efficiency of bleeding, colour, condition of serous membranes (pleura and peritoneum), cleanliness and presence of any unusual odours;			
LYMPH NODES SUPERFICIAL INGUINAL EXTERNAL & INTERNAL ILIAC PRE-PECTORAL PECTORAL RENAL	Palpate (a) Palpate ----- Palpate	Palpate Palpate ----- Palpate	Palpate Palpate Palpate -----	Palpate (b) Palpate ----- Palpate
OTHER		Inspection of grey or white horses as per subparagraph 46 (g) of Code.		Palpate castration site.

- NOTES - "superficial inguinal" (also supramammary) are the lymph nodes lymphonodi inguinales superficiales.  
 - "external and internal iliac" are the lymph nodes lymphonodi iliaci.  
 - "prepectoral" are the lymph nodes lymphonodi cervicales profundi caudales.  
 - "renal" are the lymph nodes lymphonodi renales.  
 - "popliteal" are the lymph nodes lymphonodi popliteae.  
 - (a) means incise as a routine when udder is or has been in lactation.  
 - (b) means iliac nodes in pig.

## PRINCIPLES OF RISK ASSESSMENT

Risk assessment is a systematic process that combines the quantitative analytical steps of risk identification and estimation with a qualitative evaluation of those risks. Quantification allows an estimation of the magnitude and frequency of adverse outcomes, the setting of priorities, and the making of comparisons. Risk evaluation allows an interpretation of the significance of the risks, and the determination of levels of acceptable risk. In determining the appropriate level of protection, the controlling authority should take into account (a) the available scientific evidence, (b) relevant processes and production methods, (c) relevant inspection, sampling and testing methods (d) prevalence of diseases and defects, (e) environmental conditions and (f) quarantine or other treatments.

1. Risk assessment provides a framework for consistent and orderly decision making in the field of food safety. Diseases and defects in meat and meat products may be associated with risks to human health, risks to animal health and risks to wholesomeness. Risk research defines risk, considers its effects, identifies human or animal populations that are exposed and provides cost benefit analysis. This allows decisions as to what is a fair and acceptable risk to the consumer and, with respect to animal health, to the production system that must bear the risk. The goal is the reduction of risk, or the minimisation of loss/maximisation of gain.

2. Risk can be defined as the potential for realisation of unwanted negative consequences of an event or process. Construction of a decision tree presents decision choices as actions and outcomes. The probability distribution for a set of known outcomes may be either (a) agreed (risk), or (b) not agreed, and with unknown outcomes (uncertainty). Reducing uncertainty in a system by gaining more information does not necessarily reduce risk.

3. The elements of risk are:

- 3.1 A choice of action (exposure to loss), either voluntary or involuntary.
- 3.2 A probability (frequency) of realisation.
- 3.3 A magnitude of loss (character, extent and timing).

If there is a high level of uncertainty in probability estimates, the magnitude of loss assumes greater importance in evaluating the total risk.

4. The types of risk are:

- 4.1 Real risk, which can only be determined in the future.
- 4.2 Statistical or "actual" risk, calculated from historical data.
- 4.3 Predicted risk, using analytical models structured from past data.
- 4.4 Perceived risk, as seen intuitively by individuals.

Some risks that are identified will be so small that they can be regarded as effectively zero. However, accurate estimation of risk, and outcomes of only limited magnitude, are implicit in effective zero ratings.

5. Risk assessment combines the systematic process of risk identification and estimation with a scientific evaluation of the risks. Determining levels of acceptable risk

is central to the risk assessment process. Whereas experts employ sophisticated methods to analyse risk, the public usually rely on intuitive risk judgements.

5.1 Risk identification is the identification of all possible sources of risk and outcomes. There may be considerable subjectivity in identifying the risks and specifying the value of outcomes.

5.2 Risk estimation establishes the statistical probabilities of all possible outcomes and determines the consequence values. If statistical probabilities are not available, predicted risk estimates can be calculated.

5.3 Risk evaluation includes interpretation of the significance of estimated risks, and establishing levels of acceptable risk. Methods are:

5.3.1 Risk comparison methods, incorporating known and acceptable risk levels. Historical data, modelling or perceived risk estimates can be used.

5.3.2 Cost effectiveness of risk reduction, considering direct costs and benefits alone. This method attempts to maximise risk reduction given a fixed budget.

5.3.3 Cost/risk benefit balancing, weighing all direct and indirect costs against all direct and indirect benefits. Acceptable risk is determined by weighing the benefits against the level of risk presented.

5.3.4 Risk aversion, wherein a maximum reduction in risk is sought with no consideration of benefits and no comparison with other risks. This may result in a zero tolerance standard.

5.3.5 Combinations of methods.

It is generally considered that no one method of risk evaluation is valid for all applications. However the determination of acceptable risk is increasingly dependent on quantitative models that are used to set numerical levels below which an estimated risk is considered acceptable. No determination of acceptable risk is valid without consideration of the expected benefit, and risk assessment decisions should reflect the conditions of use that will occur in the real world situation.

6. Health risk assessment is a specific process used to estimate the likelihood that humans or ecological systems will be affected adversely by a chemical or physical agent under a specific set of conditions. Four analytical steps are described:

6.1 Hazard identification: the qualitative indication that a condition/substance may adversely affect human health.

6.2 Hazard characterisation: the nature of the adverse effects, including the relationship between the dose of a substance and the likelihood of an adverse effect.

6.3 Exposure characterisation: the estimation of the frequency, intensity and duration of human exposure likely to occur before or after application of controls.

6.4 Risk determination: the integration of the above analytical steps into a scientific determination of the level of risk as a basis for decision making.

This model involves a stepwise approach that will result in a formal quantitative determination of the risk attendant on some potential hazard in food.

7. The health risk assessment model using a risk comparison approach can be readily adapted to determine appropriate and scientifically valid Post-mortem meat inspection procedures for a particular class of slaughtered livestock. Risk includes all grossly identifiable hazards that have the potential to affect public health, animal health or wholesomeness. The exposure characterisation is developed from the performance attributes of the inspection procedures (sensitivity and specificity); these determine the different procedures. Statistically defined exposure characterisations allow quantitative comparisons, with the level of acceptable risk being developed from the risk determination and the overall objectives of the meat inspection programme. Principles incorporated in the predictive model should include:

7.1 Testing in commercial processing environments.

7.2 An extensive random sampling programme so that the results from the model are representative of the true slaughter population.

7.3 A sample of sufficient size to give definite conclusions as to the scientific validity of different inspection procedures.

7.4 A risk determination that considers the worst possible outcomes included in statistical confidence intervals for comparative data.

8. Risk management is the process whereby the controlling authority decides what to do about the results of a risk assessment, and implements those decisions. Effective communication of risk by controlling authorities to the community is an important part of this process.

9. Economic, social and political considerations should not result in the setting of priorities and the design of regulations that are sub-optimal in scientific and technical terms.

DRAFT REVISED CODE OF PRACTICE FOR ANTE-MORTEM AND POST-MORTEM  
JUDGEMENT OF SLAUGHTER ANIMALS AND MEAT  
(CAC/RCP 34-1985)  
October 1991

PREAMBLE

Veterinary science and the science of meat hygiene should be applied throughout the food chain, starting at the farm of origin, so that fresh meat produced from slaughtered animals is safe and wholesome. The Code of Practice for Ante-mortem and Post-mortem Judgement of Slaughter Animals and Meat, together with the Code of Hygienic Practice for Fresh Meat and the Code for Ante-mortem and Post-mortem Inspection of Slaughter Animals, describes requirements necessary to achieve this goal. Traditional practices may permit departures from some of the requirements when fresh meat is produced for local trade.

PRINCIPLES AND OBJECTIVES OF THE CODE OF HYGIENIC PRACTICE FOR  
FRESH MEAT AND ASSOCIATED CODES OF PRACTICE

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

<sup>1</sup> ["risk assessment" is a systematic process that combines the quantitative analytical steps of risk identification and estimation with a qualitative evaluation of those risks. Quantification allows an estimation of the magnitude and frequency of adverse outcomes, the setting of priorities, and the making of comparisons. Risk evaluation allows an interpretation of the significance of the risks and the determination of levels of acceptable risk. In determining the appropriate level of protection, the controlling authority should take into account the desirability of maximising trade opportunities while ensuring protection of human health and animal health.]

<sup>2</sup> ["Hazard Analysis Critical Control Point (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 circumstances, of the risks to human health and animal health, taking into account accepted risk assessment techniques. The HACCP approach includes identification and ranking of all hazards associated with each operational step, defining of critical limits and the monitoring necessary at critical control points, and the establishing of record keeping and verification procedures. A specific HACCP system, tailored to its individual product, processing and distribution conditions, should be developed by each abattoir or establishment. An appendix to this Code includes further material on HACCP.]

4. The responsibility for production of safe and wholesome 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 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.

5. The controlling authority should be adequately resourced, have the legal power to enforce requirements necessary to produce meat that is safe and wholesome meat, and be independent of the management of the establishment and of other industry interests. There should be a legal obligation on managers to comply with 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 meat borne hazards, the controlling authority should maintain cost effective and efficient allocation of resources.

7. Monitoring to identify meat borne hazards introduced at the point of production is an important component of a meat hygiene programme. A knowledge of the health status of livestock presented for slaughter is important for the application of control measures and requires an adequate system for data collection.

8. Meat hygiene regulations should be scientifically based, should protect the health of consumers and facilitate fair practices in the international trading of meat. Policies of equivalence<sup>3</sup> that provide the same safety and wholesomeness guarantees remove the necessity of replicating individual country requirements, and therefore all countries need not apply identical procedures.

<sup>3</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). In November 1990, the DRAFT TEXT ON SANITARY AND PHYTOSANITARY MEASURES developed within the Uruguay Round of the Multilateral Trade Negotiations (MTN) read as follows:

"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 commodity, 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 fresh meat.
10. Controlling authorities should promote integrated food safety practices, taking into account the entire spectrum of food safety concerns and knowledge. This should be combined with international cooperation in food safety programmes.

## CODE OF PRACTICE FOR ANTE-MORTEM AND POST-MORTEM JUDGEMENT OF SLAUGHTER ANIMALS AND MEAT

### SECTION I - SCOPE

This Code applies specifically to the judgement at abattoirs of slaughter animals and meat of cattle and calves, horses, pigs, sheep and lambs and goats. Judgement is based on the findings of Ante-mortem and Post-mortem inspection as described in the Code for Ante-mortem and Post-mortem Inspection of Slaughter Animals, records from the place where the animals were produced, and the results of any supplementary tests. This Code may also serve as a general guideline for the judgement of other species of slaughter animals and at places other than abattoirs.

This Code should be read in conjunction with the Code of Hygienic Practice for Fresh Meat and the Code for Ante-mortem and Post-mortem Inspection of Slaughter Animals.

### SECTION II - PRINCIPLES AND OBJECTIVES OF CODE

The principles and objectives of this Code are as set out below.

- (a) Judgement of slaughter animals and meat following Ante-mortem and/or Post-mortem inspection should ensure that meat passed for human consumption is safe and wholesome. All judgements should ensure that animal health is protected at all times and that abattoir workers and food handlers are protected against occupational zoonoses.
- (b) The controlling authority should be responsible for all decisions relating to human health and animal health at admission of slaughter animals to the abattoir and at Ante-mortem and Post-mortem inspection.
- (c) Diagnosis of diseases and defects and judgements should take into account all available information from Ante-mortem and Post-mortem inspection and facilities should be provided that maintain identification of slaughter animals or meat assigned to a particular category of judgement (refer to Section IV for categories).
- (d) In the event of suspicion, a provisional decision on the safety and/or wholesomeness of slaughter animals or meat should be confirmed by more detailed examination that may include laboratory tests. Where suspicion cannot be allayed, the most severe category of judgement applicable to the suspected condition should be applied.
- (e) while it cannot serve as a substitute for judgement based on professional expertise, legislation relating to judgements should provide a consistent standard of judgement across all abattoirs to which it applies.
- (f) Judgements should be based on scientific knowledge and the relevant legislation. The controlling authority may take into account the prevailing economic conditions and varying wholesomeness needs, so that judgements do not deprive the consumer of an adequate food supply.
- (g) The category of judgement for meat that has undergone Post-mortem Inspection should not be regarded as rigidly defined and is intended to be used with some flexibility to accommodate diverse situations and different legal frameworks.

### SECTION III – DEFINITIONS

For the purpose of this Code:

1. "Abattoir" means any premises that is approved and registered by the controlling authority in which fresh meat is prepared, handled, packed or stored, and in which animals are slaughtered and dressed for human consumption.
2. "Approved as fit for human consumption" means meat that has been inspected and passed without any restrictions, and branded accordingly (Judgement symbol A).
3. "Approved as fit for human consumption with distribution restricted to limited areas" means the meat has been inspected and approved for human consumption with the requirement that the distribution be limited to restricted areas, for reason of the protection of animal health (Judgement symbol L).
4. "Brand" means any mark or stamp approved by the controlling authority and also includes any tag or label bearing such mark or stamp.
5. "Carcase" means the body of any slaughtered animal after bleeding and dressing.
6. "Cleaning" means the removal of objectionable matter.
7. "Condemned" means a slaughter animal or meat means inspected and judged as, or otherwise officially determined to be, unfit for human consumption and requiring destruction. "Total condemnation" if the entire carcase and offal are condemned (Judgement symbol T) . "Partial Condemnation", if only parts of the slaughtered animal are condemned, while others are judged otherwise (Judgement symbol D for the condemned diseased or defective parts).
8. "Conditionally approved as fit for human consumption" means meat that has been inspected and approved for human consumption subject to it being treated under official supervision in order to make it safe for human consumption and to avoid risk to animal health, prior to it being branded and distributed (Judgement symbol K).
9. "Contamination" means objectionable matter, and includes substances and/or microorganisms that make fresh meat unsafe and/or unwholesome.
10. "Controlling authority" means the official authority charged by the government with the control of meat hygiene, including meat inspection.
11. "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; (c) related to parts of the carcase: the parts of the carcase in which pathological changes or other abnormalities are found and that may be separated from the other parts of the carcase that are not affected.
12. "Dressing" means the progressive separation on the dressing floor of a slaughter animal into a carcase (or sides of a carcase), offals and inedible byproducts and may include the removal of the head. Examples of dressing include the removal of the head, hide or skin, genital organs, urinary bladder, feet, and udders of lactating animals.
13. "Edible offal" in relation to slaughtered animals means offals that have been passed as fit for human consumption.

14. "Emergency slaughter" means slaughter by necessity of any animal that:
  - (a) has recently suffered traumatic injury and is judged to be in pain; or
  - (b) is affected by a condition that does not preclude its partial or conditional fitness for human consumption, but that is likely to deteriorate unless slaughter takes place immediately.
15. "Establishment" means any premises other than an abattoir that is approved and registered by the controlling authority in which fresh meat is prepared, handled, packed or stored.
16. "Fit for human consumption" in relation to meat means meat that has been passed by an inspector as safe and wholesome, unless found unwholesome in subsequent examinations, including laboratory tests.
17. "Fresh meat" means 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 to refrigeration, it continues to be considered as "fresh" for the purposes of this Code.
18. "Inedible" means inspected and judged to be, or otherwise officially determined to be, unfit for human consumption but not requiring destruction.
19. "Inspector" means a properly trained officer appointed by the controlling authority for the purpose of meat inspection and control of hygiene, and includes a veterinary inspector. The supervision of meat hygiene, including the inspection of meat, should be under the responsibility of a veterinary inspector.
20. "Manager" in relation to an abattoir or establishment includes any person for the time being responsible for the management of the abattoir or establishment.
21. "Meat" means the edible part of any slaughter animal slaughtered in an abattoir and includes edible offal.
22. "Offal" in relation to slaughtered animals means any edible or non-edible part of the animal other than carcass.
23. "Official field veterinarian" means a veterinarian who exercises official veterinary functions in the field on behalf of the government.
24. "Potable water" means water that is pure and wholesome at the point of usage in accordance with WHO requirements contained in the "International Standards for Drinking Water".
25. "Protective clothing" means special garments intended to prevent the contamination of meat and used as outer wear by persons in an abattoir or establishment, and includes head coverings and footwear.
26. "Residues" means residues of veterinary drugs and pesticide as defined in the Codex Alimentarius, and contaminants as defined in the Codex Alimentarius.
27. "Retained" means held under the control and security of the controlling authority pending final judgement.
28. ["Safe and wholesome" refers to meat that has been passed as being fit for human consumption using the criteria that it: will not cause food borne infection or intoxication when properly handled and prepared with respect to the intended use;

- (a) does not contain residues in excess of established limits[elaborated as maximum residue limits by the Codex Alimentarius Commission];
  - (b) is free of disease, particularly those of zoonotic or animal health importance;
  - (c) is free of obvious contamination;
  - (d) is free of defects that are generally recognised as objectionable to consumers;
  - (e) has been produced under adequate hygiene control; and
  - (f) fulfils the expectation of the consumer in regard to composition[and method of production].
29. "Slaughter" means the killing of a slaughter animal for the purpose of human consumption and includes bleeding.
30. "Slaughter animal" means any animal lawfully brought into an abattoir for slaughter.
31. "Slaughtered under special precautions" means slaughtered at an abattoir under precautions
- (a) necessary to address a risk identified because of findings at Ante-mortem inspection or from farm records; or
  - (b) directed by an official field veterinarian.
32. "Veterinary Inspector" means an inspector who is professionally qualified as a veterinarian.
33. "Viscera" means the organs of the thoracic and abdominal cavity and includes the kidneys.

#### SECTION IV - INSPECTION JUDGEMENTS AND ENFORCEMENT

*The process of inspection judgement begins with decisions at the time of admission of slaughter animals to the abattoir, and normally ends with final judgement at the completion of Post-mortem inspection. A judgement is taken by an inspector as to whether an animal is suitable to be slaughtered for human consumption, and into which of six categories meat from slaughtered animals should be placed. Meat may be judged:*

- (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 meat can be recovered for some other purpose or whether it needs to be destroyed;*
- (c) *partially unfit for human consumption, which requires that parts be removed and disposed of before the remainder can be passed as fit for human consumption; a subsequent decision has to be taken as to whether the parts removed because they are unfit for human consumption can be recovered for some other purpose or whether they need to be destroyed;*

(d) *conditionally fit for human consumption, in which case a prescribed treatment is necessary to make it safe and wholesome;*

(e) *fit for human consumption despite showing minor deviations from what is normally considered wholesome, those deviations being the presence of defects of a type specified as acceptable by the controlling authority; or*

(f) *fit for human consumption, with distribution restricted to a limited geographic area for animal health reasons.*

*The judgement must protect:*

(a) *the 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 controlled diseases, genetic defects, 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;*

(e) *consumers (and indirectly the meat processing industry) against economic damage from meat of inferior standard or abnormal properties.*

34. Consideration should be taken of any infection, disease or defect encountered and an appropriate final judgement made based on all available evidence, such as certificates, farm records, observation during lairage, findings made at Ante-mortem and Post-mortem inspection and the results of any laboratory examinations that may be required.

35. In case of suspicion, and if the initial findings at Ante-mortem and/or Post-mortem inspection do not enable the drawing of final conclusions, a provisional decision should be taken. Meat 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 meat should be condemned or otherwise judged as consistent with the confirmation of the disease or defect suspected.

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

37. 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.

38. 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.

39. The controlling authority should have ultimate responsibility for all decisions concerning admission of slaughter animals to an abattoir and all judgements at Ante-mortem and Post-mortem inspection.

40. 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.

#### SECTION V - ANTE-MORTEM AND POST-MORTEM JUDGEMENTS

##### A. Judgements at the admission of slaughter animals to the abattoir

41. When an animal or a consignment of animals arrives at the abattoir, a determination should be made as soon as practicable about their admission. Animals with significant diseases or defects should be evaluated by a veterinary inspector, with the following judgement categories available:

(a) not admitted (the further disposal of consignments not admitted to the abattoir should be governed by legislation intended to prevent the spread of contagious animal diseases - if circumstances are such that neither removal nor retaining in quarantined holding areas is feasible without danger to human health or animal health, the animals should be admitted for slaughter under special precautions and restriction, or destroyed, as appropriate, but when already on the premises the animals should not be removed alive except with the approval of the controlling authority); or

(b) admitted to the abattoir under special control, according to the provisions detailed in paragraph 45.

42. A decision to not admit an animal or a consignment of animals is the responsibility of a veterinary inspector, and should be based on the following criteria or sources of information:

(a) admittance would risk the introduction of contagious disease of human health or animal health significance;

(b) certificates of origin and health required under animal health legislation are missing, or do not correspond to the consignment;

(c) animal health requirements concerning route and means of transportation have not been observed; or

(d) certification or other official information reveals drug treatment or exposure to noxious agents within periods shorter than the officially required withholding period and if circumstances such as lack of facilities do not permit admission under special control until the required withholding period has expired.

43. A decision to admit an animal or consignment of animals under special control is also the responsibility of a veterinary inspector, and should be based on the following criteria or sources of information:

(a) originating from an area of sanitary action, or restriction, and delivered under special permit subject to prescribed precautions being applied;

(b) the presence of dead or sick animals gives reason to suspect a contagious disease; or



(c) the animals were submitted to drug treatment or exposed to noxious influences within periods shorter than the officially required withholding period.

B. Judgements at Ante-mortem inspection.

44. An animal that has been admitted to the abattoir for normal slaughter should be released for slaughter without any restriction when the Ante-mortem inspection has revealed no evidence of any significant disease or defect, provided it has been adequately rested.

45. Animals that are not released for slaughter without restriction should be put into one of the following judgement categories based on the criteria outlined:

(a) condemned;

(i) if at Ante-mortem inspection a disease or defect is diagnosed, that at final judgement would require total condemnation, that represents an unacceptable health hazard for meat handlers, or that involves an unacceptable risk of contaminating the slaughter premises or other carcasses;

(b) slaughter authorized under special precautions (in a separate room or in a separate slaughter area or at a different time, at the end of the working day or on a special day);

(i) if at Ante-mortem inspection a disease or defect is suspected, that at Post-mortem inspection would give reason for total condemnation; or

(ii) if at Ante-mortem inspection a disease or defect is diagnosed or suspected that at Post-mortem inspection would give reason for partial condemnation or conditional approval;

(c) authorization for slaughter delayed;

(i) if the period of rest has not been adequate or if the slaughter animal is affected by a condition that temporarily makes it unfit for human consumption, provided always that local circumstances enable holding and feeding the animal under sanitary, safe conditions for the length of time required; or

(d) emergency slaughter ordered;

(i) if the animal is found to be affected by a condition, that does not preclude its partial or conditional fitness for human consumption, but is likely to deteriorate unless slaughter takes place immediately; or

(ii) if due to recent traumatic lesions caused by accident, immediate slaughter is indicated to release the animal from suffering, or to prevent deterioration adversely affecting the animal's fitness for human consumption.

46. In cases where authorisation for slaughter has been delayed, the animal should be kept in isolation, under conditions determined by the controlling authority, and Ante-mortem inspection repeated at intervals as is appropriate.

C. Judgements at Post-mortem inspection

47. The decisions at Post-mortem inspection are classed into the following categories of judgement: <sup>1/</sup>

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
4. Conditionally approved as fit for human consumption
5. Meat showing minor deviations from normal but fit for human consumption
6. Approved as fit for human consumption, with distribution restricted to limited areas

48. Lists of diseases and defects requiring judgement according to these six categories are given in the tables of Section VI. These categories should not be regarded as rigidly defined, and are intended to be used with some flexibility to accommodate diverse situations and different legal frameworks.

49. The following should be the general criteria and principles of implementation for the categories of Post-mortem judgement:

CATEGORY 1 - Approved as fit for human consumption

50. When the Post-mortem examination has revealed no evidence of any unacceptable disease or defect and if the slaughter operation has been implemented in accordance with hygienic requirements, the carcase and edible offals, should be approved as fit for human consumption without any restriction, provided no animal health restrictions are otherwise applicable (symbol A in the lists given in Section VI).

<sup>1</sup> Only meat of category para 47 (1) should be permitted to enter unlimited trade as food for human consumption.

CATEGORY 2 - Totally unfit for human consumption

51. The carcase and offals should be condemned or otherwise disposed of for inedible purposes in one or more of the following circumstances (symbol T in the lists given in Section VI):

- (a) they are hazardous to food handlers, consumers and/or livestock;
- (b) they contain residues that exceed the established limits;
- (c) there are unacceptable organoleptic deviations from normal meat;
- (d) the meat has been conditionally approved as fit for human consumption, but the treatment stipulated is either unavailable or not intended to be carried out.

52. The disposal and utilization of meat judged unfit for human consumption should reliably prevent such meat from causing a pollution problem, endangering human health and animal health, or illegally reentering the human food chain.

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

54. In general terms, the following criteria should apply
- (a) utilization for animal feeding:
    - (i) if no health hazard involved, and if deviation from the authorized purpose can be reliably prevented;
  - (b) utilization for sterilized pet food:
    - (i) if no hazard involved, for human health and animal health, and if misuse for human consumption can be reliably prevented;
  - (c) dry or wet high temperature rendering:
    - (i) if the process used reliably destroys pathogens, the resultant product will not contain residues harmful to human health or animal health, and recontamination after rendering is reliably prevented;
  - (d) utilization for industrial nonfood purposes after heat treatment
    - (i) if no hazards involved for human health or animal health;
  - (e) incineration or deep burial or other safe means of destruction.

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

55. Where lesions are localized, affecting only part of the 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). In the lists given in Section VI, the symbol D is used to indicate the parts that should be removed and condemned or otherwise disposed of. 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).

CATEGORY 4 - Conditionally approved as fit for human consumption

56. Carcasses that are contaminated, or that are hazardous to human health or animal health but may be treated under official supervision in a manner resulting in safe and wholesome meat, may be judged as conditionally approved as fit for human consumption (symbol K in the lists given in Section VI). Where necessary, the organs should be treated in the same manner as carcasses or else partly or wholly disposed of as unfit for human consumption.

57. Different criteria may be used in accordance with economic and technological feasibility.

58. Until the required treatment has been applied, the meat should remain under the control of an inspector.

59. Different diseases and defects may require different methods of treatment. The procedures that can be used to eliminate the potential hazard from the meat are listed below. In the lists of diseases and defects given in Section VI, the appropriate method or methods are indicated for each specific case.

"Kh" - meat that, before distribution, undergoes boiling or steaming; the period of time required for such heat treatment should be stipulated, in accordance with the size and shape of the meat to be heated, so that a temperature of 90°C (194°F) is reached in the centre of the meat. This is achieved by boiling the meat for not less than 150 minutes as long as the meat is no larger than 10 centimetre

cubes. Alternatively, legislation may authorize any treatment or technological process that guarantees inactivation of the pathogenic agent of concern.

"Kf" - meat that, before distribution, undergoes treatment either by heat treatment or freezing at a temperature that will kill the parasite of concern. The time and temperature will vary according to the nature and size of the piece of meat undergoing treatment and the parasite concerned.

60. Alternative methods proven to be of equal effectiveness may be authorized by the controlling authority.

61. Once the required treatment has been applied, the meat may be marketed according to the requirements of the controlling authority.

62. The meat should be condemned or otherwise disposed of as inedible, if the required treatment is not applied in the prescribed manner.

CATEGORY 5 - Meat showing minor deviations from normal but fit for human consumption

63. Where risk assessment has shown that meat does not constitute a risk to human health despite the presence of a defect or defects that are specified by the controlling authority and not normally present in wholesome meat, that meat may be judged fit for human consumption (Judgement symbol I in the lists given in Section VII) provided it is identified in such a way that the consumer is made aware that the meat is inferior. This approach needs to be regulated by the controlling authority to ensure that the consumer is not misled. If the controlling authority does not accept and provide for this category of meat, the alternative Post-mortem judgement shall be Category 2, "totally unfit for human consumption".

CATEGORY 6 - Approved as fit for human consumption, with distribution restricted to limited areas

64. If so provided for under animal health legislation, meat obtained from animals coming from an area that is under quarantine because of an outbreak of a contagious animal disease and otherwise meets all the requirements for meat "approved as fit for human consumption" may be approved for distribution in a restricted area, provided no hazard to human health is involved. Such meat should not be distributed or marketed outside the quarantined area (Judgement symbol L in the lists given in Section VI).

65. If so provided for under animal health legislation, meat derived from animals coming from a restricted area that have been vaccinated and may therefore be carriers of a disease should not be marketed and distributed outside that restricted area.

66. Meat approved as fit for human consumption, with distribution restricted to limited areas should be effectively identified. Its sale and distribution should be authorized only through specially licensed and closely supervised commercial channels or, if economically feasible, limited to institutional utilization under reliable management.

D. Retention of meat for farther inspection

67. Meat should be retained, pending laboratory examination:

(a) if microbiological examination or bioassay is required, because findings at Ante-mortem or Post-mortem inspection would give reason for condemnation, unless the suspicion of an infectious or other condition can be reliably discarded by laboratory examination;

(b) if chemical, toxicological or other laboratory examination is required in view of circumstances, suspicion arising from inspection findings, records from the area of production, or other official sources of information;

(c) if examinations for *Trichinella spiralis* or for any other organism are required and not available immediately at the time of Post-mortem inspection.

Note: The role of laboratory examination in the framework of Post-mortem judgement is, for the purposes of this Code, governed by the following principles:

- (a) The judgement based on clinical and morphological evidence at Ante-mortem and Post-mortem inspection is regarded as self-contained, and laboratory confirmation should not be required for unequivocal clinical and morphological findings. In case of doubt, the meat should be condemned, unless the results of a laboratory examination indicate that a last severe decision can be taken without detriment to human health and animal health.
- (b) Laboratory examination may in many instances remove suspicion arising from inspection and thus save valuable food that otherwise would have to be condemned. From the economic and nutritional point of view, laboratory examination may thus be regarded as virtually indispensable.
- (c) It is recognised that, by a statute or in practice, some national meat inspection systems may assign a different role, and possibly wider scope of function to laboratory examination. It is also recognised that advance in routine laboratory testing techniques may possibly favour future developments in such a direction. This - should not be considered as being in conflict with this present Code, provided that the basic fact finding procedures are at least equivalent in efficiency to those described in the Code for Ante-mortem and Post-mortem Inspection of Slaughter Animals and that the actual Judgement, with regard to the various diseases and defects, is not less stringent than that recommended in this present Code.

68. The retained meat should remain under the control of an inspector until final judgement.

#### SECTION VI - RECOMMENDED FINAL JUDGEMENTS (TABLES)

69. It is important to note that this section should be used only as a guideline and is not intended to replace judgement based on professional expertise.

70. The purpose of the tables is to indicate the appropriate judgement, should a particular diagnosis be made, in the light of current knowledge and the principles laid down in this Code.

71. In the tables diseases and defects are listed under three main headings: general findings, topographic listing and aetiological listing, as indicated in paragraph 76, under "Serial Group Number of Diseases and Defects". The relevant judgement is indicated by the "Judgement Symbols" A, T, D, K, I and L, as explained in paragraphs 67 to 66, and summarized in the list in paragraph 77. There are also notes referring to special precautions to be taken, or indicating criteria for the choice of alternative judgements.

72. The judgements based on the general findings will generally overrule those applicable to more specific topographic and/or aetiological conditions, unless the judgement based on these findings is more severe.

73. Laboratory examination for purposes of judgement should be carried out only in cases where the additional information obtained contributes to the decision making, and particularly to discard suspicions that otherwise would lead to a more severe judgement. Laboratory examinations should be in accordance with the principles laid down in paragraph 67. The extent of these laboratory examinations will depend on the cost/benefit analysis determined by the country concerned.

74. Where full Ante-mortem and Post-mortem inspection cannot be accomplished, the slaughter animals and their meat should be condemned, unless laboratory examination precludes any risk to human and/or animal health.

75. A bacteriological examination can only be considered as complete if combined with a test for antimicrobial substances to exclude false negative results.

76. Serial Group Number of Diseases and Defects

1. General Findings
2. Topographic Listing
  - 2 – 1 Umbilical infection
  - 2 – 2 Diseases of the nervous system
  - 2 – 3 Diseases of the pericardium, heart and vessels
  - 2 – 4 Diseases of the respiratory system
  - 2 – 5 Diseases of the pleura
  - 2 – 6 Diseases of the stomach and intestines
  - 2 – 7 Diseases of the peritoneum
  - 2 – 8 Diseases of the liver
  - 2 – 9 Diseases of the urinary tract
  - 2 – 10 Diseases of the female genitalia and associated diseases
  - 2 – 11 Diseases of the male genitalia
  - 2 – 12 Diseases of the udder
  - 2 – 13 Diseases of bones, joints and tendon sheaths
  - 2 – 14 Diseases of the musculature
  - 2 – 15 Skin diseases
3. Aetiological listing
  - 3 - 1 Parasitic Conditions
  - 3 – 2 Protozoal Diseases
  - 3 – 3 Bacterial Conditions (including related organisms)
  - 3 – 4 Virus Conditions
  - 3 – 5 Syndromes of Unidentified or Non-Infectious Aetiology
  - 3 - 6 Mycotoxins and Mycotic Infections

77. Judgement Symbols: The following judgement symbols are used in the tables:

- |     |   |
|-----|---|
| A   | Approved as fit for human consumption   |
| T   | Totally unfit for human consumption   |
| D   | Designates organs or parts of carcase unfit for human consumption   |
| K   | Conditionally approved as fit for human consumption (Kh - heat treatment; Kf - freezing or heat treatment)            |
| L   | Approved as fit for human consumption but with distribution restricted to limited areas                               |
| ... | Not applicable (e.g. in case of total condemnation the columns referring to partial condemnation are not applicable). |