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ALINORM 74/15

July 1973

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

Tenth Session, Geneva July, 1974

REPORT OF THE

CODEX COMMITTEE ON MEAT HYGIENE

Second Session

18-22 June, 1973

New Zealand High Commission, London

INTRODUCTION

1. The Codex Committee on Meat Hygiene held its second session at the New Zealand High Commission in London, from 18 to 22 June 1973 by courtesy of the Government of New Zealand under the Chairmanship of Dr. A.T. Johns, Director General, Ministry of Agriculture and Fisheries, Wellington, New Zealand.
2. The participants were welcomed by His Excellency Mr. T.H. McCombs, OBE, High Commissioner for New Zealand, in the name of his Government. The High Commissioner emphasized the great importance to the consumer of international harmonization of the requirements for meat hygiene in the interest of public health and international trade.
3. Representatives from the following thirty-three countries were present:

Argentina	Fed. Rep. of	Spain
Australia	Germany	Sweden
Austria	Hungary	Switzerland
Belgium	Iceland	Tanzania
Botswana	Ireland	Tunisia
Brazil	Italy	Trinidad and
Canada	Kenya	Tobago
Czechoslovakia	Mauritius	United Kingdom
Denmark	Netherlands	United States of
Ecuador	New Zealand	America
Finland	Norway	Venezuela
France	Philippines	
	Poland	

Observers were present from the European Economic Community (EEC). Officers of FAO and WHO were also present. A list of participants is contained in Appendix I to this Report.

#### STATEMENT BY REPRESENTATIVE OP WHO

4. The representative of WHO briefly reviewed present and planned activities in areas of interest to the members of the Committee.

#### ELECTION OP RAPPORTEURS

5. On the proposal of the Chairman, the Committee appointed Dr. W.R.P. Hildebrand (United Kingdom), Prof. C. Flachet (France) and Dr. M. Rodríguez-Rebollo (Spain) as Rapporteurs of the Session.

#### ADOPTION OF PROVISIONAL AGENDA

6. The Committee adopted the Provisional Agenda unanimously and agreed to consider under item "Other Business" whether the subject of the Post Mortem Judgement of Meat should be taken up as a future item of business by the Committee.

#### STATEMENT BY THE REPRESENTATIVE OF THE EEC

7. The representative of the EEC recalled that the Community had promulgated a directive, in force since 1965, concerning hygiene problems in the intra-Community trade of fresh meat, as well as another directive, adopted in 1972 and to be enforced in 1976, concerning imports of animals of the bovine and porcine species, and of fresh meat from third countries. The governments of the Member States of the Community could not, therefore, take a definitive position regarding the Codes under consideration, since any modification to the directives of the EEC would involve an intervention by the latter according to the specific rules of procedure established by the Treaty of Rome. The representative of the EEC stressed, however, that the Community would spare no effort to take as positive a part as possible in the work of the Codex Committee, in order to contribute effectively to the development of international trade.

#### SPECIAL PAPERS

8. The delegates of the USA and New Zealand briefly introduced the special papers which they had prepared for the meeting dealing with:

- "Scientific evidence with regard to contamination in connection with emptying and rinsing of digestive organs"; (CX/MH 73/2)
- "New concept of processing beef and lamb - The effect of Cooling on Meat" (CX/MH 72/9)

A paper prepared by the delegation of Norway on "Mobile Slaughter Houses" (CX/MH 73/3) was also referred to. (See paragraph 79)

9. The paper prepared by the United States stated in particular that a number of other factors apart from paunch opening affected the composition of the microbiological aerosol. It was suggested that a far more important source of contamination was that which occurred by direct contact between clean and unclean surfaces or when a gut was accidentally cut during evisceration. It was the opinion of the USA, that by insistence on sanitary dressing procedures and proper handling of viscera, paunch opening could be successfully carried out on the slaughter floor without any appreciable effect on carcass contamination. In fact, it regarded this system as providing for more effective

inspectional control, by assuring continuous supervision of all aspects of the paunch opening process. It was the view of the USA that for both microbiological and aesthetic reasons all edible portions of a carcass regardless of their economic value required the same; hygienic handling to ensure that a wholesome product would result. It was thought that in a plant with only a single inspector assigned to it the work of this inspector under the conditions described could be more effective.

10. The New Zealand delegation, in introducing their paper, expressed the view that the Code should maintain flexibility in time temperature relationships in meat handling as this had a particular bearing on the tenderness of meat. It considered that all aspects of quality, including tenderness, should be taken into account in assuring a healthful and wholesome meat supply.

11. It was agreed that at the appropriate time the various matters contained in these papers would be dealt with in detail during the discussion of the relevant parts of the Code of Hygienic Practice for Fresh Meat.

#### CONSIDERATION OF DRAFT CODE OF HYGIENIC PRACTICE FOR FRESH MEAT AT STEP 7

12. The Committee had before it the above-named document as contained in Appendix II to ALINORM 72/15. At the 9th Session of the Codex Alimentarius Commission (November 1972) the Code had been advanced to Step 6 of the Procedure. The Committee discussed the draft Code in the light of government comments which had been compiled in Documents CX/MH 73/4, CX/MH 73/4-Addendum 1, and two Conference Room documents containing comments from Sweden and the United Kingdom.

#### Section II: Definitions

13. It was proposed to harmonize the definitions contained in various documents being elaborated by the three Codex Committees dealing with meat. The Committee agreed that this would be desirable in principle but noted that depending on the specific subject covered by the documents it might not be practical to have uniform definitions. It was agreed that individual consideration of the definitions would be necessary.

14. "Cleaning" (Def. 4). The Committee agreed to delete the words "of surfaces".

15. "Controlling Authority" (Def. 6). To emphasize that the control of hygiene in abattoirs or establishments also covered meat inspection, the wording of the definition was amended to read "... with the control of hygiene including meat inspection".

16. "Disinfection" (Def. 7). The word "eliminate" was substituted for the word "inactivate".

17. "Dressed" or "Dressing" (Def. 8). The Committee agreed that it was not always necessary to retain the kidneys by their natural attachments to the carcass when dressing slaughtered animals and amended 8(a) and (b) accordingly to read "... viscera (including or not including the kidneys)...", which were thus brought into line with Provision 8(c).

18. As the Code was intended to cover caprines as well as ovines, the Committee decided to amend Definition 8(c) to include specifically a reference to goats and kids, to read: "in relation to sheep and lambs, goats and kids, means the removal of the head (except in the case of young lambs and young kids), the pelt....".

19. It was considered that the dressing procedure often included splitting of the carcass, to facilitate inspection as well as promote faster cooling. The Committee agreed to add a separate provision with regard to splitting in the definition, to read as follows:

"(d) in relation to cattle, pigs, and solipeds includes, where necessary, splitting of the carcass. To split means dividing the carcass lengthwise on the medial line".

20. "Heat" (Def. 15). The delegation of Argentina reserved its position regarding the definition of "Meat" in the Code.

#### Section IV: Transport

21. The Committee decided that the provisions relating to transport should be dealt with as a separate section.

22. With regard to the provision dealing with the construction of conveyances (new 20) the Committee agreed to revise the layout as proposed in the written comments by New Zealand.

23. It was pointed out that in some countries where infectious diseases were endemic it had been found important, not only to clean, but also to disinfect the transport vehicles and the Committee agreed to insert in sub-section (new) 21 after the word "cleaning" "and if necessary disinfecting".

#### Section IV (new V): Establishment Facilities and Operating Requirements

24. Sub-section (new) 23(b) was revised to read: "Abattoirs or establishments should provide adequate working space for the satisfactory performance of all operations".

25. In line with the amendment made in the definition for controlling authority (Def. 6) sub-section (new) 23(e) was amended to read: "The abattoir or establishment should be laid out and equipped so as to facilitate proper supervision of meat hygiene and the performance of meat inspection".

26. It was suggested that with modern cleaning equipment the provision that angles between walls and angles at the wall to floor junctions should be coved (new 23(h)(ii)) was impractical. The Committee decided, however, not to make an amendment as it was of the opinion that in such abattoirs or establishments where cleaning was done manually the coving could not be dispensed with.

27. The Committee agreed to revise the layout of sub-section (new) 24(b) It further agreed that there should be sufficient paved or slatted lairage to accommodate one day's kill or, in the case of large abattoirs to which frequent deliveries of animals are made, at least sufficient paved or slatted area to enable adequate ante-mortem inspection to be performed.

28. With regard to separate facilities for sick animals sub—section (new) 24(c) the first sentence was amended to read: "Separate facilities for the physical isolation of sick animals...". The last sentence was also amended: "The drains of these pens should not connect with any of the open drains running through the remaining lairages and yards".

#### Facilities for the Emptying and Rinsing of Digestive Organs and the Dressing of Tripe and Gut

29. As indicated at the previous session of the Committee, the delegation of the USA had arranged for a study to be carried out on the possible spread of contamination arising from the emptying and rinsing of digestive organs in other than separate rooms in

an abattoir. The delegation of the USA presented the results of their study in document CX/MH 73/2 (see paragraph 8).

30. The conclusion drawn by the delegation of the USA from their study was that with positive controls the procedure of opening stomachs and paunches on the kill floor was justified. A number of delegations pointed out that the US study covered only possible aerosol contamination and the fixed equipment currently available did not appear to give sufficient protection against the risks of contamination, for instance, by water splashing, movements of personnel, utensils, trolleys and other like equipment. The delegation of Czechoslovakia thought that these objections could be adequately met by the use of partitions (with a minimum height of 3 metres) as an alternative to requiring separate rooms.

31. The majority of delegations which had submitted written comments and which had participated in the discussion of the need for separate rooms for the emptying and rinsing of digestive organs expressed the view that they were not convinced that these operations could be performed satisfactorily in other than separate rooms without increasing the risks of the spread of contamination. Their opinion was that procedures outlined by the delegation of the USA could, in association with mechanized slaughter lines, lead to contamination of the environment of the slaughter hall. The delegations of Australia, Botswana, Canada and the USA emphasized that in a worldwide Code of Practice it should not be necessary to require separate rooms if satisfactory alternative procedures were available subject to the satisfaction and approval of the controlling authority.

32. The delegation of Denmark informed the Committee that whilst separate rooms were provided in Danish slaughter houses, it was possible in view of the worldwide nature of the Code, to accept, in principle, the USA proposal provided that there would be no risk of contamination. The delegation of Argentina reiterated the position it had taken at the previous session, namely that separate rooms were necessary; that these were provided for in Argentine and that they had had experience of visiting veterinarians from the USA requiring separate rooms to be provided for in abattoirs handling meat destined for export to the USA.

33. The delegations of Brazil and Spain supported the views of the delegation of Argentina. The delegations of France, Federal Republic of Germany, the Netherlands and U.K. stated that while they were strongly in favour of restricting the Code to a requirement for separate rooms and that they would maintain this position regarding the import of meat in their countries they were prepared, however, to consider a modification of the text of the second sentences of sub-sections (new) 24 (d) and (e).

34. The delegation of the UK proposed the following text: "If, however, with the consent of the controlling authority, adequate and efficient fixed equipment is used instead of separate rooms for these operations, particular care must be taken to ensure that as far as is reasonably practicable all products intended for human consumption ' are protected from contamination".

35. Following further discussion on the UK text it became obvious that no single text would meet with unanimous acceptance. The delegations of the Argentine and Brazil stated that the second sentences, even as amended, should not be included in sub-sections (new) 24(d) and (e). Other delegations (in particular, those from France, Federal Republic of Germany, Belgium, Finland, Netherlands, Sweden and the UK), whilst reaffirming they could not accept the US practice for meat imported into their countries, stated that they would be prepared to see the text proposed by the UK

included in the Code, it being clearly understood that they would have preferred the Code to require the emptying and rinsing of digestive organs and the dressing of tripe and gut in separate rooms only. The Committee decided to incorporate into the Code the text proposed by the delegation of the UK.

36. The Committee again discussed the question of where to slaughter sick and suspect animals (new)24(k). It was found that practices varied greatly from one country to another and in order not to interfere with procedures which were, as it was stated, largely based on local conditions the Committee agreed to delete the square brackets and to leave the paragraph otherwise unamended.

37. Sub-section (new)24(n) was amended to read: "Suitably located facilities for the adequate cleaning and disinfecting of vehicles."

38. It was considered that in sub-section (new)24(o) not only the deposit of manure should be dealt with but that it should also be stated that "adequate arrangements for its disposal" should be made.

39. In sub-section (new)27(d) it was agreed to substitute "dressed" for "flayed and eviscerated" and further, with regard to the construction of the cradles, to make a cross-reference to sub-section (new) 27(n).

40. The Committee agreed to abbreviate sub-section (new)27(f)(i) by deleting the specification of the parts of abattoirs or establishments where the water should be of potable quality.

41. A considerable number of governments had sent in comments with regard to minimum lighting provisions required for the various parts of abattoirs or establishments. It was agreed that a light intensity of at least 540 lux at all inspection points, 220 lux in work rooms and 110 lux in other areas was required and the provision was amended accordingly.

42. The Committee agreed to specify in sub-section (new) 27(n) that "where chutes are provided they should be constructed with inspection and cleaning hatches."

43. Sub-section (new) 27(p) dealing with facilities for cleaning and disinfecting implements was revised and condensed.

44. In sub-section (new) 28 the Committee agreed to insert new headings:(a) Facilities for Employees and (b) Facilities for Heat Inspection Personnel.

45. In sub-section (new) 34(b) the Committee decided to deal with the cleaning and disinfections of equipment, implements, etc., in all circumstances by inserting that they should be cleaned at frequent intervals during the day.

46. The Committee decided to amend sub-section (new) 34(f) because the text as it stood implied that not only equipment should be rinsed with potable water to remove residues of detergents, sanitizing agents and disinfectants but also floors and walls. It was not considered necessary that residues of sanitizing agents or disinfectants be removed from floors and walls prior to handling meat in the rooms where these agents had been used.

47. The Committee agreed on a number of editorial amendments to be made in sub-section (new) 35 dealing with pest control.

48. It was found necessary to revise the provision (new 36) in which entrance to abattoirs and establishments of animals other than those for slaughter was dealt with to

allow for the entrance of such animals which are used in the transport and delivering of the slaughter animals.

49. The Committee again discussed the question of the frequency with which medical examinations of meat handlers, meat inspectors, etc., should take place (new 37). A number of delegations were of the opinion that such medical examinations should take place at least once a year while other delegations held the view that such annual examinations provided no guarantee with regard to the state of health of the person examined during the interval between examinations. It was finally agreed to delete the square brackets and not to fix a time after which the examination would have to be repeated but to state that "Medical examination" should be carried out before these persons are employed and be repeated as frequently as necessary." The Committee expressed the view that it would be of great value if WHO could undertake to look further in the quality of medical examinations.

50. The Committee agreed to combine in sub-section (new) 37(b) and (old) 36(b) and (c) into a single provision.

51. The Committee agreed to revise sub-section (new)38(b) by listing all circumstances under which persons engaged in an abattoir or establishment should wash their hands.

52. To sub-section (new)38(c) an addition was made stating that "Aprons and similar items should not be washed on the floor."

53. The Committee agreed to insert in sub-section (new)38(i) a clause stating that the water-proof covering of bandages should be conspicuous in colour.

54. The Committee, though well aware that the Code was not mandatory, decided that subsection (new) 39(a) should be of a mandatory nature, stating that "every animal intended for slaughter for human consumption must undergo ante- and post-mortem inspection.", it being understood that the requirements in sub-sections (new) 39 (a) and (b) applied to normal slaughter and not to emergency slaughter.

55. Sub-section (new)39(c) was amended to specify that the reason for cleaning unreasonably dirty animals before allowing them to enter the killing floor was to lessen the risk of contamination.

56. To avoid unhygienic collection and handling of blood used in food preparation, subsection (new)39(e) was amended stating that blood "should be collected and handled hygienically and should in no case be stirred with the hand but with hygienically acceptable implements."

57. The Committee agreed to revise and combine sub-sections (old) 38(g) and (i) (=new 39(g)).

58. It was agreed to delete sub-section (old)38(k) dealing with conditions of retention of heads of animals which had been removed from a carcass for inspection by the inspector as it was thought that this was already dealt with elsewhere.

59. It was proposed to delete the clause prohibiting the pumping of air between the skin and the carcass as an aid to flaying and skinning in sub-section (new)39(k)(i) because it might inhibit the development of new and possibly hygienically sound procedures. The Committee agreed, however, to retain the present wording as it was thought that new developments could always be dealt with at a later stage.

60. Sub-section (new) 39 (k)(ii) was reworded. The reference to water flowing on to a carcass during or after removal of the hide or skin was deleted and instead only a reference to the washing of skinned carcasses was made.

61. It was suggested to insert in sub-section (new)39(k)(iii) a clause stating that udders should be kept available for inspection purposes. The Committee decided, however, that this was covered elsewhere in the Code.

62. A number of changes were made in sub-section (new) 39(m) In the heading reference to evisceration was deleted. (m)(i) was revised to be of a general nature by deletion of the specific reference to contamination of the carcass and edible viscera. In (m)(iii) it was further stated that not only for sheep and lambs but also for pigs the removal of stomach and intestines should be carried out without separation. As a result of the changes made in (new)39 (m)(i) (old) 38 (p)(iv) was deleted.

63. In line with the decisions taken with regard to sub-section (new)24(d) and (e) where the square brackets around these provisions were deleted, the Committee also decided to remove the square brackets around sub-sections (new)39(r) and (s). As it was found that "dressing floor" could lead to misunderstanding in translation and be taken literally to mean the floor, the word "room" was inserted instead.

64. The Committee agreed to delete sub-section (old)38(w) specifying that implements, having been contaminated through contact with soiled thoracic regions, should be washed clean before further use.

65. The scope of sub-section (new)39 (t) was broadened by stating that not only faecal matter but also other objectionable matter contaminating carcasses during dressing should be carefully trimmed off.

66. The last part of sub-section (new 39(u) which was not directly related to the first part was made into a separate sub-section (new) 39(v).

67. The heading of sub-section (new)40 was changed to read: "Branding of meat passed as fit for human consumption". (New)40(a) was amended to contain reference to the requirements with regard to the branding in the Code of Ante- and Post-Mortem Inspection of Slaughter Animals.

68. At its previous session, the Committee had agreed to include in sub-section (new) 41(b) a provision in [...] which in effect permitted meat to be subjected to unspecified but acceptable commercial practices without first having been refrigerated. It was considered that pre-rigor boning was an acceptable practice which could be carried out without detriment to microbiological quality. The Committee agreed to delete the text placed in square brackets and to add a special paragraph describing the procedures to be followed for pre-rigor cutting up and boning.

69. The Committee agreed that in general the present provisions of the Code should not hamper the introduction of new technological developments which proved to be hygienically sound. It was pointed out that whenever it was found necessary to include such new working methods in the Code this could be done in accordance with the Procedure for the Revision and Amendment of Recommended Codex Codes.

70. The Committee noted that in the elaboration of the Code it had already recognized the need to provide for certain techniques currently under development. It was decided that a statement to this effect should be included in the introduction of the Report. "In the preparation of this Code recognition has been given to the need to avoid



precluding the adoption of new technical developments provided these are consistent with the hygienic production of wholesome meat".

71. It was suggested that where refrigerating equipment was not manned not only automatic temperature but also humidity recorders should be installed (new 4l(c)(iv) and (v)) as a safeguard for good hygienic quality of meat. The Committee, however, was of the opinion that the measurement of humidity was not absolutely essential.

72. In sub-section (new)4l(d) the introductory words similar to those in (e) and (f) had been inadvertently omitted. The Committee agreed to the inclusion of them.

73. In sub-section (new)4l(d)(iv) stating that "Temperature, degree of relative humidity and air flow should be maintained at a level suitable for the preservation of meat", the reference in the second part of the sentence to possible adverse effects of cold shortening on tenderness was deleted as it was thought that this would give rise to misunderstanding unless it was supported by a detailed explanation in the text.

74. The whole of the sub-section on packaging and packing material (new 42) was redrafted.

75. A number of delegates pointed out that there was an increasing international trade in stomachs which had simply been thoroughly cleaned without being scalded. Sub-section (new)43(c) was amended to include these organs.

76. The Committee agreed to amend the title of sub-section (new) 44 to read: "Meat Unsuitable for Human Consumption".

77. It was further agreed to revise completely sub-section (new) 44(a) to cover meat being condemned as well as meat otherwise found unfit for human consumption. In its original form it had been limited to meat condemned by the inspectors only.

78. In line with the decision taken with regard to sub-section (new) 44(a), (old) 43(c) dealing with directions to be given by the inspectors with regard to retention within the premises of condemned or retained meat was deleted.

#### MOBILE SLAUGHTER HOUSES

79. The Committee had before it document CX/MH 73/3 concerning the hygienic provisions proposed by the Delegation of Norway in collaboration with Finland and Sweden for the construction and operation of mobile slaughter houses. The paper emphasized the need to make provisions in the Code of Hygienic Practice for Fresh Meat to cover adequately situations which existed in Norway, Sweden and Finland concerning the production of reindeer meat. The delegation of the USA indicated that provisions in the Code for mobile slaughter houses would be of interest in the USA as there existed a custom service for the slaughter of livestock on farms by means of mobile slaughter houses. It was agreed by the Committee that comments should be sought from governments on the proposed provisions prepared by the delegation of Norway for mobile slaughter houses. It was further agreed that Norway, in consultation with New Zealand, Sweden, the USA and any other interested country, would redraft their proposal in the light of comments, bearing in mind that the redrafted proposal would need to cover, as well as reindeer, other livestock.

#### STATUS OF THE CODE

80. The Committee agreed that in view of the large number of amendments which had been made during the discussions recorded above, the Code should be retained at

Step 7 of the Procedure so that it would be possible to consider the amended document once more. The revised Code is contained in Appendix II to the Report.

Matters on which Government comments are especially requested for consideration at the third session of the Committee

81. The Committee agreed to focus its attention at its third session on the following subsections of the Code of Hygienic Practice for Fresh Meat. Government comments were, therefore, to be sought on the following matters dealt with in the Code:

- (a) - Definitions - 5 - Contamination - 6 - Disinfection
- (b) 24(e) - Separate room for the emptying and rinsing of digestive organs.
- (c) 24(f) - Separate room for tripe and gut dressing.
- (d) 24(j) - Special facilities for the slaughter of sick and suspect animals.
- (e) 25(b) and (c) in connection with para 41(b) - Hot boning to be discussed in relation to specific temperature requirements, i.e. "These rooms should be temperature controlled" (see para 25(c)).
- (f) 37 - Medical Examination.
- (g) 38(b) - Washing and disinfecting of hands after handling diseased and suspect material.
- (h) Mobile slaughter houses (see para 79 of this Report).

PROPOSED DRAFT CODE OF ANTE-MORTEM AND POST-MORTEM INSPECTION OF SLAUGHTER ANIMALS

82. The Committee had before it Appendix III of ALINORM 72/15. The draft Code was examined section by section in the light of Government comments.

83. A considerable number of amendments contained in Government comments were agreed to and these have been included in the Draft Code contained in Appendix III to this Report.

Section II - Definitions

84. It was agreed to delete all reference to "establishment" in the Code and to harmonize the definitions in the Code with those contained in the Draft Code of Hygienic Practice for Fresh Meat. The delegation (see also para 20) of Argentina reaffirmed its reservation concerning the definition of "Meat".

85. The Committee agreed to request specific comments from Governments on a proposal of Poland that a new definition regarding "emergency slaughter" be included in the Code: "Emergency slaughter" means slaughter of an animal necessitated by a previous accident such as bone fracture, danger of suffocation, etc.

Section III - General Requirements

86. The delegation of Poland made the following proposal intended to cover the slaughter of animals in an emergency as an addition to Section III - General Requirements: "The emergency slaughter of animals should only take place in a sanitary slaughter house. In such circumstances the ante-mortem inspection may be omitted and the slaughter may take place without an inspector present, but the carcase and viscera should be subject to bacteriological examination in addition to routine meat inspection

procedures. If found fit for human consumption, the meat of animals slaughtered in an emergency can only be used for local consumption."

#### Section V - Disposition of animal after ante-mortem inspection

87. During the discussion it was noted that definitions for sick and suspect animals were desirable. It was agreed to request Governments to submit proposals.

#### Section VI – Post-Mortem Inspection

88. It was agreed that Sections VI and VII should be re-arranged by the Secretariat to show the post-mortem inspection requirements on a species by species basis. The rearranged Code would be placed before the Committee at the next session and would be re-examined in the light of Government comments.

89. Regarding the need for requiring the incision of the uterus, opinion was divided in the Committee and, therefore, it was agreed to request specific comments on this matter from Governments.

90. Concerning the "proper disposition" of carcasses and viscera, the Committee emphasized that this examination should be performed by the veterinarian having the responsibility for meat inspection.

91. The Committee considered that it would pose considerable problems to come to an agreement on a definition for young calves. It was agreed that for the time being young calves would be regarded as animals up to the age of six weeks as in most cases these animals would not suffer from cysticercosis. It was, however, stated that even newly born calves could be infested with *Cysticercus bovis*, in areas with a high incidence of this disease.

#### Section (new IX) - Laboratory Examination

92. The delegation of the Federal Republic of Germany expressed the view that even though the laboratory methods to be used could not be described in detail, mention should be made in the Code that only such procedures as are scientifically recognized and have proved successful in practice should be used.

#### STATUS OF THE CODE

93. It was agreed that the Code should be advanced to Step 5 for submission to the Commission at its 10th session. The revised Proposed Draft Code is contained in Appendix III to this Report.

#### MARKING INKS FOR MEAT INSPECTION STAMPS

94. The Committee considered a report summarizing information supplied by governments concerning the use of marking inks for meat inspection stamps. The delegation of the USA drew the Committee's attention to the fact that P.D. + C Violet Ho. 1 (Benzyl Violet 4B, C.I. No. 42640 (1956)) was no longer permitted for use as a food colour in the USA.

95. The Committee agreed that no further action could be taken at present to harmonize the use of marking inks for meat inspection stamps. It was further agreed that information concerning the use of marking inks and possible alternative means of marking meat such as branding would be kept under review.

#### OTHER BUSINESS

96. Future Work. The Committee briefly considered whether work should be commenced on the post-mortem judgement of meat. It was agreed that in view of the Committee's very full programme of work it would not be advisable to embark on any new subjects at this stage but it would be open to FAO and WHO to consider whether a Group of Experts might undertake the preparation of a preliminary document covering this field.

DATE AND PLACE OF NEXT MEETING

97. The Committee was asked whether there would be any difficulty for delegations if the New Zealand authorities were to hold the next session of the Committee in New Zealand. Whilst there was no objection to the suggestion it was recognized that it was not possible for delegations to express any firm views on this proposal.

98. The Chairman informed the Committee that members of the Codex Alimentarius Commission would be consulted prior to any final decision regarding the venue of the next Session, which would be held towards the end of 1974.

SUMMARY STATUS OF WORK

Code	Status		To be dealt with by	Document ALINORM 74/15
	Advanced	Retained		
Fresh Meat		7	Meat Hygiene Committee 3rd	Appendix II
Ante-Mortem and Post-Mortem Inspection	5		Commission 10th	Appendix III

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Figuran en primer lugar los Jefes de las delegaciones; los Suplentes, Asesores y Consultores aparecen por orden alfabético.

\* Chairman - Président - Presidente

## APPENDIX II

### DRAFT CODE OF HYGIENIC PRACTICE FOR FRESH MEAT

(Retained at Step 7 of the Codex Procedure for the  
Elaboration of Codes of Practice)

#### NOTE

In the preparation of this Code recognition has been given to the need to avoid precluding the adoption of new technical developments provided these are consistent with the hygienic production of wholesome meat.

#### SECTION I - SCOPE

This Code of Hygienic Practice applies to fresh meat intended for human consumption, whether by direct sale or through further processing. It contains the minimum requirements of hygiene of meat production from slaughter of animals up to and including the transport of meat and is intended to assure a healthful and wholesome meat supply.

#### SECTION II – DEFINITIONS

For the purpose of this Code:

1. "Abattoir" means premises approved and registered by the controlling authority used for the slaughter of animals 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 the direct or indirect transmission of objectionable matters to the meat.
6. "Controlling authority" in relation to an abattoir or establishment means the official authority charged by the government with the control of hygiene including meat inspection.
7. "Disinfection" means the application of hygienically satisfactory chemicals or physical agents and processes to cleaned surfaces with the intention to eliminate microorganisms.
8. "Dressed" or "Dressing"
  - (a) in relation to slaughtered animals except for pigs, sheep and lambs, goats and kids, means the removal of head, hide or skin, viscera (including or not including kidneys), genital organs, urinary bladder and feet up to the carpal and tarsal joints, and, udders of lactating animals, animals that have calved or are in advanced pregnancy; and
  - (b) in relation to slaughtered pigs, means the removal of hair and bristles or skin, claws, eyelids, viscera (including or not including kidneys), genital organs, urinary bladder, udders in the case of lactating animals, animals that have farrowed or are in advanced pregnancy, and the external acoustic duct unless in respect of that part an alternative effective form of cleaning is carried out; and

(c) in relation to sheep and lambs, goats and kids means the removal of the head (except in the case of young lambs and young kids), the pelt or skin, viscera (including or not including the kidneys), genital organs, urinary bladder and feet up to the carpal and tarsal joints, and, udders of lactating animals, animals that have lambed or are in advanced pregnancy.

(d) in relation to cattle, pigs and solipeds includes where necessary splitting of the carcass. To split means dividing the carcass lengthwise on the medial line.

9. "Edible offal" in relation to slaughtered animals means such offals as may be passed as fit for human consumption.
10. "Establishment" means any premises approved and registered by the controlling authority in which fresh meat is prepared, handled, packed or stored.
11. "Fit for human consumption" in relation to meat means an article which has been passed and appropriately branded by an inspector and in which no changes due to disease, decomposition or contamination have subsequently been found.
12. "Fresh meat" means meat which has not yet been treated in any way to ensure its preservation, except that if it has been subjected to refrigeration, it should continue to be considered as "fresh" for the purpose of this Code.
13. "Inspector" means a properly trained officer appointed by the controlling authority of a country for the purpose of meat inspection and supervision of meat hygiene. The supervision of meat hygiene including the inspection of meat should be the responsibility of a veterinarian.
14. "Manager" in relation to an abattoir or establishment includes any person for the time being responsible for the management of the abattoir or establishment.
15. "Meat" means the edible part of any mammal slaughtered in an abattoir.
16. "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".
17. "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.
18. "Slaughter animal" means any mammal brought into an abattoir for slaughter.

### SECTION III - REQUIREMENTS CONCERNING SLAUGHTER ANIMALS

19. Where a person has reason to believe that, as a result of any accident or by reason of any defect or disease, or by the administration of any drug or chemical, the meat derived from any animal might not be suitable for human consumption, he should not send the animal to any abattoir or establishment where animals are slaughtered unless the animal is certified by a veterinarian to the effect that he has attended the animal and it is in his opinion suitable to be slaughtered for human consumption. However the veterinarian in charge of meat inspection at the abattoir or establishment should be the sole judge of whether an animal is fit for slaughter, irrespective of any certificate which may have been given.

### SECTION IV – TRANSPORT

#### Construction of conveyances

20. Every means of transport should be so constructed that:
- (a) animals can be loaded and unloaded easily;
  - (b) animals of different species are physically separated during transport;
  - (c) soiling by excreta deposited on the vehicle floor is minimised by the use of floor gratings or similar devices; and
  - (d) animals conveyed on the lower deck of a vehicle or railway truck having more than one deck are to be protected by an impervious floor below the grating of the upper deck.

#### Maintenance of conveyances

21. Every means of transport used to convey animals to any abattoir should be maintained in a clean and sanitary condition by cleaning and if necessary disinfecting as soon as practicable after the animals have been unloaded there from.

### SECTION V. - ESTABLISHMENT FACILITIES AND OPERATING REQUIREMENTS

#### A. Establishment Registration, Construction and Lay-out.

##### Registration

22. Abattoirs and establishments should be approved and registered by the controlling authority.

##### Construction

23. (a) Abattoirs and establishments should be located in areas not subject to regular and frequent flooding and free from objectionable odours, smoke, dust or other contaminants.
- (b) Abattoirs, or establishments should provide adequate working space for the satisfactory performance of all operations.
- (c) The construction should be sound and ensure adequate ventilation, good natural or artificial lighting and easy cleaning.
- (d) The building and facilities of the abattoir or establishment should be kept in good repair at all times.

(e) The abattoir or establishment should be laid out and equipped so as to facilitate proper supervision of meat hygiene including performance of meat inspection.

(f) The abattoir or establishment should be of such construction as to protect against the entrance and harbouring of insects, birds, rodents or other vermin.

(g) In every abattoir or establishment there should be a physical separation between departments in which edible and inedible material is handled.

(h) In all rooms in an abattoir or establishment other than rooms provided for the accommodation of workers and inspectors:

(i) Floors should be of water-proof, non-toxic, non-absorbent materials, easy to clean and "disinfect. They should be non-slip and without crevices and, except in the case of rooms where meat is frozen or stored, should slope sufficiently for liquids to be drained off to trapped outlets protected by a grill.

(ii) Walls., should be of water-proof, non-toxic, non-absorbent materials, which are easy to clean and disinfect, smooth, and at a height appropriate to the operation conducted; they should be light coloured and washable. The angles between the walls and the angles at the wall to floor junctions should be coved.

(iii) Ceilings should be so designed and constructed as to prevent the accumulation of dirt and condensation and should be easy to clean.

(j) Effective facilities should be provided for the disposal of plant effluent which should at all times be maintained in good order and repair. Catch-basins, traps, save-alls and sumps should at all times be kept separate and apart from any department in which meat is prepared, handled, packed or stored.

24. Abattoirs should include the following:

(a) Adequate and well equipped areas reserved for the use of the meat inspection services.

(b) Covered accommodation large enough to house the animals, or where climatic conditions permit, suitable uncovered holding facilities. These should comply with the following requirements:

(i) Accommodation or facilities should be so arranged as to permit proper inspection of the animals before slaughter; the lairages and yards should be suitably constructed and maintained, paved or slatted, well drained and furnished with an adequate number of water troughs having a piped water supply.

(ii) Sufficient waterline connections with adequate Water pressure should be available to enable the lairages, yards, races and unloading ramps and livestock transport vehicles to be cleaned.

(iii) There should be a sufficient number of -paved or slatted pens to facilitate ante-mortem inspection and there should also be covered restraining devices such as chutes, squeeze gates, boxes or any other effective device for restraining animals requiring close examination.

- (iv) Lairages and yards should be of such a layout that cross traffic of animals of different species is avoided.
- (v) Where the climate is suitable, washing facilities for animals prior to slaughter should be available.
- (c) Separate facilities for the physical isolation of sick animals or animals suspected of being sick. These facilities should be covered if climatic conditions require this and should be lockable. The drains of these pens should not connect with any of the open drains running through the remaining lairages and yards.
- (d) Slaughter and dressing rooms which enable the work to be performed in a satisfactory manner. A special area should be reserved for pigs where appropriate. If other classes of animals are slaughtered or dressed at the same time as pigs, facilities for scalding and dehairing of pigs should be situated in an area separated from other areas.
- (e) Separate room for emptying and rinsing the digestive organs. If, however, with the consent of the controlling authority, adequate and efficient fixed equipment is used instead of separate rooms for these operations, particular care must be taken to ensure that as far as is reasonably practicable all products intended for human consumption are protected from contamination.
- (f) Separate rooms for tripe and gut dressing. If, however, with the consent of the controlling authority, adequate and efficient fixed equipment is used instead of separate rooms for these operations, particular care must be taken to ensure that as far as is reasonably practicable all products intended for human consumption are protected from contamination.
- (g) Separate facilities for the preparation and/or storing of edible fats.
- (h) If salting, curing, grading, calibrating and packaging of casings is carried out in the abattoir or establishment, a separate area for this purpose should be provided.
- (i) Refrigerated room suitable for the cooling and storage of meat.
- (j) Special facilities capable of being locked to be used solely for the slaughter of sick and suspect animals and the holding of meat derived therefrom. Such facilities should be located within easy reach of the pens reserved for isolation of sick and suspect animals. Meat passed as being fit for human consumption in this room should be conveyed to the edible section of the establishment in such a manner as to prevent its contamination. These special facilities shall not be required in abattoirs where the killing of sick or suspect animals is prohibited by the rules of the controlling authority of the country concerned.
- (k) Separate facilities in the form of a separate room or portion of a room capable of being controlled and capable of being, locked, as required, for storing suspect meat and designed so as to prevent the risk of contaminating other meat and the risk of substitution.
- (l) Room capable of being locked and suitable for the holding of condemned meat, unless other adequate arrangements for disposal exist.
- (m) Facilities for the control of the entrances and exits of the slaughter establishment,



- (n) Suitably located facilities for the adequate cleaning and disinfecting of vehicles.
  - (o) Specially arranged location for the deposit of manure and adequate arrangements for its disposal.
25. Establishments in which meat is boned-out and cut-up should include the following;
- (a) Adequate and well equipped areas reserved for the use of the meat inspection services.
  - (b) Refrigerated room or rooms for the holding of meat.
  - (c) Rooms for boning and cutting physically separated from other rooms. The packing of boned out and cut-up meat should take place in the same room where it is boned and cut-up but, where this is not possible the packing may take place in a separate room. These rooms should be temperature controlled.
26. Refrigeration facilities. The construction and lay-out of any chilling room or freezer should satisfy the requirements of this Code.
27. Sanitary facilities and controls -
- (a) Those operations which carry a risk of contamination of meat suitable for human consumption should be sufficiently separated from other operations to avoid the risk of such contaminations.
  - (b) Rooms, equipment and utensils provided for slaughtering and dressing should be used for this purpose only and not for boning-out, cutting-up, holding or other handling of meat.
  - (c) Abattoirs and establishments should be laid-out and equipped so as to ensure that meat does not come into contact with floors, walls or other fixed structures, except those which are specifically designed for contact with meat.
  - (d) Slaughtering rooms should preferably be fitted with equipment enabling animals to be bled and carcasses to be dressed in a hanging position; if, however, metal cradles are used for flaying, they should comply with the provisions of sub-section 27(n) and should be high enough to ensure that the meat cannot touch the floor.
  - (e) Abattoirs and establishments should be equipped with an overhead rail for transporting meat so installed, as to prevent contamination of the meat.
  - (f) An ample supply of potable water under adequate pressure should be provided with adequate facilities for its storage and distribution and with adequate protection against contamination and pollution.
    - (i) All water used in abattoirs and establishments should be potable,
    - (ii) Non-potable water may be used for such purposes as producing steam, cooling refrigeration and fire control. Such water should be carried in completely separate lines, identified preferably by colour, and with no cross connection or backsiphonage with the lines carrying potable water.
  - (g) An adequate supply of hot potable water at no less than 82 C should be available at all times during the working hours.

(h) Abattoirs and establishments should have an efficient plumbing and waste disposal system. All plumbing and waste disposal lines (including sewer systems) must be large enough to carry peak loads. All lines must be water-tight and have adequate traps and vents. Disposal of waste should be effected in such a manner as to avoid contamination of potable water supplies. The plumbing and the manner of waste disposal should be approved by the controlling authority:

(i) "Adequate natural or artificial lighting which does not alter colours should be provided throughout the abattoir or establishment. The intensity should not be less than:

540 lux (50 foot candles) at all inspection points;

220 lux (20 foot candles) in work rooms;

110 lux (10 foot candles) in other areas.

Light bulbs and fixtures suspended over meat in any step of preparation should be of the safety type or otherwise protected to prevent contamination of meat in case of breakage."

(j) Adequate ventilation should be provided to prevent excessive heat, steam and condensation and ensure that the air of premises is not contaminated with odours, dust, vapour or smoke. Ventilation openings should be screened. Windows should be fitted with whole panes and those which open should be screened. The screens should be made so as to be easily movable for cleaning. Internal window sills, if present, should be sloped to prevent use as shelves.

(k) All doors should be sufficiently wide and those opening from departments where edible material is handled, unless provided with an effective and operating air screen, should be solid, as far as practicable self-closing, or snug-fitting double action doors.

(l) All stairs located in any room used in any department where edible material is handled should be so constructed that:

(i) They can be easily cleaned and no contamination can be caused by material passing through the risers or treads;

(ii) They should have side curbs that are at least 10cm in height measured at the leading edge of the treads.

(m) Lift cages should be so constructed as to afford adequate protection of the meat against contamination. In particular the base and sides should be finished to a smooth impervious surface. Lift shafts should be smoothly finished or tiled. If painted, a light colour should be used. The floor of lift shafts should be drained so as to permit effective cleaning.

(n) Platforms, ladders, chutes and similar equipment in any room used for the preparation of meat should be constructed so as to be capable of being effectively cleaned and should consist of material which is resistant to fracture, abrasion, or corrosion and which can be effectively cleaned. Where chutes are provided they should be constructed with inspection and cleaning hatches.

(o) All rooms used for slaughtering, dressing, de-boning, preparation, packing or other handling of meat should be equipped with adequate facilities for washing hands, furnished with waste pipes leading to drains and conveniently located for the use of personnel during operations. The water used for the washing of hands should be warm. Taps of hand-washing facilities should be of a type not requiring

operation by hand. An adequate supply of odourless liquid soap or other cleansing agents should be provided.

- (p)
  - (i) All rooms used for slaughtering and dressing, boning, preparing, packing or other handling of meat should be equipped with adequate facilities for cleaning and disinfecting implements, conveniently located for the use of personnel during operations. These facilities are for use exclusively in the cleaning and disinfection of knives, steels, cleavers, saws and other implements.
  - (ii) All facilities for cleaning and disinfecting implements should be of such nature and size as to permit proper cleaning and disinfection of implements. These facilities should be constructed of corrosion-resistant materials and should be capable of being easily cleaned.
  - (iii) All facilities for cleaning and disinfecting of implements should be fitted with suitable means of supplying water in sufficient quantity at a temperature of not less than 82°C at all times while animals are being slaughtered or dressed or meat is being handled in that part of the abattoir or establishment.
  - (iv) Facilities should be provided in each abattoir and establishment for the cleaning and disinfection of equipment and working implements.
- 28. Every abattoir and establishment should include the following amenities:
  - (a) Facilities for employees: adequate changing room accommodation, drying room, lunch room, toilets with flushing water closets, showers and handwashing facilities which should have adequate lighting, ventilation and heating, and should not open directly to any work areas. Handwashing facilities with taps of a type not requiring operation by hand; where paper towels are used a sufficient number of dispensers with paper towels and receptacles for used towels should be provided adjacent to each washing facility. Waste from these facilities should not join the plant effluent system prior to the final save-all; and
  - (b) Facilities for meat inspection personnel: adequate changing room accommodation, drying room, lunchroom, toilets with flushing water closets, showers and handwashing facilities. The amenities reserved for the meat inspection service, and toilets, and shower and handwashing facilities should have adequate lighting, ventilation and heating. Handwashing facilities with taps of a type not requiring operation by hand and suitable hygienic means of drying the hands should be provided adjacent to every toilet. Where paper towels are used a sufficient number of dispensers with paper towels and receptacles for used towels should be provided adjacent to each washing facility.
- 29. Office accommodation should be provided for the exclusive use of the meat inspection service. Laboratory facilities should be readily available for the purpose of meat inspection and meat hygiene.

B. Equipment and Utensils

30. All equipment, implements and utensils used in abattoirs or establishments which come in contact with meat should present a smooth impervious surface and be resistant to corrosion and should be made of a material which is non-toxic, does not transmit odour or taste, smooth, free from pits, crevices, non-absorbent and capable of withstanding repeated exposure to normal cleaning and disinfection. Stationary equipment should be installed in such a manner as will permit easy access and thorough cleaning and disinfection. Such equipment should be so constructed that it may be easily cleaned.
31. Equipment and utensils used for inedible or condemned materials should be so identified and should not be used for edible products.
32. Equipment and utensils for slaughtering and dressing should be used for this purpose only and not for cutting-up or boning-out or further preparation of the meat.
33. No containers, particularly wooden crates, wooden boxes or cartons, should be assembled and no containers, equipment, or utensils should be stored in any part of an abattoir or establishment in which animals are slaughtered or dressed or where meat is cut-up or boned-out, prepared, handled, packed or stored unless the container, equipment, or utensils are required for use in that part.

C. HYGIENIC OPERATING REQUIREMENTS

34. (a) Amenities provided for the use of employees and the meat inspection service including the meat inspection office space should be kept clean at all times.  
(b) All equipment, implements, tables, utensils including knives, cleavers, knife pouches, saws and containers should be cleaned at frequent intervals during the day, and immediately and thoroughly cleaned and disinfected whenever they come in contact with diseased material, infected material or become contaminated. They shall also be cleaned and disinfected at the conclusion of each working day.  
(b) The manager should ensure that washing down, cleaning and disinfection are carried out in compliance with this Code.  
(d) Carcasses or meat should not be contaminated during cleaning or disinfection of rooms, equipment, or utensils.  
(e) Where any skip or trolley or any container used in a department where edible material is handled enters or is used in an area where inedible material is handled it should be cleaned and disinfected immediately before re-entering any edible department.  
(f) Detergents, sanitizing agents and disinfectants should conform to public health requirements and should not be allowed, to come into contact with meat. Any residue of these cleaning agents used for the washing of floors, walls or edible product equipment should be removed by thorough rinsing with potable water before the area or equipment is again used for handling meat. Prior to use of the equipment any residue of sanitizing agents or disinfectants should be removed by thorough rinsing with potable water.  
(g) No cleaning preparation or material, or any paint likely to contaminate meat should be used in any abattoir or establishment where any animal is or may be

slaughtered or dressed or meat is or may be prepared, handled, packaged or . stored.

(h) Except as required for purposes of hygiene no substance which may contaminate meat should be handled or stored in any part of any abattoir or establishment in which carcasses are slaughtered or dressed or in which meat is prepared, handled, packed, or stored. However, materials employed in the construction or maintenance of an abattoir or establishment may be used at any time when an inspector is satisfied that there would be no danger of contamination of meat.

35. Pest Control

(a) An effective and continuous programme for the control of insects, birds, rodents or other vermin within the abattoir or establishment should be maintained.

(b) Abattoirs or establishments and surrounding areas should be regularly examined for evidence of infestation with insects, birds, rodents or other vermin.

(c) Should pests gain entrance to abattoirs or establishments approved eradication measures should be instituted. The eradication of pests should always be carried out under skilled supervision and with the full knowledge of the inspector.

(d) Only pesticides approved for use in an abattoir or establishment by the competent authority should be used in an abattoir or establishment and the greatest care should be exercised to prevent any contamination of the meat. Pesticides should only be employed if other precautionary methods cannot be used effectively.

(e) Before pesticides are applied all meat should be removed from the room and all equipment and utensils covered. After spraying, the equipment and utensils should be thoroughly washed prior to being used again.

(f) Pesticides or other toxic substances should be stored in separate locked rooms or locked cabinets and dispensed or handled only by authorised and properly trained personnel. Every precaution should be taken to avoid contaminating meat.

36. No animals other than animals for slaughter should be allowed to enter in any part of an abattoir except those animals which are used for transporting and delivering animals for slaughter or delivering meat. No animals are allowed to enter establishments.

37. (a) It is recommended that national legislations should provide for a medical examination of meat handlers, meat inspectors and other persons who have access to and come into contact with meat in abattoirs and establishments. Medical examinations should be carried out before these persons are employed and be! Repeated as frequently as necessary.

(b) The management should take care to ensure that no person, while known to be affected with a disease capable of being transmitted through food, or known to be a carrier of such disease micro-organisms, or while afflicted with infected wounds, sores, or any illness, is permitted to work in any area of an abattoir or establishment in a capacity in which there is a likelihood of such a person

contaminating meat with pathogenic organisms. Any such person should immediately report to the management.

(c) The manager of any abattoir or establishment should, if required to do so by an inspector, produce for perusal by the inspector any medical certificate produced to the manager by an employee of the abattoir or establishment.

(d) No person who is suffering from any cut or injury should engage in any abattoir or establishment in the preparation, handling, packaging or transportation of any meat unless and until the cut or injury has been so treated or dressed that the discharge of blood on to the meat has been prevented.

38. Hygiene of personnel and meat handling practice

(a) Every employee should be taught the principles of hygiene and the relevant parts of this Code so as to be able to take the necessary precautions to prevent contamination of meat.

(b) Every person engaged in an abattoir or establishment should wash his hands frequently and thoroughly with soap or detergents under running warm potable water while on duty. In each instance hands should be washed before commencing work, immediately after using lavatory, after handling contaminated material, and whenever else necessary. After handling diseased or suspect material hands must be washed and disinfected immediately. Notices requiring hand-washing should be displayed.

(c) Every person engaged in an abattoir or establishment should "maintain a high degree of personal cleanliness while on duty, and should at all times while so engaged wear suitable protective ' clothing including a head covering and a footwear all of which articles should be washable unless capable of being disposed of and which should be maintained in a clean condition consistent with the nature of the work in which the person is engaged. Aprons and similar items should not be washed on the floor.

(d) Every person who visits an abattoir or establishment should wear clean protective clothing.

(e) No clothing or personal effects other than protective clothing should be deposited in any part of an abattoir or establishment used for slaughter of animals, dressing of carcasses, preparation, handling, packaging or transportation of meat.

(f) Protective clothing, knife pouches, belts and working implements may be left in a place provided for the purpose in such a manner that they will not contaminate any carcass or meat.

(g) Eating, use of tobacco or chewing gum, and spitting should be prohibited in any part of an abattoir or establishment used for slaughtering or dressing of carcasses or for the preparation, handling, packaging, storing or preservation of meat.

(h) 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 the operator 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.

(i) No person working in any abattoir or establishment should wear any exposed bandage unless the bandage is completely protected by a waterproof covering which is conspicuous in colour and is of such a nature that it cannot become accidentally detached.

D. Operating Practices and Production Requirements

39. Principles to be observed during slaughtering, dressing and preparation off meat

(a) Every animal intended for slaughter for human consumption must undergo ante- and post-mortem inspection.

(b) No animal should be slaughtered or dressed in any abattoir or establishment except when an inspector is present.

(c) Any animal in an unreasonably dirty condition should be cleaned to the satisfaction of the inspector before it is allowed to enter the killing floor, so as to lessen the risk of contamination. All animals brought into rooms for slaughtering should be slaughtered without delay.

(e) The 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 should in no case be stirred with the hand but only with hygienically acceptable implements.

(f) Stunning, sticking and bleeding of any animals should not be allowed to proceed at a rate faster than that at which the carcasses can be promptly accepted for dressing.

(g) The sticking, bleeding and dressing should be carried out with care so as to ensure the production of a clean carcass, head and edible offals. None of the parts should come in contact with the floor and all contamination should be avoided.

(h) Carcasses should be separated from each other to avoid contact and contamination once the removal of the hide, skin or pelt has commenced. This separation of carcasses should be maintained until they have been examined and passed by the inspector. Carcasses should come in contact only with surfaces or equipment essential to handling, dressing and inspection.

(i) Before the removal from any head of any meat or brain intended for human consumption, the head should, except in the case of pigs, be skinned then thoroughly washed and rendered clean with running potable water to the satisfaction of the inspector.

(j) Where the tongue is dropped it should be done in such a way that the tonsils are not cut.

(k) The following points should be noted in skinning operations:

(i) All species, except pigs, should be skinned and this should be done before the carcass is eviscerated in such a manner as to avoid contamination of the carcasses. Pumping of air between the skin and the carcass to facilitate skinning should be forbidden. Pigs should be scoured of all bristles, scurf and dirt and may be skinned or partly skinned.

- (ii) Skinned carcasses should not be washed in a manner which will allow water to enter either the abdominal or thoracic cavities prior to evisceration.
  - (iii) Lactating or obviously diseased udders should be removed from all classes of animals. Removal of such udders should take place at the earliest appropriate time during dressing. No secretion 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 without any milk duct or sinus being opened.
- (l) Evisceration should be effected without delay.
- (m) During dressing the following should be observed:
- (i) The discharge of any material from the oesophagus, paunch, intestines or rectum, or from the gall bladder, urinary bladder, uterus or udder should be effectively prevented.
  - (ii) Any offals intended for human consumption should be removed from the carcass in a manner that will prevent contamination of the organ removed.
  - (iii) Intestines should not be severed from the stomach during evisceration and no other opening should be made during evisceration into any intestine, except as necessarily required by a dressing procedure. In such a case, the intestines should be tied before severing.. In the case of sheep, " lambs and pigs, the removal of stomach and intestines should be carried out without separation.
  - (iv) Spermatic cords and pizzles should be removed from the carcass.
- (n) No carcass, meat or edible offal should be washed in any abattoir other than with running potable water.
- (o) No paper, cloth, wad, sponge or brush should be used in the washing of any carcass. However, this will not apply with respect to the use of brushes in the dressing of singed pig carcasses,
- (p) No person should, whether by mechanical or any other means, inflate with air any carcass, meat or edible offal unless ritual procedures require the inflation of lungs.
- (q) No hides, skin or pelts should be washed or defleshed or left in any part of the abattoir or establishment used for the slaughtering or dressing of animals or the preparation or holding of any meat intended for human consumption.
- (r) All stomachs and intestines and all inedible material derived from the slaughtering or dressing of animals should be removed as soon as possible but in accordance with the inspection procedure from the dressing room in such a manner as to avoid contaminating the floor and walls or any carcass, meat or edible offal.
- (s) All stomachs, intestines and all inedible material should subsequently be treated in parts of the abattoir or establishment destined for this purpose in accordance with recognized practices which should pay attention to cleanliness and hygiene.



(t) Faecal and other objectionable matter contaminating carcasses during dressing should be carefully trimmed off.

(u) Where the 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 cleanliness of the carcase or meat; or
- (ii) the hygiene of production; or
- (iii) the efficiency of meat inspection,

he may require the manager to take action to correct the deficiency or to reduce the rate of production or to suspend operations for the time being in any specified section of the abattoir or establishment.

- (v)
- (i) In abattoirs, post-mortem inspection should be performed immediately after slaughter.
  - (ii) Prior to the final examination, all parts required for inspection of the slaughtered animal should remain identifiable with the carcase.
  - (iii) Prior to the final examination, no part must be removed without consent of the inspector.

40. Branding of meat passed for human consumption

(a) Meat which has been passed by the inspector as fit for human consumption should be branded according to the requirements contained in the Code of Ante-Mortem and Postmortem Inspection of Slaughter Animals.

(b) Brands and stamps bearing the marks of inspection should be kept clean while in use. They should be held in the custody of the inspector and used only under his supervision.

(c) Only firebrands or suitable branding ink should be applied to the meat.

41. Operating practices following post-mortem inspection including storage

(a) Meat passed as fit for human consumption should be handled, stored or transported in a manner that will protect the meat from contamination and deterioration.

(b) Meat passed as fit for human consumption should be removed without undue delay from the dressing area. It should be placed under refrigeration under close supervision of the inspector. However, it is permitted to carry out pre-rigor cutting up and boning. In this event, the meat should be transported directly from the slaughter-hall to the cutting- up and boning rooms. These rooms should be situated near to each other in the same establishment. Cutting-up, boning and packing should be done without delay and immediately thereafter the meat should be transported to chilling rooms.

(c) The following provisions should apply where carcasses, parts of carcasses or edible offals are placed in chilling rooms, freezing, or frozen storage as the case may be:

- (i) Entry should be restricted to personnel necessary to carry out operations efficiently.

- (ii) Doors should not be left open for extended periods and should be closed immediately after use.
  - (iii) No chilling room, freezing room or freezer store should be loaded beyond its designed capacity.
  - (iv) Where refrigerating equipment is not manned, automatic temperature recorders should be installed.
  - (v) If no automatic device is installed temperatures should be read at regular intervals and the readings recorded in a log book.
  - (vi) A record should be maintained of all meat placed in or taken out of the chilling room, freezing room or freezer store.
- (d) Where carcasses, parts of carcasses or edible offals are placed in a chilling room for chilling the following provisions should be observed in addition to those in sub-paragraph (c) of this paragraph;
- (i) There should be a reliable method of monitoring the chilling of carcasses or edible offals which are placed in a chilling room for chilling.
  - (ii) Meat should be hung or placed in suitable corrosion resistant trays, in a manner permitting adequate circulation of air around the meat.
  - (iii) Meat should be held in a manner which precludes drip from one piece falling on to any other piece.
  - (iv) Temperature, degree of relative humidity and air flow should be maintained at a level suitable for the preservation of meat.
  - (v) Condensation should be prevented by the efficient operation of refrigerating facilities combined with proper insulation of walls and ceilings, the application of heat near the ceilings, or by any other suitable method. If overhead refrigerating coils are installed, insulated drip pans should be placed beneath them. All floor type refrigerating units should be placed within curbed and separately drained areas unless located adjacent to floor drains.
- (e) Where carcasses, or parts of carcasses, or edible offals are placed in a freezing room for freezing the following provisions should be observed in addition to those in sub-paragraph (c) of this paragraph:
- (i) Meat which 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. Cartons should be stacked to permit adequate circulation of air around each carton.
  - (ii) Meat which is not in cartons should be held in a manner which precludes drip from one piece of meat falling on to any other piece.
  - (iii) Where meat is held on trays care should be taken to avoid contact between the base of any tray and meat stored beneath.
  - (iv) Refrigerating coils should be defrosted frequently to prevent excessive accumulation of ice and loss of refrigerating efficiency. Provision should be made for removal, without affecting the product, of water resulting from defrosting.

(f) Where carcasses, or parts of carcasses, or edible offals to be stored are placed in any freezer store, the following provisions should be observed in addition to those in sub-paragraph (c) of this paragraph:

- (i) No meat should be placed in a freezer store until the mean temperature of the meat has been reduced to an acceptable level.
- (ii) Meat should not be stacked directly on the floor but should be placed on pallets or on dunnage. Stacks of meat in carcase form or in cartons should be placed so that there is adequate air circulation around the stacks.
- (iii) The freezer store should be operated at a temperature which will give adequate protection to the type of product. Temperature fluctuations in the freezer store should be kept to a minimum. Where unpackaged meat is stored, the temperature difference between the evaporator and the meat should be kept to a minimum.
- (iv) Refrigerating coils should be defrosted as required to prevent excessive accumulation of ice and loss of refrigerating efficiency. Provision should be made for removal, without affecting the product, of water resulting from defrosting.

(g) Where carcasses, or parts of carcasses, or edible offals to be stored are placed in any freezer store, the following provisions should be observed in addition to those in sub-paragraph (c) of this paragraph.

- (i) No meat should be placed in a freezer store until the mean temperature of the meat has been reduced to an acceptable level.
- (ii) Meat should not be stacked directly on the floor but should be placed on pallets or on dunnage. Stacks of meat in carcase form or in cartons should be placed so that there is adequate air circulation around the stacks.
- (iii) The freezer store should be operated at a temperature which will give adequate protection to the type of product. Temperature fluctuations in the freezer store should be kept to a minimum. Where unpackaged meat is stored, the temperature difference between the evaporator and the meat should be kept to a minimum.
- (iv) Refrigerating coils should be defrosted as required to prevent excessive accumulation of ice and loss of refrigerating efficiency. Provision should be made for removal, without affecting the product; of water resulting from defrosting.

42. Packaging and packing material

Whether and how meat is wrapped or packaged will be determined by the manner in which it is to be handled, transported, and stored during processing or sale. If the meat is packaged or wrapped the following considerations should be taken into account:

- (a) Packaging material should be stored and used in a clean and sanitary manner.

(b) The wrapping should be sufficient for the purpose of protecting the meat from contamination in the conditions under which it is TO be handled, transported or stored.

(c) The wrapping should be non-toxic and should not leave harmful deposits of any kind on the meat, or otherwise contaminate it. "

(d) The wrapping or covering of warm or cold meat transported within an establishment or from one establishment to another should be optional, but care should be taken that the meat is not contaminated.

(e) Cases or cartons used for the packing of meat should be provided with a suitable inner liner. However, the liner may not be required if individual pieces of meat, such as cuts or boneless meat, are individually wrapped before packing.

43. Transportation

(a) Meat should not be carried in any means of transport which is used for conveying live animals.

(b) Meat should not be carried in the same means of transport as other goods in a way which may adversely affect the meat.

(c) Stomachs should only be transported when thoroughly cleaned or scalded, and heads and trotters only when skinned or scalded or dehaired.

(d) Meat should not be placed in any means of transport which has not been cleaned before loading and if necessary also disinfected.

(e) Carcasses, sides and quarters, other than those which are adequately wrapped and frozen, should be hung during transport or placed in a suitable manner on racks or similar equipment.

(f) Means of transport should comply with the following conditions:

(i) Design and equipment should be such that a required temperature can be maintained throughout the whole period of transport,

(ii) All parts which may come, in contact with meat should be made of corrosion resistant material, present a smooth surface with smooth joints and be easy to clean and disinfect.

(iii) Floors should be effectively sealed so as to prevent the entry of contaminants or any leakage during transport.

(iv) Where vehicles and railway trucks do not possess an overhead rail, duckboards and racks made from suitable corrosion-resistant non-absorbent material should be available and kept clean and in a satisfactory state of repair; where any mechanical loading device is used it should be so designed that any part of it is easily accessible for cleaning and disinfection, that it reduces to a minimum, contact between personnel and meat to be loaded and that any contact between meat and floor is avoided.

(v) Vehicles should be so constructed as to prevent contamination and the entry of pests. Vehicles for the transportation of meat (other than frozen and wrapped meat) should be equipped with hangers or racks made of corrosion resistant non-absorbent material, in such a manner

that the meat being transported does not come into contact with the floor.

(vi) Suitable closed containers should be available for the transportation of unwrapped edible offal. If the period of transport is less than two hours the closed containers of edible offal may be transported in an insulated vehicle, otherwise they should be transported under refrigeration.

(g) Every effort should be made to prevent thawing of frozen Rest at any time during storage and transport but where accidental thawing takes place the meat should be examined and evaluated by the inspector before any further step is taken.

#### 44. Heat unsuitable for human consumption

(a) Meat being condemned or otherwise unfit for human consumption should forthwith be placed by an inspector in clearly identified chutes, containers, trucks, trolleys, skips, or rooms, or other adequate arrangements provided for these purposes (24(1) and held under the supervision of the inspector,. For the purpose of clear identification, cuts or brands may be made to show this meat is condemned or unfit for human consumption. The transport of such meat to the rendering station should be performed to the satisfaction of the inspector to ensure that no removal of such meat is possible and no contamination could be caused by such meat.

(b) No person should remove or cause to be removed from any abattoir or establishment, any carcase, meat, organ, viscera or fat that has been condemned or retained by the inspector, except under his direction and supervision.

(c) Where in any abattoir or establishment any carcase, meat, organ, viscera or fat is found to be unsuitable for human consumption, it should be the duty of the manager to cause the carcase, meat, organ, viscera or fat to be removed to a by-products plant in accordance with the rules of the controlling authority,

#### E. Programme for Veterinary Supervision and Hygiene Control

45. All aspects covered by this Code should be supervised by an official veterinarian. In particular, care should be taken that for every abattoir or establishment at least one official veterinarian is appointed for the supervision of hygiene including meat inspection,

46. It is desirable that each abattoir or establishment in its own interest designates a single individual, whose duties are preferably divorced from production, to be held responsible for the cleanliness of the abattoir or establishment. His staff should be a permanent part of the organization or employed by the organization and should be well trained in the use of special cleaning tools, methods of dismantling equipment for cleaning and in the significance of contamination and the hazards involved. A permanent cleaning and disinfection schedule should be drawn up to ensure that all parts of the abattoir or establishment are cleaned appropriately and that critical areas, equipment and material are designed for cleaning and/or disinfection daily or more frequently if required.

#### F. Laboratory Control Procedures

47. In addition to the routine control carried out by the meat inspection services, it is desirable that each establishment in its own interest should have access to laboratory

control. Analytical procedures used should follow recognized or standard methods in order that the results may be readily interpreted.

## APPENDIX III

### PROPOSED DRAFT CODE OF ANTE-MORTEM AND POST-MORTEM INSPECTION OF SLAUGHTER ANIMALS

(At Step 5 of the Codex Procedure for the Elaboration of Codes of Practice)

#### NOTE

This Code should be read in conjunction with the Proposed Draft Code of Hygienic Practice for Fresh Meat (ALINORM 74/15, Appendix II)

#### SECTION I - SCOPE

This Code applies to the ante-mortem and post-mortem inspection of slaughter animals intended for human consumption.

#### SECTION II - DEFINITIONS

For the purpose of this Code:

1. "Abattoir" means premises approved and registered by the controlling authority used for the slaughter of animals 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 the direct or indirect transmission of objectionable matters to the meat.
6. "Controlling authority" in relation to an abattoir or establishment means the official authority charged by the government with the control of hygiene including meat inspection.
7. "Disinfection" means the application of hygienically Satisfactory chemicals or physical agents and processes to cleaned surfaces with the intention to eliminate micro-organisms.
8. "Dressed" or "Dressing"
  - (a) in relation to slaughtered animals except for pigs, sheep and lambs, goats and kids, means the removal of head, hide or skin, viscera (including or not including kidneys), genital organs, urinary bladder and feet up to the carpal and tarsal joints, and, udders of lactating animals, animals that have calved or are in advanced pregnancy; and
  - (b) in relation to slaughtered pigs, means the removal of hair and bristles or skin, claws, eyelids, viscera (including or not including kidneys), genital organs, urinary bladder, udders in the case of lactating animals, animals that have farrowed or are in advanced pregnancy, and the external acoustic duct unless in respect of that part an alternative effective form of cleaning is carried out; and
  - (c) in relation to sheep and lambs, goats and kids means the removal of the head (except in the case of young lambs and young kids), the pelt or skin, viscera (including or not including, the kidneys), genital organs, urinary bladder

and feet up to the carpal and tarsal joints, and, udders of lactating animals, animals that have lambed or are in advanced pregnancy.

(d) in relation to cattle, pigs and solipeds includes where necessary splitting of the carcass. To split means dividing the carcass lengthwise on the medial line.

9. "Establishment" means any premises approved and registered by the controlling authority in which fresh meat is prepared, handled, packed or stored,
10. "Fit for human consumption" in relation to meat means an article which has been passed and appropriately branded by an inspector and in which no changes due to disease, decomposition or contamination have subsequently been found.
11. "Inspector" means a properly trained officer appointed by the controlling authority of a country for the purpose of meat inspection and supervision of meat hygiene. The supervision of meat hygiene including the inspection of meat should be the responsibility of a veterinarian.
12. "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."
13. "Residues" means any foreign substance, including metabolites, therapeutic or prophylactic agents, which are objectionable or a hazard to human health remaining in slaughter animals prior to slaughter or in any of the tissues after slaughter either as a result of treatment or accidental exposure. Examples of such substances are antibiotics, anthelmintics, growth promoters, hormones, hormone-like substances and pesticides, tranquillizers and radioactive residues.
14. "Slaughter animal" means any mammal brought into an abattoir for slaughter.

### SECTION III - GENERAL REQUIREMENTS

15. Every animal intended for slaughter for human consumption should
  - (a) be appropriately identified or accompanied by an appropriate document which would ensure that the place of origin from which the animal has come can be traced;
  - (b) undergo an ante- and post-mortem inspection;
  - (c) be adequately rested prior to slaughter in clean, well ventilated lairages and yards having drinking troughs supplied with potable water.

### SECTION IV - ANTE-MORTEM INSPECTION

#### Purpose of ante-mortem inspection

16. The purpose of ante-mortem inspection is:
  - (a) to select animals which are adequately rested and which will provide meat which is fit for human consumption;
  - (b) to select for isolation and detailed clinical examination, diseased, suspected diseased or suspected abnormal animals;
  - (c) to prevent contamination of the dressing areas by animals in an excessively dirty condition;
  - (d) to prevent contamination of premises, equipment and personnel by animals suffering from a disease which is communicable;



(e) to obtain information which may be necessary for the post-mortem inspection, diagnosis and judgment of carcase and offals.

#### Prerequisites for ante-mortem inspection

17. No animal should proceed for slaughter until the inspector has carried out an ante-mortem inspection and has passed the animal for slaughter. All animals should be inspected within 24 hours of delivery to the abattoir or establishment. If the animal is kept for more than 24 hours after the initial ante-mortem inspection at the abattoir, the ante-mortem examination should be repeated on the day of slaughter. Any animal which as a result of ante-mortem inspection is not passed for slaughter should be examined for a final decision on its disposition by the veterinary inspector. The method of identification of inspected animals should be approved by the controlling authority. It is the duty of the management of the abattoir or establishment to present the animals in such a way that an adequate ante-mortem inspection can be carried out.

#### Ante-mortem inspection procedure

18. Animals should be inspected in a standing position and- in motion and while they are not excited.

The following should be observed :

- (a) abnormalities and signs of disease;
- (b) species and behaviour of animals; in sick or suspected diseased animals, notice should be taken of age, colour and specific markings;
- (c) cleanliness of slaughter animals.

Particular attention should be paid to the following details:

- (i) manner of standing and movement;
- (ii) condition of nutrition;
- (iii) reaction to environment;
- (iv) condition of hide, skin, hair and wool;
- (v) digestive system (salivation rumination, consistency and colour of faeces);
- (vi) appearance of vulva and mammary gland;
- (vii) respiratory system (nostrils, including mucous membranes nasal discharge, blood tinged froth, quality of respiration);
- (viii) injuries, swelling or oedema;
- (ix) body temperature (in suspected or obviously diseased animals);
- (x) blood smear (in cases in which a disease is suspected which could be diagnosed by examining the blood) (as a routine procedure in slaughter of camels);
- (xi) as certain diseases or disease symptoms have sites of predilection in different species, it is essential that attention should be paid to these sites.

## SECTION V

### Disposition of animal after ante-mortem inspection

19. The post-mortem inspector should be notified of the result of the ante-mortem inspection. The method of carrying out this notification is left to the controlling authority.
20. An animal is released for slaughter without any restriction when the ante-mortem inspection has revealed no evidence of any abnormal condition or disease.
21. If during the ante-mortem inspection any disease or condition has been noted which should not obviously prevent the animal from being slaughtered for human consumption, the animal should be identified, released for slaughter and further post-mortem veterinary inspection.
22. Where disease symptoms are doubtful the animal should be withdrawn from slaughter and placed in an isolation pen set aside for this purpose for detailed examination observation or treatment, or slaughtered under special conditions to preclude contamination of the premises, equipment and personnel.
23. Where symptoms indicate a systemic involvement, a communicable disease or toxicity from chemical or biological agents which do or may render the meat unsound, the animal so affected should be withheld from slaughter and condemned forthwith as unfit for human consumption or where appropriate set aside and remain under the control of the veterinary authority until a further decision regarding disposition is taken.
24. Animals exhibiting normal behaviour but known to have been treated or given drugs or chemicals should be either condemned. or withheld from slaughter until the drug or chemical is metabolized to harmless end products by the body or excreted.
25. Carcasses of animals which have died and of those which have been rejected at ante-mortem inspection and slaughtered should be removed immediately and rendered into inedible products.

## SECTION VI - POST-MORTEM INSPECTION – GENERAL

### Purpose of post-mortem inspection

26. The purpose of post-mortem inspection is to ensure the detection of abnormalities and lesions and pass for human food only meat which is fit for human consumption.

### Methods of slaughter

27. The inspector should carry out routine checks on the manner and methods of handling animals, stunning, shackling and bleeding.

### Prerequisites for post-mortem inspection

28. Before the post mortem inspection of slaughter animals is commenced it is the duty of the inspector to satisfy, himself that the condition of the premises, equipment and facilities are conducive to the efficient and hygienic performance of this examination. It is the duty of the management of the abattoir to present the carcasses and viscera in such a way that an adequate inspection can be carried out.

29. So as to prevent the contamination of carcasses and viscera it is essential that the basic requirements of hygiene such as laid down by the Code of Hygienic Practice for Fresh Meat are strictly enforced and that the labour force slaughtering and dressing carcasses is fully aware of its important role in maintaining a satisfactory level of meat hygiene.
30. In particular the following points should be observed;
- (i) Separation of carcasses.  
Carcasses should be separated from each other to avoid contact and contamination once the removal of the hide, skin or pelt has commenced. This separation of carcasses should be maintained until they have been examined and passed by the inspector. Carcasses should come in contact only with surfaces or equipment essential to handling, dressing and inspection. (FM39(h))
  - (ii) Evisceration  
Evisceration should be effected without delay, (FM 39.(1) ).
  - (iii) Identification of carcasses and their parts.  
Until completion of inspection to the final examination, all parts required for inspection of the slaughtered animal should remain identifiable with the carcass. (FM 39 (v)(ii))
  - (iv) Washing of hands.  
Every person engaged in an abattoir or establishment should wash his hands frequently and thoroughly with soap or detergents under running warm potable water while on duty. In each instance hands should be washed before commencing work, immediately after using lavatory, after handling contaminated material, and whenever else necessary. After handling diseased or suspect material hands must be washed and disinfected immediately. (FM38 (b)).
  - (v) Cleaning of and disinfection of tools and equipment. All equipment, implements, tables, utensils including knives, cleavers, knife pouches, saws and containers should be cleaned at frequent intervals during the day, and immediately and thoroughly cleaned and disinfected whenever they come in contact with diseased material, infected material or become contaminated. They shall also be cleaned and disinfected at the conclusion of each working day. (FM 34 (b)).
  - (vi) Washing of carcasses.  
Skinned carcasses should not be washed in a manner which will allow water to enter either the abdominal or -' thoracic cavities prior to evisceration. (FM 39 (k) (ii)).
- 31 (a) Routine post-mortem inspection should include viewing, palpation and where necessary incision. This inspection should be carried out in a systematic manner.
- (b) Where a lymph node, organ or any carcass tissue is being-incised by the inspector, the cut surface should be cleanly sliced in order to present a picture which is not distorted. Where an incision is required to be made the inspector should prevent as far as possible any risk of contamination.
- 32 (a) Where in the opinion of the inspector

- (i) a more detailed post-mortem examination; or
  - (ii) a bacteriological, parasitological, chemical or histopathological examination; or
  - (iii) any other examination necessary to render a judgement of a carcass or viscera,
- is required he should take all the necessary specimens from such carcass or viscera.
- (b) The final responsibility as to the decision on fitness for human consumption rests with the veterinary inspector.
33. Viscera should be examined:
- (i) as they are removed from the carcass; and/or
  - (ii) after their removal from the carcass in which case it should be clearly identifiable with the carcass until inspection has been completed.
- If so required for diagnosis or final judgement, any part, portion or piece of the viscera including organs may be taken for laboratory examination.
34. (a) Any carcass and viscera which requires a more detailed examination as described in should be suitably marked and retained under the supervision of the inspector.
- (b) The marking which denotes that a carcass and viscera had been "retained" for further inspection should be laid down by the controlling authority.
35. Except with the permission of the inspector, no person should, prior to the inspection of any carcass being completed, (i) remove any serous membrane or any other part from the carcass; or (ii) remove, modify, or obliterate any evidence of disease in the carcass or organ by washing, scraping, trimming, stripping or otherwise treating the carcass or organ.
36. (a) No person should remove from the inspection area of an abattoir any part of any carcass, organ, viscera until the inspector has completed his examination and a decision given.
- (b) 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 intended for human consumption should be so retained as to permit identification with the carcass or carcasses from which the blood was derived until inspection has been completed.

#### Retention of carcasses

37. Any carcass and viscera found to be diseased, suspected of disease or showing any abnormality which requires a more detailed examination should be identified and retained under the supervision of the inspector. In those cases the relevant parts of that animal should be assembled for veterinary examination. The veterinarian may perform or require any further examination and any laboratory test he deems necessary for reaching a final decision.

## SECTION VII - POST-MORTEM INSPECTION BY SPECIES

### A. Cattle including calves and other bovine species

#### Handling of carcasses

38. Where carcasses are dressed in a hanging position, the dressing procedure should include the tying of the oesophagus and rectum or any other acceptable procedures producing the same results to prevent the escape of gastro-intestinal contents.

#### Inspection of heads

- 39 (a) Any head which has been skinned, washed and hung up or placed on special metal head loops is ready for inspection after the base of the tongue has been detached so as to give access to the masticatory muscles and lymph nodes.
- (b) The inspector should view the head, oral and nasal cavities. He should then examine in detail by viewing and incision the sub-maxillary (lymphonodi mandibulares), parotid (lymphonodi parotidei), and retropharyngeal lymph nodes (lymphonodi retropharyngei). The tonsils should be removed after inspection. He should view and incise the muscles of mastication. One or more linear incisions should be made parallel to the lower jaw with the external muscle of mastication and at least one incision into the internal muscle of mastication. The tongue should be viewed and palpated and, if necessary, an incision should be made into the root of the tongue without mutilation of the blade. The lips and gums should be viewed.

#### Inspection of viscera

40. The following viscera should be examined:

- (a) Gastro-intestinal tract: viewing of stomachs and intestines, palpation and, if necessary, incision of the mesenteric lymph nodes (lymphonodi mesenterici), provided they are not obviously diseased.
- The oesophagus should be separated from its attachment to the trachea and viewed.
- (b) Spleen: viewing of organ, palpation and if necessary incision; whenever required a smear of the spleen pulp should be taken.
- (c) Liver: viewing and palpation of entire organ. The portal lymph nodes (lymphonodi hepatici (portales) should be incised provided they are not obviously diseased. The large bile duct should be opened up by an incision of at least 3 cm in length. Where necessary for reaching a diagnosis one or more incisions should be made deep enough to open up bile ducts and liver substance. The gall bladder should be viewed and if necessary palpated.
- (d) Lungs: viewing, palpation of the entire organ. Viewing and incision of bronchial and mediastinal lymph nodes (lymphonodi tracheobronchales et mediastinales) provided they are not obviously diseased.

Where lungs are used for human consumption an incision should open up the larynx, trachea and bronchi. A transverse incision across the lower part of the diaphragmatic lobe should open up the bronchi.

- (e) Heart: viewing of the heart after the pericardium has been opened. One or more incisions should be made from base to apex or alternatively the heart may be averted and shallow incisions made so that the cardiac valves and muscle tissue can be inspected.
- (f) Uterus: viewing palpation and, if necessary, incision. If the last is made, every precaution should be taken to prevent any contamination of the premises, equipment and personnel.
- (g) Udders: viewing of the udder, palpation and, if necessary, incision. When the udder is destined for human food, incision of the supra-mammary lymph nodes (lymphonodi inguinales superficiales) and organ itself should be a routine procedure but care should be exercised when incising the udder to prevent contamination of the premises, equipment and personnel.
- (h) Kidneys: enucleation, viewing and, if necessary, palpation and\* incision.
- (i) Testicles: (where they are saved for human consumption); viewing and palpation.

#### Inspection of carcasses

- 41 (a) The carcase should be examined to ascertain:
- (i) condition;
  - (ii) efficiency of bleeding;
  - (iii) colour;
  - (iv) condition of serous membranes (pleura and peritoneum);
  - (v) abnormalities;
  - (vi) cleanliness;
  - (vii) odours.
- (b) The skeletal muscles, including the attached fat and connective tissues, the bones, especially those which have been cut and exposed during the splitting of the carcase, the joints, the tendon sheaths, the diaphragm and the pleura and the peritoneum should be viewed and if necessary palpated and incised.
- (c) The following lymph nodes should be viewed, palpated and if necessary incised:
- (i) superficial inguinal (supra-mammary)., (lymphonodi inguinales superficiales);
  - (ii) external and internal iliac (lymphonodi iliaci);
  - (iii) pre-pectoral (lymphonodi cervicales profundi caudales);
  - (iv) renal (lymphonodi renales);
  - (v) in all animals reacting to the tuberculin test and in those carcasses and viscera in which tubercular lesions are found, the main carcase lymph nodes should be examined to ensure the proper disposition of the carcase and viscera. A similar procedure should be carried out in all cases in which a systemic or generalized disease may exist.

## Calves

42. The post-mortem inspection of viscera and carcasses of calves is in principle the same as that for cattle. However in young calves (calves up to 6 weeks old) the incision of the muscles of mastication and the opening of the heart may be omitted but particular attention should be paid to:
- (a) intestines;
  - (b) serous membranes;
  - (c) texture and development of muscles;
  - (d) colour of carcase;
  - (e) appearance and consistency of renal fat;
  - (f) navel region;
  - (g) joints.

## B. Horse

43. The post-mortem inspection of the horse and other solipeds is in principle the same as for cattle but particular attention should be paid to the following:

### Inspection of heads

44. The head should in countries where it is judged necessary be split lengthwise in the medial line and the nasal septum should then be removed for careful viewing. The mucous membranes of the nasal cavity, larynx, pharynx and trachea should be viewed. The muscles of mastication are not incised.

### Inspection for melanosis

45. All greyish or white horses should be examined as regards the muscles and lymph node of the shoulders beneath the scapular cartilage by loosening the attachment of one shoulder. The kidneys should be exposed and inspected by incision through the entire kidney.

## C. Sheep and Coats

### Inspection of heads

46. The surfaces of the head as well as the nasal and oral cavities should be viewed. If necessary the tongue should be viewed palpated and incised. Lymph nodes should only be incised when required.

### Inspection of viscera

47. The following viscera should be examined:
- (a) Gastro-intestinal tract: viewing of stomachs and intestines and if necessary palpation. Viewing and if necessary palpation and incision of associated lymph nodes.
  - (b) Spleen: viewing and if necessary palpation and incision.

- (c) Liver: viewing and thorough palpation of organ and hepatic lymph nodes (lymphonodi hepatici (portales)), and if necessary incision of organ and lymph nodes. Gall bladder viewing and if necessary palpation.
- (d) Lungs: viewing and palpation of lungs, bronchial and mediastinal lymph nodes (lymphonodi tracheobronchiales et mediastinales), if necessary incisions.
- (e) Heart: viewing after removal of pericardium and incision if necessary.
- (f) Uterus: in adult animals viewing and if necessary palpation.
- (g) Udder: in adult animals viewing and if necessary palpation.
- (h) Kidneys: enucleation, viewing and if necessary palpation and incision.

#### Inspection of carcasses

48. The carcass and body cavities should be viewed. The main carcass lymph nodes should be palpated and if necessary incised.

#### D. Pigs

49. The post-mortem inspection of pigs used for human consumption is in principle the same as for cattle but particular attention should be paid to the following.

#### Inspection of heads

50. The viewing of the head should serve to detect any abnormalities and assess its cleanliness.

The sub-maxillary lymph nodes (lymphonodi mandibulares), should be incised and the cut surfaces examined. The parotid (lymphonodi parotidei), and retropharyngeal lymph nodes (lymphonodi retropharyngei), should be incised if necessary.

Where *C. cellulosa* is prevalent the outer muscle of mastication and the root of the tongue should be incised and the blade of the tongue viewed and palpated.

The tonsils should be removed if necessary.

#### Inspection of viscera

51. The following viscera should be examined:

- (a) Gastro-intestinal tract: viewing of stomachs and intestines and if necessary palpation. Viewing, palpation and if necessary incision of associated lymph nodes. These lymph nodes should be incised if any lesions have been observed in the sub-maxillary lymph nodes.
- (b) Spleen: viewing and if necessary palpation and incision.
- (c) Liver and lymph nodes: viewing and palpation and if necessary incision.
- (d) Lungs: viewing, palpation of entire organ.- Viewing and incision of bronchial and mediastinal lymph nodes (lymphonodi tracheobronchiales et mediastinales) provided they are not obviously diseased.

Where lungs are used for human consumption an incision should open up the larynx, trachea and bronchi. A transverse incision across the lower part of the diaphragmatic lobe should open up the bronchi.



- (e) Heart: viewing of the heart after the pericardium has been opened and incision to expose the cardiac valves if necessary.

Where C. cellulosa is prevalent the opening up of the heart and a deep incision into the septum should be an inspection procedure.

- (f) Uterus: viewing and, particularly where sows are concerned, palpation and if necessary incision. If the last is carried out every precaution should be taken to prevent any contamination of the premises, equipment and personnel.
- (g) Kidneys: enucleation, viewing and if necessary palpation and incision.

#### Inspection of carcasses

52. (a) The carcass should be examined to ascertain;
- (i) condition;
  - (ii) efficiency of bleeding;
  - (iii) colour; .
  - (iv) condition of serous membranes (pleura and peritoneum);
  - (v) abnormalities;
  - (vi) cleanliness,
  - (vii) odours.
- (b) The skeletal muscles, including the attached fat and connective tissue, the bones, especially those which have been cut and exposed during the splitting of the carcass, the joints, the tendon sheaths, the diaphragm and the pleura and the peritoneum should be viewed and if necessary palpated and incised.
- (c) The following lymph nodes should be viewed, palpated and if necessary incised;
- (i) superficial inguinal (supra-mammary) (Lymphonodi inguinales superficiales);
  - (ii) iliacs (Lymphonodi iliaci);
  - (iii) renal (Lymphonodi renales).
- (d) Countries should have measures in force in their meat inspection system to protect the public adequately from trichinosis.

#### E. Camels

53. Post-mortem inspection should be conducted as in cattle.

#### SECTION VIII - DISPOSITION AND BRANDING

54. (a) Carcasses, heads, organs and viscera which as a result of ante- and post-mortem inspection are passed as fit for human consumption without further restrictions should be appropriately branded.
- (b) Any meat heads, organs and viscera which requires treatment by heat or by freezing to render it fit for human consumption should be suitably branded and kept under supervision of an inspector until the necessary treatment has

been concluded and the carcass can be passed as fit for human consumption..

- (c) All carcasses, parts of carcasses, organs and viscera which as a result of ante- 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 human food purposes.
- (d) The size, shape and wording of any brand as well as the colour and composition of marking ink used for the branding of carcasses and organs should be laid down by the controlling authority and should be uniform throughout the country.

#### SECTION IX - LABORATORY EXAMINATION

- 55. (a) Laboratory facilities should be readily available to provide the inspector with the information he requires in doubtful cases involving abnormalities, diseases or residues and in which a microscopical inspection alone cannot provide the evidence required for passing a judgement on a carcass and viscera
- (b) Samples should be properly identified and accompanied by fully explanatory information.
- (c) Care should be taken to ensure that samples arrive at the laboratory in good condition.