



JOINT FAO/WHO FOOD STANDARDS PROGRAMME
CODEX COMMITTEE ON RESIDUES OF VETERINARY DRUGS IN FOODS
Twenty-fourth Session

DISCUSSION PAPER ON EDIBLE OFFAL TISSUES
(possible definition and edible offal tissues of interest in international trade)

(Report of the Electronic Working Group on definition of edible offal tissue)

1. Twenty-four (24) participants registered to be part of the EWG. Out of this number, 12 members and 2 observers submitted comments. The EWG members that submitted comments were Argentina Brazil, Canada, Chile, Egypt, France, Japan, Nigeria, Peru, Thailand, United States of America, United Republic of Tanzania, Health For Animals and International Meat Secretariat.

Background

2. The 23rd Codex Committee on Residues of Veterinary Drugs in Foods (CCRVDF23) agreed to establish an Electronic Working Group (EWG), chaired by Kenya, working in English, to prepare a discussion paper in response to the request from 81st JECFA for CCRVDF to “provide a definition of edible offal”. The discussion paper will propose a possible definition of edible offal tissue and specify edible offal tissues of interest in international trade.

3. As part of a pilot program the EWG was run over a bulletin board. With this system a better flow of information and increased transparency was achieved.

4. This discussion paper was developed from responses to three separate sets of questions as follows:

- A. The first question had two parts with the first part seeking to interrogate various general definitions of offal as may be defined in different countries either through legislation or in relevant texts. The second part was more specific to the definition of edible offal tissue, which is intended for human consumption.
- B. The second question sought to identify the edible offal’s based on the species of animals intended for human consumption. This could be from species such as bovines, ovines, caprines, equines, avians, porcines among others.
- C. The third question sought to receive the relevant data on volume of trade in edible offals locally (within the country) and internationally (imports and exports).

General definition of offal tissue

5. Following review of the different definitions proposed by EWG members, it was generally recognized that a definition for offal should consist of two main categories namely: visceral organs or internal organs; and external organs or appendages, and that there may be the need to further define viscera/internal and external/appendage organs.

6. Internal organs mainly comprise the thoracic (lungs with the trachea, oesophagus, heart), abdominal tripes (intestines, stomachs), kidneys, liver, abdominal fat, spleen, gizzard and pelvic organs (uterus, ovaries, bladder; while the external organs mainly comprise the head {eyes, muzzle, ears, tongue, brain, head meat (cheek Meat), thymus}, tail, trotters (feet, legs, claws), udder, pizzles and testicles.

7. A literature review conducted on the OIE Terrestrial Animal Health Code, noted that the Code made reference to offal in article 8.2.3 (*Aujeszky's disease- Safe commodities*) in relation to domestic and wild pigs and products of animal origin as head, and thoracic and abdominal viscera. There may be the need to conduct an extensive review on OIE document to ensure alignment of OIE and Codex definition on this subject.

8. In view of the comments submitted by EWG members, it is proposed that the definition of offal tissue should be:

“fresh meat other than that of the carcass, including viscera, appendages and blood”.

- *Where carcass means the body of an animal (for the purpose of CCRVDF, animal includes avian and aquaculture species used in human food production) after dressing.*
- *Viscera and appendages mean the organs as described in para. 5 above.*
- *Whereas fresh meat means meat that apart from refrigeration has not been treated for the purpose of preservation other than through protective packaging and which retains its natural characteristics (Code of Hygienic Practice for Meat – CXC 58-2005).*

Definition of edible offal tissue

9. Following review of the different definitions proposed by EWG members for edible offal tissues, it was generally recognised that countries have preferences for specific organs other than the carcass and these are consumed based on customs (culture) of a country. This has an influence on what could be considered as edible offals provided it has been declared fit for human consumption.

10. It is worth taking note of the definition of Meat as defined by the Codex Alimentarius as “All parts of an animal that are intended for, or have been judged as safe and suitable for, human consumption” (CXC 58-2005).

11. However, the *Glossary of Terms and Definitions (Residues of Veterinary Drugs in Foods)* (CXM 5-1993) which has been elaborated with a view towards providing information and guidance to the Committee, has defined meat as the edible part of any mammal.

12. Further, the *Standard for Cooked Cured Chopped Meat* (CXS 98-1981) defines *meat* as the edible part including edible offal of any mammal slaughtered in an abattoir and *edible offals* as such offals as have been passed as fit for human consumption but not including lungs, ears, scalp, snout (including lips and muzzle), mucous membrane, sinews, genital system, udders, intestines and urinary bladder. Edible offal does not include poultry skin. This standard has made exclusion of specific organs from the definition of edible offals.

13. The above definitions mentioned in paras 8, 9 and 10 give the view that all parts of an animal that is muscle, internal and external organs as referred to in para. 6 qualify to be considered as meat.

14. It has been proposed by the delegation of Canada that “offal” might refer to organs or parts of the gastrointestinal tract (entrails) located within the thoracic, abdominal or pelvic cavities. Therefore, it is preferable to use the term “meat by-products” (rather than offal) to refer to edible parts of a carcass other than meat. The same term, “meat by product” has been defined in the U.S. regulation from 9 CFR 301.2: as any product capable of use as human food, other than meat, which has been derived from one or more cattle, sheep, swine, or goats.

15. Whilst recognizing that the term “meat by products” may closely reflect the organs that could comprise the edible offals, the discussion on the use of the term “edible offal” or an alternative term is not within the scope of the EWG’s Terms of Reference.

16. Some of the tissues that have been considered as edible offal tissue in submissions by various EWG members are Specified Risk Material (SRM) and have particular significance to food safety especially with regard to transmissible spongiform encephalopathies, which are more specific to ruminants (bovine species). Edible offals should undergo inspection and only those considered fit for human consumption by the relevant Competent Authority should be released to the market. This will mitigate the risk of consumption of SRM.

17. Specified Risk Material (SRM): includes for cattle more than 30 months of age; brain, skull, eyes, trigeminal ganglia, spinal cord, dorsal root ganglia (DRG), and vertebral column (excluding vertebrae of the tail, the transverse processes of the thoracic and lumbar vertebrae, and the wings of the sacrum). For all cattle: tonsils and distal ileum of the small intestine.

18. Therefore, for the purposes of this discussion paper, the proposed definition of edible offal tissue as *those parts of an animal apart from meat from the carcass that are considered fit for human consumption and they include the organs as described in para. 6.*

Edible offal tissues consumed based on species and volumes traded

19. EWG members provided varying information on what is considered edible offals consumed in their respective countries and also the volume of trade locally and internationally (import and export data).

20. In order to align edible offal classes to be proposed by the EWG with the International Harmonized System, only data on quantity of total imported and exported offal was considered. Discussions on the identification of the edible offals of international importance should also take into account that some of the organs will require specific analytical methods to be validated for each offal tissue under consideration.

21. A review of the world trade in edible offals based on the data available from FAOSTAT (figure 1) for 10 years between 2004 and 2013 indicates an increasing trend in import and export of edible offals.

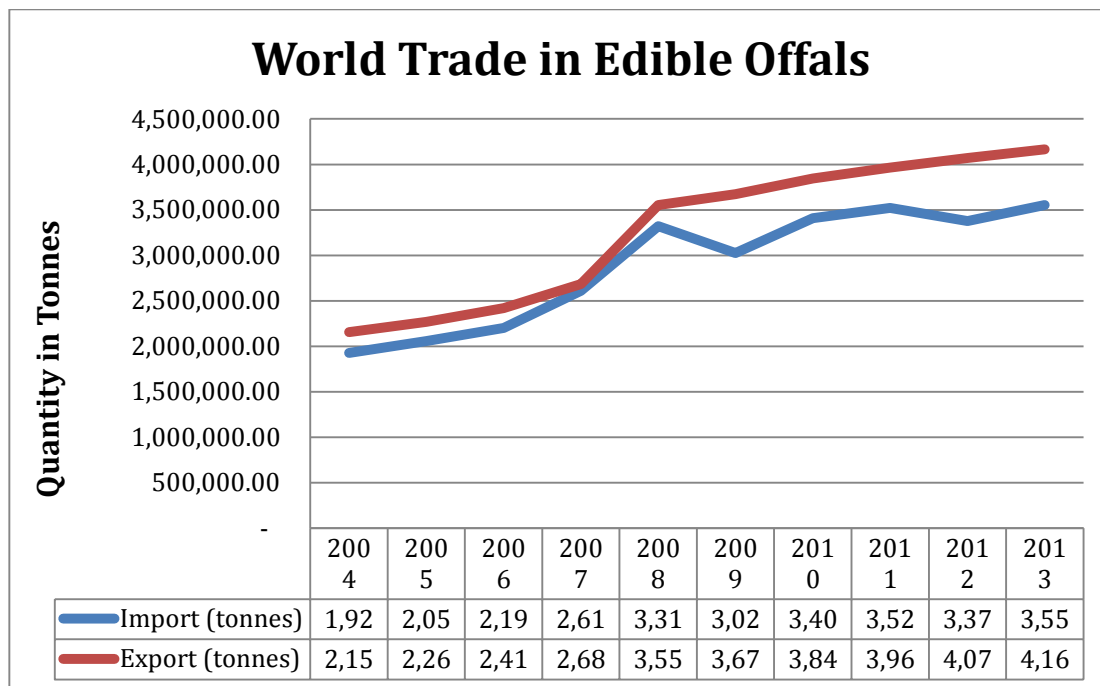


Figure 1. World Trade in Edible Offals (Source: <http://www.fao.org/faostat/en/#compare>)

22. The trade data on quantities traded locally and internationally, for the period 2014 – 2016 was received from 10 countries that submitted and this was the data used to analyze the various organs.

Management and Analyses of the data received.

23. The export and import data as well as data from local trade of offals received from EWG members were entered and managed in MS Excel®. The data cleaning process included matching entries with similar edible-organ names and generating new column names e.g. feet, claws, hoak, hands and legs that were classified as trotters while gut, stomach, intestines etc. were classified as tripe. Non- specified organs were retained as "not specified". The status of the organs (frozen, fresh, chilled etc.) was not considered in the analysis and review of the findings.

Summaries generated in the submitted data

24. This report has been restricted to basic descriptive analyses (tables, graphs etc) as only a small proportion of countries provided data and some of these were scanty. Initial frequency tabulation was done to determine how frequent the organs were observed, considering all the years, for all countries and for each species. A total of 689 records had matching species and organ details - which mostly included cattle (41.9%), swine (21.6%) and poultry (14.5%). Based on this data, the discussions were restricted to cattle, swine and poultry species in this discussion paper. Summaries for sheep have also been presented. For cattle, the most frequently listed edible organ, from a total of 289 records, was tripe (20.8%), tongue (10.4%) and the liver (7.9%) (Figure 2), which represents the organs of focus in the report.

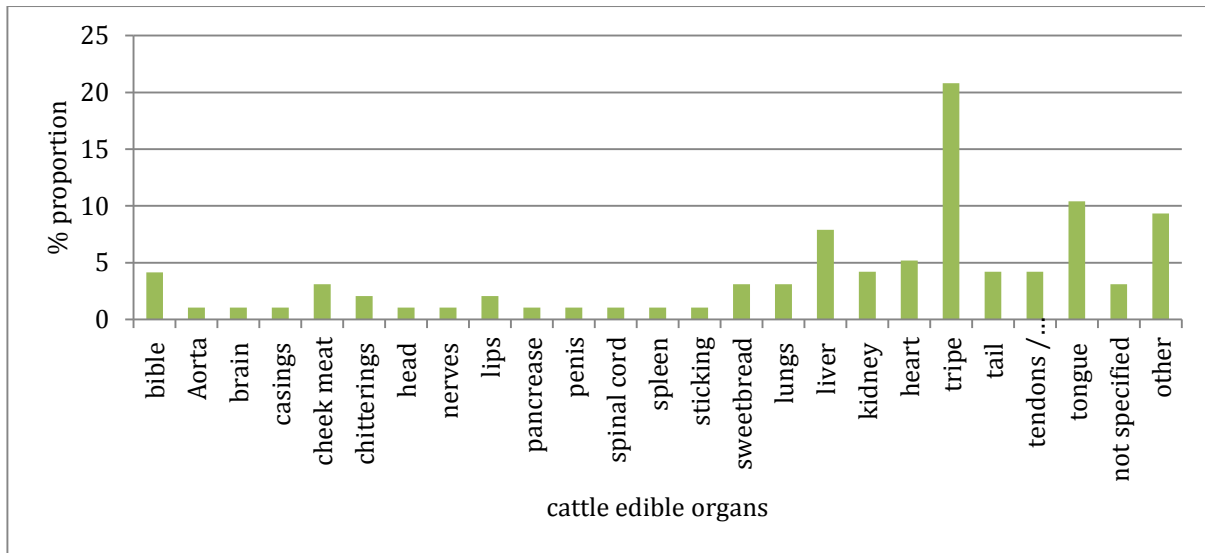


Figure 2. Cattle edible organs (2014 - 2016)

25. A detailed description of exported quantities of liver, tripe and tongue is presented in Table 1 below.

Table 1. Volumes (metric tonnes) of the most frequently exported cattle -edible tissues 2014 - 2016

	Number of observations	Total exported (metric tonnes)	Median	Range
Liver	16	191,406.5	1689.86	21.16 - 87726.7
Tripe	38	192,471.8	181.5	4.98 - 55232.3
Tongue	24	91,901.5	910.5	910.5 - 16155.1

26. For swine, the most frequently listed edible organ, from a total of 149 records, was liver (12.08%), tripe (10.07%), trotters (8.05%) and heart (8.05%) (Figure 3), which also represent the organs of focus in the report.

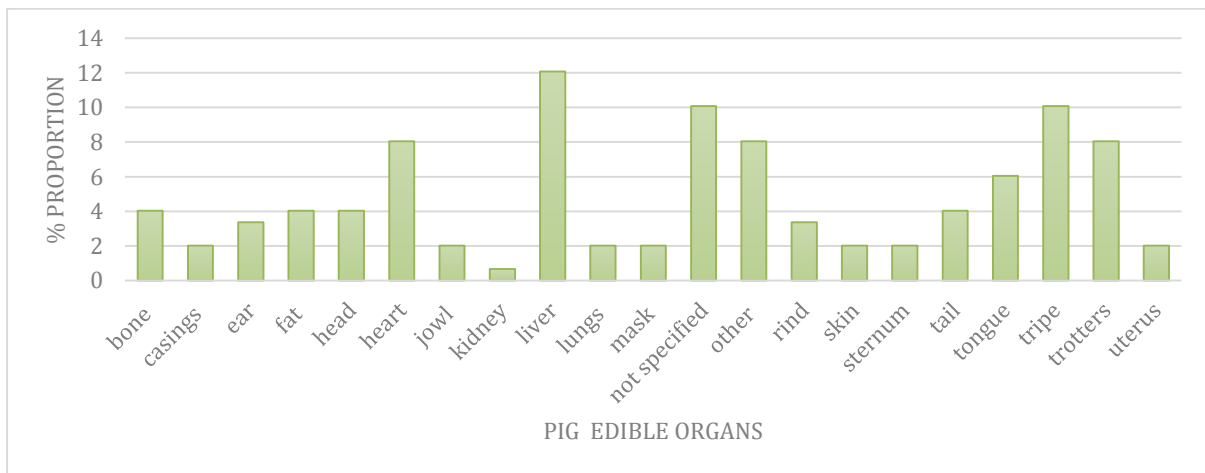


Figure 3. Pig edible organs (2014 - 2016)

27. A detailed description of exported quantities of liver, tripe, trotters and heart is presented in Table 2 below.

Table 2. Volumes (metric tonnes) of the most frequently exported pig -edible tissues 2014 - 2016

	Number of observations	Total exported (metric tonnes)	Median	Range
Liver	18	21160.9	184.2	1.007 - 53344.24
Tripe	9	397539.9	2.427	1.793 -171822
Trotters	6	2277.4	322	1.441 - 756
Heart	9	39479.4	472	25 - 19094.7

28. For poultry, the most frequently listed edible organ, from a total of 100 records, was neck (12%), liver (9%), trotters (9%) and the heart (8%) (Figure 4), which also represent the organs of focus in the report.

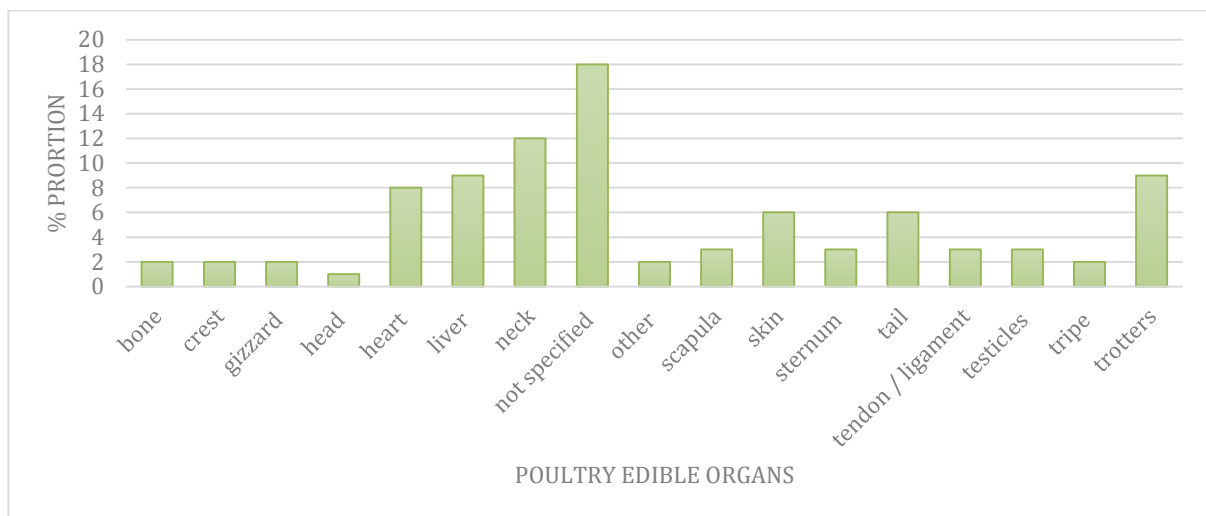


Figure 4. Poultry edible organs (2014 - 2016)

29. A detailed description of exported poultry quantities for edible neck, liver, trotters and heart tissue is presented in Table 3 below.

Table 3. Volumes (metric tonnes) of the most frequently exported poultry -edible tissues 2014 - 2016

	Number of observations	Total exported (metric tonnes)	Median	Range
Neck	9	155.32	2.98	2.392 - 67
Liver	9	225.57	1.8	0 - 194
Trotters	9	1388.01	27.53	1.19 - 892
Heart	8	890.18	8	1 - 479

30. For sheep, the most frequently listed edible organ, from a total of 59 records, was tripe (24%), casings (10%), liver (8.5%) and kidney (8.5%) (Figure 5).

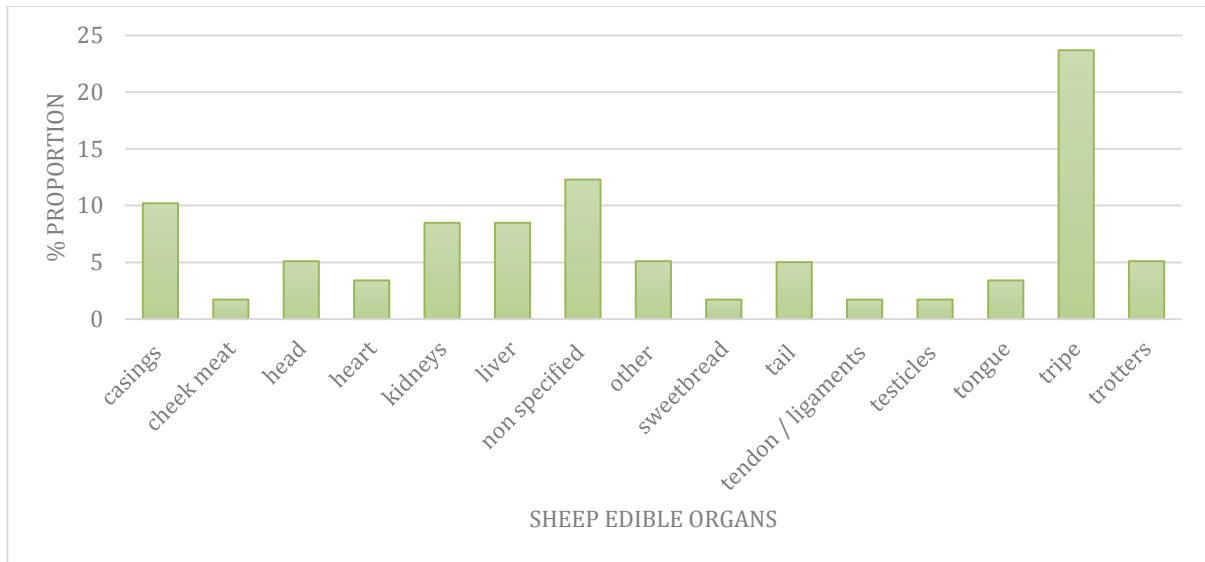


Figure 5. Sheep edible organs (2014 - 2016)

31. A detailed description of exported sheep quantities for the tripe, liver and kidney is presented in Table 4 below.

Table 4. Volumes (metric tonnes) of the most frequently exported sheep -edible tissues 2014 - 2016

	Number of observations	Total exported (metric tonnes)	Median	Range
tripe	11	1335	70	1 - 391
liver	5	376	81	2 - 189
kidney	5	177	35	2 - 72

Comparing quantities of edible organs exported by species

32. This was done for selected edible organs for different species with the aim of identify the species contributing more in the export of specified edible organs, for the three years considered. Cattle and pigs are seemingly contributing more to the export trade of both liver and heart organs (Figure 6).

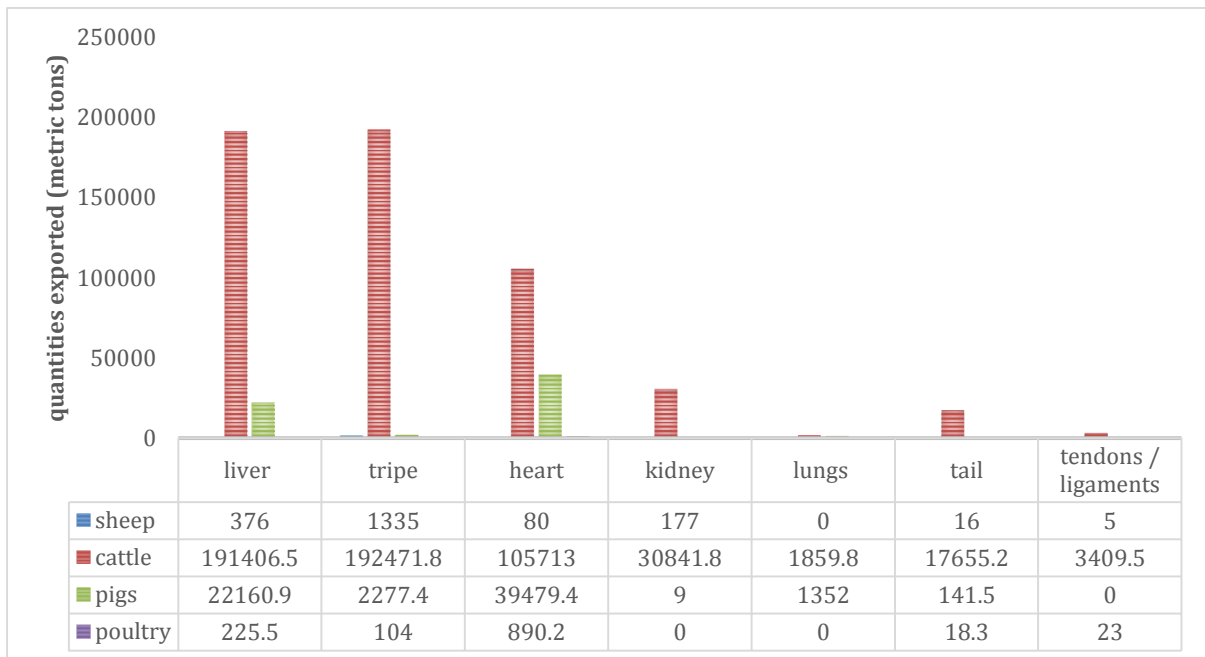


Figure 6. Quantities (metric tons) of liver, tripe, heart, kidney, lungs, tail and tendons exported by species

Comments from the chair:

33. This subject requires thorough review by members for a harmonized definition of edible offals to be achieved. Only a small number of countries submitted data on trade in edible offals limiting the identification of organs potentially considered as offals of importance in international trade.

Conclusions

34. There is consensus on the general definition of offal tissue, which encompasses internal and external organs of an animal excluding the carcass. The Chair therefore proposes the general definition of offal as *fresh meat other than that of the carcass, including viscera, appendages and blood*.

35. With regard to edible offals, there was general consensus on considerations for the culture or customs of the respective countries, which had to be taken into account and the aspect of the organs being declared fit for human consumption. The chair therefore proposes that the definition of edible offals as *those parts of an animal apart from meat from the carcass that are considered fit for human consumption and they include the organs as described in paragraph 5*.

36. Based on the data submitted, it is observed that cattle, pigs and poultry are the species, which provide the bulk of edible offals, with liver, tripes and tongue being the most traded edible offals in cattle; Liver, tripe, trotters and heart in pigs; neck, liver, trotters, and heart in poultry; and tripe, casing, liver and kidney in sheep. These could be considered as edible offals of significance to international trade.

37. Cattle and pigs are the main contributors of international trade in liver and heart.

Recommendation

38. There is need for consensus by codex members on a harmonized definition of edible offals to facilitate elaboration of MRLs on tissues of international importance.

References:

1. *Glossary of Terms and Definitions* ([CXM 5-1993](#))
2. *Code of Hygiene Practice for Meat* (CXC 58-2005)
3. *Standard for Cooked Cured Chopped Meat* (CXS 98-1981)
4. OIE Terrestrial Animal Health Code article 8.2.3 (*Aujeszky's disease- Safe commodities*)
5. World Trade in Edible Offals <http://www.fao.org/faostat/en/#compare>