



Organisation Mondiale de la Santé Animale

World Organisation for Animal Health

Organización Mundial de Sanidad Animal

Original: English

November 2009

REPORT OF THE NINTH MEETING OF THE OIE ANIMAL PRODUCTION FOOD SAFETY WORKING GROUP

Paris, 3- 5 November 2009

The OIE Working Group on Animal Production Food Safety (the Working Group) held its ninth meeting at the OIE Headquarters on 3 to 5 November 2009.

The members of the Working Group and other participants are listed at [Annex I](#). The adopted agenda is provided at [Annex II](#).

Dr Bernard Vallat, OIE Director General, met with the Working Group for a brief discussion of OIE priorities and the future program of activity for the Working Group. After welcoming all participants and thanking members for their ongoing support of the OIE, Dr Vallat identified the horizontal issues that will be included in the OIE fifth Strategic Plan (2011-2016). These include: veterinary education policies globally; the contribution of aquaculture and aquatic animal health to food security and its importance for food safety; the effects of climate and environmental change on diseases and animal production; the interface between human and animal ecosystems, including wildlife; good governance in veterinary services; reinforcement of veterinary services' capacities and infrastructure, including veterinary legislation; and more generally the linkages between animal health, food safety and food security.

Dr Vallat informed the Working Group that since its establishment its activities have been tremendously beneficial to the OIE. Perhaps the most significant achievement is to provide a mechanism for sustainable and reliable coordination with the Codex Alimentarius Commission (CAC) with the goal of avoiding overlap, duplication and gaps in standards for the safety of the whole food production continuum. The meeting this week provides a timely opportunity to reflect on what has been achieved and to consider any reorientation of the Working Group that would be appropriate to take account of the changing needs of OIE Members and changes to the mandate of the OIE in the period of the fifth Strategic Plan.

Dr Vallat informed the Working Group on the continuing discussions with WHO on the revision of the current agreement between OIE and WHO and the possibility of WHO taking timely action to remove the present legal obstacle to the joint development of standards with the CAC.

Dr Vallat also informed the Working Group that he personally sees a need for ongoing input of the Working Group in regard to the following strategic priorities:

- One World, One Health;
- Linkage between animal welfare and animal production food safety;
- Education to support efficiently veterinary services involvement in food safety;
- Contribution of aquaculture and aquatic animal health to food security and its importance for food safety;
- Good governance, particularly in regard to veterinary services' contribution to food security;
- Link between animal health and animal production food safety;
- Implications of climate change for animal diseases and animal production food safety;
- Coordination between OIE Delegates and relevant national CAC and SPS focal points.

Dr Vallat commended the Working Group on its undertaking to review future OIE priorities for standard setting in animal production food safety, and confirmed that the discussion paper on priority pathogens, together with the recommendations of the Working Group, would be reviewed by the OIE Terrestrial Animal Health Standards Commission (the Code Commission) before being provided to OIE Members for comment. Dr Vallat reminded the Working Group that it should continue to approach issues from a scientific base, taking into account the different geographic, socio-economic, cultural and religious contexts of OIE Members. It is important to ensure that the OIE's work in setting international trade standards takes full account of the needs of developing countries, which constitute the majority of OIE Members. He informed the Group that it was possible at any time to invite specific *ad hoc* groups at their request if the Group sees any need for additional expertise.

1. Update on OIE / Codex / FAO / WHO activities

1.1. OIE

Dr Sarah Kahn provided an update on the work of OIE. Detailed information is provided in [Annex III](#).

1.2. Codex

Dr Annamaria Bruno provided an update on the work of Codex. Detailed information is provided in [Annex IV](#).

1.3. FAO

Dr Katinka de Balogh provided an update on the work of FAO. Detailed information is provided in [Annex V](#).

1.4. WHO

Dr Bernadette Abela-Ridder provided an update on the work of WHO. Detailed information is provided in [Annex VI](#).

The Working Group encouraged the Director General to continue to support ongoing communication between the OIE and the secretariat of Codex and the relevant units at the FAO and WHO, to ensure ongoing co-ordination of relevant work between these organisations.

2. Animal Production Food Safety: priority pathogens for standard setting by the OIE

Dr Sarah Kahn introduced Dr Knight-Jones, who had worked as an intern with the OIE International Trade Department in 2009 and had prepared a discussion paper on 'Animal Production Food Safety: priority pathogens for standard setting by the OIE'.

Dr Knight-Jones gave a presentation of his main findings. He explained that data required for prioritisation of pathogens involved in foodborne disease are lacking, particularly for developing countries. Therefore, he based the discussion paper on expert opinion, consultation with colleagues at WHO, and a literature review. Prioritisation for standard setting was based on a pathogen's impact on human health; the potential for on-farm control and a lack of coverage in OIE *Codes*. As the OIE's mandate includes alleviating global poverty, the study focussed on developing and in-transition countries. *Salmonella* spp. in poultry, *Bacillus anthracis* and BSE were not considered as relevant standards have been or are being developed by the OIE.

The regions considered were Eastern Europe, Asia (excluding the Middle East), the Middle East, Africa and South America. Opinions from one or two experts from each region were obtained using a postal questionnaire.

In presenting his findings, Dr Knight-Jones explained that experts from four of the five regions considered *Salmonella* spp. from sources other than poultry to be a top priority and pathogenic *E.coli* was considered a top priority in three regions. *Brucella* spp. and *Staphylococcus aureus* were also mentioned by three regions. Control of non-poultry Salmonellosis has been achieved by some countries and non-specific on farm measures have helped to control pathogenic *E. coli*. The OIE *Terrestrial Animal Health Code* (*Terrestrial Code*) contains little or no information on appropriate on-farm measures for these disease agents and Dr Knight-Jones recommended that they be prioritised for future standard setting.

Dr Knight-Jones also noted that on-farm control measures for *Brucella* spp. are known to be feasible and effective. In response, Dr Sarah Kahn advised that standards for *Brucella* spp. are currently under review by an OIE *ad hoc* Group and that the OIE International Trade Department would take steps to ensure that the *ad hoc* Group considers issues relevant to food safety.

E. granulosus, the causative agent of hydatidosis, was estimated to have the greatest impact of all foodborne pathogens in Africa; it was also listed for the Middle East and thought to be of importance by both South American experts consulted. Hydatidosis was inconsistently considered as a foodborne disease by experts. *Taenia saginata* was considered important in South America, Africa and by one expert in the Middle East. Although it causes relatively mild clinical signs in infected humans, it has a major impact through production losses in the beef industry and loss of export trade due to trade restrictions.

As the WHO/FAO/OIE have published recommendations on the control of *Echinococcus*, *Trichinella spiralis* and *Taenia solium*¹ there may be less reason to prioritise these pathogens for future OIE standard setting. However, the opinion of OIE Members should be sought on this question.

¹ WHO/FAO/OIE Guidelines for the Surveillance, Prevention and Control of Taeniosis/Cysticercosis, OIE, Paris, 2005 and WHO/OIE, WHO/OIE manual on Echinococcosis in humans and animals: a public health problem of global concern, OIE, 2001.

Dr Sarah Kahn commented that although the process of review had not been exhaustive, the recommendations in the discussion paper would be submitted to OIE Delegates for comment and that this would provide for a global review and validation of the recommendations by OIE Members. It is proposed that the discussion paper, with any modifications proposed by the Working Group or the Code Commission, would be published in the OIE *Scientific and Technical Review* series.

The Working Group noted the conclusions provided by Dr Knight-Jones and provided him with a number of comments. Noting the limitations of the methodology used, the Working Group concurred with the overall findings of the report that *Salmonella* spp. and pathogenic *E. coli* are the main candidates for prioritisation from a food safety point of view. The paper was not available at this meeting so the members of the Working Group agreed to provide the secretariat with any further comments by the end of November 2009. Some members suggested that, since the priority assigned by experts was based on their personal opinions and perceptions of problems, rather than on scientific data, the list of pathogens identified in the study should be used in the wider consultation of priority pathogens among OIE Members. The Working Group recommended that the final report, taking into account Working Group members' comments, be provided to OIE Members for further consideration of the proposed standard setting priorities.

The Working Group also requested that the Director General ensures ongoing communication between the OIE and WHO with regard to The Foodborne Disease Burden Epidemiology Reference Group (FERG) to assist in the prioritisation of pathogens for future OIE standard setting.

The 'Animal Production Food Safety: priority pathogens for standard setting by the OIE' paper including Working Group members' comments is presented at [Annex VII](#).

3. Review the Working Group's Terms of Reference and *Modus Operandi*

The Working Group reviewed its Terms of reference and *Modus operandi* with a view to ensuring their ongoing relevance.

The Working Group was of the view that it can continue to provide useful advice to the Director General, Specialist Commissions and Working Groups as well as helping promote alignment/collaboration between OIE and CAC, with some minor modifications to these texts.

The Working Group was of the opinion that co-operation between the main technical partners at the governance level was an important element of its work and encouraged between session contact at the governance level between the bodies represented on the Working Group.

The Working Group proposals for the revised Terms of reference and *Modus operandi* are presented at [Annex VIII](#).

4. OIE work on trade in animal products (commodities)

Dr Sarah Kahn provided an update on the latest meeting of the *ad hoc* Group on Trade in Animal Products ('Commodities') that met in October 2009. The main objective of the meeting was to review the OIE/DfiD report "Qualitative Assessment of the commodity risk factor for spread of foot and mouth disease associated with international trade in deboned beef". The report of the *ad hoc* Group would be submitted to the Code Commission for consideration of appropriate next steps. Although the focus of this meeting was on FMD which is not a food safety issue, Dr Sarah Kahn highlighted the importance of international trade in animal products ('commodities') for OIE Members and noted that recommendations from a previous meeting of the *ad hoc* Group to review *Terrestrial Code* chapters with regard to the status of animal products as safe commodities was ongoing. Work with food safety relevance included the assessment of beef (Rift valley fever and bovine brucellosis); milk and milk products (bovine brucellosis, lactoperoxidase treatment to inactivate animal pathogens, sheep and goat milk). The *ad hoc* Group also recommended that the Code Commission continue working to improve the *Terrestrial Code* presentation and to make it more user-friendly.

5. Salmonellosis

Dr Gillian Mylrea provided an update on OIE work on salmonellosis and noted the active collaboration between the OIE and Codex to harmonise the relevant standards under development by the two organisations. Dr Mylrea reported that an OIE representative had attended the FAO/WHO Expert meeting on Salmonellosis and Campylobacter in May 2009 and the Codex Committee on Food Hygiene Physical Working Group on the proposed draft Guidelines for control of Campylobacter and Salmonella in chicken meat.

Dr Gillian Mylrea noted that the *Terrestrial Code* Chapter 6.5. Prevention, Detection and Control of Salmonella in Poultry was adopted at the OIE 77th General Session May 2009 and included the text provided by the Working Group to the Code Commission.

Dr Gillian Mylrea noted that the *Terrestrial Code* Chapter 6.4. Biosecurity Procedures in Poultry Production had been revised by the *ad hoc* Group on Salmonellosis following consideration of Member comments. The *ad hoc* Group had reduced the amount of detail that was previously in this chapter resulting in text that addressed in a generic manner the fundamental hygiene and biosecurity practices. The chapter has been circulated to Members as part of the October 2009 Report of the Code Commission and the intention is to propose it for adoption in May 2010.

The Working Group noted the excellent collaboration between the OIE and CAC on standards related to salmonellosis in poultry (leading to aligned standards) and recommended that such collaboration be continued with the CAC in standard setting for salmonellosis and campylobacteriosis in poultry.

6. The control of hazards of animal health and public health importance in heat-treated pet food

Dr Sarah Kahn reported that the Code Commission had accepted a proposal from the international pet food industry to develop a text with recommendations for companion animal feed (pet food) for inclusion in the *Terrestrial Code*. The pet food industry worked with several OIE experts, including a member of the Code Commission, and submitted a supporting document and draft text for consideration by the Code Commission. The Code Commission amended this text at its September 2009 meeting and provided it to Members for comment. The supporting document was also provided to Members for information. Once OIE Members have indicated that they are in agreement with this text, appropriate articles will be added to Chapter 6.3. Control of Hazards of Animal Health and Public Health importance in Animal Feed.

The Working Group reviewed the proposed draft text 'The control of hazards of animal and public health importance in heat-treated pet food' and suggested that the Code Commission consider adding references to the Codex Codes (Recommended International Code of Hygienic Practice for Low and Acidified Low Acid Canned Foods (CAC/RCP 23-1979) and Code of Hygienic Practice for Aseptically Packaged and Processed Low Acid Foods (CAC/RCP 40-1993)) in Article 2 (Objectives and scope).

7. Aquatic and Terrestrial Code chapters on the control of hazards of animal health and public health importance in animal feed

The Working Group reviewed the revised *Aquatic* and *Terrestrial Code* chapters on the control of hazards of animal health and public health importance in animal feed.

The Working Group noted that the definition of *feed additive* used in the *Terrestrial* and *Aquatic Code* chapters differed from the CAC definition and recommended that the two OIE Commissions align definitions as far as possible with CAC definitions.

The Working Group noted that the *Aquatic Code* Chapter 4.5. included more detailed information on certification procedures (Article 4.5.9.) than the equivalent *Terrestrial Code* Chapter 6.3. and recommended that the Code Commission give consideration to expanding the text on certification procedures to harmonise the two chapters.

The Working Group recommended the following amendments to the *Terrestrial Code* Chapter 6.3.:

- Article 6.3.3. definition for *Feed additive* – add the word 'or' before 'of the animal products' and align with Codex definition.
- Article 6.3.4. point 2 amend as shown below:

2. Regulatory safety standards

All feed and feed ingredients should meet regulatory safety standards. ~~In defining limits and tolerances for hazards, s~~Scientific evidence, including the sensitivity of analytical methods and on the characterisation of risks, should be taken into account in defining limits and tolerances for hazards.

The Working Group recommended the following amendments/considerations to the *Aquatic Code* Chapter 4.5.:

- Glossary definition for *Feed additive* – align with the *Terrestrial Code* definition and Codex definition, as far as possible.
- Article 4.5.4., point 6. Bioaccumulation, replace the word 'fatty' with 'certain' as accumulation of some heavy metals occurs in other tissues .
- Article 4.5.4., point 14. Cross-contamination – delete duplication of text ('Procedures, such as flushing, sequencing and physical clean-out, should be used to reduce the likelihood of contamination between batches of feed or feed ingredients.')
- The heading 'safe commodities' in Article 4.5.8. 1a) may be misleading as it refers only to microbiological safety and does not take into account chemical or physical hazards (e.g. dioxins and PCBs).
- Article 4.5.8. 1a) line 3, the words 'normal commercial practice' should be replaced by 'Good Manufacturing Practice'.
- That the OIE Aquatic Animal Health Standards Commission (Aquatic Animals Commission) consider the food safety implications of the use of animal manure and human slurry as feed in aquaculture.
- That the Aquatic Animals Commission consider the addition of a reference to the Codex Code of Practice on Fish and Fishery Products (CAC/RCP 52-2003) to Article 4.5.1.

8. Antimicrobial resistance

Dr Kazuaki Miyagishima, Head of the Scientific Department, joined the Working Group for this item. Dr Miyagishima reported that the OIE continues to participate as an observer in the Codex *ad hoc* Intergovernmental Task Force on Antimicrobial Resistance and considers that the chapters in the Terrestrial Code on antimicrobial resistance have provided a good basis for the Codex work.

Dr Bruno noted that the report of the 3rd Session of the Codex *ad hoc* Intergovernmental Task Force on Antimicrobial Resistance held in Republic of Korea, October 2009 was available on the CAC website and that the 4th Session of the Task Force will be held in Republic of Korea in October/November 2010.

The Working Group encouraged the OIE to continue to engage closely with CAC, FAO and WHO on the important topic of antimicrobial resistance.

Dr Sarah Kahn also noted that the OIE World Assembly of Delegates at the 77th OIE General Session in May 2009 had expanded the mandate of the Aquatic Animals Commission to include animal production food safety and animal welfare. As one of its first priorities, the Aquatic Commission is developing a new text addressing the issue of antimicrobial resistance, along similar lines to Chapters 6.7., 6.8., 6.9., 6.10. and 6.11. in the *Terrestrial Code*.

9. Biotechnology

Dr Miyagishima joined the Working Group for this item. Dr Miyagishima reported that the OIE *ad hoc* Group on Biotechnology had been divided into two separate groups: the *ad hoc* Group on Vaccines in Relation to New and Emerging Technologies, focused on vaccinology and the other on molecular diagnostic tests.

The *ad hoc* Group on Vaccines in Relation to New and Emerging Technologies will meet in November 2009 with the main task of reviewing texts in the *OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals* and updating them where relevant. The *ad hoc* Group will meet again in January 2010 for one day dedicated to consider food safety aspects related to the use of biotechnology derived vaccines in animals. The members of the latter meeting will include experts to be nominated by FAO and WHO, using official procedures, in addition to OIE experts.

The Working Group recommended that insofar as food safety issues related to the use of nanotechnology in animal vaccines are concerned, the OIE and the Working Group should be involved.

10. Private standards for sanitary measures and animal welfare

Dr Sarah Kahn briefed the Working Group on the current OIE work programme on private standards. In August the OIE sent a questionnaire on private standards for animal welfare and for sanitary measures (i.e. animal health, zoonoses and animal production food safety) to Members. Some 64 Members and 6 organisations that have agreements with the OIE have provided replies, which will be reviewed by the *ad hoc* Group on Private Standards at its meeting on 9-10 November 2009.

The *ad hoc* Group has been asked to recommend actions that could be taken by the OIE strategy to help Members to avoid trade problems arising from private standards on sanitary measures and on animal welfare.

Dr Karen Hulebak informed members that the matter had been discussed at the 32nd session of the CAC. Like the OIE, the CAC is engaged with the SPS Committee Working Group that is examining this issue.

The Working Group noted this update and requested that the OIE provide an update on developments in due course.

11. Animal Identification and Traceability Conference 2009

Dr Gillian Mylrea briefed the Working Group on the recommendations from the 'OIE International Conference on Animal Identification and Traceability' held in Buenos Aires, 23-25 March, 2009. The OIE is collecting the remaining papers submitted by speakers to the conference and it is hoped to publish the proceedings by mid 2010. In the meantime, Powerpoint presentations and abstracts may be found on the OIE website (<http://www.oie.int/eng/traceability-2009/documents.html>).

12. Work Programme for 2010

The Working Group proposed work programme for 2010 is presented at [Annex IX](#).

13. Next meeting

The Working Group plans to hold its next meeting in early November 2010.

Work on key items will be progressed via physical or electronic working groups on an as needed basis .

.../ Annexes

**MEETING OF THE OIE ANIMAL PRODUCTION
FOOD SAFETY WORKING GROUP**

Paris, 3- 5 November 2009

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**MEETING OF THE OIE ANIMAL PRODUCTION
FOOD SAFETY WORKING GROUP**

Paris, 3- 5 November 2009

Adopted agenda

Welcome from the OIE Director General

Adoption of the Agenda

Report of the previous Working Group Meeting

1. Update on OIE / Codex / FAO / WHO activities
 - 1.1. OIE
 - 1.2. Codex
 - 1.3. FAO
 - 1.4. WHO
2. Priority pathogens for future standard setting at the OIE
3. Review the Working Group's Terms of Reference and Modus Operandi
4. OIE work on trade in animal products ('commodities')
5. Salmonellosis
6. The control of hazards of animal health and public health importance in heat treated pet food
7. Aquatic and Terrestrial Code chapters on the control of hazards of animal health and public health importance in animal feed
8. Antimicrobial resistance
9. Biotechnology
10. Private standards for sanitary measures and animal welfare
11. Animal Identification and Traceability Conference 2009
12. Work Programme for 2010
13. Next meeting

Update on OIE Activities

Following is a brief summary of OIE activities during 2009 relevant to animal production food safety.

Terrestrial Animal Health Standards Commission

At the 77th OIE General Session, May 2009, new *Terrestrial Code* chapters were adopted on:

- The control of hazards of animal health and public health importance in animal feed (Chapter 6.3.);
- Prevention, detection and control of *Salmonella* in poultry (Chapter 6.5.); and
- Introduction to the recommendations for controlling antimicrobial resistance (Chapter 6.7.).

The Commission met in September 2009 to address Member comments received after the last meeting in March 2009 and comments received at the 77th General Session, as well as the work done by OIE *ad hoc* Groups (private standards; import risk analysis; salmonellosis; laboratory animal welfare; electronic consultation on poultry welfare; animal welfare and broiler production systems; animal welfare and beef cattle production systems) and the OIE Animal Welfare Working Group.

The Commission examined and revised existing texts, and proposed new texts, on the following subjects relevant to animal production food safety:

- Design and implementation of systems for animal identification and traceability
- The control of hazards of animal health and public health importance in animal feed
- The control of hazards of animal health and public health importance in heat treated pet food
- Biosecurity procedures in poultry production
- Prevention, detection and control of salmonella in poultry
- Introduction to the recommendations for controlling antimicrobial resistance
- Anthrax; West Nile fever; BSE; bovine tuberculosis.

The *ad hoc* Group on Brucellosis will meet on 24-26 November 2009 to review the *Terrestrial Code* chapters on brucellosis.

Meeting of the Aquatic Animal Health Standards Commission (September 2009)

At the 77th General Session 2009, the OIE World Assembly approved the extension of the mandate of the Aquatic Animal Health Standards Commission to deal with food safety issues at production level. The issue of antimicrobial resistance will be the first item to be addressed by the Commission.

Annex III (contd)

The Aquatic Animals Commission met in September 2009 to consider OIE Member comments on the *Aquatic Animal Health Code* and discussion at the 77th General Session in May 2009. Key texts that may be proposed for adoption in 2010 include: the safety of commodities derived from aquatic animals; the food safety implications of aquatic animal feed; and welfare of farmed fish during slaughter for human consumption.

The *ad hoc* Group on the OIE Handbook on Import Risk Analysis

The *ad hoc* Group met in August 2009 and reviewed the *OIE Handbook on Import Risk Analysis for Animals and Animal Products* (Volumes I and II). Members agreed that Volume I (Introduction and qualitative risk analysis) was basically sound but the contents should be reorganised to facilitate understanding and make this publication more useful as a training tool. Members recommended that Volume II (quantitative risk assessment) remain unchanged. Finalisation of the revised manuscript for Volume I is anticipated by the end of 2009 with publication in early 2010. The publication will be available by downloading, free of charge, from the OIE website and by purchase in hard copy.

OIE Fifth Strategic Plan (2011-2016)

The OIE fifth Strategic Plan was discussed by the OIE Council at its meeting in October 2009 and the revised Plan will be circulated to Delegates with a view to adoption at the 78th OIE General Session in May 2010.

Update on Codex Alimentarius Commission Activities

CODEX SESSIONS SINCE THE LAST MEETING OF THE OIE APFSWG (4-6 NOVEMBER 2008)

- The 30th Session of the Codex Committee on Nutrition and Foods for Special Dietary Uses (Cape Town, South Africa, 3-7 November 2008)
- The 16th Session of the FAO/WHO Coordinating Committee for Asia (Denpasar, Indonesia, 17-21 November 2008)
- The 17th Session of the Codex Committee on Food Import and Export Inspection and Certification Systems (Cebu, Philippines, 24-28 November 2008)
- The 40th Session of the Codex Committee on Food Hygiene (Guatemala City, Guatemala, 1-5 December 2008)
- The 5th Session of the FAO/WHO Coordinating Committee for Near East (Tunis, Tunisia, 26-29 January 2009)
- The 21st Session of the Codex Committee on Fats and Oils (Kota Kinabalu, Malaysia, 16-20 February 2009)
- The 18th Session of the FAO/WHO Coordinating Committee for Africa (Accra, Ghana, 24-27 February 2009)
- The 30th Session of the Codex Committee on Methods of Analysis and Sampling (Balatonalmádi, Hungary, 9 - 13 March 2009)
- The 41st Session of the Codex Committee on Food Additives (Shanghai, China, 16-20 March 2009)
- The 3rd Session of the Codex Committee on Contaminants in Foods (Rotterdam, the Netherlands, 23-27 March 2009)
- The 25th Session of the Codex Committee on General Principles (Paris, France, 30 March – 3 April 2009)
- The 41st Session of the Codex Committee on Pesticide Residues (Beijing, China, 20-25 April 2009)
- The 37th Session of the Codex Committee on Food Labelling (Calgary, Canada, 4-8 May 2009)
- The 18th Session of the Codex Committee on Residues of Veterinary Drugs in Foods (Natal, Brazil, 11-15 May 2009)
- The 62nd Session of the Executive Committee of the Codex Alimentarius Commission (Rome, Italy, 23-26 June 2009)
- The 32nd Session of the Codex Alimentarius Commission (Rome, Italy, 29 June – 4 July 2009)
- The 30th Session of the Codex Committee on Fish and Fishery Products (Agadir, Morocco, 28 September – 2 October 2009)
- The Third Session of the *ad hoc* Codex Intergovernmental Task Force on Antimicrobial Resistance (Jeju, Republic of Korea, 12-16 October 2009)

Annex IV (cont)

- The 15th Session of the Codex Committee on Fresh Fruits and Vegetables (Mexico City, Mexico, 19-23 October 2009)

In particular, the OIE APFSWG may wish to note the following:

The 32nd Session of the **Codex Alimentarius Commission**², among others:

- adopted 28 new or revised Codex standards or related texts (see **Appendix I**);
- approved a number of new work proposals (see **Appendix II**);
- noted the status of implementation of the Strategic Plan 2008-2013 of the Codex Alimentarius Commission;
- agreed on a number of recommendations intended to improve the participation of developing countries, especially as regards capacity building and the Codex Trust Fund; and
- supported continued cooperation and coordination with international governmental and non-governmental organizations.

Discussion of the 32nd Session of the Commission on future work on animal feeding.

The Commission considered the report of the electronic working group (e-WG) established at its 31st Session, which identified 6 items for future work:

- i) Review of existing Codex risk analysis principles as to their applicability to animal feed;
- ii) Review of Codex texts on emergency situations and exchange of information on rejected food as to their applicability to animal feed (CAC/GL 25-1997 and CAC/GL 19-1995);
- iii) Review of the Codex *Code of Practice for Sources Directed Measures to Reduce Contamination of Food with Chemical* (CAC/RCP 49-2001) as to their applicability to animal feed;
- iv) Development of guidelines for governments on the application of risk assessment methodologies to the various types of hazards related to contaminants/residues in feed ingredients;
- v) Development of a prioritised list of hazards in feed and feed ingredients for governments; and
- vi) Establishment of criteria for the global identification and notification of emergency situations affecting the feed.

The Commission recognised the full support for further Codex work on animal feeding and established an electronic working group, hosted by Denmark and co-chaired by the United States of America, to:

- i) Review of existing Codex risk analysis principles as to their applicability to animal feed;

² The full report of the meeting is available at: <http://www.codexalimentarius.net> or at <ftp://ftp.fao.org/codex/Alinorm09/al32REPe.pdf>.

Annex IV (contd)

- ii) Review of Codex texts on emergency situation and exchange of information on rejected food as to their applicability to animal feed (CAC/GL 25-1997 and CAC/GL 19-1995);
- iii) Review of the Codex *Code of Practice for Sources Directed Measures to Reduce Contamination of Food with Chemical* (CAC/RCP 49-2001) as to their applicability to animal feed; and
- iv) Propose suitable mechanisms for addressing the remaining three items.

The report of the working group, to be completed by January 2010, will be considered by the 33rd Session of the Commission (Geneva, Switzerland, 5-9 July 2010).

The 17th Session of the **Codex Committee on Food Import and Export Inspection and Certification Systems** finalised work on the renamed Generic Model Official Certificate (Annex to the *Guidelines for Design, Production, Issuance and Use of Generic Official Certificates* - CAC/GL 38-2001) and recommended the Commission to request the Codex Committees on Fish and Fishery Products and on Milk and Milk Products to consider revising the *Model Certificate for Fish and Fishery Products* (CAC/GL 48-2004) and *Model Export Certificate for Milk and Milk Products* (CAC/GL 67-2008) to ensure consistency with the Generic Model Official Certificate. It agreed to forward to the 32nd Session of the Commission a project document for new work on the development of principles and guidelines for National Food Control Systems; and to discontinue consideration of the discussion papers on the development of Guidance on Traceability / Product Tracing and on Guidance on the Prevention of Intentional Contamination of Food.

The 40th Session of the **Codex Committee on Food Hygiene** expressed appreciation to the OIE for their information and contribution to the work of the Committee and noted the need for continued collaboration in areas of mutual interest. The Committee finalised its work on the Proposed Draft Microbiological Criteria for *Listeria monocytogenes* in Ready-to-Eat Foods; agreed to continue working on the Proposed Draft Guidelines for the Control of *Campylobacter* and *Salmonella* spp. in Chicken Meat and on the Proposed Draft Code of Hygienic Practice for *Vibrio* spp. in Seafood. It further agreed to forward to the 32nd Session of the Commission a project document for new work on the elaboration of a Code of Hygienic Practice for Viruses in Food.

The 25th Session of the **Codex Committee on General Principles** agreed that the Codex Secretariat should approach the OIE secretariat and prepare a discussion paper on the possible development of joint standards between Codex and OIE, addressing all relevant procedural and other issues, as well as implications, for consideration by its next session.

The 18th Session of the **Codex Committee on Residues of Veterinary Drugs in Foods** forwarded to the 32nd Session of the Commission for adoption MRLs for seven veterinary drugs in various animal species/tissue combinations (avilamycin, dexamethasone, melengestrol acetate, monensin, narasin, triclabendazole and tylosin) and the draft Guidelines for the Design and Implementation of National Regulatory Food Safety Assurance Programmes Associated with the Use of Veterinary Drugs in Food Producing Animals. It also agreed to prepare a discussion paper which would review all the factors taken into account in connection with establishing the ADI and the current process of recommending MRLs; and to further consider future work on risk management recommendations for veterinary drugs with no ADI/MRL.

The 30th Session of the **Codex Committee on Fish and Fishery Products** agreed to forward to the Commission for final adoption the Draft Code of Practice for Fish and Fishery Products (Lobsters and Crabs and relevant Definitions); an amendment to the definition of "clean water" in Section 2.1 General Definitions of the *Code of Practice for Fish and Fishery Products*; and the Draft Standard for Sturgeon Caviar. The Committee also agreed to forward to the Commission the Proposed Draft Standard for Smoked Fish, Smoke-Flavoured Fish and Smoke-Dried Fish and the Proposed Draft Standard for Fish Sauce, for adoption as a draft standard and further consideration at the next session of the Committee.

Annex IV (contd)

The Committee further agreed to continue discussion at its next session on i) the Proposed Draft Amendment to Section 3.4.5.1 Water of the *Code of Practice for Fish and Fishery Products*; ii) the Proposed Draft Standard for Quick Frozen Scallop Adductor Muscle Meat; iii) the Proposed Draft Revision for the Inclusion of Additional Species in Standards for Fish and Fishery Products; iv) the Draft List of Methods for the Determination of Biotoxins in the Standard for Raw and Live Bivalve Molluscs; v) the Proposed Draft Code of Practice for Fish and Fishery Products (Other Sections including Smoked Fish); vi) the Proposed Draft Standard for Fresh/Live and Frozen Abalone (*Haliotis* spp.); and vii) the Proposed Draft Amendment to the *Codex Standard for Quick Frozen Fish Sticks* (Nitrogen Factors).

The Third Session of the ***ad hoc* Intergovernmental Task Force on Antimicrobial Resistance** forwarded the Proposed Draft Guidelines for the Risk Analysis of Foodborne Antimicrobial Resistance to the Commission for adoption as Draft Guidelines and finalisation at its next session in 2010, as the Task Force should hold its final meeting and complete its work in 2010.

FORTHCOMING CODEX MEETINGS (relevant to the OIE APFSWG)

- The 41st Session of the Codex Committee on Food Hygiene (San Diego, United States of America, 16-20 November 2009)
- The 63rd Session of the Executive Committee of the Codex Alimentarius Commission (Geneva, Switzerland, 8-11 December 2009)
- The 9th Session of the Codex Committee on Milk and Milk Products (Auckland, New Zealand, 15 February 2010)
- The 18th Session of the Codex Committee on Food Import and Export Inspection and Certification Systems (Surfers Paradise, Australia, 1-5 March 2010)
- The 26th Session of the Codex Committee on General Principles (Paris, France, 12-16 April 2010)
- The 33rd Session of the Codex Alimentarius Commission (Geneva, Switzerland, 5-9 July 2010)
- The 19th Session of the Codex Committee on Residues of Veterinary Drugs in Foods (30 August – 3 September 2010)

The 41st Session of the **Codex Committee on Food Hygiene** will consider the following proposed drafts: Guidelines for the Control of *Campylobacter* and *Salmonella* spp. in Chicken Meat; an Annex on Leafy Green Vegetables including Leafy Herbs for inclusion in the Code of Hygienic Practice for Fresh Fruits and Vegetables; a Code of Hygienic Practice for *Vibrio* spp. in Seafood and an Annex on Control Measures for *Vibrio parahaemolyticus* and *Vibrio vulnificus* in Molluscan Shellfish; and a Code of Hygienic Practice for Control of Viruses.

The 9th Session of the **Codex Committee on Milk and Milk Products** will consider draft standards on cheese products and the consistency of the *Model Export Certificate for Milk and Milk Products* (CAC/GL 67-2008) with the *Generic Model Official Certificate (Annex to the Guidelines for Design, Production, Issuance and Use of Generic Official Certificates)*.

The 18th Session of the **Codex Committee on Food Import and Export Inspection and Certification Systems** will consider the following proposed draft: Principles and Guidelines for the Conduct of Foreign On-Site Audits and Inspections; and Principles and Guidelines for National Food Control Systems. International Organizations, including OIE, have been invited to present relevant work to the Committee.

Annex IV (cont)

**LISTS OF STANDARDS AND RELATED TEXTS ADOPTED BY THE THIRTY-SECOND SESSION
OF THE CODEX ALIMENTARIUS COMMISSION**

Part 1 – Standards and Related Texts Adopted at Step 8

Standards and Related Texts	Reference	Status
Regional Standard for Gochujang	ALINORM 09/32/15 Appendix II	Adopted with amendment (see Agenda Item 5)
Regional Standard for Ginseng Products	ALINORM 09/32/15 Appendix III	Adopted with amendment (see Agenda Item 5)
Code of Practice for the Reduction of Acrylamide in Foods	ALINORM 09/32/41 Appendix IV	Adopted
Code of Practice for the Reduction of Contamination of Food with Polycyclic Aromatic Hydrocarbons (PAH) from Smoking and Direct Drying Processes	ALINORM 09/32/41 Appendix V	Adopted
Food Additive Provisions of the General Standard for Food Additives (GSFA)	ALINORM 09/32/12 Appendix IV	Adopted (except erythrosine) (see Agenda Item 5)
Amendment to the Standard for Named Vegetable Oil: Inclusion of Rice Bran Oil	ALINORM 09/32/17 Appendix II	Adopted
Guidelines for Settling Disputes on Analytical (Test) Results	ALINORM 09/32/23 Appendix II	Adopted
Guidelines on Analytical Terminology	ALINORM 09/32/23 Appendix III	Adopted
Table of Conditions for Nutrient Contents (Part B: Provisions on Dietary Fibre) to the <i>Guidelines for Use of Nutrition and Health Claims</i> (CAC/GL 23-1997):	ALINORM 09/32/26 Appendix II	Adopted
Provisions on Gum Arabic (Gum acacia) (Section D: Advisory List of Food Additives for Special Nutrient Forms) to the <i>Advisory Lists of Nutrient Compounds for Use in Foods for Special Dietary Uses Intended for Infants and Young Children</i> (CAC/GL 10-1997)	ALINORM 09/32/26 Appendix III	Adopted (as a carrier) (see Agenda Item 5)
Nutritional Risk Analysis Principles and Guidelines for Application to the Work of the Committee on Nutrition and Foods for the Special Dietary Uses	ALINORM 09/32/26 Appendix IV	Adopted
Standard for Jams, Jellies and Marmalades	ALINORM 09/32/27 Appendix II	Adopted with amendment (see Agenda Item 5)
Codex Standard for Certain Canned Vegetables (General Provisions)	ALINORM 09/32/27 Appendix III	Adopted
Maximum Residue Limits for Pesticides	ALINORM 09/32/24 Appendix II	Adopted
Maximum Residue Limits for Veterinary Drugs	ALINORM 09/32/31 Appendices II	Adopted
Guidelines for the Design and Implementation of National Regulatory Food Safety Assurance Programmes Associated with the Use of Veterinary Drugs in Food Producing Animals	ALINORM 09/32/31 Appendix V	Adopted

Annex IV (contd)

Standards and Related Texts	Reference	Status
Guidelines for the Design and Implementation of National Regulatory Food Safety Assurance Programmes Associated with the Use of Veterinary Drugs in Food Producing Animals	ALINORM 09/32/31 Appendix V	Adopted

Part 2 – Standards and Related Texts Adopted at Step 5/8 (with omission of Step 6 and 7)

Standards and Related Texts	Reference	Status
Regional Standard for Fermented Soybean Paste	ALINORM 09/32/15 Appendix IV	Adopted with amendment (see Agenda Item 5)
Revision to the Preamble of the GSCTF	ALINORM 09/32/41 Appendix III	Adopted
Code of Practice for the Prevention and Reduction of Ochratoxin A Contamination in Coffee	ALINORM 09/32/41 Appendix VI	Adopted
Food Additive Provisions of the General Standard for Food Additives (GSFA)	ALINORM 09/32/12 Appendix IV	Adopted (except erythrosine) (see Agenda Item 5)
Amendments to the International Numbering System for Food Additives	ALINORM 09/32/12 Appendix VII	Adopted
Specifications for the Identity and Purity of Food Additives arising from the 69 th JECFA meeting	ALINORM 09/32/12 Appendix VIII	Adopted
Microbiological Criteria for <i>Listeria monocytogenes</i> in Ready-to-Eat Foods (Annex II to the Guidelines on the Application of General Principles of Food Hygiene to the Control of <i>Listeria monocytogenes</i> in Ready-to-Eat Foods (CAC/GL 61-2007))	ALINORM 09/32/13 Appendix II	Adopted with amendment (see Agenda Item 5)
Microbiological Criteria for Powdered Follow-up Formulae and Formulae for Special Medical Purposes for Young Children (Annex II to the Code of Hygienic Practice for Powdered Formulae for Infants and Young Children (CAC/RCP 66-2008))	ALINORM 09/32/13 Appendix III	Adopted with amendment (see Agenda Item 5)
Generic Model Official Certificate (Annex to Guidelines for Design, Production, Issuance and Use of Generic Official Certificate (CAC/GL 38-2001))	ALINORM 09/32/30 Appendix II	Adopted
Recommendations on the Scientific Basis of Health Claims (Annex to the Guidelines for Use of Nutrition and Health Claims - CAC/GL 23-1997)	ALINORM 09/32/26 Appendix V	Adopted

Annex IV (contd)

Standards and Related Texts	Reference	Status
Provisions for packing media for certain canned vegetables: Section 3.1.3 (for inclusion in the Standard for Certain Canned Vegetables)	ALINORM 09/32/27 Appendix IV	Adopted
Annexes specific to certain canned vegetables (for inclusion in the Standard for Certain Canned Vegetables)	ALINORM 09/32/27 Appendix V	Adopted
Maximum Residue Limits for Pesticides	ALINORM 09/32/24 Appendix III	Adopted with amendment (see Agenda Item 5)
Maximum Residue Limits for Veterinary Drugs	ALINORM 09/32/31 Appendix III	Adopted

Part 3 - Standards and Related Texts Adopted at Step 5 of the Accelerated Procedure

Standards and Related Texts	Reference	Status
Amendment to the <i>Guidelines for the Production, Processing, Labelling and Marketing of Organically Produced Foods</i> : Annex 2 (conditions for use of rotenone)	ALINORM 09/32/22 Appendix V	Adopted

Part 4 – Other Standards and Related Texts Submitted for Adoption

Standards and Related Texts	Reference	Status
Amendments to Paragraph 10, Sample Preparation in the Sampling Plans for Aflatoxin Contamination in Ready-to-Eat Treenuts and Treenuts Destined for Further Processing: Almonds, Hazelnuts and Pistachios	ALINORM 09/32/41 Appendix II	Adopted
Amendment to the Annex to Table 3 of the GSFA	ALINORM 09/32/12 para. 9	Adopted
Amendment to the Name and Descriptors of Food Categories 01.2.1.1, 15.1 and 15.2 of the GSFA	ALINORM 09/32/12 Appendix IX	Adopted
Amendment to the Standard for Named Vegetable Oils: replacement of the section on contaminants with the standard language in the <i>Format for Codex Commodity Standards</i>	ALINORM 09/32/17	Adopted
Additives Provisions in the <i>Standard for Fat Spreads and Blended Spreads</i> and other Standards for Fats and Oils	ALINORM 09/32/17 Appendix VII ALINORM 09/32/12 Appendix III	Adopted
Methods of Analysis in Codex Standards at different steps	ALINORM 09/32/23 Appendix IV	Adopted

APPENDIX II

**LIST OF DRAFT STANDARDS AND RELATED TEXTS APPROVED AS NEW WORK BY THE
THIRTY-SECOND SESSION OF THE CODEX ALIMENTARIUS COMMISSION**

Responsible Body	Standard and Related Texts	Reference	Job Code
CCPR	Priority List of Chemicals scheduled for Evaluation and Re-evaluation by JMPR	ALINORM 09/32/24, par. 186-206 and Appendix XI	Ongoing
CCRVDF	Priority List of Veterinary Drugs for Evaluation or Reevaluation by JECFA	ALINORM 09/32/31, para. 138 and Appendix VI	Ongoing
CCPFV	Revision of the <i>Standards for Canned Bamboo Shoots</i> (CODEX STAN 241-2003) and <i>Canned Mushrooms</i> (CODEX STAN 55-1981) for inclusion as annexes to the Draft Standard for Certain Canned Vegetables	ALINORM 09/32/27, para. 109	N01-2009
CCPFV	Revision of the Standard for Table Olives (CODEX STAN 66-1981)	ALINORM 09/32/27, para. 109	N02-2009
CCPFV	Revision of the Standard for Grated Desiccated Coconut (CODEX STAN 177-1991)	ALINORM 09/32/27, para. 109	N03-2009
CCLAC	Regional Standard for Culantro Coyote	ALINORM 09/32/36, para. 72	N04-2009
CCLAC	Regional Standard for Lucuma	ALINORM 09/32/36, para. 76	N05-2009
CCFICS	Principles and Guidelines for National Food Control Systems	ALINORM 09/32/30, para. 71 and Appendix III	N06-2009
CCFH	Code of Hygienic Practice for Control of Viruses in Food	ALINORM 09/32/13, para. 138 and Appendix V	N07-2009
CCNEA	Regional Standard for Harissa (hot pepper paste)	ALINORM 09/32/40, para. 41	N08-2009
CCNEA	Regional Standard for Halwa Tehenia (halwa shamia)	ALINORM 09/32/40, para. 44	N09-2009
CCCF	Maximum Levels for Fumonisin in Maize and Maize Products and associated Sampling Plans	ALINORM 09/32/41, para. 100 and Appendix VII	N10-2009
CCCF	Code of Practice for the Reduction of Ethyl Carbamate in Stone Fruit Distillates	ALINORM 09/32/41, para. 114 and Appendix VIII	N11-2009
CCCF	Revision of the Code of Practice for the Prevention and Reduction of Aflatoxins in Tree Nuts (CAC/RCP 59-2005): Additional Measures for Brazil Nuts	ALINORM 09/32/41, para. 122 and Appendix IX	N12-2009
CCCF	Maximum Levels for Melamine in Foods and Feed	ALINORM 09/32/41, para. 125 and Appendix X	N13-2009

Update on FAO Activities

FAO, through the Emergency Centre for Transboundary Animal Diseases (ECTAD) projects, is actively involved in the promotion of biosecurity on farm and along marketing chains. Activities over the last 12 months included:

Poultry production

1. Completion of a series of four sub regional workshops on Biosecurity on farm in West and Central Africa (each involving over 50 participants from 5-8 countries). The workshops were conducted in collaboration with DAI (STOP-AI programme) and involved commercial producers, representatives from smallholders cooperatives but also representatives from local authorities involved in the management of markets and representative from vet services.
2. Production of both a manual for trainers and producers in East Africa (Title: Good Practices in Small Scale Poultry Production) and its pictorial version developed more specifically for semiliterate farmers. The implementation of biosecurity measures on-farm are proposed as part of a package to increase productivity and reduce losses in production. The content of the manual has received the approval of technical experts in three different East African countries (workshops) and is now distributed in the region. A revised version with minimal changes on content but extensive revision of the layout is foreseen.
3. Capacity building to improve technical knowledge on biosecurity related issues among commercial producers and within public vet services in Bangladesh and Indonesia. These activities are implemented under the ongoing FAO "Developing and Maintaining Public-Private Partnerships for the Prevention and Control of Highly Pathogenic Avian Influenza H5N1 and other Emerging Infectious Animal Diseases" project (the PPP Project) which aims at strengthening collaboration and communication between the public and private sector in Egypt, Indonesia and Bangladesh
4. Testing of innovative methodologies to promote biosecurity and assessment of rate of adoption of biosecurity measures among small holder poultry producers in Egypt, Nigeria, Indonesia and Bangladesh. These activities are implemented under the "Improved biosecurity and hygiene at production, collection points and live bird markets (LBM), including decontamination" project.

Pig production

FAO has taken the lead in the development of an FAO, OIE, WB document with the title: "Good practices for Biosecurity in the pig sector - Issues and Options in Developing and in transition countries". The preparation of the document is at its final stage. FAO intends to implement a project on Biosecurity in small scale confined and scavenging pig production systems over the next three years.

Abattoir

The Animal Production Service at HQ (AGAP) and the Livestock Group of the FAO Regional Office for the Asia-Pacific (RAPG) are elaborating a technical publication on Abattoir options and designs for small and medium scale abattoirs. This publication will include designs for ruminants, pig and poultry abattoirs. It is planned to make this technical publication available in hard and soft copy through the FAO website. This publication should be available early next year. AGAP is also currently involved in project TCP/MON/3105 in Mongolia on "Improved meat hygiene and commercial meat processing".

Annex V (contd)**Salmonella and Campylobacter related activities**

Draft Codex guidelines on the control of Salmonella and Campylobacter are to be discussed in the next session of the CCFH in November 2009. ftp://ftp.fao.org/codex/ccfh41/fh41_04e.pdf

JEMRA has provided the scientific advice required for the preparation of these guidelines and is preparing a webtool to support the implementation of the Guidelines. The prototype of the tool will be presented at the CCFH. It is expected to have the tool finished the first semester of next year. OIE received the draft report of the JEMRA meeting and used for the work they are doing on Salmonella OIE code. OIE representative/and one expert also participated in JEMRA meeting

Animal Feed

1. In the last 10 year FAO has increase its work and commitment to feed safety, this has resulted in two Expert Meetings (reports available online at: http://www.fao.org/ag/againfo/resources/en/pubs_food.html) and a series of publications and capacity building material also available at the same URL;
2. FAO, jointly with the International Feed Industry Federation (IFIF) has produces a Manual of Good Practices for the Feed Industry, which is now in its final production phase and should be printed in November and translated in all FAO's official languages. This manual has the purpose to support the implementation of the Codex Code of Practice for Good Animal feeding and at this scope provides detailed, concrete indications. Depending of funds availability, FAO is also preparing a series of capacity building activities to disseminate the information of the manual;
3. FAO, also jointly with IFIF is now preparing the 3rd Global Feed and Food Congress, which will take place in Mexico in April 2010;
4. FAO is active in increasing the dialogue and collaboration among relevant players and is now organizing the third International Feed Regulators meeting, which will take place in Atlanta, USA, in January 2010 and bring together worldwide regulators and feed industry representatives, exchanging information and positions on their efforts to ensure feed safety;
5. FAO, together with WHO is including feed safety in the INFOSAN documents and activities;
6. FAO's technical services jointly with its Legal office, have and are continuing to provide support to its members in the development and/or upgrading national legislations in support of feed safety;
7. Finally, FAO, with relevant partners is developing a web-based "Gateway to Adequate, Safe and Sustainable Animal Nutrition and Feeding", which will be a to serve as a single access point for a wide range of information and a participatory platform to retrieve and submit information, as well as to engage in commonly developed projects and thematic discussions. It will gather relevant legislation, statistics, scientific and technical papers, publications, codes of practices and standards, projects, information on available funds, but also a directory of professionals, research and educational centres, etc. As for the Gateway on Animal Welfare, OIE could become a partner if interested.

For all the above, the future work of OIE on feed safety should take into account the already existing and planned FAO activities and collaboration actively sought. Of course, the most appropriate way to ensure coordination and relevant collaboration would be the inclusion of FAO in the OIE Animal feeding (or feed safety) working group; it should be clarified that the presence in that group of a colleague for the Codex Secretariat should be intended as representative of CODEX and NOT FAO.

Antimicrobial resistance

Antimicrobial resistance. AGNS and AGAH are awaiting proposals coming from the new joint group on this matter. There would however be a need for additional funds to support any activities on this matter.

Biotechnology

AGP is organising a big Conference on this matter and AGN is responsible of organising a matter on biosecurity/biosafety. in Mexico in 2010 (March?).

Private Standards

FAO is implementing a programme to support the development of procedures focusing on origin-linked specific quality that will contribute to rural development (quality linked to geographical denomination)

<http://www.foodquality-origin.org/eng/index.html>

<http://www.foodquality-origin.org/guide/guide.pdf>

The Codex Chair has requested to FAO and WHO to prepare a paper on impact of private standards on food safety in developing countries and organise a respective session on this matter prior to the next CAC July 2010.

Animal Identification and Traceability Conference 2009

Although the WG had advised for FAO to be part of the conference, FAO was not permitted to co-organise the Conference although a FAO contribution of 50.000 USD could be made available

Within FAO, AGAP is chairing a task force (in liaison with ICAR) for developing countries (with representatives from ASIA, LAC, SADC, MENA, EUROPE) to work on Animal identification, traceability and performance recording. The short term goal is capacity building and to develop Guidelines. Two training workshop have been conducted in Eastern Europe and MENA in collaboration with the FAO regional offices. On 2 November a workshop is organised in Gaboronne by FAO jointly with the Livestock Technical Committee of SADC on the same subject. The participation of 50 persons from 14 countries is expected.

UPDATE ON WHO ACTIVITIES

WHO Activities

Global Foodborne Infections Network - formerly WHO Global Salm-Surv

Though originally focusing on *Salmonella* diagnostics and epidemiology, the WHO Global Salm-Surv (WHO GSS) training programme has evolved into a capacity-building platform that accommodates a variety of foodborne and other enteric pathogens and diseases of importance in the various regions. In order to reflect this broader scope and application, the WHO GSS network has now changed name to: **Global Foodborne Infections Network (GFN)** - "A WHO network building capacity to detect, control and prevent foodborne and other enteric infections from farm to table".

Created in 2000, the network now has over 1,200 members from 158 countries. At the core of GFN nine internationally renowned institutes and surveillance networks that provide guidance and training capacity to member states. GFN has five main programme components: international training courses, a passive *Salmonella* surveillance system, an annual External Quality Assurance System, focused regional and national projects, and reference testing services.

To date, GFN has held over 65 international training courses in Chinese, English, French, Portuguese, Spanish, and Russian for microbiologists and epidemiologists from over 120 countries. More than 80 countries have provided data to the Country Databank on over 1.5 million human isolates and close to 360.000 isolates from non-human sources to help us provide a global overview of the epidemiology of Salmonella. The GFN External Quality Assurance System is one of the world's largest annual proficiency test with more than 150 laboratories participating worldwide.

The strategic direction of GFN aims to assist the International Health Regulations (2005) by building core-capacities for surveillance and response in countries and to enable countries' full participation in response to international food safety and zoonotic emergencies through the International Food Safety Authorities Network (INFOSAN) and the Global Early Warning System for Major Animal Diseases, including Zoonoses (GLEWS).

For more information: www.who.int/salmsurv

WHO Advisory Group on Integrated Surveillance of Antimicrobial Resistance (AGISAR)

The WHO AGISAR was instituted in December 2008 to provide guidance to the WHO for the development of a global network to promote and enhance collaboration on harmonization and data sharing among WHO Member countries on integrated surveillance of antimicrobial resistance (AMR) across sectors (animal health, food and human health).

This includes:

1. Development of harmonized schemes for monitoring AMR in zoonotic enteric bacteria, including appropriate sampling
2. Support capacity building activities via GFN
3. Promote information sharing between veterinary, food and public health sectors
4. Provide expert advice to WHO of containment of AMR
5. Support and advise WHO for selection of sentinel sites and designing pilot projects

Annex VI (contd)

6. Support capacity building for antimicrobial use monitoring

OIE and FAO are invited to take part in WHO-AGISAR activities. An OIE representative attended the first AGISAR meeting in June 2009 in Copenhagen, Denmark.

WHO approach to strategically address zoonotic public health risks

As one of the important and timely outcomes of the recent One World One Health™ (OWOH) strategic framework for reducing risks of infectious diseases at the animal-human-ecosystems interface (http://un-influenza.org/files/OWOH_14Oct08.pdf), the World Health Organization (WHO) is in the process of developing a comprehensive approach to strategically address zoonotic public health risks that are complex and multi-factorial and that involve different sectors and partners.

WHO seeks to present to its Member States a strategy for the management of zoonotic public health risks at the human-animal interface as a starting point to develop a more detailed strategic framework and action plan.

Best practice development progress under the GLEWS framework

WHO is taking the lead to assemble a proposal for drafting best practices for risk mitigation of infectious disease at the human-animal interface under the GLEWS framework. This work item was approved by the GLEWS management committee. A thorough landscape analysis to identify whether a need exists to develop guidelines to address mitigation of human risk to infectious diseases at the human-animal interface was performed that concluded that the need exists for cross-cutting guidelines that address not only the farm to table continuum but the animal-human interface.

The process for the creation of these best practices will involve interaction with regional and country partners and diverse experts and stakeholders. The work should focus on:

- Identifying best practices to reduce transmission of zoonotic infections in humans when humans interface with animals, animal products and their shared environments that adopt an international, interdisciplinary, cross-sectoral approach to human disease risk reduction with respect to disease surveillance, monitoring, prevention, and control while keeping in mind environmental considerations;
- Prevention and proactive intervention in the face of a new and emerging infectious disease outbreak that recommend immediate risk mitigation measure in a broader context and at a very practical and generically applicable level so that a larger proportion of the human animal interface continuum interface is covered. Disease specific recommendations that are being developed or already available that address epidemiological aspects of specific diseases will still be necessary;
- Developing the full definition and describing the term "human animal interface".

FAO/WHO Expert Meeting on Salmonella and Campylobacter in chicken meat, 4 – 8 May 2009

Salmonellosis and campylobacteriosis are among the most frequently reported foodborne diseases worldwide. While numerous potential vehicles of transmission exist, commercial chicken meat has been identified as one of the most important food vehicles for these organisms. Currently, the Codex Committee on Food Hygiene (CCFH) is developing the guidelines for the control of *Salmonella* and *Campylobacter* in poultry, and CCFH requested FAO and WHO to provide necessary scientific advice to continue its work. In response to that request, FAO and WHO convened an ad hoc Technical Meeting from 4 to 8 May 2009 in Rome, Italy. At the Technical Meeting, the experts carried out an independent assessment and review of all available latest scientific information on control of *Salmonella* and *Campylobacter* at relevant stages of the broiler supply chain. The final report of this Technical Meeting will be available on our websites soon.

The Foodborne Disease Burden Epidemiology Reference Group (FERG)

From 26-30 October 2009, the WHO hosted the third formal meeting of the Foodborne Disease Burden Epidemiology Reference Group (FERG) in connection with the third international Foodborne Diseases Stakeholder Event in Geneva. For the first time, the FERG reviewed preliminary burden of disease results in the areas of enteric, parasitic and chemical causes of foodborne diseases. Specifically, they discussed interim results of diarrhoeal disease morbidity and mortality in persons older than 5 years, as well as the burden of dog and pork tapeworm and peanut allergens. The results were presented to stakeholders in a one-day event (reported on by PLoS Medicine: <http://speakingofmedicine.plos.org/2009/11/02/counting-the-global-burden-of-foodborne-disease/>). Stakeholders were invited to a second day of consultation where they discussed in extended workshops how the burden estimates may be used to inform food safety policy. WHO is now preparing the reports which will be publicly available in due course. For more information please contact foodsafety@who.int.

Leptospirosis Burden Epidemiology Reference Group (LERG)

WHO is currently facilitating the assessment of the Global Burden of Human Leptospirosis that will provide reliable evidence-based disease burden estimates to help countries find the most appropriate, most cost-effective measures they can take to reduce leptospirosis risks and make a commitment to invest in improved health security through avoided disease burden. Although not strictly a foodborne disease, FOS is managing this initiative and invites FAO and OIE to participate in the first meeting that will convene on 2-4 December 2009 in order to participate and bring the animal perspective to bear on the outcome of the initiative.

ANIMAL PRODUCTION FOOD SAFETY: PRIORITY PATHOGENS FOR STANDARD SETTING BY THE OIE

Theo Knight-Jones
(October 2009)

Summary

Many foodborne pathogens cannot be adequately controlled by harvest and post-harvest measures alone; pre-harvest (on farm) measures are also required. One way that the World Organisation for Animal Health (OIE) is addressing this issue is by producing standards and recommendations for the guidance of Member countries in implementing on-farm control measures. In this study, expert opinion and a literature review were used to identify the pathogens that should be prioritised for this process. Prioritisation was based on a pathogen's impact on human health and amenability to control using on-farm measures. Pathogens for which the OIE has developed or is developing standards were not considered in this report. As the OIE mandate includes fighting global poverty this study focussed on developing countries and those with 'in-transition' economies.

The regions considered were Eastern Europe, Asia (excluding the Middle East), the Middle East, Africa and South America. Opinions from one or two experts from each region were obtained using a postal questionnaire. *Salmonella* spp. in poultry were not considered as they have already been covered by the OIE. Experts from four of the five regions considered *Salmonella* from sources other than poultry to be a top priority and pathogenic *E.coli* was considered a top priority in three regions. *Brucella* spp. and *Staphylococcus aureus* were also mentioned by experts from three regions.

Control of salmonellosis in species other than poultry has been achieved in some countries. Hygiene and other general measures employed on farm have helped to control pathogenic *E.coli*. Standards for on-farm control of these two pathogens for food safety purposes are not addressed in any detail in the OIE *Terrestrial Animal Health Code* (the *Terrestrial Code*). These pathogens should be considered for prioritisation in future standard setting. *Brucella* spp. have a significant effect on human health and on-farm control measures are known to be feasible and effective. These should be addressed in a review of the *Terrestrial Code* chapter on brucellosis.

E. granulosus, the causative agent of hydatidosis, was estimated to have the greatest impact of all foodborne pathogens in Africa; it was also listed for the Middle East and thought to be of importance by both South American experts consulted. Hydatidosis was inconsistently considered as a FBD by experts. *Taenia saginata* was thought to be of importance in South America, Africa and by one expert in the Middle East. This foodborne disease causes relatively mild clinical signs but causes significant production losses in the beef industry. The WHO/FAO/OIE have published recommendations on the control of *Echinococcus*, *Trichinella spiralis* and *Taenia solium*. However, the opinion of OIE Members should be sought on whether it would be appropriate to develop standards in the *Terrestrial Code*.

Introduction

Foodborne disease (FBD) is of huge global importance. Diarrhoeal diseases, much of which is foodborne, kill an estimated 2.2 million people each year [54]. Although mortality is particularly high in developing countries, FBD also has a massive impact in developed countries. Mead et al. [33] estimated that foodborne diseases cause 76 million illnesses, 325,000 hospitalisations, and 5,000 deaths in the United States each year.

Annex VII (contd)

Many cases of FBD produce relatively mild clinical signs that still require medical treatment or affect the patient's ability to work. Hence mortality represents the 'tip of the iceberg' as far as the true cost of FBD to society. Estimation of the global burden of FBD is a major initiative currently being undertaken by the World Health Organisation - Foodborne Disease Burden Epidemiology Reference Group (FERG) [48].

Animals play a particularly important role in FBD. They can be a source of pathogens in animal food products and also through faecal contamination of plant derived foods and water [11]. To minimise the risk of FBD, control measures should target both the harvest level and subsequent stages of food production, i.e. 'from farm to fork'. In many situations, on farm control may be more cost-effective [45, 50] and have a greater impact than control measures applied elsewhere [13].

One of the World Organisation for Animal Health (OIE) objectives is to provide a better guarantee of the safety of food of animal origin. The OIE established the Animal Production Food Safety Working Group (APFSWG) in 2002. This Group's role is to work with other relevant organisations, especially the Codex Alimentarius Commission (CAC) and its parent bodies (the World Health Organisation (WHO) and the Food and Agriculture Organisation (FAO)), in reducing food-borne risks to human health due to hazards arising from animals [47]. The APFSWG has a programme for the development of animal production food safety standards covering the level of primary production to the first transformation of animal products, with a primary focus on on-farm measures. Many of the relevant pathogens do not normally cause disease in animals.

Some general standards addressing animal production food safety, including specific recommendations on *Salmonella* in poultry are already in the Veterinary Public Health section of the *Terrestrial Code* [38]. Food safety aspects of certain pathogens that also cause animal disease have also been addressed in specific disease chapters, e.g. for bovine tuberculosis.

However, there are many pathogens for which measures at the on-farm level to prevent FBD are not currently covered in the *Terrestrial Code*. For the most part, CAC standards include only general references to primary production at the farm level [10]. Historically the role of veterinarians (and the OIE) has been primarily to control diseases of animals [14]. The focus on the development of international standards for on-farm measures to prevent FBD is fairly recent. By including animal production food safety in its mandate, the OIE has already taken important steps to address any gaps in standards. The necessary action, including coordination with the CAC, is being addressed through the APFSWG.

Aims

The aim of this work was to identify the pathogens (viruses, bacteria, parasites and prions) that should be given priority in future OIE standard setting for animal production food safety. Clearly, developed and developing countries may have different concerns in regard to food safety in foods of animal origin. As more than two-thirds of OIE Members are developing and in-transition countries, and the OIE's mandate includes fighting global poverty, the needs of developing countries were the primary consideration.

This assessment was done in a qualitative, discursive manner with the focus on identifying important pathogens and issues. In the time available, it was not possible to undertake an in-depth assessment of the relative importance of each pathogen. The pathogens identified as most important and their amenability to control using on farm measures are discussed.

Methods

Prioritisation of pathogens was based on the burden of human FBD they cause; the extent to which they are amenable to control at the farm level; their coverage by current OIE (and CAC) standards; and, as appropriate, the significance of the pathogens to international trade and any other concerns of OIE members.

Pathogens causing diseases that are OIE listed, those that are not OIE listed, and pathogens that do not cause disease in animals were considered. Pathogens were not prioritised for consideration by the OIE if control at the farm level is not currently feasible or cannot be achieved in a practical cost-effective manner. Non-infectious disease agents were not considered.

Approach

Expert Opinion

Experts were identified for each of the following regions:

- Eastern Europe
- Asia (excluding the Middle East)
- The Middle East
- Africa
- South America

Opinions from one or two experts for each region were obtained.

Selection of Experts

OIE associates from each region were asked to recommend appropriate experts in FBD. Expert opinions were obtained from two private consultants, four academics, one state veterinary service employee and one OIE employee. All had regional experience in FBD.

Questionnaire

Experts were asked to complete a brief postal questionnaire. The questionnaire asked experts to list the foodborne pathogens with the greatest impact on human health in their region and the most important food source by which people are exposed to each pathogen. Experts were asked to identify at least three pathogens. They were also asked if the pathogens would be amenable to on farm control and to suggest what control measures were appropriate. Finally, experts were asked if there were foodborne pathogens and zoonotic pathogens, other than those already mentioned, that should be a higher priority for future OIE standard setting; this could be due to effects other than impact on human health or the impact of zoonoses that are not foodborne.

Salmonellosis in poultry, anthrax (*Bacillus anthracis*) and bovine spongiform encephalopathy (BSE) were not considered as they either have been or are currently being considered by the OIE in their review of existing standards.

Wider Consultation

A range of other people with knowledge and interest in the area of FBD were contacted (more than 40 individuals), 20 of whom responded. These people represented government agencies, intergovernmental organisations and academic institutions.

Annex VII (contd)

The results of this questionnaire were considered in conjunction with relevant literature and work done by other organisations concerned with FBD.

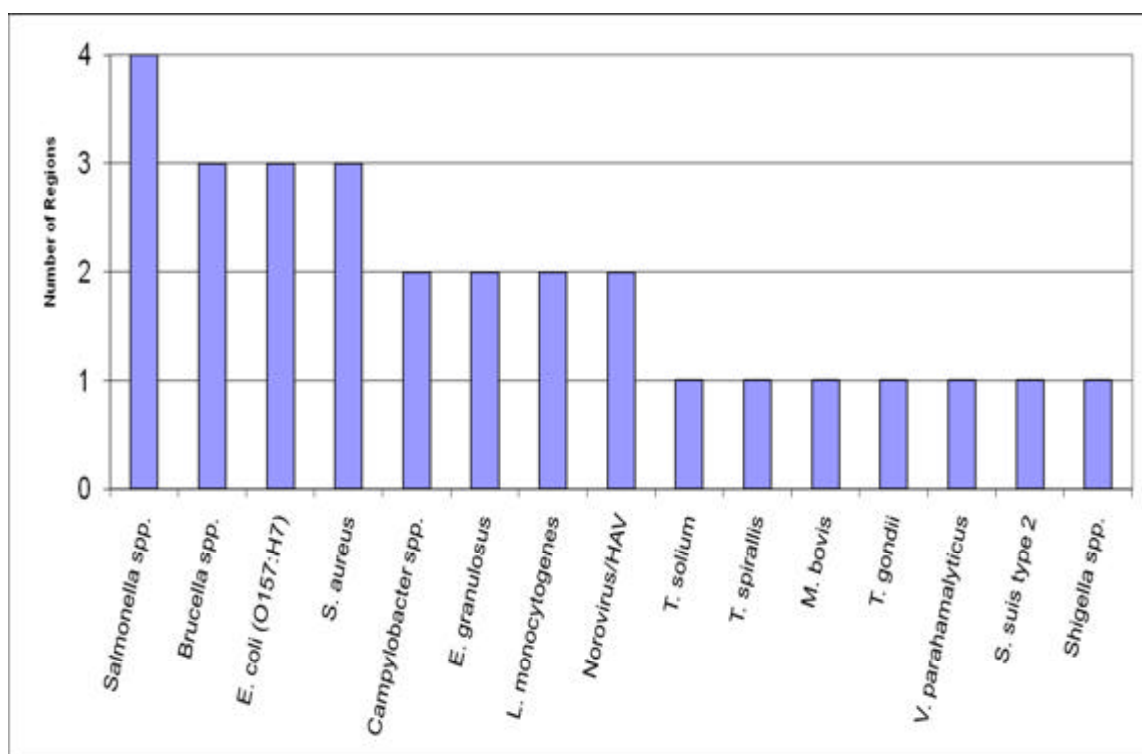
The recommendations of this report will be considered by the APFSWG and the Terrestrial Animal Health Standards Commission and then provided to OIE Members for comment regarding the animal production food safety standard setting priorities for the OIE in future.

Results*Expert Opinion*

The responses from the five regions and the pathogens identified as having the greatest impact on human health are shown in Figure 1 and Table 1.

Note: *Salmonella* spp. represents *Salmonella*spp. from sources other than poultry.

Figure 1: Number of regions that included a foodborne pathogen as a priority due to human health impact, based on expert opinion. (Hepatitis A virus = HAV)




A number of pathogens that were thought by experts to be of priority, although not foodborne, and pathogens that were of priority for reasons not linked to human health were also mentioned and are included in Table 1.

Table 1: Expert opinion on the foodborne pathogens that have the greatest impact on human health.

Note 1: Pathogens that experts consider to be a priority for OIE standard setting, due to reasons other than human health impact or are not foodborne are shown in the lower section of the table.

Note 2: ? indicates uncertain opinion.

REGION	S.AMERICA		AFRICA	ASIA		E. EUROPE	MIDDLE EAST	
EXPERT	Expert A	Expert B	Expert A	Expert A	Expert B	Expert A	Expert A	Expert B
Biggest impact  Least impact	<i>Escherichia coli</i> O157:H7	<i>E.coli</i> O157:H7	<i>E. granulosus</i>	<i>Salmonella</i> spp.	<i>S. enteritidis</i> & <i>S. typhimurium</i>	<i>Salmonella</i> spp.	<i>Salmonella</i> spp.	<i>E. coli</i> O157:H7
	<i>Salmonella</i> spp.	<i>Salmonella</i> spp.	<i>B. melitensis</i> & <i>B. abortus</i>	<i>T. spiralis</i>	<i>Vibrio paraharmolyticus</i>	Pathogenic <i>E. coli</i> strains	<i>Campylobacter</i> spp.	<i>S. aureus</i>
	<i>Listeria. monocytogenes</i>	<i>L. monocytogenes</i>		<i>T. solium</i>	<i>Streptococcus suis</i> type 2	Viruses	<i>B. melitensis</i>	<i>Shigella</i> spp.
	<i>Staphylococcus aureus</i>	<i>Brucella</i> spp.		<i>Mycobacterium bovis</i>	Norovirus (HAV?)	<i>Toxoplasma gondii</i>	<i>E. granulosus</i>	<i>Campylobacter jejuni</i>
					<i>S. aureus</i>	<i>Campylobacter</i> spp.		
					<i>L. monocytogenes</i>			

Annex VII (contd)

REGION	S.AMERICA		AFRICA	ASIA		E. EUROPE	MIDDLE EAST	
EXPERT	Expert A	Expert B	Expert A	Expert A	Expert B	Expert A	Expert A	Expert B
Other pathogens	<i>Shown in BLUE if thought to be a lesser priority, RED if greater and BLACK if of equal priority to the foodborne pathogens listed above.</i>							
	<i>E. granulosus</i>	<i>Coxiella burnetti</i>	<i>T. saginata</i>	<i>HPAI H5N1</i>			<i>T. saginata</i>	
	<i>Trichinella spiralis</i>	<i>E. granulosus</i>		<i>Nipah virus</i>			<i>M. bovis</i>	
	<i>Taenia saginata</i> & <i>T. solium</i>	<i>T. saginata</i>					<i>T. gondii</i>	

Important Sources

The most important food sources of each pathogen were inconsistently provided, but included the following:

- *Salmonella spp.*: fresh meat from different sources, (pork specified for Asia).
- *Pathogenic E.coli* (including O157:H7): beef and other meat.
- *Listeria monocytogenes*: fresh meats, ready to eat products and milk products.
- *Staphylococcus aureus*: meat products and dairy products (fermented pork specified for Asia).
- *Brucella spp.*: milk and milk products (products of goats specified for Asia).
- *Echinococcus granulosus*: dust inhalation (Africa) and contaminated vegetables (Middle East).

Control Measures

Control measures were identified in varying degrees of detail.

The control measures identified are listed below:

- **General**: sanitary control measures; implementation of Good Agricultural Practices; biosecurity and control of wildlife.
- **Salmonella spp.**: on-farm surveillance and hygiene; application of relevant control measures defined by EU legislation.
- **Trichinella spiralis and Taenia solium**: confine livestock; use concrete floors and ensure that feed is obtained from safe sources.
- **M. bovis and Brucella spp.**: disease surveillance, pasteurization of dairy products; use of vaccination against *Brucella* spp..
- **B.anthraxis**: vaccination, surveillance; identification of high risk areas.
- **Echinococcus granulosus**: Treatment of dogs; meat inspection; destruction of hydatid cysts in meat.
- **Taenia saginata**: meat inspection; treatment of carcasses; human hygiene.
- **E.coli**: test and cull appears ineffective, preventing *E.coli* growth in wet feeds and sanitation of water troughs may be effective.
- **Listeria monocytogenes**: hygiene and sanitation in milk harvesting.
- **Toxoplasma gondii**: prevent contamination of feed, water and the environment; prevent consumption of dead pigs and rodents by other animals; serological tests at slaughter; pig confinement systems
- **For aquaculture**: Water quality and non-specified management factors.

Current OIE coverage of FBD pathogens

Standards and/or recommendations for several pathogens that cause FBD are detailed in the *Terrestrial Code* and other publications (Table 2).

Annex VII (contd)

Table 2: Current coverage in the *Terrestrial Code* [38] or other OIE published guidelines of farm level control of FBD agents

Pathogen	Coverage	Details in Code
<i>Salmonella</i> in poultry	<i>Terrestrial Code</i>	Aimed at poultry breeding flocks and hatcheries
<i>Brucella abortus</i> and <i>B.melitensis</i>	<i>Terrestrial Code</i> (OIE Listed diseases)	Details on farm disease freedom measures, not specifically public health measures (<i>ad hoc</i> group has been scheduled)
<i>Trichinella spiralis</i>	<i>Terrestrial Code</i> (OIE Listed disease)	Covers proof of disease freedom and importation of fresh meat (need more consideration of on farm measures)
	FAO/WHO/OIE Guidelines [21]	Prevention of infection in domestic pigs
BSE	<i>Terrestrial Code</i> (OIE Listed disease)	Farm level control covered
<i>Mycobacterium bovis</i>	<i>Terrestrial Code</i> (OIE Listed disease)	Details on proof of disease freedom but not on recommended farm biosecurity measures
<i>Taenia saginata</i>	<i>Terrestrial Code</i> (not an OIE listed disease)	Few details included
<i>Taenia solium</i>	<i>Terrestrial Code</i> (OIE Listed disease)	No details included
	FAO/WHO/OIE Guidelines [55]	On-farm control discussed
<i>Echinococcus</i> spp.	<i>Terrestrial Code</i> (OIE Listed disease)	Few details included
	WHO/OIE Guidelines [56]	Animal control discussed
<i>Coxiella burnetii</i>	<i>Terrestrial Code</i> (OIE Listed disease)	No details included
<i>Bacillus anthracis</i>	<i>Terrestrial Code</i> (OIE Listed disease)	Some animal-level measures mentioned but not in detail (currently under review)

Discussion

Justification of methodology

Attempts to openly and objectively prioritise foodborne pathogens for future attention have been undertaken by many organisations [8, 26, 42, 49]. These frequently use a scoring system, whereby each disease is scored on several relevant criteria, the scores then being combined to give an overall semi-quantitative measure of importance.

In this study, several relevant criteria were considered for each pathogen but scoring was not used due to the level of complexity and uncertainty that exists.

Published data on FBD and the control of relevant pathogens are scarce, particularly for most developing countries. The true incidence of FBD is likely to be underestimated in routine disease surveillance data and causative agents may not be definitively identified. Attributing a case to a foodborne source adds another level of uncertainty. Furthermore, the identification of effective and appropriate on farm measures requires evidence that is often lacking.

For the above mentioned reasons, the lack of a need for precise quantitative measures and the request from the APFSWG for the rapid provision of guidance on future standard setting needs, expert opinion was seen as an appropriate and timely way to address this issue. An open questionnaire was used so that experts would be free to highlight issues that may have otherwise been overlooked.

Limitations and biases

The method of selection of experts was non-systematic. The professional background and interest of each expert varies and this influences their opinions. The questionnaire and the accompanying instructions were kept brief to maximize the response rate. This meant that questions could have been interpreted variably. By way of example, an expert may have evaluated “impact on human health” by considering mortality, morbidity, cost to health services or some other measure or combination of measures. The fact that experts from the same region often gave different answers is partly due to this scope for interpretation and partly due to uncertainty as to which pathogens are of relatively greater importance.

A lengthier study with a panel of experts providing each opinion (as used in Delphi studies) was not performed due to lack of time and resources and based on the fact that the most important step in validating the report is requesting input from OIE Members, to ascertain not only factual information but also the considered views of official veterinarians with responsibility for the management of animal health and the prevention of FBD. The approach taken in this study puts greater dependency on the selection of the regional experts and the particular experiences and knowledge of each expert selected [51].

Some pathogens are frequently under-reported and the cases that are reported tend to be the more severe. How this and other complexities were accounted for by experts was not explicitly considered in the questionnaire.

Using a standard measure of impact of disease (e.g. Disability Adjusted Life Years, DALY [4]), as used in the planned output of the FERG is a valid method to assess the impact of a disease but could not be undertaken in the time available for this study.

Another issue relevant to prioritisation is how to assess the relative importance of regions when identifying the pathogen(s) of most significance globally. Population size or number of countries present in the region would be two possible methods. This study does not attempt to deal with such precise comparisons and merely highlights pathogens considered to be significant regional and global importance.

Annex VII (contd)***Pathogens prioritised by experts***

Non-poultry *Salmonella* spp. were identified by experts as pathogens that should be prioritised for OIE standard setting in the on farm food safety domain for all regions except Africa. Various fresh meats were suggested as the main food source responsible for these *Salmonella* infections. Pathogenic strains of *E.coli* (specifically *E.coli* O157:H7) were thought to be a top FBD priority for South America, the Middle East and Eastern Europe, with meat and beef in particular considered to be the main source. These two pathogens are considered in more detail elsewhere in this report. Support for other pathogens was less consistent. Although three regions mentioned *Brucella* spp. and *S. aureus* as priority pathogens, these pathogens were never mentioned by more than one expert from the same region. This may reflect uncertainty over their relative importance as a cause of FBD compared to other pathogens.

S. aureus of human origin is more important than strains of animal origin in FBD [31]. However, of great concern is the role animals play in the development of antibiotic resistance in pathogens such as methicillin-resistant *S. aureus* (MRSA) [30]. Recommendations for on farm measures to avoid the development of antimicrobial resistance are included in the *Terrestrial Code* [38].

Brucellosis is one of the most widespread zoonoses [53] and causes both human disease as well as reduced productivity in livestock [58]. Methods of controlling *Brucella* spp. are well known and have been successfully applied in many countries. Although *Brucella* spp. are extensively covered by OIE publications [37-38], official recommendations for on farm-control measures are not. FAO has produced guidance on surveillance [41] and FAO and OIE regional activities have addressed this topic [19].

Some pathogens appear to have a marked regional variation in their impact, the most notable examples being in Africa where *Salmonella* spp., *E.coli* and *Staph. aureus* were not mentioned as priority pathogens. This may reflect the lack of detailed studies on FBD in this region.

E. granulosus, the causative agent of hydatidosis, was estimated to have the greatest impact of all foodborne pathogens in Africa; it was also listed for the Middle East and thought to be of importance by both South American experts consulted. Hydatidosis was inconsistently considered as a FBD by experts. Dogs are the usual definitive host of *E. granulosus*, with ungulates such as sheep acting as the intermediate hosts, humans become infected through contact with dogs and food contaminated with parasite eggs [32], dust inhalation is another possible route of transmission [46].

Taenia saginata was thought to be of importance in South America, Africa and by one expert in the Middle East. This FBD causes relatively mild clinical signs [27]. Its major impact is through production losses in the beef industry, condemnation of beef and loss of export trade due to restrictions imposed upon countries that fail to control it [27]. The limited impact of *Taenia saginata* in causing FBD could be a reason for the APFSWG not to consider it of high priority, considering the terms of reference of this report.

As the WHO/FAO/OIE have published recommendations on the control of *Echinococcus*, *Trichinella spiralis* and *Taenia solium* [21, 38, 55-56] there may be less reason to prioritise these pathogens for future OIE standard setting. However, the opinion of OIE Members should be sought on this question.

Non-poultry *Salmonella* spp.

Salmonellosis is possibly the most common FBD in the world [39]. Based on the human isolates reported to the WHO Global Salmonella-Surveillance between 2000-2002, *Salmonella enterica* serovar Enteritidis and *Salmonella enterica* serovar Typhimurium were the most frequently reported isolates for all regions. Ignoring contaminated eggs, contamination of carcasses with animal faeces is considered to be the principle source of human exposure. Contamination of vegetables by animal faeces is another source of infection [39].

Although hen eggs and broiler meat play a major role in human salmonellosis [20], other animals are also of importance. In an international study of 4,093 reported foodborne outbreaks, eggs accounted for 43.4% of *Salmonella* Enteritidis outbreaks and chicken meat 9.9%. The remaining 46.7% of outbreaks were attributed to a range of animal derived and non-animal derived foods [24]. In the same study 18.2% of *Salmonella* Typhimurium outbreaks were attributed to eggs and 10.4% were attributed to chicken meat. Again, the remaining 71.4% of outbreaks was attributed to a range of animal and non-animal derived products. Although noteworthy, the exact relevance of this study is uncertain as outbreaks only represent part of the burden of disease and non-developed countries were poorly represented. This highlights the imperfect knowledge on which assessments of pathogen importance must be made. In a review of invasive non-Typhi *Salmonella* disease in Africa, Morpeth *et al.* stated that non-Typhi *Salmonella* is a leading cause of bloodstream infection, with *Salmonella* Enteritidis and *Salmonella* Typhimurium the most commonly isolated serotypes in sub-Saharan Africa [34]. The appearance of antimicrobial resistance in certain strains of *Salmonella* [45] is an additional concern.

Effective on farm control of *Salmonella* in pigs has been successfully implemented in Denmark [52] and some other countries. The EU has a programme to reduce *Salmonella* contamination of pigs at slaughter with interventions (including on-farm measures) to be implemented by Member States [17]. Feeding, management and hygiene practices have all been used as on farm measures to control *Salmonella*. As no single measure can sufficiently control disease, several measures must be implemented for effective results. Although a Danish style *Salmonella* surveillance and control programme would not be feasible for many countries, some of the control measures that have been successfully used may form an appropriate basis for providing recommendations on on-farm measures.

There is no specific reference to on farm control of *Salmonella* in non-poultry species with respect to food safety in the *Terrestrial Code* [38] or Codex publications.

Pathogenic *E. coli*

E. coli is a common and normally harmless member of the gut micro-flora of most warm-blooded species. However, enteric disease may result if humans are infected with certain pathogenic *E. coli* strains [35].

Of particular concern are certain shiga toxin producing *E. coli* (STEC) also known as verotoxigenic *E. coli*. In wild and domestic animals infection with STEC strains seems fairly common yet it causes little disease [7]. In humans STEC infection is rare but these organisms are known to cause disease with signs including watery diarrhoea, haemorrhagic colitis and haemolytic uraemic syndrome (HUS), particularly in children and the elderly. Most human cases are due to food contaminated with zoonotic STEC of animal origin [18].

Annex VII (contd)

Enterohaemorrhagic *E.coli* (EHEC) comprise a subset of STEC serotypes that are commonly associated with bloody diarrhoea and HUS. Although several EHEC serotypes can cause human disease, O157:H7 is the most common [7]. Cattle are the major reservoir for all zoonotic STEC including EHEC O157:H7 [18]. Contaminated foods derived from cattle (particularly ground beef) are the most common source of infection, due to contamination during food preparation. Animal faecal contamination of growing fruit and vegetables is another important source of this pathogen. Various foods are associated with disease outbreaks, including (undercooked) hamburgers, milk, unpasteurised apple cider, sprouts and salad [24, 45].

In 1999 Mead *et al.* estimated that *E.coli* O157:H7 caused more than 60,000 illnesses in the USA annually, 0.5% of all FBD and 2.9% of deaths due to FBD. Greig *et al.* found *E.coli* to be responsible for 9.5% of FDB outbreaks in an international study. Up to 10% of EHEC patients are thought to develop HUS and the case-fatality rate for this is estimated to range from 2% to 7%, although for some outbreaks involving the elderly the figure is as high as 50% [57]. Outbreaks can be very large. One EHEC O157 outbreak in Japan involved approximately 9,000 school children [57]. As well as Europe, Japan and North America, EHEC is an important pathogen in Australia, Chile, Argentina and South Africa [35], although the non-O157 serotypes may be more important than the O157 serotype in these countries. In the developing world, foodborne pathogenic *E.coli* other than EHEC seem to be more important [35]. Many cases of disease due to non-EHEC *E.coli*, although foodborne, are due to poor sanitation and are not associated with an animal reservoir [40]. Although zoonotic-STECS are often responsible for disease in developing countries [18], limitations in surveillance make it difficult to know how important they are in FBD [45].

Some countries have adopted a policy of considering raw ground beef 'adulterated' if it contains any *E.coli* O157:H7. This has led to very large recalls of ground beef at enormous cost [9]. This policy setting poses a potential barrier to international trade and is of great concern to beef exporting countries.

Control of pathogenic *E.coli* of animal origin requires the application of measures at all stages of the food chain, including on-farm. On farm measures should be aimed at reducing intestinal colonisation and shedding of the relevant bacteria as well as reducing their persistence in the farm environment [18]. These measures would also reduce human infection due to direct contact with the animals [6].

Vaccination, probiotics and bacteriophages have been investigated as specific measures at reducing EHEC O157:H7 excretion in cattle. The probiotic *Lactobacillus acidophilus* culture appears to be effective and is widely used in the USA. However, the benefits of other specific measures are at present unclear [29, 43]. It was thought by one expert that testing and culling carriers of EHEC O157:H7, although a logical approach [18], may be ineffective; although there is a lack of published data on the matter. It must be remembered that pathogen specific measures may be inefficient as they allow the emergence of other pathogens.

Looking at non-specific measures, manure and slurry management are important. Good management practices including hygiene of troughs and pens, correct silage management and avoiding overcrowding of animals [16]. As faecal contamination of hides is the main source of *E.coli* contamination of meat [28] it is important to ensure that cattle are clean when sent to slaughter.

Control measures for EHEC O157:H7 applied throughout the food chain have had a positive effect in the USA [28]. Although some argue that control of EHEC O157:H7 should focus on harvest and post-harvest [28] for both meat and leafy vegetables, this does not mean that pre-harvest control is unimportant. However, the potential for cross-contamination during transport and processing highlights the need for good post-harvest control in addition to measures applied on farm.

Measures for the control of pathogenic *E.coli* are not provided in the *Terrestrial Code* [38], although the OIE and FAO have produced guidelines on good farming practices [23, 36].

Developed Countries

A significant amount of work has been done on the burden of FBD in developed countries [1-2, 5, 15, 22, 33]. *Campylobacter* spp. and *Salmonella* spp. are often considered to have the biggest impact. However, developing countries have a different view on the relative importance of specific pathogens. Developed countries are generally less concerned about parasitic diseases and other diseases that have been successfully controlled through national programmes, whether the measures are applied on farm (e.g. bovine brucellosis and tuberculosis) or subsequently (e.g. pasteurisation) [44, 53].

Notable pathogens not prioritised by experts

Campylobacter spp. are a major cause of FBD globally [1, 5, 12, 15]. Campylobacteriosis presents as diarrhoea with fever and malaise. Complications may arise, rarely, but very few deaths occur. Poultry meat is regarded as a key source of infection and in 2007 the CAC made the development of guidelines for the control of *Campylobacter* in poultry a priority. These guidelines will include on-farm control measures that will complement the text on hygiene and biosecurity procedures in poultry production developed for inclusion in the *Terrestrial Code* [38]. As this pathogen has been addressed by the CAC and, in a generic manner, by the OIE, there may be little need to prioritise it for the development of OIE standard setting. Perhaps more importantly, there is little evidence for effective on farm control measures for *Campylobacter* spp. Poor biosecurity practices can allow the carriage of the pathogen into farm sheds by wildlife and by humans. Reduction of poultry density by 'thinning' flocks during production has also been found to increase contamination [3]. Restricting access of flies and other insects may also help reduce contamination of flocks [25].

How do OIE standards and guidelines make a positive contribution to public health?

OIE standards and guidelines help to protect public health in two ways. The standards contained in the texts adopted by OIE Members (e.g. the OIE *Codes* and *Manuals*) are legal references for the World Trade Organization (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (the SPS agreement) and should be used by WTO Members to determine the measures applied to animals and animal products moving in international (and regional) trade. These standards can have an impact by defining the on farm measures applied to help minimise any potential food safety risks that could be associated with international trade in live animals and their products. In addition, OIE recommendations can be used by Members to guide the development and implementation of national or regional programmes with the objective of improving animal health and animal production food safety.

It is clear that FBD has an important effect on the poor, even though the specific contribution and relative importance of different pathogens may not be well defined. In the absence of strong veterinary services and good governance, the adoption of official control programmes based on OIE standards may have little effect, for example, where livestock slaughtering and trade in animal products is largely informal and takes place outside any official health or safety framework. In these situations, community level interventions may be more effective than legislation in reducing the impact of FBD in the short term. In the longer term, strengthening of veterinary services and their infrastructure through interventions of international donors working in collaboration with the OIE is a valid approach and an ongoing priority of the OIE.

Conclusions

The data required for prioritisation of pathogens for OIE standard setting in relation to FBD are lacking, particularly for developing countries. The approach of consulting regional experts is a suitable method to provide a snapshot review of the situation but the findings of this review should be validated through further discussion within the OIE and consideration by OIE Members.

Based on the opinion of the experts consulted, non-poultry *Salmonella* spp. and pathogenic *E.coli* (especially *E.coli* O157:H7) should be considered for prioritisation. This was supported by the literature and other factors, including the feasibility of on-farm control and the lack of coverage in current OIE and Codex standards. More is known about effective on-farm control of non-poultry *Salmonella* spp. than *E.coli* O157:H7, which suggests that non-poultry *Salmonella* spp. should be rated as more suitable.

Proven methods for on farm control of *Brucella* spp. exist. However, work is currently under way within the OIE to review the current chapter on brucellosis in the *Terrestrial Code*, so no specific recommendations need be made.

E. granulosus, was estimated to have the greatest impact of all foodborne pathogens in Africa; it was listed for the Middle East and thought to be of importance by both South American experts consulted. However, hydatidosis was inconsistently considered as a foodborne disease by experts. *Taenia saginata* was considered important in South America, Africa and by one expert in the Middle East. It causes relatively mild disease in humans but can have a major impact on the beef industry.

As the WHO/FAO/OIE have published recommendations on the control of *Echinococcus*, *Trichinella spiralis* and *Taenia solium* there may be less reason to prioritise these pathogens for future OIE standard setting. However, the opinion of OIE Members should be sought on this question.

Acknowledgements

Thanks to contributing experts including Dr. Héctor J. Lazaneo, Dr Cristina López, Dr Peter Roeder, Dr Ronello Abila, Dr Suphachai Nuanualsuwan, Prof Dr Jacek Szczawinski, Dr Pavlos Economides and Prof Hassan Aidaros. Thanks also go to all members of the international trade department of the OIE and the WHO Food Safety, Zoonoses and Foodborne diseases department.

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**TERMS OF REFERENCE FOR AND MODUS OPERANDI OF THE OIE PERMANENT ANIMAL
PRODUCTION FOOD SAFETY WORKING GROUP**

TERMS OF REFERENCE

~~1. In accordance with Resolution No. XV of the 70th OIE General Session,~~ The terms of reference for the Animal Production Food Safety Working Group include:

- a) consideration of all foodborne hazards arising from animals before slaughter,
- b) a primary focus on food safety measures applicable at the farm level,
- c) consideration of food safety measures applicable elsewhere, for example during animal transport and harvesting of wild animals for food,
- d) work criteria and priorities that take into account global food safety priorities and current work programmes of relevant international organisations, especially the Codex Alimentarius Commission (CAC), FAO and WHO,
- e) the taking into account of the food safety standards developed and under development by relevant international organisations, especially the CAC,
- f) support for the work of the OIE Specialist Commissions on pre-slaughter animal production food safety,
- g) advising the OIE Director General of the OIE on all issues on the implementation of the OIE strategy regarding relating to animal production food safety including but not limited to:
 - i) establishing *ad hoc* Groups to address specific tasks,
 - ii) linking at the working level with the CAC, FAO and WHO,
 - iii) ensuring pre-slaughter animal production food safety is integrated in Specialist Commissions' and *ad hoc* Groups' activities,
 - iv) providing technical input as appropriate into the ~~review work of the Specialist Commissions in relation to~~ OIE relevant food borne disease notification ~~criteria~~ or the official recognition by the OIE of relevant disease status,
 - v) enhancing communications, information sharing and consultation,
 - vi) issues relating to good governance including veterinary education,

Annex VIII (contd)MODUS OPERANDI

2. Within these above terms of reference, the Working Group sees its role as:

1. providing advice to the OIE Director General on policy and strategic issues relating to the OIE's work on animal production food safety, which has the goal of 'reducing foodborne risks to human health by preventing, eliminating or controlling hazards arising from animals prior to primary processing of animals and animal products'.

The priorities are:

- ~~ia)~~ identifying and addressing gaps, contradictions, areas where harmonisation is necessary and duplications in the work of the OIE and other international/intergovernmental organisations involved in food safety standards, (in particular CACodex) ~~involved in food safety standards~~,
- ~~ib)~~ strengthening the relationship to other relevant scientific and normative standard setting organisations working in the area of food safety (in particular CACodex, FAO and WHO), through enhanced information exchange,
- ~~ic)~~ improving coordination between competent authorities with animal health and food safety responsibilities at the national and regional levels,
- ~~id)~~ recommending a work programme to address the mandate of the OIE on animal production food safety;

2. ~~b)~~ acting in a steering group capacity, as required by the OIE Director General, regarding the work of OIE expert groups:

- ~~ia)~~ advising the Director General on membership, scope and terms of reference for expert groups,
- ~~ib)~~ reviewing texts arising from relevant expert groups for consideration by the relevant Specialist Commissions.

3. Intended outputs addressed to the Director General and the relevant Specialist Commissions include:

- a) ~~discussion papers~~ policy advice;
- b) ~~policy documents~~ discussion papers;
- c) reports;
- d) comments on draft texts reviewed.

DRAFT WORK PROGRAMME FOR 2010

The Working Group agreed that its work programme for 2010 would include:

1. Horizontal issues

- a) Antimicrobial resistance – Working Group to monitor Codex (Task Force on Antimicrobial Resistance), FAO, WHO and OIE developments
- b) Petfood – Working Group to be kept informed of developments relevant to food safety.
- c) The *ad hoc* Group on Vaccines in Relation to New and Emerging Technologies – animals and animal products derived from biotechnological interventions – review texts for potential food safety implications of biotechnology vaccines when this work is undertaken. Follow any developments in nanotechnology relevant to the work of the APFSWG.
- d) Revision of OIE Handbook on Import Risk Analysis – review draft text.
- e) Consideration of the scientific evidence on the relationship between animal welfare and animal production food safety.
- f) Animal production food safety in veterinary education following from the recommendations of the OIE Conference ‘Evolving veterinary education for a safer world’ held in October 2009.
- g) Policy statement on the importance of animal production food safety for food security.
- h) Food safety issues arising from the ongoing work on the emerging zoonoses at the human animal ecosystem interface (‘One World, One Health’).
- i) Certification, in particular electronic certification – monitor developments in CAC, IPPC and OIE.

2. Disease-specific OIE texts

- a) Chapters of the OIE *Terrestrial Animal Health Code* on brucellosis. A further *ad hoc* Group meeting is to be held in November 2009.
- b) Foodborne zoonoses
 - future work on salmonellosis and campylobacteriosis in poultry - taking into account developments in Codex;
 - follow up on the report on priority pathogens for standard setting activities in animal production food safety.

3. Continue to strengthen relationship between OIE and Codex by:

- a) Encourage enhanced OIE input into Codex texts and vice versa.
- b) Encourage continued close collaboration between the Codex secretariat and the OIE Headquarters.

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