

OIE philosophy, policy and procedures for the development of food safety standards

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Summary

Food safety was identified as a high priority area in the 2001-2005 World Organisation for Animal Health (OIE) Strategic Plan. Member Countries of the OIE considered that the organisation should be more active in issues of public health and consumer protection and that this should include more involvement in the area of diseases or pathogens transmissible through food, whether or not animals are affected by such diseases or pathogens.

A permanent Working Group on Animal Production Food Safety was established in 2002 to coordinate the OIE's activities in food safety. The Working Group was requested to focus on food safety measures applicable at farm level and to monitor the ongoing cooperation between the OIE and Codex Alimentarius.

More emphasis is now placed on the public health aspects of a disease when OIE standards are developed or revised. For example, the revised chapter on bovine tuberculosis in the *Terrestrial Animal Health Code* includes food safety recommendations for meat and meat products and for milk and milk products. The revised chapter was approved by the OIE International Committee of Member Countries at their 73rd General Session in May 2005. More chapters will follow, beginning with a chapter addressing bovine brucellosis.

Keywords

Codex Alimentarius – Food safety – Food-borne disease – International standard – World Organisation for Animal Health – Zoonosis.

Introduction

Emerging diseases will continue to be significant and in most cases they will originate in animals (wild or domestic). There is a strong food safety element in most of these diseases and food safety is an essential public health issue for all countries. Food-borne diseases due to microbial and parasitic pathogens, biotoxins, and chemical contaminants in food represent serious threats to the health of thousands of millions of people. Serious outbreaks of food-borne disease have been documented on every continent in the past few decades, illustrating both the public health and social significance of these diseases (3). Food-borne disease and zoonoses are recognised as

important causes of decreased economic productivity in both developed and less developed countries. Transmission of hazards of animal health importance via the feed and food chain and associated by-products can result in highly significant economic loss in animal populations (11).

In developed countries up to one-third of the population can be affected by food-borne illness each year, and the problem is likely to be even more widespread in developing countries. The poor are the most susceptible to ill-health. Food- and water-borne diarrhoeal diseases are leading causes of illness and death in less developed countries, killing an estimated 2.2 million people annually,

most of whom are children. The availability of safe food improves the health of people and is a basic human right. Safe food contributes to health and productivity and provides an effective platform for development and poverty alleviation (5).

To ensure that food is safe from the risks presented by zoonoses requires controls along the continuum from farm to fork. To reduce the challenge to food safety management systems further along the food chain, it is important that everything that is reasonable, practical and economically feasible be achieved on the farm, in the pre-harvest phases. The ongoing risk has to be highlighted for management at all stages and any residual risk communicated to the final consumer (2).

This requires the World Organisation for Animal Health (OIE) and the Codex Alimentarius Commission (Codex) to work closely together and collaborate on a permanent basis. In this respect the OIE has renewed its cooperation with the two parent organisations of Codex, namely, the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) by ratifying two new mutual agreements. Within this cooperation FAO and WHO will continue discussions with the OIE on how to foster the relationship between Codex and the OIE.

International standards on food safety are established by Codex, as stated in the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) of the World Trade Organization (WTO). The OIE, for its part, is responsible, under the terms of the SPS Agreement and the mandate given to it by its Member Countries, for standards relating to animal health and zoonoses (animal diseases transmissible to humans).

Since many zoonoses can be transmitted to humans through food, OIE standards also apply to animal products for human and animal consumption that could spread pathogens via international trade. For example, when in 1996 a paper by R.G. Will *et al.* indicated that it was likely that bovine spongiform encephalopathy (BSE) was transmissible to humans (4), the OIE had already included standards to prevent the spread of BSE in its *Terrestrial Animal Health Code (Terrestrial Code)* (10).

To ensure that food is safe from farm to fork, Codex is focusing on human health outcomes ('fork') when developing standards and guidelines. In comparison the OIE's role is to develop standards aimed at protecting consumers from food-borne hazards arising from animals at the primary production level of the food chain ('farm').

Food safety was identified as a high priority area in the 2001-2005 OIE Strategic Plan. Member Countries recommended an increased involvement of the OIE in the area of public health and consumer protection and that this should include developing standards to prevent the spread

of diseases and pathogens transmissible to humans through food, whether or not animals are affected by such diseases or pathogens. This contrasts with the historical view that veterinarians (and the OIE) should only be concerned with zoonoses that cause disease in animals.

To coordinate the food safety activities of the OIE and to ensure a seamless cooperation with Codex, a permanent OIE Working Group on Animal Production Food Safety (APFS) was established in 2002, details of which are provided later in this article.

Development of OIE standards

The OIE Specialist Commissions, the members of which are elected by Member Country representatives, continually develop and revise guidelines and recommendations for the OIE *Terrestrial Code* (10), *Aquatic Animal Health Code* (8), *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (Terrestrial Manual)* (7) and *Manual of Diagnostic Tests and Vaccines for Aquatic Animals* (6). To prepare draft texts for new articles in the *Codes* and *Manuals*, or to propose revisions of existing articles, those Commissions use the expertise of well-known specialists, many of whom work in one of the 171 OIE Collaborating Centres and Reference Laboratories.

An OIE Delegate, an OIE Specialist Commission, an independent expert or a partner organisation may identify an issue or problem on the basis of new scientific information or a new approach. The appropriate Specialist Commission would then deal with the issue, seeking advice from an expert, working group, ad hoc group, other Commission or OIE Reference Laboratories/Collaborating Centres.

The OIE circulates initial proposals for comment by experts, Member Countries and organisations. At the General Session of the International Committee, the Delegates discuss proposed texts. After discussion, the proposal may be returned for further work or may be adopted as an international OIE standard. An adopted text is then included in one of the OIE *Codes* or *Manuals* and then recognised by WTO as an international standard.

The OIE Working Group on Animal Production Food Safety

In May 2002 the International Committee of OIE Member Countries recommended the establishment of a permanent working group on food safety to coordinate the OIE's animal production food safety activities, with

multidisciplinary membership and balanced regional representation. As a result, the OIE Working Group on APFS was established with a focus on food safety measures applicable at farm level. In this regard, the Working Group saw its role as one of providing advice to the Director General of the OIE on policy and strategic issues related to the OIE's work on animal production food safety. OIE activities in this area have the goal of reducing food-borne risks to human health by preventing, eliminating or controlling the hazards that can arise during the primary processing of animals and animal products. The Working Group would also collaborate in relevant areas with other international organisations, particularly FAO and WHO and their subsidiary bodies (especially Codex), to ensure a seamless interface between the OIE and these other standard-setting organisations.

This is reflected in the membership of the Working Group. The current members are Dr Stuart Slorach – Chair (Past Chairperson, Codex; former Deputy Director-General, National Food Administration, Sweden); Prof. Hassan Aidaros (Professor of Hygiene and Preventive Medicine, Egypt); Dr Carlos Correa Messuti (Ministry of Animal Production, Agriculture and Fisheries, Uruguay); Mr Michael Scannell, (Head of Unit for international food, veterinary and phytosanitary questions and multilateral international relations, Health and Consumer Protection Directorate-General, European Commission, Belgium); Dr Joseph Domenech (Chief, Animal Health Service, Agriculture, Biosecurity, Nutrition and Consumer Protection Department, FAO, Italy); Dr Andrew McKenzie (Executive Director, New Zealand Food Safety Authority, New Zealand); Dr Kazuaki Miyagishima (Secretary, Codex, Italy); Dr Alan Randell (former Secretary, Codex, Italy); Dr Jørgen Schlundt (Director, Department of Food Safety, Zoonoses and Food-borne Diseases, WHO, Switzerland) and Dr Robert Thwala (Director, Veterinary and Livestock Services, Swaziland).

In 2005 the Working Group reviewed, revised and identified its priorities as (9):

- identifying and addressing gaps, contradictions, duplications and areas where harmonisation is necessary in the work of the OIE and other international/intergovernmental organisations (in particular Codex) involved in food safety standards
- strengthening the relationship with other relevant standard-setting organisations (in particular Codex), through enhanced informal exchange
- improving coordination between competent authorities with animal health and food safety responsibilities at national and regional levels
- recommending a work programme to address the mandate of the OIE on animal production food safety.

Furthermore the Working Group was established to act in a steering group capacity regarding the work of OIE expert groups so it could advise the Director General on membership, scope and terms of reference for expert groups and review texts arising from these groups for consideration by the relevant Specialist Commission.

Current food safety issues for the OIE

Cooperation between the Codex Alimentarius Commission and the OIE on food safety throughout the food chain

Historically, Veterinary Services were set up to control animal diseases at farm level. At present, in about 70% of OIE Member Countries, Veterinary Services have both public health and animal health objectives. Because effective links between animal health and public health are essential, Member Countries have been asking the OIE to help them reform their administrations in this regard. As a result, the Working Group revised a paper on a production-to-consumption approach to food control throughout the food chain and renamed it: 'Cooperation between the Codex Alimentarius Commission and the OIE on food safety throughout the food chain'. This paper is available on the OIE website in the food safety section (www.oie.int).

As part of this cooperation the Working Group will develop a document for Veterinary Services that will describe their involvement in food safety activities, which have both public and animal health objectives.

Ante- and post-mortem meat inspection

Food-borne diseases are generally recognised as important public health problems and important causes of decreased economic productivity in both developed and developing countries. Similarly, transmission of hazards of animal health importance via the food chain and associated by-products can result in highly significant economic loss in animal populations. Along with this, rapidly increasing trade in food at both local and international level is resulting in increased attention to biosecurity and the potential for the transmission of animal diseases and zoonoses via the food and feed chain. Inspection of slaughter animals can provide a valuable contribution to surveillance for specified diseases of animal and public health importance. To provide more guidance in the use and development of a risk-based approach to ante- and post-mortem meat inspection, the Working Group drafted a chapter for the *Terrestrial Code* on 'Guidelines for the

control of biological hazards of public health and animal health importance through ante- and post-mortem meat inspection'. At its 74th General Session in May 2006 the International Committee of OIE Member Countries approved this chapter for inclusion in the *Terrestrial Code* (10). An information document from the Working Group on 'Control of hazards of public health and animal health importance through ante- and post-mortem meat inspection' has been placed on the OIE website in the food safety section.

Identification and traceability of live animals

The need to ensure the safety of food of animal origin in respect of the risk posed by the transmissible spongiform encephalopathies of animals has increased the importance of sound data on the traceability of food for food animals and the dynamics of trade in animals (2). Therefore the Working Group established terms of reference for a new OIE ad hoc group – the Ad hoc Group on Identification and Traceability of Live Animals. This Ad hoc Group has developed a set of principles for animal identification and animal traceability which is broad, valid for all the relevant animal species (although the initial work is on systems for bovines) and takes into account the differences among OIE Member Countries. The International Committee of OIE Member Countries approved this text for inclusion in the *Terrestrial Code* (10) at the 74th General Session in May 2006. Based on these principles, the Ad hoc Group has started work on developing guidelines for animal identification and traceability to provide an instrument for Member Countries to improve animal health and public health, and to contribute to better management of health crises at international and national levels. The final task of the Ad hoc Group will be to develop a set of recommendations for a practical implementation of the system. It will take into account the work of Codex on traceability, so as to create one workable system that combines Codex guidelines on the traceability of animal products with those of the OIE on live animals.

Good farming practices

The Working Group is developing a guide to good farming practices. The guidelines are designed to address public health risks that can arise at farm level during the primary processing stage of animal production. At this stage the guidelines cover the issues in general terms, but there will be the opportunity to add specific references later to address particular situations in specific regions or countries.

The guidelines will be directed at veterinary administrations and other competent authorities as a means of encouraging them to promote and implement

good farming practices, as appropriate within their countries, as a component of the overall animal health system. To maximise the usefulness of the guidelines, the OIE will coordinate its work with FAO (in collaboration with WHO and Codex), with the outcome being published as a joint OIE/FAO document.

Feed safety

Some feed safety recommendations are already included in different OIE standards such as those covering BSE and classical swine fever. The OIE recognises that it should establish an overall standard governing feed safety systems for food producing animals, taking into account relevant aspects of animal health and zoonoses, in order to minimise risks to animal and consumer health. The Working Group recommended terms of reference for an ad hoc group to address this subject taking into account Codex work on the food safety aspects of animal feed ('Code of Practice on Good Animal Feeding') (1). This ad hoc group will need to work in close collaboration with the experts working on the guide to good farming practices.

Strengthening public health and animal health through responsible use of reliable, safe and effective veterinary drugs

In 1999 the OIE created an ad hoc group to address the human and animal health risks related to antimicrobial resistance, and to examine the contribution to resistance of antimicrobial use in veterinary medicine. Activities started with the organisation of an international conference in Paris in 2001. In 2003 the OIE adopted four guidelines on antimicrobial resistance. Three guidelines are part of the *Terrestrial Code* (10) and the fourth guideline is part of the *Terrestrial Manual* (7). In 2004 guidelines on risk analysis for antimicrobial resistance were adopted and included in the *Terrestrial Code*.

During 2004 an ad hoc group, including officials from WHO and FAO, revised and updated the OIE standards on antimicrobial resistance taking into account the work done by the Codex Committee on Residues of Veterinary Drugs in Foods. The proposed revisions were endorsed by the Working Group on AFPS and adopted by the OIE in 2005.

The OIE, FAO and WHO organised two joint Expert Workshops on Non-Human Antimicrobial Usage and Antimicrobial Resistance: one in Geneva, Switzerland, in December 2003 (Scientific Assessment) and the other in Oslo, Norway, in March 2004 (Management Options). It was recommended that the OIE develop a list of critically important antimicrobials in veterinary medicine and that the WHO develop such a list for critically important antimicrobials in human medicine.

The list of critically important antimicrobials for human medicine was proposed in February 2005 at a WHO working group consultation meeting in Canberra, Australia. In 2005 the OIE Ad hoc Group on Antimicrobial Resistance prepared a questionnaire for OIE Member Countries, to collate proposals on Veterinary Critically Important Antimicrobials (VCIA). In February 2006 the Ad hoc Group compiled a list of VCIA based on the data collected. Once this list has been accepted by OIE Member Countries, the OIE, FAO and WHO will consider convening a joint meeting to give recommendations on the appropriate balance to be struck between animal health needs and public health considerations.

New approaches to zoonoses

To find the most effective approaches to zoonoses the OIE created an ad hoc group on emerging zoonoses in 2004. The terms of reference included the provision of advice on zoonotic disease control strategies at the animal production level and communication with public health agencies on the human impact of emerging and re-emerging zoonoses. The Ad hoc Group recommended that the OIE, in permanent conjunction with FAO and WHO (including Codex), consider a more proactive approach to developing guidelines, standards and codes of practice for animal production to help reduce the risk of the occurrence of emerging and re-emerging food-borne zoonoses.

The Working Group on APFS discussed the principles underpinning the new OIE single list of notifiable terrestrial diseases and the criteria used for determining whether a disease would be listed. It believed that, in reviewing the criteria for the inclusion of zoonoses for compulsory notification by Member Countries, the OIE should take account of all risk management options, including alternatives to listing, e.g. for some human pathogens associated with food-borne illness. If other risk management options prove to be more effective and less trade restrictive, they should be chosen; these risk management options could include measures at the production or processing stages of the food chain, and may lead to additional chapters in appropriate OIE and/or Codex codes. The Working Group recommended that the OIE develop alternative methods for managing such food-borne pathogens for which compulsory reporting may not be the most appropriate risk management strategy.

Disease specific texts

As previously stated, the OIE has revised the *Terrestrial Code* chapter on bovine tuberculosis, placing more emphasis on the food safety aspects of the disease. The revised chapter now contains recommendations for meat and meat products, and milk and milk products. The same

emphasis on food safety issues has been given to a revised chapter on bovine brucellosis which has been submitted to the Terrestrial Animal Health Standards Commission.

The risk of human illness from *Salmonella enteritidis* has increased dramatically. During the past two decades, *S. enteritidis* has emerged as a leading cause of human infections in many countries, with hen eggs being a principal source of the pathogen. The Working Group has initiated work on risk reduction for *S. enteritidis* in eggs, taking into account Codex, WHO and FAO work. The Working Group recommended that an ad hoc group be established to develop standards on salmonellosis in poultry to complement the ongoing work of Codex. The standards should address methods for the detection of *Salmonella* spp. in flocks, measures for control and eradication, and risk mitigation measures for affected commodities.

Certificates

The OIE model international certificates for meat and other products of animal origin are being updated, with the aim of having a common certificate for all commodities. The Working Group will work with Codex and other relevant international organisations (such as the International Dairy Federation and the International Plant Protection Convention) to review international standards on certification with a view to maximising harmonisation. The Working Group proposed that an ad hoc group be set up to revise the current OIE work and update certification guidelines and model certificates.

Future OIE work

At its meeting in January-February 2006, the Working Group identified the following priorities:

- finalising some horizontal issues, e.g. updating the current OIE model certificates
- finalising several disease specific texts, including a modification of the chapter on brucellosis in the *Terrestrial Code*
- continuing to strengthen the relationship between the OIE and Codex
- developing new texts such as a document for Veterinary Services describing their role in food safety activities.

Conclusion

Since the appearance of BSE, the OIE has had an increased involvement in the area of public health and consumer

protection. Particularly, cooperation with Codex has been intensified to ensure that there are no inconsistencies or gaps in the standards and topics falling within the scope of the OIE and Codex. The OIE's role is to develop standards aimed at protecting consumers from food-borne hazards arising from animals at the primary production level of the food chain. This concept is already visible in the *Terrestrial Code* and will be even more so in the years to come.

Food safety and consumer participation will play an increased role in standard setting. The OIE Working Group on APFS will coordinate future standard-setting activities with Codex as well as serve as a sounding board for consumer sensitive issues. More food safety measures will be incorporated within on-farm production systems in the

future. The OIE will play a key role in increasing the awareness of veterinarians and farmers of the importance of incorporating these food safety measures into the first stages of production. Taking such preventive measures is preferable to having to monitor and take action at slaughter and points beyond.

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L'élaboration de normes en matière de sécurité sanitaire des aliments : principes, politiques et procédures de l'OIE

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Résumé

Le Plan stratégique 2001-2005 de l'Organisation mondiale de la santé animale (OIE) a fait de la sécurité sanitaire des aliments une priorité. Les Pays membres de l'OIE ont estimé que l'organisation devait s'impliquer davantage dans le domaine de la santé publique et de la protection des consommateurs, notamment en prêtant une attention accrue aux maladies d'origine alimentaire et à leurs agents pathogènes, que ces maladies et agents affectent ou non les animaux.

Un Groupe de travail permanent sur la sécurité sanitaire des aliments d'origine animale en phase de production a été mis en place en 2002 afin de coordonner les activités de l'OIE dans ce domaine. Il a été demandé au Groupe de travail de se concentrer sur les mesures de sécurité sanitaire des aliments applicables au niveau de la ferme et de suivre en permanence la coopération entre l'OIE et le Codex Alimentarius.

Dorénavant, lors de l'élaboration ou de la révision des normes de l'OIE, l'accent est davantage mis sur les conséquences des maladies animales sur la santé publique. Par exemple, le chapitre révisé du *Code sanitaire pour les animaux terrestres* consacré à la tuberculose bovine comporte des recommandations relatives à la sécurité sanitaire de la viande, des produits carnés, du lait et des produits laitiers. Le chapitre révisé a été approuvé en mai 2005 par le Comité international de l'OIE lors de la 73^e Session générale. D'autres chapitres suivront, dont en premier lieu celui consacré à la brucellose bovine.

Mots-clés

Codex Alimentarius – Maladie d'origine alimentaire – Norme internationale – Organisation mondiale de la santé animale – Sécurité sanitaire des aliments – Zoonose.



Crterios, línea de acción y procedimientos de la OIE para la formulación de normas sobre la seguridad sanitaria de los alimentos

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Resumen

En el Plan Estratégico de la Organización Mundial de Sanidad Animal (OIE) para 2001-2005 se confirió una alta prioridad a la seguridad sanitaria de los alimentos. Los Países Miembros de la Organización consideraron que la OIE debería participar más activamente en el ámbito de la salud pública y la protección de los consumidores; en particular, respecto de las zoonosis y agentes patógenos transmisibles a los seres humanos por los alimentos, independientemente de que los animales estén afectados por dichas enfermedades o agentes patógenos.

En 2002 se estableció un Grupo de Trabajo permanente sobre Seguridad Sanitaria de los Alimentos derivados de la Producción Animal para que coordinara las actividades de la OIE en materia de inocuidad alimentaria. Se pidió al Grupo de Trabajo que centrara sus actividades en las medidas relativas a la seguridad sanitaria de los alimentos aplicables en las explotaciones y en la colaboración permanente entre la OIE y el Codex Alimentarius.

Actualmente, a la hora de formular o revisar las normas de la Organización, se le da prioridad a las consecuencias de las enfermedades animales para la salud pública. Por ejemplo, el capítulo revisado del *Código Sanitario para los Animales Terrestres* sobre la tuberculosis bovina comprende recomendaciones acerca de la seguridad sanitaria de la carne, la leche y sus subproductos. El Comité Internacional de los Países Miembros de la OIE aprobó este capítulo revisado en el curso de su 73ª Sesión General, celebrada en mayo de 2005. Se ha previsto proseguir la revisión de los capítulos del *Código Sanitario* y el próximo que se ampliará será el relativo a la brucelosis bovina.

Palabras clave

Codex Alimentarius – Enfermedad transmitida por alimentos – Norma internacional – Organización Mundial de Sanidad Animal – Seguridad sanitaria de los alimentos – Zoonosis.



References

1. Codex Alimentarius Commission (CAC) (2004). – Code of practice on good animal feeding. CAC/RCP 54-2004. CAC, Rome.
2. Collins J.D. & Wall P.G. (2004). – Food safety and animal production systems: controlling zoonoses at farm level. *In* Emerging zoonoses and pathogens of public health concern. *Rev. sci. tech. Off. int. Epiz.*, **23** (2), 685-700.
3. Food and Agriculture Organization of the United Nations (FAO) (2003). – Assuring food safety and quality: guidelines for strengthening national food control systems. FAO Food and Nutrition Paper 76. FAO, Rome.
4. Will R.G., Ironside J.W., Zeidler M., Cousens N., Estibeiro K., Alperovitch A., Poser S., Pocchiari M., Hofman A. & Smith P.G. (1996). – A new variant of Creutzfeldt-Jakob disease in the UK. *Lancet*, **347**, 921-925.
5. World Health Organization (WHO) (2002). – WHO global strategy for food safety: safer food for better health. WHO, Geneva.
6. World Organisation for Animal Health (OIE) (2003). – Manual of Diagnostic Tests for Aquatic Animals, 4th Ed. OIE, Paris.

7. World Organisation for Animal Health (OIE) (2004). – Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, 5th Ed. OIE, Paris.
 8. World Organisation for Animal Health (OIE) (2005). – Aquatic Animal Health Code, 8th Ed. OIE, Paris.
 9. World Organisation for Animal Health (OIE) (2005). – Final Report, 73rd General Session. OIE, Paris.
 10. World Organisation for Animal Health (OIE) (2005). – Terrestrial Animal Health Code, 14th Ed. OIE, Paris.
 11. World Organisation for Animal Health (OIE) (2006). – Control of hazards of public health and animal health importance through ante- and post-mortem meat inspection. OIE Working Group on Animal Production Food Safety. Available at: www.oie.int.
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