

**REPORT OF THE MEETING OF THE OIE AD HOC GROUP ON ZOOBOTIC PARASITES****Paris (France), 5–7 October 2010**

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**EU comments**

**The EU thanks the OIE TAHSC, the APSFWW and the ad hoc group for their work.**

**However, the EU has comments to the proposed draft chapters, especially concerning the chapter on *Trichinella* infection, where the main issue is to keep the possibility for a country or zone to have a negligible risk status, and adapt the surveillance and risk management to it. A guidance document is being prepared by the Codex Alimentarius Commission (CAC) on the same issue and should be taken into account. The EU is co-chairing the CAC working group. The EU supports a joint document of OIE and CAC. If not possible, cross-references should be made and each document should endorse the position in the other document.**

**Comments, which should be taken into consideration by the TAHSC in its next meeting, are inserted in the draft chapters in the annexes.**

The OIE *ad hoc* Group on Zoonotic Parasites (the *ad hoc* Group) met at the OIE Headquarters in Paris from 5 to 7 October 2010.

The members of the *ad hoc* Group and other participants are listed at [Annex I](#). The Agenda and Terms of Reference adopted are given at [Annex II](#) and [Annex III](#), respectively.

Dr Vallat, Director General of the OIE, joined the *ad hoc* Group meeting and thanked members for their support of the OIE and their work that will improve both animal health and public health. Dr Vallat noted that zoonotic parasites are involved in important public health problems worldwide and that the OIE will continue to increase its contribution to improving public health through the development of standards for zoonotic parasitic diseases.

Dr Vallat proposed that the *ad hoc* Group develop the existing OIE *Terrestrial Animal Health Code* (*Terrestrial Code*) chapters for trichinellosis and echinococcosis/hydatidosis, and develop a new chapter for porcine cysticercosis, also an OIE-listed disease. Dr Vallat suggested that it could be important for Members to have guidelines for good on-farm practices to prevent and control key non OIE-listed parasites such as *Taenia saginata* as these parasites, although not always a significant public health concern can result in significant economic losses due to condemnation of affected tissues. Dr Vallat encouraged the *ad hoc* Group to discuss these proposals as they develop their work plan during their meeting.

Dr Vallat informed the *ad hoc* Group that zoonotic aquatic parasites may also be of interest, and the OIE would explore this area if relevant in future work.

**1. Trichinellosis**

The *ad hoc* Group reviewed the current *Terrestrial Code* Chapter 8.13. Trichinellosis and decided to draft a new chapter as much of the existing text was out of date.

The *ad hoc* Group did not include articles on the establishment of a *Trichinella*-free country or zone as they considered that this was not feasible, since a number of wildlife species are known to be reservoirs of *Trichinella*, and it would be very difficult to reliably document their *Trichinella*-free status in a geographical area (country or zone), as well as to document the maintenance of such a status over time. The *ad hoc* Group discussed extensively the issue of whether to recommend conducting on-going surveillance of wildlife as a component of control programmes. The *ad hoc* Group considered that it was not practical to conduct on-going surveillance of wildlife in the area around a *Trichinella*-free pig farm. The *ad hoc* Group considered that in this case, providing that appropriate barriers to the entry of rodents and wildlife are in place and maintained, surveillance of wildlife is not warranted.

The *ad hoc* Group did not make any recommendations for risk management of horses at the farm level because horses entering the food chain come from a wide range of sources, including farmed and non-farmed, and it was not feasible to make recommendations that would cover all possibilities. In relation to horses, public health protection could be assured by post mortem sampling and testing or by inactivation of the parasite by treatment of the meat.

The *ad hoc* Group noted that trichinellosis is prevalent in farmed crocodiles and recommended that the OIE address the associated public health issue.

The *ad hoc* Group also noted that trichinellosis affects many other species (both domestic and wild), and that exposure to meat from those species (for example, consumption by hunters of raw or undercooked meat from wild animals) could pose additional public health risks. The Group did not have time to discuss trichinellosis in wildlife in any detail. The revised Chapter 8.13. *Trichinella* Infection is presented in [Annex IV](#).

## **2. Echinococcosis/hydatidosis**

The *ad hoc* Group reviewed the current *Terrestrial Code* Chapter 8.4. Echinococcosis/hydatidosis and decided to draft a new chapter as the current text was scant and there was a need for more advice to Members.

The *ad hoc* Group noted the development the EG95 vaccine against hydatid infection in sheep, which has been shown to be highly effective in field trials. The *ad hoc* Group encouraged the commercialisation of this vaccine as an important adjunct to strategies to control hydatid disease in many parts of the world.

The *ad hoc* Group highlighted the importance of cooperation between the Veterinary Authority, the public health sector and other relevant entities such as wildlife services and local authorities responsible for abattoir waste management in the control of this disease, because management of the human/domestic animal/wildlife interface is key in the mitigation of public health risk.

The revised Chapter 8.4. Echinococcosis/hydatidosis is presented in [Annex V](#).

## **3. Porcine cysticercosis**

Due to lack of time, the *ad hoc* Group was not able to draft new text on porcine cysticercosis but members agreed to do some preparatory work prior to the next meeting.

## **4. Bovine cysticercosis**

The *ad hoc* Group discussed briefly the feasibility of developing recommendations for bovine cysticercosis, and agreed that this was possible. However, they requested guidance from the OIE Terrestrial Animal Health Standards Commission as to the format and mode of publication/placement of an appropriate document.

## **5. Other zoonotic parasites of farmed animals**

Agenda Item 3 was carried over to the next *ad hoc* Group meeting.

## CHAPTER 8.13.

**TRICHINELLA INFECTION****EU comments**

**The EU thanks the OIE for this work. The EU would like to inform OIE that it is co-chairing with New Zealand a working group of the CAC to provide Guidelines for control of specific zoonotic parasites in meat. The EU would like to refer and fully support the suggestion made by Dr. Thiermann at the joint meeting with the OIE terrestrial animal health standards commission and scientific commission for animal diseases from 1 to 11 February 2011, expressing the view that this area of work was appropriate and could serve as model for joint development of common standards by the OIE and CAC.**

**Independently from this general remark and being aware that this may not be possible at short notice, the EU has major comments to the proposed modified chapter, especially concerning the possibility for a country or zone to have a negligible risk status, and adapt the surveillance and risk management to it.**

**Specific comments are inserted in the text below.**

Article 8.13.1.

**Introduction**

Trichinellosis is a cosmopolitan zoonosis caused by eating raw or undercooked meat from *Trichinella*-infected food animals or game. The parasite lives in the small intestine (adults) and muscles (larvae) of many mammalian, avian and reptile host species, including humans, pigs, rodents, horses, bears and walruses. Within the genus *Trichinella*, twelve genotypes have been identified, eight of which have been designated species. *Trichinella* genotypes may vary considerably between localities, districts, regions and countries.

**EU comment**

**The word "cosmopolitan" could be misinterpreted. It should be deleted or another term such as "ubiquitous" should be used.**

Trichinellosis can be a fatal disease in humans and is clinically inapparent in animals.

**EU comment**

**Editorial: The word "inapparent" should be "unapparent". The sentence above should be placed as the second sentence of the first paragraph and read:**

**"Trichinellosis can be a fatal disease in humans and is normally clinically unapparent in animals."**

Breaking the transmission cycle to humans currently relies on the provision of *Trichinella*-free meat for human consumption. This is achieved by post mortem inspection and inactivation of the parasite in domestic or wild sourced meat. Processing of meat which ensures inactivation of *Trichinella* includes cooking, freezing and curing of meat (using specified time-temperature combinations). In addition, appropriate measures should be taken to prevent the exposure of food animals to infected meat including uncooked food waste, rodents and other wildlife.

**EU comment**

**It is as important to describe how to break the animal-animal cycle (reason for article 3 and the whole chapter in fact) than the animal-human cycle. Secondly, reference should be made to negligible risk countries or zones. Finally it is proposed to delete the word "curing" since the**

scientific evidence to support this approach for inactivation in practical circumstances is missing. The paragraph above should thus be redrafted as follows:

**Breaking the transmission cycle to food producing animals currently relies on the prevention of exposure of food producing animals to infected meat including uncooked food waste, rodents and other wildlife. This can be achieved through adapted biosecurity and hygiene measures. Breaking Preventing the transmission eyele to humans currently relies on the provision of *Trichinella*-free meat for human consumption. This is achieved by sourcing meat in free herds or negligible risk countries or zones, post mortem inspection and/or inactivation of the parasite in non free domestic or wild sourced meat. Processing of meat which ensures inactivation of *Trichinella* includes core cooking and freezing and curing of meat (using specified time-temperature combinations, under development). Scientific evidence is still missing to establish practical conditions of curing of meat to ensure inactivation. In addition, appropriate measures should be taken to prevent the exposure of food animals to infected meat including uncooked food waste, rodents and other wildlife.**

Game meats should always be considered a potential source of infection, and should be tested or cooked properly. *Trichinella* found in game meats may be resistant to freezing (depending on the genotype present) and therefore untested, frozen game poses a public health risk.

#### EU comment

**The game meat does not always pose a risk, thus the last part of the above paragraph should read: "frozen game may poses a public health risk".**

Testing methods for the detection of *Trichinella* infection in pigs and other animal species include either directly demonstrating the parasite in muscle samples or indirectly demonstrating the parasite by detecting specific circulating antibodies to *Trichinella* spp., although the latter method is not always reliable, because of certain situations where cross-reactive antibodies are present due to co-infections with other nematode parasites or infection is in the early stages and detectable antibodies are not yet present.

#### EU comment

**This introduction explains well the current knowledge o the disease and its epidemiology.**

**However:**

**1. There should be a clear definition of the disease before the paragraph above beginning by "Testing":**

**"For the purposes of the *Terrestrial Code*, *Trichinella* infection is defined as an infection of pigs (*Sus scrofa*) and equids by any genotypes of the genus *trichinella*."**

**2. There should be a clear scope of the concerned populations**

**"For the purposes of this chapter, a distinction is made between domestic pig and wild, captive wild, and feral pig populations, including cross breeds. Effective and certifiable prevention of *Trichinella* infection is only achievable in domestic pig populations under controlled housing conditions".**

**3. The second part of the paragraph above, from "although" to "present", is not relevant at this place. It might be part of the *Terrestrial Manual*, or in a specific article of this chapter, on surveillance and interpretation of results.**

**The paragraph above with the proposed amendments and the sentence below should be moved directly after the first paragraph of the introduction.**

Standards for diagnostic tests are described in the *Terrestrial Manual*.

Article 8.13.2.

#### Purpose and scope

This chapter deals with methods for on farm prevention of *Trichinella* infection in pigs and for safe trade of *fresh meat* and *meat products* derived from pigs and equines. This chapter complements the Codex Alimentarius Code of Hygienic Practice for Meat (CAC/RCP 58-2005).

**EU comment**

The word "domestic" should be added before the first word "pigs".

The word "equines" should be replaced either by "horses" or "equids".

The paragraph above should be put in article 8.13.1, as purpose and scope are already partly in article 1.

## Article 8.13.3.

**Prevention of trichinellosis in pigs**

This article applies to pigs kept under confined conditions.

**EU comment**

The title of this article should be amended so that it is clear that the article describes the biosecurity conditions to achieve herd freedom: "Measures to prevent *Trichinella* infection in domestic pig herds".

Furthermore, the first sentence should be deleted as it is not clear, does not add to the following points, and might be confusing. The title could read as follows: "Controlled housing conditions necessary to prevent *Trichinella* infection in domestic pig herds".

1. Constructing buildings and environmental barriers

- a) Buildings used to house pigs should be constructed to prevent entry of rodents (e.g. openings, such as those for air ventilation or water pipes should be covered with wire or specific devices) and wildlife.
- b) Areas within 100 metres of pig buildings should be free from rubbish and rodent harbourage.
- c) A 2 metre perimeter consisting of gravel or vegetation mowed to a height of less than 10 cm should be maintained around all pig buildings.

**EU comment**

The above recommendations, especially points b) and c), are very precise. More leeway should be given in order to adapt the biosecurity plan to the local situation, with words such as "at least".

The word "rubbish" should be replaced by "waste", term currently used in the Code.

There should be a point relating to the knowledge of the environing wildlife density, especially wild or feral pigs, in case of a zone known to be infected, and the necessary adaptation of the biosecurity measures to that.

Provisions should be made for possible outdoor piglets (less than 5 weeks of age) under certain conditions, including the knowledge of the environment to adapt the prevention measures.

2. Feed and feed storage

- a) Feed should be stored and contained in closed silos or bins, which do not allow rodents to enter.
- b) Purchased feed should be obtained from an approved facility, which produces feed following approved Good Manufacturing Practices.

**EU comment**

The words "an approved facility" in point b) above are not clear.

Thus, the word "approved" should be deleted and the words should be replaced by "a facility registered by the Competent Authority". The same with the second word "approved" that should be deleted.

- c) Waste food containing meat products should be cooked to inactivate trichinae and in accordance with the provisions in the *Terrestrial Manual* (under development).

**EU comment**

**In order to properly address the risk, swill feeding of pigs should be forbidden. The point c) above should read:**

**"Waste food containing meat products should not be fed to pigs; in case waste food containing meat products is fed to pigs, it should be cooked enough to inactivate trichinae ~~and in accordance with the provisions in the *Terrestrial Manual* (under development).~~"**

3. Rodent control

An ongoing approved programme for the control of rodents should be implemented.

**EU comment**

**The programme of point 3 above should describe the corrective measures to be taken in case of findings of rodent activity.**

**Proposal: "An ongoing programme for the control of rodents should be implemented to the satisfaction of the *Competent Authority*. In case of rodent manifestation, corrective actions should be applied to the pest control program".**

4. Farm hygiene

- a) Dead animals should be removed from pig buildings immediately after detection to prevent exposure to other pigs and rodents, and disposed of as soon as possible in accordance with the provisions of Chapter 4.12. Disposal of animals.
- b) Garbage dumps should not be located near pig farm(s) in order to minimise the risk of infected rodents entering the farm(s).

**EU comment**

**It is the pig farm which should not be located near a garbage dump.**

**Then it would read: "If a rubbish/garbage dump is located in the neighbourhood of the holding, depending on the risks involved particular preventive measures should be taken".**

**Moreover, this point b) is not on farm hygiene, but on environment and should thus be moved to point 1.**

5. Identification and traceability

An *animal identification* and *traceability* system should be implemented in accordance with the provisions of Chapters 4.1. and 4.2.

6. Introduction of animals

- a) It is preferable to obtain new animals from *Trichinella*-free farms or compartments; or

**EU comment**

**The word "preferable" should not be used in an article describing prescriptions used to qualify an establishment. The defined term "herd" should replace "farm", and a specific article should be developed to define the conditions of approval of a free compartment.**

**Point a) above should read:**

**"a) newly introduced pigs should originate from *Trichinella*-free herds; or"**

- b) if new animals are obtained from farms of unknown *Trichinella* status, they should be held in isolation and tested serologically to ensure the absence of antibodies to *Trichinella* (refer to the *Terrestrial Manual*). Adult pigs should be tested serologically on arrival and again five weeks after arrival. Weaner pigs should be tested serologically once five weeks after arrival.

**EU comment**

**The word "farms" should be replaced by "herds".**

**The word "and" (second line) should be replaced by "until".**

**The words "(refer to the *Terrestrial Manual*)" should be replaced by "according to the *Terrestrial Manual*" without brackets. This also applies to the paragraph below and anywhere else in the chapter.**

If seropositive animal(s) are detected, all newly introduced pigs should be placed in quarantine and retested serologically. If positive, the animal(s) should be slaughtered and the meat processed or rendered according to national regulations on the handling of unsafe meat. The meat should also be tested directly by the pepsin digestion procedure (refer to *Terrestrial Manual*) to monitor the reliability of the serological test procedure and the validity of the test results.

**EU comment**

**The difference between "isolation" in the first paragraph of point b) above and "quarantine" in the second is not clear: the pigs are already in isolation, thus the words "placed in quarantine and" should be deleted and the same wording "kept in isolation" should be used.**

**This seems to be a very complicated approach, and in practice it deals with the status of the herd and some part should be moved to the article dealing with it, currently article 8.13.5 below.**

**Thus the paragraph should only read:**

**"If seropositive animals are detected, all newly introduced pigs should remain kept in isolation until they are removed, e.g. killed and destroyed or slaughtered."**

**And after that paragraph, there should be a sentence making reference to the CAC recommendation under development for the testing/treatment procedure at slaughter of these animals.**

Article 8.13.4.

**Recommendations for pigs exposed to outdoor environments**

**EU comment**

**This article should be deleted. It gives no added recommendations to articles 8.13.3 or 8.13.6 and it deals with risk reduction measures that will be described in the CAC document under development. If a reference to outdoor environment is to be kept, it should describe how outdoor access can be allowed under specific circumstances without mandatory testing e.g. in free herds or negligible risk countries or zones. But even then it should be merged in the relevant articles (see comments below).**

While confinement production systems can be managed in a manner to reduce or eliminate the risk of exposure of pigs to *Trichinella*, pigs exposed to outdoor environments, or under conditions that facilitate contact with wildlife will always be at risk of *Trichinella* infection.

Pigs raised under these conditions should be tested at slaughter by detection methods, in accordance with the provisions in the *Terrestrial Manual*.

Recommendations in Article 8.13.3. for the prevention of *Trichinella* in pigs kept under confined conditions should also be applied where ever possible.

**EU comment**

There should be an article inserted here for the Members to be able to refer to when defining country or zone of a negligible risk of *Trichinella* infection. In line with the general comment, this should be done in conjunction with the current work of the working group of the CAC, and cross references to the Codex document under development should be made.

The EU understands the fact that country or zone freedom might not be achievable as the infection is broad based in wildlife and unapparent. Nevertheless, when biosecurity measures are applied throughout a given population, and surveillance is carried out in the wild according to chapter 1.4., such status might be given, which would allow derogations to risk reduction measures for trade.

#### Article 8.3.4

##### General conditions for determining the status of a country, zone or herd

The *Trichinella* infection risk status of a country, zone or herd can only be determined after considering the following criteria in domestic and wild pigs, as applicable:

1. *Trichinella* infection is notifiable in the whole territory;
2. the Veterinary Authority has current knowledge of, and authority over, all domestic pigs in the country or zone;
3. the Veterinary Authority has current knowledge about the population and habitat of wild and feral pigs in the country or zone as well as susceptible wildlife species known to be a reservoir for *Trichinella*.

#### Article 8.3.4 bis

##### *Trichinella* negligible risk country or zone

A country or zone maybe considered of negligible risk of *Trichinella* if the following conditions are met:

- 1 Article 8.3.4 has been complied with for at least 24 months;
2. for domestic pigs, appropriate surveillance, capable of detecting the presence of *Trichinella* infection has been in place and during the last 24 months where all or up to 10 million domestic pigs have been tested with the diagnostic techniques recommended for the testing of individual pigs for food safety purposes in the *Terrestrial Manual*, demonstrating absence of autochthonous *Trichinella* infection with at least a 99% confidence for a prevalence < 1 case /million in the country or zone; the testing should include in any case all outdoor production pigs, all sows and all boars, and all pigs from countries or zones of a different status;
3. for susceptible wildlife including wild and feral pigs, a surveillance programme is in place in the most relevant susceptible wildlife species known to be a reservoir for *Trichinella* and known to be present in sufficient numbers in the country or zone, taking into account an assessment of the risks of disease spread posed by wildlife based on scientific and epidemiological evidence and combined over a period of up to 10 years, and the prevalence in susceptible wildlife is below 0.1% with 95% confidence (or equivalent guarantees on the risk from exposure to wildlife should be provided in countries or zones where the population of susceptible wildlife is limited); the testing should include in any case all wild and feral pigs including cross-breeds, intended for human consumption;
4. Based on the assessed risk of spread within the wild and feral pig populations, the domestic pig population should be separated from the wild and feral pig population by appropriate biosecurity measures to prevent transmission of *Trichinella* from wild or feral to domestic pigs.

Article 8.13.5.

Official recognition for *Trichinella*-free pig farm(s) or compartment(s)

EU comment



**This section is describing the basis for considering alternative approaches post-harvest and the acceptance of this alternative approach in international trade of meat. In line with the general comment, work on this article should be done in conjunction with the current work of the working group of the CAC, and cross references should be made.**

**The title of this article should be: "*Trichinella*-free herds". The word "farm(s)" throughout this article and the following ones should be replaced by "herd", current used term in the Code, since it is the population that is free, not the buildings.**

**The words "or compartment(s)" and "within the compartment" should be deleted throughout the article, as the conditions described in articles 8.13.3 and 8.13.5 do not correspond with the conditions of the chapter 4.4 on compartments. A specific article 8.13.5 bis should be drafted for compartments, which should include the fact that all herds of the compartments are free and provisions for a common biosecurity management plan for all the free herds comprising the compartment, for the movement and traceability of animals, and the types of activity of the herds.**

The *Veterinary Authority* may officially recognise pig farm(s) or compartment(s) already complying with Article 8.13.3. as *Trichinella*-free if the following additional requirements are met:

#### **EU comment**

**Article 8.13.3 should have been complied with for at least 24 months. Free herds should be located in a country or zone complying with article 8.3.4 proposed in the comment above.**

- a) muscle samples from all pigs sent for slaughter during the 12 months preceding recognition of the pig farms within the compartment as *Trichinella*-free should have been tested by a digestion method and found to be negative for *Trichinella* (refer to the *Terrestrial Manual*);

#### **EU comment**

**The period of testing should be of 24 months.**

**If the herd is located in a country or zone of negligible risk, it can derogate to this point.**

- b) at least two visits, at a minimum of 6 months apart, should have been made in the 12 months preceding recognition of the pig farms in the compartment as *Trichinella*-free and annually thereafter to verify compliance with good management practices described in Article 8.13.3;

#### **EU comment**

**This point should be the first of the article. If the herd is located in a country or zone of negligible risk, it can derogate and only one visit would be enough.**

**The word "should" in points a) b) and "'should be" in c) should be deleted, replaced by "is" in point c).**

**The same comment applies as above concerning the reference to the *Terrestrial Manual*.**

- c) a serological survey of the on farm pig population in the compartment should be conducted annually with a sample size providing at least a 95% confidence interval for detecting *Trichinella* (refer to the *Terrestrial Manual*);

#### **EU comment**

**This point c should be deleted and replace by a reference to the Codex document part on post harvesting monitoring. If the herd is located in a country or zone of negligible risk, it can derogate to this point.**

**There should be another point inserted stating: "piglets and pigs introduced in the herd should originate from free herds or negligible risk countries or zones".**

- d) documentation of all management practices undertaken on farm.

If a positive animal is detected by a digestion method, or serology which is confirmed by digestion, the pig farm(s) or compartment(s) will lose its *Trichinella*-free status. An investigation should be carried out by the

*Veterinary Services* to identify the origin of the infection and appropriate remedial actions to be implemented. Isolates that are obtained from an infected pig should be sent to an OIE Reference Laboratory for genotyping in order to provide epidemiological information.

**EU comment**

**he first sentence of the paragraph above should read: "If a positive animal is detected by a digestion method, or serology which is confirmed by digestion, the pig herd farm(s) or compartment(s) will lose its *Trichinella*-free status.**

**The third sentence should be deleted as it is not relevant to this chapter.**

**The status should also be withdrawn if the outcome of the audit is not favourable until appropriate remedial actions have been taken.**

**In order to provide for guidance if a case is detected, there should be a cross reference to the CAC document part on post harvest monitoring.**

Article 8.13.6.

**Recommendations for the importation of fresh meat or meat products of domestic pigs**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that the entire consignment of *meat*:

1. comes from domestic pigs that have been slaughtered in an approved *abattoir*, AND

**EU comment**

**There should be an additional point:**

**"2. comes from a negligible risk country or zone, OR**

2. was subjected to post mortem sampling and the samples were subjected to a digestion assay for *Trichinella* with negative results, in accordance with the provisions in the *Terrestrial Manual*; OR

**EU comment**

**If the animals don't come from free herds/ or negligible risk country or zone, they should all be tested. This point should be moved down after the point 3, thus should read:**

**4. comes from domestic pigs that were was subjected to post mortem sampling and the samples were subjected to a digestion assay for *Trichinella* with negative results, in accordance with the provisions in the *Terrestrial Manual*; OR**

3. comes from domestic pigs that originated from a *Trichinella*-free farm(s) or compartment(s) in accordance with the recommendations in Article 8.13.5.; OR

**EU comment**

**This point should be put after new proposed point 2.**

**The word "farm(s)" should be replaced by "herds" and "8.13.5 bis" should be added for the reference to the compartments.**

4. has been processed to ensure the inactivation of the larvae of the parasite *Trichinella* in accordance with the recommendations in Article 8.13.10. (under development).

**EU comment**

**This point should only make reference to the part of the CAC document under development on treatment of meat.**

Article 8.13.7.

## Recommendations for the importation of fresh meat or meat products of wild pigs

### EU comment

**The words "or feral" should be added after "wild", in the title above and point 1 below.**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the entire consignment of *meat*:

1. comes from wild pigs that have been inspected in accordance with the provisions in Chapter 6.2.; AND
2. was subjected to a digestion assay for *Trichinella* with negative results, in accordance with the provisions in the *Terrestrial Manual*; OR

### EU comment

**The animals should all be tested. Thus the point 2 should read:**

**2. comes from wild or feral pigs that were was subjected to a digestion assay for *Trichinella* with negative results, in accordance with the provisions in the *Terrestrial Manual*;**

**Point 3 below should be deleted as there are not sufficient data to support the inactivation of larvae in wild or feral pigs. When the CAC document includes treatment for wild pig meat, there should be a cross reference in a point 3.**

3. has been processed to ensure the inactivation of the larvae of the parasite *Trichinella*, in accordance with the recommendations in Article 8.13.10. (under development).

Article 8.13.8.

## Recommendations for the importation of fresh meat or meat products of domestic equines

### EU comment

**The word "equines" should be replaced by "equids". Not all equidae are equines and they're all susceptible. Moreover, as a general comment and to avoid any misunderstanding, the word "equine" should be only used in the Code as an adjective.**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the entire consignment of *meat*:

1. comes from domestic equines that have been slaughtered in an approved *abattoir*; AND
2. was subjected to post mortem sampling and the samples were subjected to a digestion assay for *Trichinella* with negative results, in accordance with the provisions in the *Terrestrial Manual*; OR

### EU comment

**The horses should all be tested The point 2 should read:**

**2. comes from domestic equids that were was subjected to post mortem sampling and the samples were subjected to a digestion assay for *Trichinella* with negative results, in accordance with the provisions in the *Terrestrial Manual*; OR**

**Point 3 below should be deleted as there are not sufficient data to support the inactivation of larvae in horses. When the CAC document includes treatment for wild pig meat, there should be a cross reference in a point 3.**

3. has been processed to ensure the inactivation of all the larvae of the parasite *Trichinella* in accordance with the recommendations in Article 8.13.10. (under development).

Article 8.13.9.

## Recommendations for the importation of fresh meat or meat products of wild equines

### EU comment

**The word "wild equines" should be replaced by "wild or feral equids". See comment above on the word "equines", and feral equids could also be a source of meat.**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the entire consignment of *meat*:

1. comes from wild equines that have been inspected in accordance with the provisions in Chapter 6.2;  
AND
2. was subjected to a digestion assay for *Trichinella* with negative results, in accordance with the provisions in the *Terrestrial Manual*; OR

### EU comment

**The animals should all be tested. Thus the point 2 should read:**

**2. comes from wild or feral equids that were was subjected to a digestion assay for *Trichinella* with negative results, in accordance with the provisions in the *Terrestrial Manual*; OR**

**Point 3 below should be deleted as there are not sufficient data to support the inactivation of larvae in horses. When the CAC document includes treatment for wild pig meat, there should be a cross reference in a point 3.**

3. has been processed to ensure the inactivation of all the larvae of the parasite *Trichinella*, in accordance with the recommendations in Article 8.13.10. (under development).

Article 8.13.10.

### Inactivation of muscle larvae

(under development)

### EU comment

**There should be here only a cross reference to the part of the CAC document under development on treatment of meat.**

## CHAPTER 8.4.

## ECHINOCOCCOSIS / HYDATIDOSIS

**EU comments**

**The EU thanks the OIE for this work.**

**However, the EU has a lot of comments to the proposed modified chapter.**

**In general, the EU questions whether the two species, *E. granulosus* and *E. multilocularis*, would benefit from being in two separate chapters. They have two different lifecycles and thereby there are two different risks and ways to prevent humans. *E. multilocularis* does not infect ruminants.**

**Specific comments are inserted in the text below.**

Article 8.4.1.

**Introduction****EU comment**

**This introduction is too long and descriptive, sometimes not relevant to the *Code* but to the *Manual*. See comments and proposals below.**

*Echinococcus* is a genus of parasitic zoonotic cestodes (tapeworms) found worldwide in which the adult stages occur in the intestines of canids and felids, and the larval stages in tissues of various organs of other mammalian hosts, including humans. Transmission of parasites from this genus occurs in a predator/prey interaction between canids and less commonly to felids (definitive hosts) and a range of domestic and wildlife species of herbivores (intermediate hosts). Intermediate hosts may also include omnivores (humans and pigs). Infection with the larval stage (hydatid) of the parasite in the intermediate host, referred to as hydatidosis or hydatid disease, is associated with major economic losses and causes severe clinical disease in humans.

**EU comment**

**As stated in the sentence below, the larval stage of *Echinococcus* is "metacestode"; thus the word "(hydatid)" in the sentence above should be replaced by "(metacestode / hydatid cyst)". All of the above description refers to *E. granulosus*.**

Echinococcosis is a zoonotic infection caused by larval (metacestode) stages of cestodes belonging to the genus *Echinococcus*. At present, four zoonotic species of *Echinococcus* are recognised, namely *Echinococcus granulosus*, *E. multilocularis*, *E. oligarthrus* and *E. vogeli*. *E. shiquicus* has recently been identified but its zoonotic status is not known.

**EU comment**

**The second paragraph above should be the first of the article. The last sentence is not relevant in the Code (maybe in the Manual) and should be deleted, and replaced by: "The species *E. granulosus* and *E. multilocularis* are the two most important causes of hydatid disease in livestock and humans."**

**The disease should be more precisely defined and focused on the pathogens and susceptible species addressed in the following articles. Thus the paragraph should begin by the following: "For the purpose of the *Terrestrial Code*, echinococcosis/hydatidosis is defined as an infection of canids, felids and food producing mammals with *Echinococcus granulosus* or *Echinococcus multilocularis*."**

*Echinococcus granulosus* has a global distribution and *E. multilocularis* which occurs in wide areas of the Northern Hemisphere are the two most important causes of human hydatid infection. There are at least ten genetic variants of *E. granulosus* of which six have been shown to be infective for humans.

**EU comment**

**Following the proposed changes of the two first paragraphs, the second sentence of the paragraph above should be deleted and the first sentence of the paragraph above should only read:  
"Echinococcus granulosus has a global distribution and E. multilocularis occurs in wide areas of the Northern Hemisphere."**

At present, four species of *Echinococcus* are recognised, namely *E. granulosus*, *E. multilocularis*, *E. oligarthrus* and *E. vogeli*. *E. granulosus* and *E. multilocularis* are recognised to be infective for humans, while the zoonotic status of *E. shiquicus* which has recently been identified is not known.

**EU comment**

**The paragraph above is redundant and should be deleted.**

The two most important causes of human hydatid disease are *Echinococcus granulosus*, that has a global distribution and *E. multilocularis* which occurs in wide areas of the Northern Hemisphere. There are at least ten genetic variants of *E. granulosus* of which seven (sheep strain G1, Tasmanian sheep strain G2, buffalo strain G3, cattle strain G5, camel strain G6, pig strain G7 and cervid strain G8) have been shown to be infective for humans. (NOTE: A recent proposal divides *E. granulosus* into several species, i.e., *E. granulosus* s.s. [G1-3], *E. equinus*, *E. ortleppi*, *E. canadensis* [G6-G10] and *E. felidis*). However, a broad consensus on this has not yet developed, and for the purposes of this chapter, the target species are *E. granulosus* and *E. multilocularis*, the most important causes of hydatid disease in important livestock.

**EU comment**

**The paragraph above is redundant and thus should be deleted (may be put in the Manual if necessary). The last sentence is proposed to be put at the beginning of the article (see comment above).**

Hydatidosis is not a foodborne disease in the classical sense. Infection occurs by ingestion of eggs via contact with infected dogs and/or by consumption of food (mainly vegetables) or water contaminated with infected (egg-contaminated) dog faeces. Prevention of human infection is achieved by preventing infection of dogs and intermediate hosts (mainly ruminants and especially sheep).

The long term goal should be the prevention of human and ruminant infection through prevention and control programmes.

**EU comment**

**The paragraph above is redundant with the purpose and scope of the chapter (article 8.4.2 below) and thus should be deleted.**

Article 8.4.2.

**Purpose and scope**

This chapter deals with methods for the prevention of *Echinococcus* infection in dogs, hydatidosis in livestock and slaughterhouse / abattoir security.

**EU comment**

**First of all, referring to EU first general comment, it should be defined whether the chapter deals with *E. granulosus*, *E. multilocularis*, or both (and in this case have different articles dealing with each of the species).**

**Then, the sentence above should be reworded to describe the global objective of the chapter, which is the protection of human health by breaking the lifecycle where possible. Therefore, prevention of infection of humans, carnivores and herbivores are target objectives:**

**"The objective of *Echinococcus* (*granulosus* / *multilocularis*) control programmes is the prevention of human and ruminant infection. This chapter deals with the prevention and surveillance of infection in domestic, feral and wild canids, which are the main source of infection, with surveillance of hydatidosis in livestock at slaughterhouse and with recommendations for trade in domestic carnivores."**

Standards for diagnostic tests are described in the *Terrestrial Manual*.

**EU comment**

**To follow the format of the Code chapters, the sentence above should be moved up at the end of article 8.4.1.**

Article 8.4.3.

**Definitions**

***Owned dog:*** means a dog with a person that claims responsibility.

***Responsible dog ownership:*** means the situation whereby a person (as defined above) accepts and commits to perform various duties according to the legislation in place and focused on the satisfaction of the behavioural, environmental and physical needs of a dog and to the prevention of risks (aggression, *disease* transmission or injuries) that the dog may pose to the community, other *animals* or the environment.

***Stray dog:*** means any dog not under direct control by a person or not prevented from roaming. Types of stray dog:

1. free-roaming owned dog not under direct control or restriction at a particular time;
2. free-roaming dog with no owner;
3. feral dog: domestic dog that has reverted to the wild state and is no longer directly dependent upon humans for successful reproduction.

**EU comment**

**The definitions above are already in the Chapter 7.7 on stray dog control. The article should be deleted and a simple reference made to Chapter 7.7, and when this chapter on Echinococcosis is adopted, the definitions should be moved from the chapter 7.7 to the Glossary and the terms italicised in both chapters.**

Article 8.4.4.

**Prevention of *Echinococcus* infection in canids**

**EU comment**

**The title should be "Prevention and surveillance of *Echinococcus* infection in canids".**

Both *owned dogs*, *stray dogs* and wild canids are important in the transmission of hydatid disease to humans and livestock because of the close inter-relationship between humans, dogs and livestock. The prevention of *Echinococcus* infection in dogs is the key element in breaking the transmission pattern of this parasite and is a fundamental aspect in the success of a hydatid control programme.

1. Owned dogs

**EU comment**

**The article should be restructured in order to follow the logic of prevention and surveillance:**

- **The title of point 1 above should be "Prevention".**
- **The sentence "To prevent ... undertaken" should be a paragraph "a) Owned dogs".**
- **The third indent "dogs should not be allowed to roam freely" should be the first.**
- **The second, fourth and fifth indents have the same overall aim and should be merged as a second indent, to read: "dogs should not be fed raw offal or have access to offal of any animal species, including wildlife species; they should not have access to slaughterhouses/abattoirs and should not have access to dead animals".**

To prevent echinococcosis in *owned dogs*, the following measures should be undertaken:

- dogs should be dewormed at least every 4-6 weeks with praziquantel (5 mg/kg);
- dogs should not be fed raw offal from any animal species;
- dogs should not be allowed to roam freely;
- dogs should not have access to dead animals or offal of any animal species, including wildlife species. All dead animals and offal should be disposed of in accordance with provisions in Chapter 4.12. Disposal of animals;

**EU comment**

**The second sentence above is a general statement not relating only to owned dogs and should be moved up at the beginning of the point "1) Prevention".**

- dogs should be prevented access to carcasses, offal and waste at *slaughterhouses/ abattoirs*;
- people, and especially farmers and farm workers should be made aware of the risk factors of transmission and the importance of the disease in animals and humans, the role of dogs and wild canids in transmission, the need to implement control measures, and the importance of responsible dog ownership.

2. Stray dog populations

**EU comment**

**This point 2 should in fact be a point b).**

To prevent echinococcosis in stray dog populations, the following measures should be undertaken:

- compliance with relevant aspects of Chapter 7.7. Stray dog population control;
- where possible, dogs should be dewormed at least every 4-6 weeks with praziquantel (5 mg/kg);
- stray dogs should not be fed raw offal from any species;
- stray dogs should be prevented access to carcasses, offal and waste at *slaughterhouses/ abattoirs*;
- stray dogs should not have access to dead animals or offal of any animal species, including wildlife species;

**EU comment**

**As for the point a), the three indents above should be merged and put as second indent, to read: "stray dogs should not be fed raw offal or have access to offal of any animal species, including wildlife species; they should not have access to *slaughterhouses/abattoirs* and should not have access to dead animals".**

- community health education programmes should be carried out regarding the risk factors of transmission and the importance of the disease in animals and humans, the role of dogs (including stray dogs) and wild canids in transmission, the need to implement control measures, and the importance of responsible dog ownership.

3. Wild canid populations

**EU comment**

**This point 3 should in fact be a point c).**

To prevent echinococcosis in wild canid populations, the following measures should be undertaken:

- wild canids should be prevented access to dead animals or offal of any animal species;
- wild canids should be prevented access to carcasses, offal and waste at *slaughterhouses/ abattoirs*;

**EU comment**



**As for the point a) and b), the two indents above should be merged, to read: "wild canids should be prevented access to dead animals or offal of any animal species, as well as access to carcasses, offal and waste at slaughterhouses/abattoirs".**

- wild canids should be prevented from entering areas of human habitation and farms, and contaminating the environment with eggs of *Echinococcus*;
- community health education programmes should be carried out regarding the role of wild canids in the transmission of hydatid disease to humans and animals.

In addition, the *Veterinary Authority* or other *Competent Authority* should ensure that *slaughterhouses/abattoirs* have in place measures that prevent access of dogs and wild canids to animal carcasses, offal and waste.

#### **EU comment**

**The paragraph above seems redundant and could be deleted or at least, if considered a measure to allow the effectiveness of the prevention, the words "In addition" should be deleted.**

**There should be here a point "2) Surveillance", which should in fact be the current point 2 of article 8.4.5 below.**

Article 8.4.5.

Surveillance for the prevention of hydatid disease

#### **EU comment**

**The title is not clear: is it really surveillance or prevention? It should be "Surveillance and control of hydatid disease in livestock", and the control methods (treatment etc) should be described.**

1. In slaughterhouses/abattoirs

#### **EU comment**

**The title above should be deleted.**

The *Veterinary Authority* should carry out surveillance for hydatid infection in livestock species in *slaughterhouses/abattoirs*. When hydatid infection is detected an investigation should be carried out by the *Veterinary Authority* to identify the origin of the infection and appropriate remedial actions to be implemented.

#### **EU comment**

**In the first sentence there should be a reference to Chapter 6.2 and CAC standards.**

**The second sentence should be a separate paragraph, to read:**

**"When hydatid infection is detected:**

**≡ an investigation should be carried out by the *Veterinary Authority* to identify the origin of the infection and**

**≡ appropriate remedial actions should be implemented."**

**A third paragraph should be added, making reference to the control measures on the carcass, such as removal and destruction of offal, treatment of meat, preferably through reference to the CAC standards.**

2. In dogs

Surveillance of *Echinococcus* infection in dogs using the copro-antigen test is a useful tool for monitoring the effectiveness of prevention programmes. The *Veterinary Authority* should use the copro-antigen test for surveillance in dogs. Positive results indicate failure of a control programme. In such a case, the *Veterinary Authority* should identify aspects of the prevention programme that should be reviewed and those for which remedial actions should be implemented.

**EU comment**

**The point 2 above should be moved up to article 8.4.4 as point "2) Surveillance".**

An *animal identification* and *traceability* system should be implemented in accordance with the provisions of Chapters 4.1. and 4.2.

**EU comment**

**This last paragraph should in fact be the first.**

Article 8.4.6.

**Recommendations for the importation of dogs, cats and wild canids**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the *animal* has been treated, in accordance with the manufacturer's instructions, between 24 and 48 hours prior to export with a praziquantel-based product (5mg/kg) that is effective against *Echinococcus granulosus* and *E. multilocularis*.

**EU comment**

**The measures should always relate to a level of risk. If the country or zone of origin is free, the treatment should not be required.**

**Regarding the treatment:**

- since there is a precise requirement for treatment, the words "in accordance with the manufacturer's instructions" could lead to misunderstanding and should be deleted;
  - in order to be sure that the treatment is effective, the words "mature and immature forms of" should be added between "against" and "Echinococcus".
-