

# Report of the Meeting of WOAH *ad hoc* Group on the revision of Chapter 7.6. ‘Killing of animals for disease control purposes’

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WOAH Headquarters, Paris,

France

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## 1. Background

In February 2018, the Code Commission agreed to revise Chapter 7.5. 'Slaughter of animals' and Chapter 7.6. 'Killing of animals for disease control purposes'; the Code Commission requested the creation of an *ad hoc* group to revise both chapters, as well as the revision of related Glossary definitions.

The *ad hoc* group began revising Chapter 7.6. in June 2023, with progress reviewed by the Code Commission in September 2023, February 2024, September 2024, February 2025 and September 2025. The chapter was released for Member comments in February 2024 and February 2025.

In September 2025, the Code Commission considered Member comments on Articles 7.6.1., 7.6.2., 7.6.3, 7.6.4 and 7.6.6., as well as general comments received during the February 2025 circulation. The Commission also discussed retaining articles on water-based foam and ventilation shutdown, for which a large number of comments were received. The Code Commission requested that the *ad hoc* group discuss the inclusion of these methods and review the comments on the remaining articles.

In December 2025, the *ad hoc* group met to review comments on articles 7.6.7 to 7.6.32. Articles 7.6.1, 7.6.2, 7.6.4, 7.6.5 and 7.6.6 had already been addressed by the Code Commission so did not require the attention of the *ad hoc* group.

Comments were received from Australia, Brazil, Canada, Chile, China (PR), Chinese Taipei, Colombia, Japan, Malaysia, Mexico, Norway, Singapore, Switzerland, United Kingdom, United States of America (USA), African Union (AU), the International Coalition for Animal Welfare (ICFAW), Wildlife Working Group (WWG) and the European Union (EU).

## 2. Adoption of agenda and terms of reference

The [agenda](#), [list of participants](#), [Terms of reference](#) are presented in Annexes [1](#), [2](#) and [3](#) respectively.

## 3. General comments and proposed changes

The *ad hoc* group made the following changes to the below terms which were applied throughout the draft chapter:

- 'driving aids' replaced by 'handling aids'
- 'guns' replaced by 'devices'
- 'marksmen' replaced by 'marksperson'
- 'optimised' replaced by 'ensured'
- 'shot' replaced by 'impact'
- 'Without delay' replaced by 'immediately'

The *ad hoc* group also agreed that there should be consistent and specific animal-based measures across the text for death, presented in a bulleted list:

- absence of breathing
- absence of corneal and palpebral reflex
- fixed and dilated pupils
- absence of heartbeat
- loss of muscle tone

#### **4. Revision of draft Articles 7.6.7. to 7.6.32.**

The *ad hoc* group considered the Code Commission's guidance and Member comments. Some new proposals were added to Articles which were revised by the Code Commission during its September 2025 meeting.

##### **Article 7.6.7. Hazards to animal welfare**

The *ad hoc* group made limited changes to this article, mainly adding references to 'improper use of equipment, adverse weather conditions, unexpected loud noise and ineffective potentially aversive or ineffective killing methods' in the introductory paragraph.

##### **Article 7.6.8. Measures to assess animal welfare at the time of killing for purposes other than slaughter**

The *ad hoc* group changed the measure of 'righting reflex' from an animal-based measure for animal welfare to an indicator of consciousness.

The *ad hoc* group also deleted 'response to painful stimuli', as a response for consciousness, as its absence does not necessarily always mean unconsciousness.

##### **Article 7.6.9. Handling of animals**

The *ad hoc* group changed 'electric goads' to 'driving aids' to include all of the aids included in this section, with their use being reserved to when human safety is at risk.

##### **Article 7.6.10. Killing methods**

The *ad hoc* group drafted two new paragraphs to define primary and secondary killing methods.

##### **Article 7.6.11. Firearms**

The *ad hoc* group discussed the inclusion of the requirements of a firearms licence and decided that due to the global variability for a firearms licence, this requirement should be removed from the article. The *ad hoc* group also agreed to include 'percentage of missed shots' in 'Other measures' and noted that whilst a measure of effectiveness, it is not an animal-based measure of an effective shot.

##### **7.6.12 Penetrating captive bolt**

The *ad hoc* group discussed the importance of following the manufacturer's instructions when using a penetrating captive bolt and emphasised that if unclear, a more powerful charge should be used. When discussing the positioning of the device, the group decided that the same instructions should be used for hornless sheep, goats and camelids.

##### **Article 7.6.13 Pithing**

The *ad hoc* group discussed the use of pithing as a killing method and agreed that this is only to be used as a secondary method and amended the article accordingly. Recommendations to confirm that animals are unconscious before pithing takes place were added.

##### **Article 7.6.14 Non-penetrating captive bolt followed by a secondary killing method**

The *ad hoc* group discussed the title of this article and agreed to amend this to 'Non-penetrating captive bolt' because a secondary killing method is not required for some species. The *ad hoc* group noted that when a backup device is required, this should be a different method to the first (ineffective) method. The *ad hoc* group removed the weight recommendations for lambs and agreed that they should be removed due to its inherent variability, users should refer to the manufacturer's instructions instead.

##### **Article 7.6.15 Bleeding**

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The *ad hoc* group agreed that bleeding is not a preferred method for killing, the text was amended to highlight that due to both welfare and biosecurity concerns, this should not be considered a primary method for killing. Where available, other options should be used and bleeding should be considered a last resort in emergency situations.

#### **Article 7.6.16 Lethal injection**

The *ad hoc* group accepted comments to amend the draft text by removing references to 'rapid death' and acknowledged that with the use of a lethal injection, death may not always be rapid. The *ad hoc* group also discussed comments regarding the potential links between environmental contamination and the use of the lethal injection in animals and improper disposal and agreed to incorporate this into the article. The *ad hoc* group agreed that it was not necessary to include any species-specific recommendation for this method.

#### **Article 7.6.17 Cervical dislocation**

The *ad hoc* group discussed cervical dislocation and decided that 'trauma to the spinal cord' was a better description than 'separation from the spinal cord' – this does not rule out the occurrence of separation but acknowledges that separation between the spinal cord and the brain does not always occur.

#### **Article 7.6.18 Decapitation**

The *ad hoc* group agreed that like bleeding, decapitation is not a preferred method of killing and that where available, other options should be used instead. The *ad hoc* group used the same language used for bleeding regarding welfare and biosecurity concerns.

#### **Article 7.6.19 Electrical two stage application**

The *ad hoc* group discussed the species suitable for this method and agreed that rabbits should be added to the list of suitable species, whilst calves should be extended to cattle. The *ad hoc* group discussed the timing of application and decided that due to the variability in seconds needed for effective application to induce cardiac arrest, the article should instead specify the need for application time long enough to induce unconsciousness, whilst monitoring should be continuous after stunning to ensure the absence of brain stem reflexes until death.

#### **Article 7.6.20 Head to body electrical killing**

The *ad hoc* group agreed that only one list of animal-based measures was needed for this method for death as it is a one stage killing method (measures for unconsciousness are therefore not necessary). For consistency, language was aligned with Article 7.6.19 to ensure continuous monitoring of brain stem reflexes until death.

#### **Article 7.6.21 Head only electrical stunning followed by a secondary killing method**

The *ad hoc* group discussed the relevance of this article and agreed that the recommendations could be covered by the recommendations for Article 7.6.19 Electrical two stage application, with species specific recommendations provided. The *ad hoc* group agreed that this article could be deleted. The numbering throughout the chapter was amended to reflect this deletion.

#### **Article 7.6.21 Water bath killing (previously 7.6.22)**

The *ad hoc* group agreed that the term 'water bath' should be replaced by 'water-bath' throughout the article for better grammar.

#### **Article 7.6.22 Maceration (previously 7.6.23)**

The *ad hoc* group discussed the species which is suitable for this method and agreed that the list of species can be extended to day-old birds and embryonated eggs. The *ad hoc* group also amended the animal-based measures to include 'immediate fragmentation' for better accuracy.

#### **Article 7.6.24 Addition of anaesthetics to feed or water (deleted)**

The *ad hoc* group decided that this is not an effective method. There are many variabilities which impact its effectiveness, many of which are difficult to control, for example, palatability of the anaesthetic, reluctance to eat or drink (particularly if unwell or stressed) and a difficulty in monitoring what has been consumed. The *ad hoc* group decided that for these reasons, the article should be deleted.

#### **Article 7.6. 23 General principles of modified atmosphere killing (previously 7.6.25)**

The *ad hoc* group significantly modified this article to clarify the meaning of a 'modified atmosphere intended to cause death', such as the addition of gases or the removal of air in an enclosed space or container. The *ad hoc* group also indicated the possibility of using foam as a secondary method for those methods that employ a modified atmosphere.

#### **Article 7.6.24 Prefilled gas container (previously 7.6.26)**

The *ad hoc* group decided that the list of suitable species for this method could be amended to include poultry, pigs, small ruminants and fur animals, noting that the use of CO<sub>2</sub> is not a suitable method for the killing of minks. The *ad hoc* group also agreed to remove the reference to accurately measuring the gas concentration in the container as it is not always feasible to do so.

#### **Article 7.6.25 Gas introduced into a container (previously 7.6.27)**

The *ad hoc* group discussed the suitable species for this method and agreed that it can be used on all species - references to 'birds' or 'pigs' were therefore replaced with 'animals'. After discussing the concentrations of CO<sub>2</sub> required and the levels which are aversive and painful, the *ad hoc* group agreed that figures vary greatly across species and that the figures should be removed from this article. A reference was added to note that CO<sub>2</sub> is not suitable for mink.

#### **Article 7.6.26 Gas introduced into the barn or whole house gassing (previously 7.6.28)**

The *ad hoc* group agreed to replace 'Gas' with 'gas' in this article for improved grammar. The *ad hoc* group discussed the animal welfare implications of temperature of the gas injected into the shed whilst using this method and agreed that the injection of cold air directly onto the animals can lead to hypothermia, which was added to the text.

#### **Article 7.6.29 Water based foam (deleted)**

The *ad hoc* group extensively discussed the inclusion of water-based foam as a method of killing for purposes other than slaughter. Although the group did not reach consensus, a decision was made to delete the article due to the welfare concerns associated with its use, similar to drowning. The *ad hoc* group noted that the method is not used as an interim, emergency method and the majority of the *ad hoc* group found that it is not a suitable or sustainable long-term method.

During discussions the below articles were referenced to support retaining the article:

#### Swine

Korenyi-Both J, Vidaurre J, Held T, et al. Description of electroencephalographic data gathered using water-based medium-expansion foam as a depopulation method for nursery pigs. *Sci Rep.* 2022;12(1):16798. doi:10.1038/s41598-022-21353-7 <https://www.nature.com/articles/s41598-022-21353-7>

Campler MR, Cheng TY, Arruda AG, et al. Refinement of water-based foam depopulation procedures for finisher pigs during field conditions: welfare implications and logistical aspects. *Prev Vet Med.* 2023;217:105974. doi:10.1016/j.prevetmed.2023.105974. <https://pubmed.ncbi.nlm.nih.gov/37423152/>

Arruda AG, Campler MR, Cheng TY, et al. Reliability of water-based medium-expansion foam as a depopulation method for nursery pigs and cull sows. *Transbound Emerg Dis.* 2022;69(5):e2719–e2730. doi:10.1111/tbed.1462235. <https://pubmed.ncbi.nlm.nih.gov/35691016/>

Kieffer JD, Campler MR, Cheng TY, et al. Evaluation of a water-based medium-expansion foam depopulation method in suckling and finisher pigs. *Animals (Basel)*. 2022;12(8):1041. doi:10.3390/ani12081041. <https://www.google.com/search?q=Evaluation+of+a+water-based+medium-expansion+foam+depopulation+method+in+suckling+and+finisher+pigs.&ie=UTF-8&oe=UTF-8&hl=en-us&client=safari>

Bowman A. Validating Water-Based Foam for the Depopulation of Swine. *Pork Checkoff*; 2023. NPB No. 21-070. Accessed October 27, 2023. <https://www.porkcheckoff.org/research/validating-water-based-foam-for-the-depopulation-of-swine/>

### Sheep

<https://pubmed.ncbi.nlm.nih.gov/40646140/>

### Cattle

Capria VM, Arruda AG, Cheng TY, et al. Water-based medium-expansion foam depopulation of adult cattle. *Transl Anim Sci*. 2023;7(1):txad065. doi:10.1093/tas/txad065. <https://academic.oup.com/tas/article/7/1/txad065/7209679>

### **Article 7.6.27 Gas infused high expansion foam (previously 7.6.30)**

The *ad hoc* group discussed the title of the article and agreed to amend this to 'Gas filled high expansion foam' for a more accurate description of the method. The *ad hoc* group discussed the amount of foam required for a successful killing whilst ensuring animal welfare and agreed that 'completely covered' would be appropriate.

The *ad hoc* group discussed the importance of ensuring that the bubble size is not too small to avoid occluding airways; expansion ratios of 300:1 and a bubble size of 10-15mm were added. The *ad hoc* group discussed distress and fear associated with this method and decided that animals may experience respiratory distress and that noise created by the machinery used may cause fear, rather than the foam itself causing a fear response.

### **Article 7.6. 28 Low atmosphere pressure LAPS (previously 7.6.31)**

The *ad hoc* group discussed the lack of available information for this method's use across all species and agreed that it should only be used in chickens, with a specific decompression chamber. The *ad hoc* group acknowledged that observing animal-based measures during this process can be challenging and recommended using video cameras to overcome this.

### **Article 7.6. 29 Ventilation shutdown (previously 7.6.32)**

The *ad hoc* group discussed the use of ventilation shutdown at length; whilst there was not a consensus on retaining the article, the decision was made to retain the article as an interim, 'last resort' method, only to be used in an emergency whilst efforts are made to implement alternative methods. The *ad hoc* group discussed the species which this method is suitable for and agreed that ventilation shutdown is only suitable for poultry, it should not be used for pigs.

## **5. Next steps**

The draft chapter will be presented to the Code Commission in February 2026 for further feedback.

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.../Annexes...

**Adopted Agenda**

**MEETING OF WOAHA *AD HOC* GROUP ON THE REVISION OF  
CHAPTER 7.6. 'KILLING OF ANIMALS FOR DISEASE CONTROL PURPOSES'**

**2 to 4 December 2025**

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1. Welcome and introduction
  2. Outcomes of the September 2025 Code Commission meeting discussions.
  3. Consideration of Members comments on draft Articles 7.6.7. to 7.6.32. forwarded to the *ad hoc* Group by the Code Commission.
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## List of Participants

MEETING OF WOA *AD HOC* GROUP ON THE REVISION OF  
CHAPTER 7.6. 'KILLING OF ANIMAL FOR DISEASE CONTROL PURPOSES'

8 to 4 December 2025

**MEMBERS OF THE *AD HOC*  
GROUP****Antonio Velarde (Chair)****(Apologies)**

Head of Animal Welfare Program  
Institut de Recerca i Tecnologia  
Agroalimentàries (IRTA)  
Barcelona  
SPAIN

**Marien Gerritzen**

Senior Scientist  
Wageningen University &  
Research  
Wageningen  
THE NETHERLANDS

**Marcia del Campo Gigena**

Investigador Principal  
Instituto Nacional de  
Investigación Agropecuaria  
Tacuarembó  
URUGUAY

**Cia L. Johnson**

Director Animal Welfare Division  
Public Policy SBU  
American Veterinary Medical  
Association  
Illinois  
UNITED STATES OF AMERICA

**Craig Brian Johnson**

Professor of Veterinary  
Neurophysiology  
Institute of Veterinary, Animal  
and Biomedical Sciences  
Palmerston North  
NEW ZEALAND

**Awis Qurni Sazili**

Professor/ Director  
Halal Products Research  
Institute  
Universiti Putra Malaysia  
Selangor  
MALAYSIA

**Ester Alaez Pons**

Policy Officer  
Animal Health and Welfare Unit  
Directorate-General for Health  
and Food Safety  
European Commission  
F-101 06/177  
B-1049 Brussels  
BELGIUM

**WOAH HEADQUARTERS****Leopoldo Stuardo**

Scientific Coordinator – Animal  
Welfare  
Standards Department

**Laura Davis**

Chargée de Mission –  
International Standards and  
AMR Departments

## Terms of Reference

### MEETING OF WOAAH *AD HOC* GROUP ON THE REVISION OF CHAPTER 7.6. 'KILLING OF ANIMAL FOR DISEASE CONTROL PURPOSES'

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#### **Purpose**

For the *ad hoc* Group to revise Chapter 7.6. 'Killing of animals for disease control purposes' and to amend the text as appropriate.

#### **Actions to deliver**

*Ad hoc* Group members to:

- Review all working documents;
- Attend the whole meeting on agreed dates;
- Review the chapter and the related definitions and provide a rationale for the decisions made.

#### **Considerations**

- Consider scientific evidence relevant to the content of the chapter (scientific references must be provided and included in the draft text);
- Be familiar with the structure of the *Terrestrial Code* and the use of glossary definitions.

#### **Expectations**

*Ad hoc* Group members should:

- Contribute to discussions
- Contribute to drafting text
- Provide rationale to support their decision

#### **Deliverables**

- 1) An amended draft chapter
- 2) A report

#### **Timelines**

The *ad hoc* Group will finalise its report and revised draft chapter by November 2024 for the Commission's consideration at its February 2026 meeting.

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