



**REPORT OF THE VIRTUAL MEETING OF THE OIE *AD HOC* GROUP ON
THE REVISION OF OIE *TERRESTRIAL CODE* CHAPTERS
REGARDING THE COLLECTION AND PROCESSING OF SEMEN OF ANIMALS¹**

May 2021–July 2021

1. Introduction

The OIE *ad hoc* Group on the Revision of OIE *Terrestrial Code* chapters regarding the collection and processing of semen of animals (the *ad hoc* Group) met for the second time via video conference on several occasions between May and July 2021. This was the second meeting of the *ad hoc* Group that was reconvened following discussions and advice from the OIE Terrestrial Animal Health Standards Commission (the Code Commission) at its February 2021 meeting. Members of the *ad hoc* Group are presented in [Annex I](#). Due to the COVID-19 sanitary crisis the *ad hoc* Group conducted its work electronically.

2. Welcome

The OIE Secretariat welcomed members of the *ad hoc* Group, representatives from the Code Commission and the OIE Biological Standards Commission and thanked them for their continued support for this important OIE work.

Dr Laurence Guilbert-Julien, Chair of the *ad hoc* Group, welcomed the experts. Acknowledging the challenges associated with virtual meetings, Dr Guilbert-Julien invited the members to contribute during the meetings and to also continue to process the work outside of the formal meetings. She thanked the *ad hoc* Group members for their work and also the OIE Secretariat for the preparatory work.

3. Background information and advice from the Code Commission

The OIE Secretariat reminded *ad hoc* Group members of the Terms of Reference ([Annex II](#)) and updated them on the advice provided by the Code Commission at its February 2021 meeting after reviewing the *ad hoc* Group's first report.

The OIE Secretariat reported that the Code Commission had agreed with the proposal made in the *ad hoc* Group's first report to commence work on Chapter 4.6, General hygiene in semen collection, processing and storage, before starting work on the review of Chapter 4.7.

The Code Commission had confirmed that the aim of Chapter 4.6 is principally to prevent animal health risks and prevent the introduction or transmission of OIE-listed diseases, especially when, but not limited to, trading in semen. The chapter should cover general hygiene measures that should apply to semen collection, whether they take place at semen collection centres (SCCs) or at other ancillary sites, noting that the latter, unlike SCCs, may not be regulated by the Veterinary Authority.

¹ Note: This report should be read in conjunction with the September 2021 report of the OIE Terrestrial Animal Health Standards Commission because this report provides its considerations and comments. It is available at <https://www.oie.int/en/what-we-do/standards/standards-setting-process/code-commission-reports/>

The Code Commission had also noted that aside from activities related to semen collection, processing and storage that are undertaken in the SCCs, the chapter should also provide recommendations on the hygienic collection of semen undertaken elsewhere. Noting that SCCs may also outsource selected aspects of their activities, e.g. processing (sex sorting, etc.) or final preparation of the product for storage or use to other specialised sites, these activities should also be covered by the provisions of this chapter, even if they take place outside the SCC.

In terms of species coverage, the Code Commission had recommended that cervids should be covered in the scope of the chapter, in addition to bovine, ovine, caprine, swine and equine.

4. Plan of action

Considering the constraints of virtual discussions and time zone differences, the *ad hoc* Group agreed to continue its work to draft revised text for Chapter 4.6 in two breakout groups before reconvening together to discuss key issues and reach agreement.

5. Key discussion points

The key points that were discussed by the *ad hoc* Group including key proposed amendments in the revised chapter are:

a) Structure of draft revised Chapter 4.6

The *ad hoc* Group agreed that the structure of the draft revised Chapter 4.6 should start with general provisions (new Article 4.6.1) and general conditions applicable to the SCC (new Article 4.6.2) and then describe recommendations applicable to each area and each activity which is carried out within the SCC (i.e. accommodation of donor/teaser animals [new Article 4.6.3]), collection of semen [new Article 4.6.4], processing and storage of semen [new Article 4.6.5]).

The *ad hoc* Group agreed that the recommendations on conditions applicable to the handling of semen and preparation of semen samples which are described in the current Article 4.7.7 should be addressed in the new Article 4.6.5.

b) Draft Article 4.6.1 General provisions

The *ad hoc* Group noted the advice of the Code Commission to cover general hygiene measures applicable to semen collection in Chapter 4.6, regardless of whether they take place at SCCs. After extensive discussions on this advice, the *ad hoc* Group agreed that presenting the chapter as such would signal that unregulated semen collection was supported. The *ad hoc* Group agreed that **semen collection outside of SCCs should not be encouraged**, as it could lead to the indiscriminate collection and distribution of semen within the country, potentially involving the use of inferior or infected semen leading to the spread of diseases within the country. Some members of the *ad hoc* Group also held the view that it was outside the scope of the *Terrestrial Code* to be recommending the regulation of the collection and processing of animal semen for domestic use.

Consequently, the *ad hoc* Group proposed to include a statement that although the chapter is focused on SCCs and on preventing the transmission of OIE-listed diseases through animal semen in international trade, the general recommendations on the collection, processing, identification, and storage of semen may also be applied when these activities take place for the use of semen domestically or in facilities other than a SCC. The *ad hoc* Group also proposed text suggesting that **the regulation of semen collection by Veterinary Authorities should be appropriate to the national context.**

c) Key terms to be defined in Chapter 4.6

The *ad hoc* Group maintained its recommendations from its first meeting to replace the term ‘artificial insemination centre’ in the glossary of the *Terrestrial Code* with ‘semen collection centre’, which the Code Commission had agreed to.

The *ad hoc* Group considered that, for the purposes of the *Terrestrial Code*, the SCC is comprised of (a) livestock accommodation facilities, (b) semen collection facilities, (c) semen processing facilities, (d) semen storage facilities and (e) administration offices. Although, in the current Chapter 4.6, semen collection facilities are considered as part of animal accommodation facilities, the *ad hoc* Group was of the view that it would be better to describe the composition of the SCC based on the nature of the activity or operations and therefore separated accommodation from collection facilities. Additionally, in contrast to the current Chapter 4.6, the *ad hoc* Group considered that while a pre-entry isolation facility may be part of the SCC, it does not necessarily need to be physically located in the same location as the SCC noting that a pre-entry isolation facility may be shared amongst different SCCs.

The *ad hoc* Group also proposed some defined terms for the chapter, but would specifically wish to seek the Code Commission’s opinions on defining the term ‘livestock’, referring to the scope of the animal species covered in Chapter 4.6, and ‘biosecure’, meaning protection against disease or infection, noting that there may be references to these terms or related terms elsewhere in the *Terrestrial Code*.

d) Draft Article 4.6.2 General conditions applicable to semen collection centres

The *ad hoc* Group agreed that this article should provide general recommendations including approval by the Veterinary Authority, record keeping, responsibility of centre veterinarians, personnel training and biosecurity such as isolation from wild animals, visitor control and disinfection and hygiene.

With regard to whether animals other than semen donors and teaser animals should be allowed on the SCC, the *ad hoc* Group noted that in some instances, dogs may be used for herding animals, and cats for pest control. In such a scenario, the *ad hoc* Group recommended that these animals should be kept on the SCC and not transferred from one site to another. The *ad hoc* Group also noted that while uncommon, other species of livestock that are not used as donors or teasers may be kept at the SCC. Therefore, it recommended that pre-entry tests and biosecurity should be in place to ensure that these animals do not introduce or spread disease to the SCC, including housing these animals separately from animals associated with semen production.

Concerning measures in place to prevent the entry of wild animals, some members of the *ad hoc* Group noted that it would be challenging to keep animals separated from wild birds, especially if the animals were out at pasture. It therefore clarified that measures should be in place to prevent the entry of wild animals that are susceptible to pathogenic agents transmissible to the livestock species concerned.

The *ad hoc* Group discussed whether personnel of the SCC should be allowed to own private livestock given the potential risks of introduction of diseases to the SCC, and recommended that this should be a policy taken by the Veterinary Authority or business operator.

e) Draft Article 4.6.3 Recommendations applicable to livestock accommodation areas

While the *ad hoc* Group acknowledged the importance of animal welfare recommendations to donor and teaser animals, it noted the advice of the Code Commission that animal welfare recommendations should not be described in this chapter but a general reference made to Section 7 of the *Terrestrial Code*. Therefore, the measures articulated in the draft article concerned only biosecurity and hygiene measures.

With regard to the housing of bulls, some members of the *ad hoc* Group felt that indoor housing should be recommended to minimise the risk of vector-borne diseases. However, the *ad hoc* Group recognised that in some countries, bulls are reared exclusively outdoors, and noted that the *Terrestrial Code* should consider the diversity of housing systems used worldwide. Therefore, it recommended that where relevant, housing should offer protection against vectors. It also noted that the risk of vector-borne diseases may also be mitigated through the testing of animals, which would be described further in Chapter 4.7.

In general, the *ad hoc* Group agreed that all animals introduced to the SCC should be subject to pre-entry requirements, including testing where necessary. However, it also noted that in the case of some species such as horses, pre-entry testing may not always be conducted. The *ad hoc* Group therefore recommended to consult species-specific experts for further information regarding entry protocols and accommodation conditions, especially for equids, cervids and suids.

For animals that are introduced to the SCC temporarily for semen collection, the *ad hoc* Group recommended that any natural matings should cease four weeks prior to entry.

f) Draft Article 4.6.4 Recommendations applicable to the collection of semen

After reviewing the current Article 4.7.6 for relocation to Chapter 4.6, the *ad hoc* Group was of the view that Article 4.7.6 is too prescriptive and proposed new text to describe general principles of cleaning and disinfection and preventing cross-contamination.

With regard to a recommendation on regular brushing for animals described in point 5 of current Article 4.6.5, the *ad hoc* Group was of the view that this should be deleted given this practice is not a specific sanitary measure relevant to the purpose of this chapter.

The *ad hoc* Group proposed to seek advice from species-specific experts on general hygiene conditions that should be applied during the collection of equine and cervid semen.

g) Draft Article 4.6.5 General principles applicable to semen processing and storage

Some members of the *ad hoc* Group discussed that it is common practice on a SCC to combine semen and embryos from different animal species in the same tank, and this practice is considered to be safe, as long as the semen and embryos have been collected and processed in accordance with the recommendations in the relevant chapters in the *Terrestrial Code*.

Diluents

The *ad hoc* Group considered that the recommendations described in the current Article 4.7.7 are still relevant and proposed small modifications such as the addition of a general recommendation on ready-to-use commercial extenders and following manufacturer's instructions.

Procedure for dilution and packing

The *ad hoc* Group considered that the recommendations described in the current Article 4.7.7 are still relevant. Nevertheless, the *ad hoc* Group pointed out that semen is not necessarily sealed immediately after collection, and agreed that 'covered in a way to prevent contamination' is better word rather than 'sealed', which is used for the final product.

Sperm sorting

The *ad hoc* Group considered that the recommendations described in current Article 4.7.7 are still relevant.

Identification and traceability of semen

The *ad hoc* Group pointed out that the international standards of the International Committee for Animal Recording (ICAR), which is referred to in current Article 4.7.7 applies only to bulls, and thus proposed to add general recommendations on the identification and traceability of semen collected from other species.

Addition of antibiotics to semen

The *ad hoc* Group considered the relevance of current Article 4.7.7 regarding the addition of antibiotics to semen when handling semen samples given the need for responsible and prudent use of antimicrobial agents. It noted currently there are no effective alternatives that could replace the addition of antibiotics to semen. The *ad hoc* Group considered that the addition of antibiotics to semen should not be aimed at preventing contamination with commensal bacteria, but rather, at preventing the carriage of selected pathogenic agents of importance (e.g. campylobacter, leptospira, mycoplasma for bovine animals) which may be spread through contaminated semen.

The *ad hoc* Group was of the view that only general recommendations on the responsible and prudent use of antibiotics should be described in the revised article, without mentioning specific combinations of antibiotics as is currently described in Article 4.7.7, as it considered there was insufficient scientific literature suggesting that these combinations are always effective. In addition, the *ad hoc* Group considered that the revised article could include reference to *Terrestrial Code* Chapter 6.10, Responsible and prudent use of antimicrobial agents in veterinary medicine.

6. Proposed draft Chapter 4.6

The draft revised Chapter 4.6 proposed by the *ad hoc* Group will be provided to the Code Commission for its consideration at its September 2021 meeting.

7. Next steps

This *ad hoc* Group report will be considered by the Code Commission at its September 2021 meeting.

.../Annexes

Annex I

VIRTUAL MEETING OF THE OIE AD HOC GROUP ON THE REVISION OF OIE TERRESTRIAL CODE CHAPTERS REGARDING THE COLLECTION AND PROCESSING OF SEMEN OF ANIMALS

May 2021–July 2021

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Terms of reference

Purpose

The purpose of the *ad hoc* Group on the Revision of *Terrestrial Code* chapters regarding the collection and processing of semen of animals is to review Chapter 4.6, General hygiene in semen collection and processing centres, and Chapter 4.7, Collection and processing of bovine, small ruminant and porcine semen, of the OIE *Terrestrial Animal Health Code* (the *Terrestrial Code*) as well as provisions in relevant disease-specific chapters of the *Terrestrial Code* and the OIE *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals* (the *Terrestrial Manual*), with the aim of resolving inconsistencies among the chapters and ensuring that relevant texts reflect the latest scientific evidence and best practices regarding risk mitigation measures in the collection and processing of semen of animals.

Ad hoc groups are convened under the authority of and report to the OIE Director General.

Background

Chapters 4.6 and 4.7 have not been updated since 2010 and 2013, respectively. Since the most recent updates, many comments have been received from Members on Chapter 4.7. The majority of the comments were related to inconsistencies between the provisions in Chapter 4.7 and those provided in some disease-specific chapters in the *Terrestrial Code* which has created confusion for Members when developing risk mitigation measures for international trade of semen of animals.

The Code Commission, together with the Biological Standards Commission, have had preliminary discussions about how to address these comments and in September 2019 the Code Commission requested that an *ad hoc* group be convened to conduct a thorough review of Chapter 4.7 together with relevant disease-specific chapters and Chapter 4.6 given its relevance.

Actions/Specific issues to be addressed

In order to allow Members to understand and apply the necessary requirements for international trade of semen of animals, the *ad hoc* Group should address the following:

- 1) Conduct a thorough review of Chapters 4.6 and 4.7 as well as provisions in relevant disease-specific chapters of the *Terrestrial Code* and *Terrestrial Manual* to ensure consistency among all chapters in the proposed revisions.
- 2) Identify specific issues or areas in Chapters 4.6 and 4.7, including the structure and scope of these chapters, that require updating or further clarification and propose amendments to the relevant texts.
- 3) Assess the need to develop definitions for essential terms in the chapter or in the Glossary of the *Terrestrial Code*, and propose draft definitions, as necessary, while considering any consequential impact on other chapters.
- 4) Improve the clarity of the description of relevant procedures and facilities in Chapters 4.6 and 4.7.
- 5) Develop provisions to address equine semen in Chapters 4.6 and 4.7.

- 6) Assess the relevance of the current Article 4.7.7 regarding the addition of antibiotics to semen when handling semen samples given the need for responsible and prudent use of antimicrobial agents.
- 7) Ensure that relevant texts reflect the latest scientific evidence on processing or production of semen, and testing protocols for semen production.
- 8) Ensure texts reflect best practices regarding risk mitigation measures in the collection and processing of semen of animals.

Considerations

Based on advice provided from the Code Commission the revision of Chapters 4.6 and 4.7 should consider the following:

- The objective of Chapter 4.6 is principally to prevent animal health risks and prevent the introduction or transmission of OIE-listed diseases, especially when, but not limited to, international trade in semen. The chapter should cover general hygiene measures that should apply to semen collection, whether they take place at semen collection centres (SCC) or at other ancillary sites;
- Aside from activities related to semen collection, processing and storage that are undertaken in the SCCs, Chapter 4.6 should also provide recommendations on the hygienic collection of semen undertaken or at other ancillary sites. Noting that SCCs may also outsource selected aspects of their activities, e.g. processing (sex sorting, etc.) or final preparation of the product for storage or use to other specialised sites, these activities should also be covered by the provisions of this chapter, even if they take place outside the SCC;
- Chapter 4.6 should provide overarching general guidance for hygienic production of semen without any cross-references to disease-specific chapters; and
- Chapter 4.7 should provide provisions for ensuring animals entering the semen collection centre are free of relevant OIE-listed diseases, including equine diseases, without any cross-references to disease-specific chapters.

Prerequisites

Ad hoc Group members should:

- Sign the OIE Undertaking on Confidentiality of Information form
- Complete the Declaration of Interest form
- Be familiar with the structure of the *Terrestrial Code* and the *Terrestrial Manual*, and the use of Glossary definitions
- Be familiar with Chapters 4.6 and 4.7 of the *Terrestrial Code* and relevant disease-specific chapters in the *Terrestrial Code* and *Manual* (to be provided in the Working Documents)
- Read Working Documents provided by the OIE Secretariat prior to the meeting.

Deliverables

An *ad hoc* Group report including proposed revised texts for the relevant chapters, the rationales for proposed amendments and identified issues that require further guidance from the relevant Specialist Commissions.

Reporting/timeline

The *ad hoc* Group will finalise its report within six weeks after the completion of the meeting.