

CHAPTER X.X.

INFECTION WITH EPIZOOTIC HEMORRHAGIC
DISEASE VIRUS

USA Comments- comments shown in blue font

Article X.X.1.

General observation: Currently any diagnostics tests for EHD are not readily available or are not widely used. This will impede proper diagnosis. Further, in this chapter, there is no discussion or recognition of the historical state where there has been a tendency to partition the disease between bovid and cervid hosts. So historically, while there have been large die offs among the wild cervid populations, there is little evidence of clinical disease among domestic bovinds. It would seem that this could be serotype dependent. While the RNA viruses continually reassort and change, it seems that if no disease among the domestic bovid population is seen, there ought to be some tolerance for occurrence in wild populations. This would seem to be akin to localizing to a sector or region. Therefore, the demonstrated lack of impact on a given sector (e.g. cattle) should alleviate some of the concerns for EHD.

There is a continuing need for more research to understand the disease better. Furthermore, this lack of information also points to a significant gap that exists in surveillance for arthropod borne diseases.

General provisions

For the purposes of the *Terrestrial Code*, epizootic hemorrhagic disease (EHD) is defined as an *infection* of cervids and bovids ~~cattle~~ with one of several serotypes of epizootic hemorrhagic disease virus (EHDV). *Outbreaks* of *disease* due to EHDV are sporadic and geographically restricted. Although EHDV is not regarded as a significant pathogen of livestock in many countries in which it is present, ~~outbreaks of disease have caused significant economic loss to the cattle industry in some countries;~~ however, in some regions the certain strains of the virus have affected cattle causing some economic loss.

Rationale: The text was modified because as proposed, it seemed to imply that outbreaks are more common in cattle than has been documented.

The following defines the occurrence of EHDV infection:

- 1) EHDV has been isolated and identified as such from a cervid or bovid or a product derived from it; or
- 2) viral antigen or viral ribonucleic acid (RNA) specific to one or more of the serotypes of EHDV has been identified in samples from a cervid or bovid showing clinical signs consistent with EHD, or epidemiologically linked to a confirmed or suspected case, or giving cause for suspicion of previous association or contact with EHDV; or
- 3) antibodies to structural or nonstructural proteins of EHDV that are not a consequence of vaccination have been identified in a cervid or bovid that either shows clinical signs consistent with EHD, or is

epidemiologically linked to a confirmed or suspected case, or gives cause for suspicion of previous association or contact with EHDV.

For the purposes of international trade, a distinction is made between a case as defined above and an animal that is potentially infectious to vectors.

For the purposes of the *Terrestrial Code*, the *infective period* for EHDV shall be 60 days.

For countries that do not meet the provisions of point 1 of Article 1.4.6. and in the absence of clinical disease in a country or zone, its EHDV status should be determined by an ongoing surveillance programme (in accordance with Article x.x.1612.) some basic surveillance should be considered. The programme may need to be adapted to target parts of the country or zone at a higher risk due to historical, geographical and climatic factors, ruminant population data and *Culicoides* ecology.

Rationale: Text is amended as suggested because surveillance as recommended may not be economically feasible in countries with large and widespread populations of wild cervids.

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

Article X.X.2.

Safe commodities

When authorising import or transit of the following *commodities*, *Veterinary Authorities* should not require any EHDV related conditions regardless of the EHDV status of the ruminant population of the *exporting country* or *zone*:

- 1) *milk* and *milk products*;
- 2) *meat* and *meat products*;
- 3) *hides, skins, antlers and hooves*;
- 4) *wool and fibre*.

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Article X.X.3.

EHDV free country or zone

- 1) A country or a *zone* may be considered free from EHDV when EHD epizootic haemorrhagic disease is notifiable in the whole country and either:
 - a) historical freedom has been demonstrated as described in Article 1.4.6.; or
 - b) a surveillance programme in accordance with Article X.X.4612. has demonstrated no evidence of EHDV transmission in the country or zone during the past two years; or

- c) an ongoing *surveillance* programme has demonstrated no evidence of *Culicoides* in the country or zone.

Comment on highlighted text (Article X.X.3 1 c): Is no evidence of *Culicoides* a realistic requirement, especially at the genus level? Is there any place on earth, short of the arctic poles, that might not have some *Culicoides*? This seems to sidestep the question of a competent vector for EHDV.

- 2) An EHDV free country or zone in which ongoing *vector surveillance* has found no evidence of *Culicoides* will not lose its free status through the importation of seropositive or infective *animals*, or semen, embryos or ova from infected countries or *infected zones*.

Comment on highlighted text: Total absence of *Culicoides* is not realistic.

- 3) An EHDV free country or zone in which *surveillance* has found evidence that *Culicoides* are present will not lose its free status through the importation of seropositive *animals*, provided that they were imported in accordance with Article X.X.6.

~~Article X.X.4.~~

~~EHDV seasonally free zone~~

~~An EHDV seasonally free zone is a part of an infected country or an infected zone for which for part of a year surveillance demonstrates no evidence either of EHDV transmission or of adult *Culicoides*.~~

~~Article X.X.54.~~

~~EHDV infected country or zone~~

~~For the purpose of this chapter, an EHDV infected country or infected zone is a clearly defined area where evidence of EHDV transmission has been reported during the past two years. Such a country or zone may contain an EHDV seasonally free zone.~~

~~Article X.X.65.~~

~~Recommendations for importation from EHDV free countries or zones~~

~~For **cattle** and cervids~~

Note: is it cattle or is it bovinds? The word cattle appears elsewhere in the document as well.

Where EHDV is of concern, *Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

- 1) the *animals* were kept in an EHDV free country or zone since birth or for at least 60 days prior to shipment; or
- 2) the *animals* were kept in an EHDV free country or zone for at least 28 days, then were subjected, with negative results, to a serological test to detect antibody to the EHDV group and remained in the EHDV free country or zone until shipment; or

- 3) the *animals* were kept in an EHDV free country or *zone* for at least seven days, then were subjected, with negative results, to an agent identification test and remained in the EHDV free country or *zone* until shipment;

AND

- 4) if the *animals* were exported from a free *zone* within an *infected country* either:
 - a) did not transit through an *infected zone* during transportation to the *place of shipment*, or
 - b) were protected from attacks by *Culicoides* at all times when transiting through an *infected zone*.

~~Article X.X.7.~~

~~Recommendations for importation from EHDV seasonally free zones~~

~~For cattle and cervids~~

~~Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that the *animals*:~~

- ~~1) were kept during the seasonally free period in an EHDV seasonally free zone since birth or for at least 60 days prior to shipment; or~~
- ~~2) were kept during the EHDV seasonally free period in an EHDV seasonally free zone for at least 28 days prior to shipment, and were subjected during the residence period in the zone to a serological test to detect antibody to the EHDV group with negative results, carried out at least 28 days after the commencement of the residence period; or~~
- ~~3) were kept during the EHDV seasonally free period in an EHDV seasonally free zone for at least 14 days prior to shipment, and were subjected during the residence period in the zone to an agent identification test with negative results, carried out at least 14 days after the commencement of the residence period;~~

AND

- 4) either:
 - a) did not transit through an *infected zone* during transportation to the *place of shipment*, or
 - b) were protected from attacks by *Culicoides* at all times when transiting through an *infected zone*.

Article X.X.86.

Recommendations for importation from EHDV infected countries or zones

For cattle and cervids

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that the *animals*:

- 1) were protected from attacks by *Culicoides* in a *vector-protected establishment* for at least 60 days prior to shipment and during transportation to the *place of shipment*; or
- 2) were protected from attacks by *Culicoides* in a *vector-protected establishment* for at least 28 days prior to shipment and during transportation to the *place of shipment*, and were subjected during that period to a serological test to detect antibody to the EHDV group, with negative results, carried out at least 28 days after introduction into the *vector-protected establishment*; or

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- 3) were protected from attacks by *Culicoides* in an *vector-protected establishment* for at least 14 days prior to shipment and during transportation to the *place of shipment*, and were subjected during that period to an agent identification test with negative results, carried out at least 14 days after introduction into the *vector-protected establishment*, or
- 4) were demonstrated to have antibodies for at least 60 days prior to dispatch against all serotypes whose presence has been demonstrated in the source population through a *surveillance* programme in accordance with Article x.x.16~~12~~.

Article X.X.9~~7~~.

Recommendations for importation from EHDV free countries or zonesFor semen of cattle and cervids

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

- 1) the donor *animals*:
 - a) were kept in an EHDV free country or *zone* for at least 60 days before commencement of, and during, collection of the semen; or
 - b) were subjected to a serological test to detect antibody to the EHDV group, between 21 and 60 days after the last collection for this consignment, with negative results; or
 - c) were subjected to an agent identification test on blood samples collected at commencement and conclusion of, and at least every 7 days (virus isolation test) or at least every 28 days (PCR test) during, semen collection for this consignment, with negative results;
- 2) the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

~~Article X.X.10.~~

~~**Recommendations for importation from EHDV seasonally free zones**~~~~For semen of cattle and cervids~~

~~*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:~~

- ~~1) the donor *animals*:~~
 - ~~a) were kept during the EHDV seasonally free period in a seasonally free *zone* for at least 60 days before commencement of, and during, collection of the semen; or~~
 - ~~b) were subjected to a serological test to detect antibody to the EHDV group, with negative results, at least every 60 days throughout the collection period and between 21 and 60 days after the final collection for this consignment; or~~
 - ~~e) were subjected to an agent identification test on blood samples collected at commencement and conclusion of, and at least every 7 days (virus isolation test) or at least every 28 days (PCR test) during, semen collection for this consignment, with negative results;~~
- ~~2) the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.~~

Article X.X.11~~8~~.**Recommendations for importation from EHDV infected countries or zones**For semen of cattle and cervids

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

- 1) the donor *animals*:
 - a) were kept in a *vector-protected establishment* for at least 60 days before commencement of, and during, collection of the semen; or
 - b) were subjected to a serological test to detect antibody to the EHDV group, with negative results, at least every 60 days throughout the collection period and between 21 and 60 days after the final collection for this consignment; or
 - c) were subjected to an agent identification test on blood samples collected at commencement and conclusion of, and at least every 7 days (virus isolation test) or at least every 28 days (PCR test) during, semen collection for this consignment, with negative results;
- 2) the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article X.X.12~~9~~.**Recommendations for importation from EHDV free countries or zones**For embryos or oocytes of cattle and cervids

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

- 1) the donor females:
 - a) were kept in an EHDV free country or *zone* for at least the 60 days prior to, and at the time of, collection of the embryos or oocytes; or
 - b) were subjected to a serological test to detect antibody to the EHDV group, between 21 and 60 days after collection, with negative results; or
 - c) were subjected to an agent identification test on a blood sample taken on the day of collection, with negative results;
- 2) the embryos or oocytes were collected, processed and stored in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.

~~Article X.X.13.~~~~**Recommendations for importation from EHDV seasonally free zones**~~~~For embryos or oocytes of cattle and cervids~~

~~*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:~~

- ~~1) the donor females:~~
 - ~~a) were kept during the seasonally free period in a seasonally free zone for at least 60 days before commencement of, and during, collection of the embryos or oocytes; or~~
 - ~~b) were subjected to a serological test to detect antibody to the EHDV group, between 21 and 60 days after collection, with negative results; or~~

Annex XLI (contd)

- e) ~~were subjected to an agent identification test on a blood sample taken on the day of collection, with negative results;~~
- 2) ~~the embryos or oocytes were collected, processed and stored in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.~~

Article X.X.~~14~~10.

Recommendations for importation from EHDV infected countries or zonesFor embryos or oocytes of cattle and cervids

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

- 1) the donor females:
 - a) were kept in a *vector-protected establishment* for at least 60 days before commencement of, and during, collection of the embryos or oocytes; or
 - b) were subjected to a serological test to detect antibody to the EHDV group, between 21 and 60 days after collection, with negative results; or
 - c) were subjected to an agent identification test on a blood sample taken on the day of collection, with negative results;
- 2) the embryos or oocytes were collected, processed and stored in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.

Article X.X.~~15~~11.

Protecting animals from Culicoides attacks1. Vector-protected establishment or facility

Where movement of *animals* or collection of genetic material requires a vector-protected facility, the establishment or facility should be approved by the *Veterinary Authority* and the following criteria apply:

- a) appropriate physical barriers at entry and exit points, for example, double-door entry-exit system;
- b) openings of the building are *vector* screened with mesh of appropriate gauge impregnated regularly with an approved insecticide according to the manufacturer's instructions;
- c) *vector* surveillance and control within and around the building;
- d) measures to limit or eliminate breeding sites for *vectors* in the vicinity of the *establishment* or facility;
- e) standard operating procedures, including description of back-up and alarm systems, for operation of the *establishment* or facility and transport of *animals* to the place of *loading*.

2. During transportation

When transporting *animals* through EHDV infected countries or *infected zones*, *Veterinary Authorities* should require strategies to protect *animals* from attacks by *Culicoides* during transport.

Risk management strategies may include:

- a) *loading*, transporting and *unloading animals* at times of low *vector* activity (i.e. bright sunshine, low temperature);
- b) ensuring *vehicles* do not stop en route during times of high *vector* activity (i.e. dawn or dusk, or overnight).

Article X.X.1612.

Surveillance

This article is complementary to Chapters 1.4. and 1.5. and outlines the principles for EHDV *surveillance* applicable to Members seeking to determine the EHDV status of a country or a *zone*.

The impact and epidemiology of EHD differ widely in different regions of the world and therefore it is impossible to provide specific recommendations for all situations. It is incumbent upon Members to provide scientific data that explain the epidemiology of EHD in the region concerned and adapt the *surveillance* strategies for defining their infection status (free, ~~seasonally free~~ or infected country or *zone*) to the local conditions. There is considerable latitude available to Members to justify their infection status at an acceptable level of confidence.

Surveillance for EHD should be in the form of a continuing programme.

General provisions on surveillance for arthropod *vectors* are in Chapter 1.5.

More specific approaches to *surveillance* for *Culicoides* transmitted *Orbivirus infections* are described in Chapters 8.3. and 12.1. Passive *surveillance* for clinical cases of EHD in susceptible wild ruminants can be a useful tool for detecting *disease*, based on lesions of haemorrhagic disease combined with viral detection techniques.

 — Text deleted.