

Terrestrial Animal Health Standards Commission  
Report

October 2008

CHAPTER 8.XX.

**WEST NILE FEVER**

Article 8.XX.1.

**General provisions**

West Nile fever (WNF) is a zoonotic *disease* caused by certain strains of the mosquito-borne West Nile virus (WNV).

For the purpose of this Chapter, the susceptible species are equidae, geese, ducks (under study) and chicken and turkey chicks less than 12 days old and birds other than poultry.

WNV is maintained in a mosquito–bird–mosquito transmission cycle, whereas humans and equidae are considered dead-end hosts. Most human *infections* occur by natural transmission from mosquitoes.

In relation to domestic animal trade, geese and ducks pose a risk for the spread of the WNV as some species have been documented to develop a viraemia sufficient to infect mosquitoes.

Surveillance for WNF will be carried out according to Chapter X.X.

The following criteria define the occurrence of WNF:

1. WNV has been isolated from an animal; or
2. viral antigen or viral ribonucleic acid (RNA) specific to WNV has been identified in samples from one or more animals that show clinical signs consistent with WNF, or that is epidemiologically linked to a confirmed or suspected *outbreak* of WNF; or
3. antibodies to WNV that are not a consequence of vaccination, have been identified in an animal, that shows clinical signs consistent with WNF, or that is epidemiologically linked to a confirmed or suspected *outbreak* of WNF.

For the purposes of the *Terrestrial Code*, the *incubation period* for WNF shall be 15 days.

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

## Article 8.XX.12.

**Trade in commodities**

Member should not impose trade restrictions on dead-end hosts such as horses.

When authorising import or transit of the following *commodities* and any products made from these, *Veterinary Authorities* should not require any West Nile virus (WNV) related conditions, regardless of the WNF risk status of the animal population of the *exporting country or zone*.

- a) *hatching eggs*;
- b) *eggs for human consumption*;
- c) *egg products*;
- d) *poultry semen*;
- e) *fresh meat and meat products of poultry*;
- f) *products of poultry origin intended for use in animal feeding, or for agricultural or industrial use*;
- g) *feathers and down from poultry*;
- h) *semen of horses*;
- i) *fresh meat and meat products of horses*.

**Article 8.XX.21.**

West Nile fever (WNF) is a zoonotic *disease* caused by *certain strains of the mosquito-borne West Nile virus (WNV)*.

For the purpose of this Chapter, the susceptible species are equidae, geese, ducks (under study) and *chicken and turkey chicks less than 12 days old and birds other than poultry*.

Although most avian species are susceptible to infection, the outcome of the infection is highly variable according to the species. Chickens and turkeys, are usually resistant to disease and do not develop viremia sufficient to infect mosquitoes, with the exception of chicks less than 12 days old.

Birds are responsible for virus dispersal, including reintroduction of WNV from endemic areas into regions that may subsequently experience sporadic outbreaks.

WNV is maintained in a mosquito-bird-mosquito transmission cycle, whereas humans and equidae are considered dead-end hosts. Most human *infections* occur by natural transmission from mosquitoes.

Many animal species are known to be susceptible to WNV infection and outbreaks of a fatal neurological disease have been reported in humans, equidae, geese and wild birds.

In relation to domestic animal trade, geese and ducks might represent *pose* a risk for the spread of the WNV the WNF as some species have been documented to develop a viraemia sufficient to infect mosquitoes.

WNV has been reported to date in a wide geographical range that includes portions of Europe, Asia, Africa, Australia and the Americas. Although competent vectors and susceptible bird species are

nearly ubiquitous, WNV circulation in sylvatic cycles may spill over occasionally in domestic population.

Surveillance for WNF will be carried out according to Chapter X.X.

The following criteria defines the occurrence of WNF case:

1. WNV has been isolated and identified as such from an animal, including human; or
2. viral antigen or viral ribonucleic acid (RNA) specific to WNV has been identified in samples from one or more animals including human that showing clinical signs consistent with WNF, or that is epidemiologically linked to a confirmed or suspected outbreak of WNF; or
3. antibodies to WNV that are not a consequence of vaccination, have been identified in an animal, that including human showings clinical signs consistent with WNF, or that is epidemiologically linked to a confirmed or suspected outbreak of WNF.

For the purposes of the *Terrestrial Code*, the incubation period for WNF shall be 3-15 days.

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

#### Article 2.2.XX.2.

#### **WNF infected country, or zone or compartment**

A WNF infected country, or zone or compartment is a country, zone or compartment clearly defined where one in which a case of WNF has been reported during the past 2 years

#### Article 8.XX.3.

#### **WNF free country, or zone or compartment**

1. A country; or zone or compartment may be considered free from WNF when WNF is notifiable in the whole country and either:
  - a) no clinical occurrence of indigenous WNF cases have been recorded for the past 2 years; or
  - b) a surveillance programme in accordance with Chapter X.X. has demonstrated no evidence of WNFV in the country or zone or compartment during the past 2 years; or
  - c) a surveillance programme has demonstrated no evidence of *Culex* mosquitoes likely to be competent WNV vectors in the country; or zone or compartment.
2. A WNF free country; or zone or compartment will not lose its free status through the importation from WNF infected countries or infected zones or compartment of:
  - a) seropositive animals;
  - b) semen, embryo or ova;

- c) animals vaccinated in accordance with the *Terrestrial Manual* at least 30 days prior to dispatch, and ~~that the animals~~ are identified in the accompanying certification as having been vaccinated; or
- d) animals not vaccinated if a surveillance programme in accordance with Chapter X.X. has been in place in the source population for a period of 30 days immediately prior to dispatch, and no evidence of WNV transmission has been detected.

#### Article 8.XX.4.

#### **WNF seasonally free country or zone**

1. A WNF seasonally free country or ~~zone~~ is ~~a country or a zone for one in~~ which for part of a year, surveillance demonstrates no evidence either of WNV transmission or presence of adult *Culex* mosquitoes ~~likely to be competent WNV vectors.~~
2. For the application of Article 8.XX.7., the seasonally free period is taken to commence 21 days following the last evidence of WNV transmission (as demonstrated by the surveillance programme), or the cessation of activity of ~~adult *Culex* mosquitoes~~ likely to be competent WNV vectors.
3. For the application of Article 8.XX.7., the seasonally free period is taken to conclude either:
  - a) at least 21 days before the earliest date that historical data show WNV transmission cycle has recommenced; or
  - b) immediately if current climatic data or data from a surveillance programme indicate an earlier resurgence of activity of ~~adult *Culex* mosquitoes~~ likely to be competent WNV vectors.
4. A WNF seasonally free country or ~~zone~~ will not lose its free status through the importation ~~of animals or semen or embryo and ova~~ from infected countries or ~~zones of:~~
  - a) seropositive animals;
  - b) semen, embryo or ova;
  - c) animals vaccinated in accordance with the *Terrestrial Manual* at least 30 days prior to dispatch, and are identified in the accompanying certification as having been vaccinated; or
  - d) animals not vaccinated if a surveillance programme in accordance with Chapter X.X. has been in place in the source population for a period of 30 days immediately prior to dispatch, and no evidence of WNV transmission has been detected.

#### Article 8.XX.5.

#### **WNF infected country or zone**

A WNF infected country or ~~zone~~ is one in which a *case* of WNF has been reported during the past 2 years

## Article 8.XX.6.

**Recommendations for importation from WNF free countries; ~~or zones, or compartment~~**for susceptible species

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

1. the animals were kept in a WNF free country; ~~or zone or compartment~~ since birth or for at least 30 days prior to shipment; or
2. the animals were kept in a WNF free country; ~~or zone or compartment~~ for at least **7 15** days, were subjected, **with negative results**, to an agent identification test according to the *Terrestrial Manual*, **with negative results**, carried out on a sample collected at least 3 days after the commencement of the residence period and remained in the WNF free country; ~~or zone or compartment~~ until shipment; or
3. the animals:
  - a) were vaccinated in accordance with the *Terrestrial Manual* 30 days before introduction into the free country; ~~or zone or compartment~~; and
  - b) were identified as having been vaccinated; and
  - c) were kept in a WNF free country or ~~zone~~ for at least **7 15** days; and
  - d) remained in the WNF free country or ~~zone~~ until shipment;

AND

4. if the animals were exported from a WNF free ~~zone~~, either:
  - a) did not transit through an *infected zone* during transportation to the *place of shipment*; or
  - b) were protected from attack from ~~WNV~~ mosquito ~~vectors~~ at all times when transiting through an *infected zone*; or
  - c) had been vaccinated in accordance with point 3 above.

## Article 8.XX.7.

**Recommendations for importation from WNF seasonally free countries or zones**for susceptible species

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

1. were kept during the seasonally free period in a WNF seasonally free country or ~~zone~~ for at least 30 days prior to shipment; or

2. were kept during the WNF seasonally free period in a WNF seasonally free country or *zone* for at least **7 15** days prior to shipment, and were subjected during the residence period in the country or *zone* to an agent identification test according to the *Terrestrial Manual*, with negative results, carried out ~~at carried out~~ on a sample collected at least 3 days after the commencement of the residence period and remained in the WNF seasonally free country, or *zone* until shipment; or
3. were kept during the seasonally free period in a WNF seasonally free country or *zone*, and were vaccinated in accordance with the *Terrestrial Manual* 30 days before introduction into the free country or *zone* against WNF, were identified as having been vaccinated and remained in the WNF seasonally free country or *zone* until shipment;

AND

4. if the animals were exported from a WNF free country or *zone*, either:
  - a) did not transit through an infected country or *infected zone* during transportation to the *place of shipment*; or
  - b) were protected from attack from ~~WNV~~ mosquito ~~vectors~~ at all times when transiting through an infected country or *infected zone*; or
  - c) were vaccinated in accordance with point 3 above.

Article 8.XX.8.

### **Recommendations for importation from WNF infected countries or infected zones**

#### for susceptible species

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

1. were protected from attack from ~~WNV~~ mosquito ~~vectors~~ for at least 30 days prior to shipment; or
2. were subjected to a serological test according to the *Terrestrial Manual* to detect WNV neutralizing antibodies with positive results; or
3. were protected from attack from ~~WNV~~ mosquito ~~vectors~~ for at least 15 days prior to shipment, and were subjected during that period to an agent identification test according to the *Terrestrial Manual*, with negative results, carried out on a sample collected at least 3 days after being introduced in the mosquito free *zone*; or
4. were vaccinated in accordance with the *Terrestrial Manual* at least 30 days before shipment, against WNV, and were identified in the accompanying certification as having been vaccinated; or
5. are not vaccinated and a surveillance programme in accordance with Chapter X.X. has been in place in the source population for a period of 30 days immediately prior to shipment, and no evidence of WNV transmission has been detected;

AND

6. were protected from attack from ~~WNV~~ mosquito ~~vectors~~ during transportation to the *place of shipment*; ~~or~~
7. ~~were vaccinated 30 days before shipment or had antibodies against WNV.~~

Article 8.XX.9.

**Recommendations for the importation of birds**

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

1. the birds showed no clinical sign of WNF on the day of shipment; and
2. the birds were kept in a *quarantine station* in a mosquito-free environment for 30 days prior to shipment and a statistically valid sample was they were subjected, with negative results, to an agent identification test according to the *Terrestrial Manual* carried out on samples collected at least 3 days after the commencement of the residence period.

Article 8.XX.10.

**Protecting animals from WNV mosquito vectors**

When transporting animals through WNF infected countries or *infected zones*, ~~Veterinary Administrations~~ Authorities should require strategies to protect animals from attack from WNV mosquito vectors during transport, taking into account the local ecology of the vectors.

Potential *risk management* strategies include:

1. treating animals with chemical repellents prior to and during transportation;
2. ensuring *vehicles* do not stop en route unless the animals are held behind insect proof netting;
3. surveillance for vectors at common stopping and offloading points to gain information on seasonal variations;
4. integrated pest management practices at holding, common stopping and offloading points;
5. using historical, ongoing and/or WNF modelling information to identify low risk ports and transport routes.