

CHAPTER 11.4.

INFECTION WITH *MARTEILIA REFRINGENS*

Article 11.4.1.

For the purposes of the *Aquatic Code*, infection with *Marteilia refringens* means infection with *M. refringens*.

Information on methods for *diagnosis* is provided in the *Aquatic Manual*.

Article 11.4.2.

Scope

The recommendations in this chapter apply to: European flat oyster (*Ostrea edulis*), Australian mud oyster (*Ostrea angasi*), Argentinean oyster (*Ostrea puelchana*), Chilean flat oyster (*Ostrea chilensis*), blue mussel (*Mytilus edulis*) and Mediterranean mussel (*Mytilus galloprovincialis*). These recommendations also apply to any other *susceptible species* referred to in the *Aquatic Manual* when traded internationally.

Article 11.4.3.

Importation or transit of aquatic animals and aquatic animal products for any purpose regardless of the infection with *M. refringens* status of the exporting country, zone or compartment

- 1) *Competent Authorities* should not require any conditions related to infection with *M. refringens*, regardless of the infection with *M. refringens* status of the *exporting country, zone or compartment*, when authorising the importation or transit of heat sterilised hermetically sealed mollusc products (i.e. a heat treatment at 121°C for at least 3.6 minutes or any time/temperature equivalent) from the species referred to in Article 11.4.2. which are intended for any purpose and which comply with Article 5.4.1.
- 2) When authorising the importation or transit of *aquatic animals* and *aquatic animal products* of a species referred to in Article 11.4.2., other than those referred to in point 1 of Article 11.4.3., *Competent Authorities* should require the conditions prescribed in Articles 11.4.7. to 11.4.11. relevant to the infection with *M. refringens* status of the *exporting country, zone or compartment*.
- 3) When considering the importation or transit of *aquatic animals* and *aquatic animal products* of a species not covered in Article 11.4.2. but which could reasonably be expected to pose a *risk* of spread of infection with *M. refringens*, the *Competent Authority* should conduct a *risk analysis* in accordance with the recommendations in Chapter 2.1. The *Competent Authority* of the *exporting country* should be informed of the outcome of this assessment.

Article 11.4.4.

Country free from infection with *M. refringens*

If a country shares a *zone* with one or more other countries, it can only make a *self-declaration of freedom* from infection with *M. refringens* if all the areas covered by the shared water bodies are declared countries or *zones* free from infection with *M. refringens* (see Article 11.4.5.).

As described in Article 1.4.6., a country may make a *self-declaration of freedom* from infection with *M. refringens* if:

- 1) none of the *susceptible species* referred to in Article 11.4.2. are present and *basic biosecurity conditions* have been continuously met for at least the last three years;

OR

- 2) any of the *susceptible species* referred to in Article 11.4.2. are present and the following conditions have been met:
- a) there has been no observed occurrence of the *disease* for at least the last ten years despite conditions that are conducive to its clinical expression (as described in the corresponding chapter of the *Aquatic Manual*); and
 - b) *basic biosecurity conditions* have been continuously met for at least the last three years;

OR

- 3) the disease status prior to *targeted surveillance* is unknown but the following conditions have been met:
- a) *basic biosecurity conditions* have been continuously met for at least the last three years; and
 - b) *targeted surveillance*, as described in Chapter 1.4., has been in place for at least the last two of the last three years without detection of infection with *M. refringens*;

OR

- 4) it previously made a *self-declaration of freedom* from infection with *M. refringens* and subsequently lost its *disease free status* due to the detection of infection with *M. refringens* but the following conditions have been met:
- a) on detection of the *disease*, the affected area was declared an *infected zone* and a *protection zone* was established; and
 - b) infected populations have been destroyed or removed from the *infected zone* by means that minimise the *risk* of further spread of the *disease*, and the appropriate *disinfection* procedures (as described in Chapter 4.3.) have been completed; and
 - c) previously existing *basic biosecurity conditions* have been reviewed and modified as necessary and have continuously been in place since eradication of the *disease*; and
 - d) *targeted surveillance*, as described in Chapter 1.4., has been in place for at least the last two of the last three years without detection of infection with *M. refringens*.

In the meantime, part or all of the non-affected area may be declared a *free zone* provided that such a part meets the conditions in point 3 of Article 11.4.5.

Article 11.4.5.

Zone or compartment free from infection with *M. refringens*

If a *zone* or *compartment* extends over more than one country, it can only be declared a *zone* or *compartment* free from infection with *M. refringens* if all the relevant *Competent Authorities* confirm that all relevant conditions have been met.

As described in Article 1.4.6., a *zone* or *compartment* within the *territory* of one or more countries not declared free from infection with *M. refringens* may be declared free by the *Competent Authority(ies)* of the country(ies) concerned if:

- 1) none of the *susceptible species* referred to in Article 11.4.2. are present in the *zone* or *compartment* and *basic biosecurity conditions* have been continuously met for at least the last three years;

OR

- 2) any of the *susceptible species* referred to in Article 11.4.2. are present in the *zone* or *compartment* and the following conditions have been met:
- a) there has been no observed occurrence of the *disease* for at least the last ten years despite conditions that are conducive to its clinical expression (as described in the corresponding chapter of the *Aquatic Manual*); and
 - b) *basic biosecurity conditions* have been continuously met for at least the last three years;

OR

- 3) the disease status prior to *targeted surveillance* is unknown but the following conditions have been met:
- a) *basic biosecurity conditions* have been continuously met for at least the last three years; and
 - b) *targeted surveillance*, as described in Chapter 1.4., has been in place, in the *zone* or *compartment*, for at least the last two of the last three years without detection of infection with *M. refringens*;

OR

- 4) it previously made a *self-declaration of freedom* for a *zone* from infection with *M. refringens* and subsequently lost its *disease free* status due to the detection of infection with *M. refringens* in the *zone* but the following conditions have been met:
- a) on detection of the *disease*, the affected area was declared an *infected zone* and a *protection zone* was established; and
 - b) infected populations have been destroyed or removed from the *infected zone* by means that minimise the *risk* of further spread of the *disease*, and the appropriate *disinfection* procedures (as described in Chapter 4.3.) have been completed; and
 - c) previously existing *basic biosecurity conditions* have been reviewed and modified as necessary and have continuously been in place since eradication of the *disease*; and
 - d) *targeted surveillance*, as described in Chapter 1.4., has been in place for at least the last two of the last three years without detection of infection with *M. refringens*.

Article 11.4.6.

Maintenance of free status

A country, *zone* or *compartment* that is declared free from infection with *M. refringens* following the provisions of points 1 or 2 of Articles 11.4.4. or 11.4.5. (as relevant) may maintain its status as free from infection with *M. refringens* provided that *basic biosecurity conditions* are continuously maintained.

A country, *zone* or *compartment* that is declared free from infection with *M. refringens* following the provisions of point 3 of Articles 11.4.4. or 11.4.5. (as relevant) may discontinue *targeted surveillance* and maintain its status as free from infection with *M. refringens* provided that conditions that are conducive to clinical expression of infection with *M. refringens*, as described in the corresponding chapter of the *Aquatic Manual*, exist and *basic biosecurity conditions* are continuously maintained.

However, for declared free *zones* or *compartments* in infected countries and in all cases where conditions are not conducive to clinical expression of infection with *M. refringens*, *targeted surveillance* needs to be continued at a level determined by the *Aquatic Animal Health Service* on the basis of the likelihood of *infection*.

Article 11.4.7.

Importation of aquatic animals and aquatic animal products from a country, zone or compartment declared free from infection with *M. refringens*

When importing *aquatic animals* and *aquatic animal products* of species referred to in Article 11.4.2. from a country, *zone* or *compartment* declared free from infection with *M. refringens*, the *Competent Authority* of the *importing country* should require that the consignment be accompanied by an *international aquatic animal health certificate* issued by the *Competent Authority* of the *exporting country* or a *certifying official* approved by the *importing country* certifying that, on the basis of the procedures described in Articles 11.4.4. or 11.4.5. (as applicable) and 11.4.6., the place of production of the *aquatic animals* and *aquatic animal products* is a country, *zone* or *compartment* declared free from infection with *M. refringens*.

The *certificate* should be in accordance with the Model Certificate in Chapter 5.11.

This article does not apply to *commodities* referred to in point 1 of Article 11.4.3.

Article 11.4.8.

Importation of aquatic animals for aquaculture from a country, zone or compartment not declared free from infection with *M. refringens*

When importing for *aquaculture*, *aquatic animals* of a species referred to in Article 11.4.2. from a country, *zone* or *compartment* not declared free from infection with *M. refringens*, the *Competent Authority* of the *importing country* should assess the *risk* in accordance with Chapter 2.1. and consider the *risk* mitigation measures in points 1 and 2 below.

- 1) If the intention is to grow out and harvest the imported *aquatic animals*, consider applying the following:
 - a) the direct delivery to and lifelong holding of the imported *aquatic animals* in a *quarantine* facility; and
 - b) the treatment of all transport water, equipment, effluent and waste materials to inactivate *M. refringens* in accordance with Chapters 4.3., 4.7. and 5.5.

OR

- 2) If the intention is to establish a new stock for *aquaculture*, consider applying the following:
 - a) In the *exporting country*:
 - i) identify potential source populations and evaluate their *aquatic animal* health records;
 - ii) test source populations in accordance with Chapter 1.4. and select a founder population (F-0) of *aquatic animals* with a high health status for infection with *M. refringens*.
 - b) In the *importing country*:
 - i) import the F-0 population into a *quarantine* facility;
 - ii) test the F-0 population for *M. refringens* in accordance with Chapter 1.4. to determine their suitability as broodstock;
 - iii) produce a first generation (F-1) population in *quarantine*;
 - iv) culture F-1 population in *quarantine* under conditions that are conducive to the clinical expression of infection with *M. refringens* (as described in Chapter 2.4.4. of the *Aquatic Manual*) and test for *M. refringens* in accordance with Chapter 1.4.;
 - v) if *M. refringens* is not detected in the F-1 population, it may be defined as free from infection with *M. refringens* and may be released from *quarantine*;
 - vi) if *M. refringens* is detected in the F-1 population, those animals should not be released from *quarantine* and should be killed and disposed of in a biosecure manner.

Article 11.4.9.

Importation of aquatic animals and aquatic animal products for processing for human consumption from a country, zone or compartment not declared free from infection with *M. refringens*

When importing, for processing for human consumption, *aquatic animals* or *aquatic animal products* of species referred to in Article 11.4.2. from a country, *zone* or *compartment* not declared free from infection with *M. refringens*, the *Competent Authority* of the *importing country* should assess the *risk* and, if justified, require that:

- 1) the consignment is delivered directly to and held in *quarantine* or containment facilities until processing into one of the products referred to in point 1 of Article 11.4.3., or products described in point 1 of Article 11.4.11., or other products authorised by the *Competent Authority*; and
- 2) water used in transport and all effluent and waste materials from the processing are treated in a manner that ensures inactivation of *M. refringens* or is disposed in a manner that prevents contact of waste with *susceptible species*.

For these *commodities* Member Countries may wish to consider introducing internal measures to address the *risks* associated with the *commodity* being used for any purpose other than for human consumption.

Article 11.4.10.

Importation of aquatic animals intended for use in animal feed, or for agricultural, industrial or pharmaceutical use, from a country, zone or compartment not declared free from infection with *M. refringens*

When importing, for use in animal *feed* or for agricultural, industrial or pharmaceutical use, *aquatic animals* of species referred to in Article 11.4.2. from a country, *zone* or *compartment* not declared free from infection with *M. refringens*, the *Competent Authority* of the *importing country* should require that:

- 1) the consignment is delivered directly to, and held in, *quarantine* facilities for slaughter and processing into products authorised by the *Competent Authority*; and
- 2) water used in transport and all effluent and waste materials from the processing are treated in a manner that ensures inactivation of *M. refringens*.

This article does not apply to *commodities* referred to in point 1 of Article 11.4.3.

Article 11.4.11.

Importation of aquatic animals and aquatic animal products for retail trade for human consumption from a country, zone or compartment not declared free from infection with *M. refringens*

- 1) *Competent Authorities* should not require any conditions related to infection with *M. refringens*, regardless of the infection with *M. refringens* status of the *exporting country, zone* or *compartment*, when authorising the importation or transit of the following *commodities* which have been prepared and packaged for retail trade and which comply with Article 5.4.2.:
 - a) mollusc meat (chilled or frozen); and
 - b) half-shell oysters (chilled or frozen).

Certain assumptions have been made in assessing the safety of the *aquatic animal products* listed above. Member Countries should refer to these assumptions at Article 5.4.2. and consider whether the assumptions apply to their conditions.

For these *commodities* Member Countries may wish to consider introducing internal measures to address the *risks* associated with the *commodity* being used for any purpose other than for human consumption.

- 2) When importing *aquatic animals* or *aquatic animal products*, other than those referred to in point 1 above, of species referred to in Article 11.4.2. from a country, *zone* or *compartment* not declared free from infection with *M. refringens*, the *Competent Authority* of the *importing country* should assess the *risk* and apply appropriate *risk* mitigation measures.

NB: FIRST ADOPTED IN 2000; MOST RECENT UPDATE ADOPTED IN 2017.

