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SECTION 4
DISEASE PREVENTION AND CONTROL
CHAPTER 4.7.
FALLOWING IN AQUACULTURE

Article 4.7.1.

Introduction

Gaps in *aquaculture* production at the same location are commonly recognised to be of value in resting or restoring the local environment. As part of this strategy, *fallowing* can break re-infection cycles by removing loci of a disease from a farm. Consequently, *fallowing*

Fallowing is a routine carried out as a regular disease management measure in *aquaculture*, which is employed either: as a best practice especially prior to the introduction of new populations of *aquatic animals* into a previously stocked used site,

- 1) voluntarily, or compulsorily, prior to the introduction of certain new populations of *aquatic animals* into a previously stocked *aquaculture establishment* as part of a *biosecurity plan* constructed in accordance with Chapter 4.1., or in accordance with industry standards or Codes of Practice;
- 2) compulsorily, on the instructions of the *Competent Authority*, following an outbreak of a *disease* which is subject to emergency management measures as described in Chapter 4.11.

In the case of the voluntary *Voluntary fallowing*, aims the objectives are to prevent transmission of *pathogenic agents* between successive production cycles and suppress *pathogenic agent infection* pressure.

In the case of compulsory *Compulsory fallowing*, aims the objective is to eradicate a *pathogenic agent* from an *aquaculture establishment*.

Fallowing may be carried out at a single *aquaculture establishment* or in the case of synchronously across *fallowing*, from a group of epidemiologically connected *aquaculture establishments* which are fallowed at the same time and for the same duration.

Article 4.7.2.

Considerations for fallowing

Fallowing is used to provide a temporal break in the transmission of a *pathogenic agent* transmission cycles between successive *production cycles* cohorts of *susceptible species* or where relevant vector species populations of *aquatic animals*. It should be implemented taking the following factors into account with consideration given to:

- ~~1) the objective of *fallowing* such as preventing transmission between sequential production cycles, suppression of *pathogenic agent* infection pressure, or to eradicate a *pathogenic agent* from an *aquaculture establishment*;~~
- ~~12) the possible sources of *infection* at the *aquaculture establishment* production site such as farmed or wild populations of *susceptible species aquatic animals*, *vectors*, fomites or *pathogenic agents* in the environment (e.g. water or sediment);~~
- ~~23) characteristics of the relevant *pathogenic agent*, including its survival and stability outside the host and its infective period ~~whether the *pathogenic agent* is obligate or facultative~~;~~
- ~~4) for obligate *pathogenic agents*, the period that they may remain viable in the environment;~~
- ~~35) the need for spatial coordination to synchronously fallow epidemiologically connected *aquaculture establishments*;~~
- 4) the type of *aquaculture* production system including the system's design taking into account its design, extent and application of *biosecurity* measures;
- ~~56) *aquaculture establishment(s)* should when the infective period is not known, the farm may be fallowed for a period of time, the length of which should be of the *fallowing* period that applies at an *aquaculture establishment* based on a risk assessment.~~
- 6) the *fallowing* period cannot commence until all *aquatic animals* have been removed, and the *aquaculture establishment* has been thoroughly cleaned and disinfected.

United States	Category: This change was submitted to the AAC Secretariat on May 20, 2025, on behalf of the United States. Proposed amended text: 6) the <i>fallowing</i> period cannot commence until all the <i>population of aquatic animals</i> have been removed and the <i>aquaculture establishment</i> has been thoroughly cleaned and disinfected. Rationale: This change clarifies that the intent of the statement is to remove the aquatic animals from the site prior to cleaning, disinfection, and fallowing. We feel the wording proposed for adoption incorrectly suggests that, in the case of an open site such as a net pen in a lake for example, all the aquatic animals in the lake would need to be removed; this is impractical and we do not believe this was the intent. We therefore propose changing “all” to “the population of”.
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Article 4.7.3.

Voluntary fallowing

When assessing the potential benefits of recommending voluntary *fallowing*, the *Aquatic Animal Health Services* in a country should in addition to the considerations outlined in Article 4.7.2. take the following factors into account:

- 1) the level of *risk* a particular *pathogenic agent* poses to local *aquaculture* operations, and to other aquatic resources in the area;
- 2) the relevant socioeconomic conditions and In order to promote improved health in *aquaculture*, the *Aquatic Animal Health Service* in a country may encourage the voluntary use of *fallowing* as a part of the *biosecurity plan* set out in Chapter 4.1. as a *biosecurity* measure for an individual *aquaculture establishment* or as a common *biosecurity* measure among all *aquaculture*

~~establishments that are considered epidemiologically linked in a given area, a routine management strategy for many diseases. Account should be taken of~~ When encouraging aquaculture operators to follow their establishments, the Competent Authority should emphasise the likely beneficial effects of following in proportion to the economic costs involved. This may be informed by a cost-benefit analysis.

The Aquatic Animal Health Service should also consider such factors as take into account the level of risk a particular disease poses to the local and national aquaculture operations, previous knowledge of the severity of a disease(s), the infective period of the disease in question, and distribution of the pathogenic agent(s), as well as the relevant socioeconomic conditions, and when assessing the potential benefits pertaining to the general aquatic resources in the area. When the infective period is not known, the farm may be followed for a period, the length of which should be based on a risk assessment.

Article 4.7.4.

Compulsory following

Compulsory following may be mandated by required in accordance with the instructions of the Competent Authority following an outbreak of an important disease, which has been subject to the measures described in Chapters 4.10X. and 4.11Y. However, where an official stamping-out policy is being carried out for a disease of concern, the Aquatic Animal Health Service should The Competent Authority may require that an infected aquaculture establishment, and all other epidemiologically linked relevant aquaculture establishments in an officially declared established infected zone, are be subjected to a required period of following, if necessary synchronised. The duration and the necessity for following of aquaculture establishment(s) and synchronous following in epidemiologically linked aquaculture establishments within the infected zone, will be determined by the Competent Authority based on risk assessment.

The duration of the this following period will be carried out for a period of time which is prescribed by the Competent Authority, following risk assessment. Risk assessment will also be used to determine if a A period of synchronous following is may be required in epidemiologically linked relevant aquaculture establishments in the infected zone as well as the duration of such following should this be indicated by the risk assessment.

The Competent Authority should have legal authority to enforce compulsory following, which should include the following provisions: ensure compulsory following is underpinned by legal provisions that set out the following details:

Article 4.7.52.

Legal powers

In the cases referred to in Article 4.7.1, where following is may be a compulsory measure, prescribed by the Competent Authority, for instance in the establishment or restoration of a disease free zone, countries should establish a legal framework must be in place to: for the implementation of following procedures in aquaculture establishments. Legal provisions could include:

- 1) define defining the conditions under which disease circumstances when following or synchronised following is required, including specific implementation steps for each;
- 2) specific point at which following should commence;
- 3) the duration of the following period;
- 4) conditions under which the re-introduction of aquaculture species will be permitted, once the following period has been completed.

define defining mechanisms based on risk assessment where individual disease-specific measures may be determined, including when following should commence disinfection and the length of the following period prior to the re-introduction of susceptible species;

- 3) following permission by the *Competent Authority* to restock with *susceptible species*, defining a period of *surveillance* and *diagnostic* to verify freedom from the specified *disease*.

Article 4.7.563.

Technical parameters for the implementation of a **compulsory** statutory following plan

Taking into account the categories of *aquaculture* production systems referred to in Article 4.1.5., as well as the measures described in paragraph 5 of Article 4.10.7., **the following period should start immediately after the following actions are taken at the *aquaculture establishment* or group of *aquaculture establishments*, in the case of synchronous following of an *aquaculture establishment*. Following of a farm should take paragraph 5 of Article 4.X.7. into account and start immediately after the following actions are taken:**

- 1) **removal ~~destruction~~ of and biosecure disposal of the following aquatic animals from the *aquaculture establishment(s)*:**
 - a) **removal of all *susceptible species* of *aquatic animals* for the *disease* of concern; and**
 - b2) **removal of all species of *aquaculture animals* which are capable of acting as *vectors* of the *disease* of concern, if indicated by *risk assessment*; and**
 - c3) **if appropriate, removal of other species, if indicated by *risk assessment*; and**
- 24) **removal of water in which infected stocks have been held, where feasible; and**
- 3) **biosecure disposal of any solid waste such as faeces, feed or mortalities from the *aquaculture establishment* if applicable; and**

435) appropriate *disinfection* (including *cleaning*) measures have been completed on equipment and other contaminated materials in accordance with Article 4.7.4., under the oversight of the *Competent Authority* supervision of the *Aquatic Animal Health Services*; equipment and other materials contaminated or otherwise capable of harbouring *infection* have either been removed or subjected to *disinfection* to standards approved by the *Aquatic Animal Health Service*.

In addition to the considerations outlined in Article 4.7.2., the *Competent Authority* should consider **that the duration** The length of the compulsory statutory following period should be based on scientific evidence of the **infectivity of the *pathogenic agent* likelihood of free a *pathogenic agent* remaining infective outside its *aquaculture host(s)* in the local environment to determine the duration of the compulsory following period in order to limit as much as possible the, at a level likely to cause an unacceptable risk of re-infection of the *aquaculture establishment*. Account should be taken of Factors to be considered include the extent of the *disease outbreak*, local *distribution of susceptible species* and possible *vectors* availability of alternative hosts, the survival and infectivity characteristics of the *pathogenic agent* and the relevant local climatological, geographical and hydrographical conditions** factors. In addition, the level of *risk* to the local *aquaculture* industry and wider aquatic resources should be taken into consideration may be included. A scientifically based *risk assessment* approach should be used to determine the length of the following period.

Article 4.7.674.

Instructions for disinfection *Disinfection* prior to commencement of following period

Aquatic Animal Health Services Competent Authorities Countries establishing following procedures should develop a detailed set of instructions for *disinfection* of *aquaculture establishments* prior to following for approval by the *Competent Authority*. These instructions should be, where appropriate for the type of production system and circumstances. **This *Disinfection* should be completed prior to the commencement of the following period and** in accordance with Chapter 4.4. and, in the case of compulsory following, in accordance with Chapters 4.10X. and 4.11Y. For this purpose, the instructions set out in Chapter 4.4. of the *Aquatic Code* and in Chapter 1.1.3. of the *Aquatic Manual* should be used

as ~~guidelines~~, taking into account current scientific knowledge on the efficacy of the ~~disinfectant treatments~~ for the *pathogenic agent* of concern.

Article 4.7. ~~785~~.

Restocking after fallowing

~~An~~ *No aquaculture establishment* that has been ~~subject to~~ under compulsory *fallowing* should not be restocked until the compulsory fallowing period has been completed and permission from the *Competent Authority* has been received.

When restocking, care should be taken not to use stocks of *aquatic animals* that ~~could~~ would compromise the objectives of the *fallowing* procedure. To increase confidence in the effectiveness of the *fallowing* procedures, all ~~aquaculture establishments~~ farms subjected to compulsory *fallowing* should have a period of ~~high level~~ official *surveillance* after *susceptible species* have been restocked. The duration and intensity of the *surveillance* should be appropriate for the *disease in question of concern* and subject to the requirements set out in Chapter 1.4., and to the relevant disease-specific chapter in cases of listed diseases ~~local conditions~~.

CLEAN VERSION

CHAPTER 4.7.

FALLOWING IN AQUACULTURE

Article 4.7.1.

Introduction

Fallowing is a *disease* management measure in *aquaculture*, which is employed either:

- 1) voluntarily, or compulsorily, prior to the introduction of new populations of *aquatic animals* into a previously stocked *aquaculture establishment* as part of a *biosecurity plan* constructed in accordance with Chapter 4.1., or in accordance with industry standards or Codes of Practice;
- 2) compulsorily, on the instructions of the *Competent Authority*, following an outbreak of a *disease* which is subject to emergency management measures as described in Chapter 4.11.

Voluntary *fallowing* aims to prevent transmission of *pathogenic agents* between successive production cycles and suppress *pathogenic agent infection* pressure.

Compulsory *fallowing* aims to eradicate a *pathogenic agent* from an *aquaculture establishment*.

Fallowing may be carried out at a single *aquaculture establishment* or synchronously across a group of epidemiologically connected *aquaculture establishments* which are fallowed at the same time and for the same duration.

Article 4.7.2.

Considerations for fallowing

Fallowing is used to provide a temporal break in the transmission of a *pathogenic agent* between successive production cycles of *susceptible species* or where relevant, vector species, of *aquatic animals*. It should be implemented taking the following factors into account:

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- 1) the possible sources of *infection* at the *aquaculture establishment* such as farmed or wild populations of *susceptible species*, *vectors*, fomites or *pathogenic agents* in the environment (e.g. water or sediment);
 - 2) characteristics of the relevant *pathogenic agent*, including its survival and stability outside the host and its infective period;
 - 3) the need for spatial coordination to synchronously fallow epidemiologically connected *aquaculture establishments*;
 - 4) the type of *aquaculture* production system including the system's design its design, extent and application of *biosecurity* measures;
 - 5) the length of the *fallowing* period that applies at an *aquaculture establishment* based on a *risk assessment*.
 - 6) the *fallowing* period cannot commence until all *aquatic animals* have been removed, and the *aquaculture establishment* has been thoroughly cleaned and disinfected.

Article 4.7.3.

Voluntary following

When assessing the potential benefits of recommending voluntary *following*, the *Aquatic Animal Health Services* in a country should, in addition to the considerations outlined in Article 4.7.2., take the following factors into account:

- 1) the level of *risk* a particular *pathogenic agent* poses to local *aquaculture* operations, and to other aquatic resources in the area;
- 2) the relevant socioeconomic conditions and the likely beneficial effects of *following* in proportion to the economic costs involved. This may be informed by a cost-benefit analysis.

Article 4.7.4.

Compulsory following

Compulsory *following* may be mandated by the *Competent Authority* following an outbreak of a *disease*, which has been subject to the measures described in Chapters 4.10. and 4.11. The *Competent Authority* may require that an infected *aquaculture establishment*, and other epidemiologically linked *aquaculture establishments* in an officially declared *infected zone*, are subjected to a period of *following*. The duration and necessity for *following* of *aquaculture establishment(s)* and synchronous *following* in epidemiologically linked *aquaculture establishments* within the *infected zone*, will be determined by the *Competent Authority* based on *risk assessment*.

The *Competent Authority* should have legal authority to enforce compulsory *following*, which should include the following provisions:

- 1) conditions under which *following* or synchronised *following* is required, including specific implementation steps for each;
- 2) specific point at which *following* should commence;
- 3) the duration of the *following* period;
- 4) conditions under which the re-introduction of *aquaculture* species will be permitted, once the *following* period has been completed.

Article 4.7.5.

Technical parameters for the implementation of a compulsory following plan

Taking into account the categories of *aquaculture* production systems referred to in Article 4.1.5., as well as the measures described in paragraph 5 of Article 4.10.7., the *following* period should start immediately after the following actions are taken at the *aquaculture establishment* or group of *aquaculture establishments*, in the case of synchronous *following*:

- 1) removal and biosecure disposal of the following *aquatic animals* from the *aquaculture establishment(s)*:
 - a) all *susceptible species* for the *disease* of concern; and
 - b) all species which are capable of acting as *vectors* of the *disease* of concern, if indicated by *risk assessment*; and

- c) other species, if indicated by *risk assessment*;
- 2) removal of water in which infected stocks have been held, where feasible; and
- 3) biosecure disposal of any solid waste such as faeces, feed or mortalities from *aquaculture establishment* if applicable; and
- 4) appropriate *disinfection* (including cleaning) measures have been completed on equipment and other contaminated materials in accordance with Article 4.7.4., under the oversight of the *Competent Authority*.

In addition to the considerations outlined in Article 4.7.2., the *Competent Authority* should consider scientific evidence of the infectivity of the *pathogenic agent* in the local environment to determine the duration of the compulsory *fallowing* period in order to limit as much as possible the risk of re-infection of the *aquaculture establishment*. Factors to be considered include the extent of the *disease outbreak*, local distribution of *susceptible species* and possible *vectors*, the survival and infectivity characteristics of the *pathogenic agent*, and the relevant climatological, geographical and hydrographical conditions.

Article 4.7.6.

Disinfection prior to commencement of fallowing period

Aquatic Animal Health Services establishing *fallowing* procedures should develop a detailed set of instructions for *disinfection* of *aquaculture establishments* for approval by the *Competent Authority*. These instructions should be appropriate for the type of production system and circumstances. Disinfection should be completed prior to the commencement of the *fallowing* period and in accordance with Chapter 4.4. and, in the case of compulsory *fallowing*, in accordance with Chapters 4.10. and 4.11., taking into account current scientific knowledge on the efficacy of the disinfectants for the *pathogenic agent* of concern.

Article 4.7.7.

Restocking after fallowing

An *aquaculture establishment* that has been subject to compulsory *fallowing* should not be restocked until the compulsory *fallowing* period has been completed and permission from the *Competent Authority* has been received.

When restocking, care should be taken not to use stocks of *aquatic animals* that could compromise the objectives of the *fallowing* procedure. To increase confidence in the effectiveness of the *fallowing* procedures, all *aquaculture establishments* subjected to compulsory *fallowing* should have a period of official *surveillance* after *susceptible species* have been restocked. The duration and intensity of the *surveillance* should be appropriate for the *disease* in question and subject to the requirements set out in Chapter 1.4., and to the relevant disease-specific chapter in cases of *listed diseases*.