

CHAPTER 4.7.

CONTROL OF PATHOGENIC AGENTS IN AQUATIC ANIMAL FEED

Article 4.7.1.

Introduction

Feed can be a source of infectious *disease* in *aquatic animals*.

Because *aquatic animals* are often a principle ingredient in *feeds* for *aquatic animals*, and because the use of ~~unprocessed or~~ semi-processed, raw and live *feed* continues to be a common practice, the *risk* of *disease* transmission via *feed* ~~needs to~~ should be addressed.

Article 4.7.2.

Purpose and scope

The purpose of this chapter is to address transmission of infectious *diseases* of *aquatic animals* via *feed* to prevent entry and spread into a country, *zone* or *compartment* free from *pathogenic agents* of concern.

This chapter applies to the production and use of all products destined for *feed* and *feed ingredients* whether produced commercially or on farm.

Risk analysis principles (in accordance with Chapter 2.1.) should be applied to determine the *risks* associated with the production and use of *feed* in *aquatic animals*.

This chapter is complementary to guidance provided by the Codex Code of Practice on Good Animal Feeding (CAC/RCP 54-2004).

Article 4.7.3.

Responsibilities

The responsibilities of the *Competent Authority* include setting and enforcing regulatory requirements related to *animal feed*, and verifying that these requirements are met. This also includes raising awareness on about *risks* related to use of unprocessed or semi-processed *feed* in *aquaculture*.

Feed producers have the responsibility to ensure that production of *feed* ~~meets regulatory requirements~~ is performed in a manner to prevent the spread of infectious diseases of aquatic animals. Records and contingency plans should be in place, as appropriate, to enable the tracing, recall, or destruction of non-compliant products. All personnel involved in the harvest, manufacture, transport, storage and handling of *feed* and *feed ingredients* should be adequately trained and aware of their role and responsibility in preventing the spread of infectious *diseases* of *aquatic animals*. Equipment for producing, storing and transporting *feed* and *feed ingredients* should be kept clean and maintained in good working order.

Owners and managers of *aquaculture establishments* should adhere to regulatory requirements and implement biosecurity plans ~~health programmes~~ on their farms in order to manage *risks* related to the use of ~~unprocessed or~~ semi-processed, raw and live *feed*. This can be done through identification of disease free sources and record keeping of sources of feed for traceability purposes, implementation of on farm risk mitigation measures, and early detection of infectious *diseases*.

Private veterinarians and other *aquatic animal health professionals* providing specialist services to producers and to the *feed* industry may be required to meet specific regulatory requirements pertaining to the services they provide (e.g. disease reporting, quality standards, transparency).

Article 4.7.4.

Hazards associated with aquatic animal feed

Biological hazards that may **occur be present** in *feed* and *feed ingredients* include *pathogenic agents* such as bacteria, viruses, fungi, and parasites. The scope of these recommendations covers listed *diseases* and other *pathogenic agents* that cause an adverse effect on *aquatic animal* health.

Chemical and physical hazards associated with feed and feed ingredients are not addressed in this Chapter.

Antimicrobial resistance arising from the use of *antimicrobial agents* in *feed* is addressed in Section 6.

Article 4.7.5.

Risk pathways and exposure

Feed may be contaminated with *pathogenic agents* present at the time of harvesting, transport, storage, and processing of *commodities* used as *feed ingredients*. Contamination may also occur during manufacture, transport, storage, and use of *feed*. Poor hygienic practices during processing and manufacture, transport and storage are potential sources of contamination with *pathogenic agents*.

Aquatic animals can be directly exposed to *pathogenic agents* in *feed*. *Aquatic animals* can also be indirectly exposed through contamination of the environment by *feed*.

Article 4.7.6.

Risk management

1. Use of **safe** feed and feed ingredients ~~from any source~~

Some *commodities* undergo significant processing such as heat treatment, acidification, extrusion and extraction. There may be a negligible **likelihood risk** that *pathogenic agents* will survive in such products if they have been produced in accordance with Good Manufacturing Practice.

Criteria provided in Chapter 5.4. may be used to assess the safety of *commodities* to be used as **feed or feed ingredients**.

Articles X.X.3. of all *disease-specific* chapters in Sections 8 to 11 lists **commodities** considered safe for any purpose including use as *feed* or *feed ingredients*.

Competent Authorities should also consider sourcing *feed* and *feed ingredients* from a country, *zone* or *compartment* free from *pathogenic agents* of concern.

2. Use of feed and feed ingredients from sources that may not be free from pathogenic agents of concern

When using feed and feed ingredients from sources that may not be free from *pathogenic agents* of concern, *Competent Authorities* should consider the following *risk* mitigation measures:

- a) treatment (e.g. by heating or acidification) of the *commodity* using a method approved by the *Competent Authority* to inactivate *pathogenic agent(s)* as per Articles X.X.10. (for Chapter 10.4. the relevant Article is 10.4.174.) of all *disease-specific* chapters in Sections 8 to 11; or
- b) confirmation (e.g. by testing) that *pathogenic agents* are not present in the *commodity*; or
- c) use of *feed* only in populations that are not susceptible to the *pathogenic agent(s)* in question and where *susceptible species* will not come into contact with the *feed* or its waste products.

3. Feed production

To prevent contamination by *pathogenic agents* during processing, manufacture, storage and transport of *feed* and *feed ingredients*, the following is recommended:

- a) flushing, sequencing or physical cleaning-out of manufacturing lines and storage facilities should be performed between batches as appropriate;
 - b) buildings and equipment for processing and transporting *feed* and *feed ingredients* should be constructed in a manner that facilitates hygienic operation, maintenance and cleaning and prevents contamination;
 - c) *feed* manufacturing plants should be designed and operated to in a manner that avoids cross-contamination between batches;
 - d) processed *feed* and *feed ingredients* should be stored separately from unprocessed *feed ingredients*, under appropriate storage conditions;
 - e) *feed* and *feed ingredients*, manufacturing equipment, storage facilities and their immediate surroundings should be kept clean;
 - f) measures to inactivate *pathogenic agents*, such as heat treatment, should be used where appropriate;
 - g) labelling should provide for the identification of *feed* and *feed ingredients* as to the batch, place and date of production to assist in tracing *feed* and *feed ingredients*.
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