Containment Standards for Facilities Handling Aquatic Animal Pathogens

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Outline

• Overview of the Canadian Food Inspection Agency’s (CFIA) Office of Biohazard Containment & Safety.

• Containment Standard for Facilities Handling Aquatic Animal Pathogens:
  • Background information
  • Overview

• Importing Aquatic Pathogens and Certification of Aquatic Containment Facilities.

• Contact Information.
Background Information

- Development process initiated with Fisheries and Oceans Canada.

- CFIA’s Aquatic Animal Health Division was established in 2005 as part of the National Aquatic Animal Health Program.

- *Health of Animals Act* give CFIA the legislative authority to govern the importation of animal pathogens.
Overview

- Applies to all facilities that import aquatic animal pathogens, aquatic animal by-products, or other organisms that may carry an aquatic animal pathogen.

- Outlines the minimum physical and operational requirements for the containment facilities above.

- Provides general guidance on design and operating requirements for any aquatic animal containment facility.
Overview (cont’d)

• Common principles from the Containment Standards for Veterinary Facilities (CSVF) and the PHAC Laboratory Biosafety Guidelines (LBG);
  • 3 Aquatic Containment levels (AQC1-AQC3);
  • AQC4 not explained as there aren’t any aquatic pathogens that fit this criteria;
  • Aquatic pathogens are categorized in Risk Groups.

• Some differences between terrestrial animal pathogen containment and aquatic animal pathogen containment
  • i.e., redundant effluent treatment for AQC2 in vivo.
Aquatic Containment Level 1

• Corresponds to a well run laboratory or aquatic animal holding facility.

• Pathogens used can be found in the aquatic environment and are not a risk to aquatic animals or environment.

• Follows basic biosafety and biosecurity protocols
  • i.e., use of lab coats, hand washing stations, standard biohazard waste sites and disposal, good micro technique, decontamination procedures, SOPs etc.).

• Certification/verification is not required.
Aquatic Containment Level 2 *in vitro*

- Similar to animal containment level 2 facility.
- Containment achieved through:
  - facility design (i.e., chemical and heat resistant surfaces etc);
  - operational procedures (i.e., training in biosafety and containment precautions, limited access to authorized personnel, use of BSCs etc.); and
  - specialized equipment (i.e., autoclave).
- Self certification checklist is required.
Aquatic Containment Level 2 \textit{in vivo}

- Some key additional requirements above AQC2 \textit{in vitro}:
  - Redundant effluent treatment system;
  - Dedicated area or room dedicated to necropsies;
  - Anteroom; and
  - All live animal holding requirements (i.e., foot baths, dedicated euthanasia equipment, tank covers, etc.).

- Certification is required.
Aquatic Containment Level 3

- Containment achieved through:
  - highly specialized facilities;
  - stringent operational procedures; and
  - use of specialized equipment.

- Certification is required for both *in vitro* and *in vivo* facilities.
Aquatic Containment Level 3 (cont’d)

- Some key additional requirements:
  - Restricted access through controlled access system;
  - Dedicated anterooms with change areas;
  - Effluent treatment system with redundancy; and
  - Full clothing change before.
- Large scale work and production of aquatic animal pathogens may require enhancements.
- Additional requirements may be required for aquatic animal pathogens transmitted via the airborne route.
Status

• Standards have come into effect January 1, 2011.

• Aquatic Animal Health Division within CFIA provides guidance on aquatic pathogens and confirms appropriate containment levels.

• OBCS provide guidance for the importation and certification.

• Veterinary Biologics Section within CFIA involved in large scale production facilities.
Contact Information

Office of Biohazard Containment & Safety

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- Biocontainment and Certification Program
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- Animal Pathogen Import Program
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