

CHAPTER 4.X.

RECOMMENDATIONS FOR SURFACE DISINFECTION OF SALMONID EGGS

Article 4.X.1.

Introduction

The practice of disinfecting salmonid eggs at hatcheries is an essential part of ensuring that endemic diseases are not transferred ~~to between~~ incubators ~~with eggs~~ and ~~ultimately~~ between facilities and forms a part of ~~normal routine~~ hatchery hygiene protocols. The *disinfection* process is also important when trading salmonid eggs between *compartments*, *zones* or countries to prevent the transfer of some *pathogenic agents*. Although generally effective for *disinfection* of the egg surface and reproductive fluids, the use of *disinfectants* will not prevent vertical transmission.

Salmonid eggs may be disinfected with a number of chemical agents. However, the most common method used is *disinfection* with the iodine-based product, povidine-iodine. ~~Different protocols should be applied depending on the stage of egg development.~~

Iodophores, ~~commonly povidone-iodine solutions,~~ are commonly used ~~disinfectants~~ for treating salmonid eggs. ~~They~~ have the advantage of providing a neutral pH, being non-irritant and are relatively non-toxic. The neutral pH is important for minimising toxicity and ensuring efficacy. ~~It is recommended to follow manufacturer's instructions~~ ~~directions to identify circumstances where pH may be a concern.~~ Povidine-iodine solutions are the most commonly used iodophore because of their low toxicity and neutral pH under most circumstances. If other iodine based agents are used for *disinfection* it is essential that they ~~are be~~ adequately buffered.

Article 4.X.2.

Disinfection protocol for salmonid eggs

This *disinfection* protocol may be applied to newly fertilised or eyed salmonid eggs. However newly fertilised eggs should be allowed to commence hardening prior to undergoing the *disinfection* protocol. Although there is a considerable margin of safety for hardened eggs, the *disinfection* protocol is not recommended for unfertilised ova or during fertilisation. It is essential that the pH of the iodophore solution is maintained between 6 and 8.

~~To disinfect Ss~~ salmonid eggs ~~should undergo~~ the following ~~disinfection~~ protocol ~~should be applied~~:

- 1) rinsed in 0.9% ~~pathogen free~~ saline (30–60 seconds) to remove organic matter; then
- 2) immersed in a iodophore ~~e~~ solution containing 100 ppm available iodine for a minimum of 10 minutes. The iodophore solution should be used only once. The ratio of eggs to iodophore ~~e~~ solution should be a minimum of 1:4; then
- 3) rinsed again in 0.9% ~~pathogen free~~ saline for 30–60 seconds; then
- 4) held in pathogen free water.

~~All rinsing and disinfection solutions should be prepared using pathogen free water.~~ Iodophore ~~sS~~ solutions may be buffered using ~~400 mg~~ sodium bicarbonate (NaHCO_3) ~~per litre of diluted iodophore solution~~ if the pH is low.