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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 between incubators and between facilities and forms a part of 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.

Rationale: The epidemiological status of any particular disease does not have a bearing on the reasons to practice egg disinfection.

Salmonid eggs may be disinfected with a number of chemical agents. However, the most common method used is *disinfection* with the iodine-based product, povidone-iodine.

Iodophores, commonly povidone-iodine solutions, 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 to identify circumstances where pH may be a concern. If other iodine based agents are used for *disinfection* it is essential that they be adequately buffered.

Rationale: Spelling correction.

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 salmonid eggs the following protocol should be applied:

- 1) rinsed in pathogen-free, 0.9% ~~pathogen-free~~ saline (30–60 seconds) to remove organic matter; then
- 2) immersed in an iodophore solution containing 100 ppm available iodine for a minimum of 10 minutes. The iodophore solution concentration should be ~~used only once~~ monitored to ensure its effectiveness. The ratio of eggs to iodophore solution should be a minimum of 1:4; then
- 3) rinsed again in pathogen-free, 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 solutions may be buffered using ~~400-mg~~ sodium bicarbonate (NaHCO_3) if the pH is low.

Rationale: Edited for technical accuracy. As written, “0.9% pathogen free saline” means the solution contains 10% pathogens and is saline.

Regarding the iodophore concentration comment in protocol 2, we are offering outcome-based language to replace this prescriptive language. The effectiveness of the iodophore immersion is based on the concentration of the available iodine.