Technical Bulletin

Disinfection: the critical step in aquaculture and intensive farming

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ABSTRACT

From the production farm to the processing plant, hygiene is of major importance to prevent the dispersion of microorganisms, minimize the risk of related diseases and ensure safe food. Dramatic epidemic outbreaks remind everybody of the necessity to implement hygiene and biosecurity measures along the food production chain. A critical step in biosecurity programs is choosing a reliable disinfectant to ensure healthy animals and safe food. This document outlines the critical steps in disinfection to ensure your facility is protected against these dangerous pathogens. Accelerated Hydrogen Peroxide® (AHP®) is a revolutionary disinfectant technology that has superior benefits to legacy disinfectants with known shortcomings and should be considered as an essential aspect of biosecurity programs.

BACKGROUND

Cleaning and disinfection play a major role in today's farming and aquaculture. A safe and reliable disinfectant is of major importance to ensure a healthy aquaculture environment and safe food. But before disinfection can begin, a thorough cleaning is always the first step to successful disinfection. Cleaning helps remove organic matter and soils that can negatively interact with the disinfectant active, making it less effective.

CHOOSING THE RIGHT DISINFECTANT

Criteria	Description
Wide Activity Spectrum	A disinfectant should be effective against different types of microorganisms such as bacteria (gram negative and gram positive), viruses (enveloped and non-enveloped), fungi and parasites. When choosing a disinfectant, one should consider the disinfectant's ability to develop resistance to certain microorganisms. Several bacteria, such as *Pseudomonas sp.* are known to develop resistance to disinfectants, particularly some quaternary ammonium compounds. Disinfectants based on oxidation do not induce resistance and are a better choice.
Non-Corrosive	Non-corrosiveness to materials commonly found in farms should be a key point for disinfectant choice. Metals, aluminum and plastics are particularly at risk and special attention should be taken to their compatibility with disinfectants.
Safe to Use	A disinfectant with favorable toxicological characteristics at in-use dilutions makes it both safer and easier to apply and also allows for a shorter down time in case of animal house disinfection.
Little Influence of Organic Matter	It is important to select a product that is not, or only moderately, influenced by organic matter. This is particularly important for footbaths where the level of organic matter can increase rapidly.
Stable	Heat, humidity, and sunlight can have a negative effect on the active ingredient, and disinfectants are generally stored on the farm, mostly under non-ideal conditions. A stable product ensures you can use it even after a long time without risk of a lower activity due to the degradation, which may occur with products like hypochlorites
Make Sure it Does What it Says	Because efficacy can easily be influenced by test conditions, make sure your disinfectant

	has been approved according to the official standards. It should have proved effective against problematic microorganisms.
Versatility	A versatile disinfectant that you can use in every application is required, because disinfection is not restricted to animal houses or fish tanks but also includes footbaths, disinfection of vehicles, and small equipment. One all-purpose disinfectant for everything will make things easier.

CONCLUSION

The best way to protect your facility from microorganisms that have the potential to create a devastating financial impact, is to pair your biosecurity program with a disinfectant that meets all of the criteria mentioned above. A safe and reliable disinfectant is of major importance to ensure healthy animals and safe food.

IMPLICATIONS FOR AHP

AHP Disinfectants are One-Step Disinfectant-Cleaners

- AHP has proven cleaning efficiency resulting i lower costs and faster results as well as added confidence that disinfection can occur
- AHP has been tested in a soil challenge and proven effective against bacteria (gram negative and gram positive), viruses (enveloped and non-enveloped) and fungi.

AHP Disinfectants have realistic contact times

- Short contact times ensure surfaces remain wet for the required contact time, providing comfort and confidence that disinfection has occurred

AHP Disinfectants provide the perfect balance between safety and efficacy

- AHP is designed to be easier on employees and occupants resulting in protocol compliance
- AHP provides a HMIS rating of "0", meaning the products are non-toxic, non-irritating to eyes and skin and non-skin sensitizing. Handling the product without the usual personal protective equipment means less cost and downtime

AHP Disinfectants are compatible

- AHP formulations are tested to ensure compatibility that preserve your investments in equipment, furniture and building surfaces by reducing corrosion and wear

AHP Disinfectants are environmentally sustainable

- AHP's active ingredient, hydrogen peroxide, breaks down into water and oxygen leaving no active residues
- AHP is formulated to ensure that it will not negatively impact indoor air quality
- AHP will not adversely impact septic systems

REFERENCE

de Barbeyrac, Jean. Disinfection: the critical step in aquaculture and intensive farming. Food Safety.