BIOSECURITY IN AQUACULTURE

Why it matters. How to make it work.

PRACTICAL GUIDANCE • FISH HEALTH • OPERATIONAL RESILIENCE

WHY BIOSECURITY MATTERS

Biosecurity is the coordinated set of practices used to reduce the introduction, spread and impact of infectious agents. In aquaculture, it protects fish health and welfare, operational continuity, the environment and customer confidence. A single weak point—from a shared net to an unverified fish movement—can affect multiple production stages.

HOW PATHOGENS CAN MOVE

Potential pathways include live fish and eggs; water and sediments; vessels, vehicles and shared equipment; personnel and visitors; and wildlife or other biological vectors. Risks differ by species, pathogen, site design and production system. Effective programs identify the highest-risk routes at each facility rather than relying on a single control.

BUILD A LAYERED DEFENSE

Strong programs combine prevention, early detection, containment and documented response. No disinfectant or procedure replaces good husbandry, appropriate site design, staff training or veterinary oversight.

A practical biosecurity framework

Use these six connected practices as a starting point, then adapt them to your species, site and applicable requirements.

01 ASSESS & PLAN Map movements of fish, people, equipment and water. Identify entry points, define zones, assign responsibilities and maintain a written biosecurity plan.

02 CONTROL ACCESS & MOVEMENT Limit nonessential visitors, manage deliveries and apply appropriate protocols for stock transfers, vehicles, vessels and shared tools.

03 CLEAN BEFORE DISINFECTING Remove organic material and biofilm through appropriate cleaning and mechanical action. Rinse as required, then use a suitable disinfectant according to its approved label, including concentration and contact time.

PUT BIOSECURITY INTO DAILY PRACTICE

04 SEPARATE & DEDICATE Use dedicated or appropriately disinfected equipment between groups or sites. Separate clean and dirty workflows to prevent recontamination.

05 MONITOR & RESPOND Track fish health and mortality, investigate unusual changes promptly, and establish isolation, reporting and response procedures with fish-health professionals.

06 TRAIN, VERIFY & IMPROVE Train personnel, keep records, review compliance and update procedures after incidents, audits or operational changes.

Cleaning and disinfection: the sequence matters

1. Remove debris and organic material; mechanically clean surfaces as appropriate.

2. Rinse or neutralize cleaning agents where required before applying a disinfectant.

3. Apply a compatible, approved product at the labeled dilution and contact time.

4. Follow label directions for rinsing, personnel protection, disposal and environmental safeguards.

5. Document completion and check that equipment is ready for its next use.

Leadership makes the difference

Biosecurity is not a one-time treatment. It is a management commitment reinforced by daily actions at every point in the production chain. When procedures are clear, practical and consistently followed, facilities are better positioned to protect aquatic animal health and sustain reliable production.

IMPORTANT: This sheet provides general educational guidance, not a site-specific protocol. Consult your aquatic animal health professional and follow local regulations and each product's current approved label and safety data sheet.