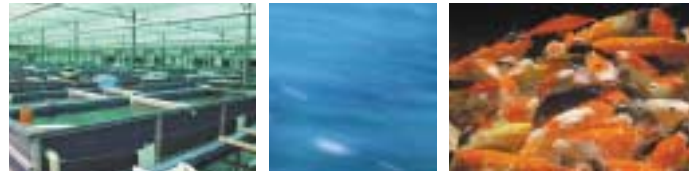


Aquaculture: Fish Hatcheries



HOD Hydro-Optic Disinfection Technology

Advanced water disinfection for Fish Hatcheries, providing outstanding results:

Maximize existing infrastructure	Higher fish density (Kg fish/m ³)
Yield increase	Up to 100%
Shorter time to market	Fish growth rate increased by more than 20%
Quick ROI	Less than one year

CASE STUDY

Project: Pinar fish hatchery

Location: Ildir, Turkey

Flow rate: 180 m³/hr

Water source: Sea water

Before:

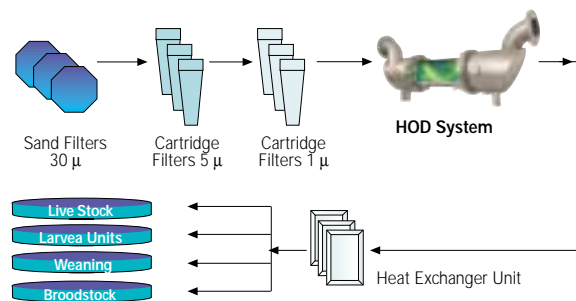
Old disinfection system: 20 and 5 micron filters, UV system with 75 lamps. Labor intensive, expensive and complicated maintenance with continuous disinfection issues.

After:

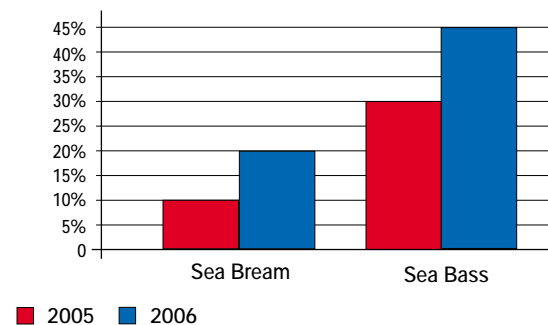
HOD solution: 20 and 5 micron filters, one Hydro-Optic Disinfection system with a **single light source**, capable of processing up to 200 m³/hr. Complete inactivation of pathogenic microorganisms, fully controlled operation and stable production with extremely low maintenance.

Results: 5 log reduction of total bacteria count; 100% yield increase for Sea Bream, 50% yield increase for Sea Bass. 90% decrease in anti-biotic usage. ROI after only 6 months.

Typical HOD installation for fish hatcheries



Fingerling survival rate doubled after HOD installation





Aquaculture: Fish Hatcheries



Background & Challenges

- Fish hatcheries use **sea, brackish or fresh water** in flow through or recirculation systems
- Highly susceptible to severe microbiological threats: viruses, fungi, bacteria & parasites
- Fish population density per cubic meter is a limiting factor in production: denser population increases risk of contamination
- Contamination can spread rapidly, leading to the costly loss of a whole batch
- With all these issues, maintaining production plans is difficult at best
- Achieving stability is an important operational and financial goal

Atlantium's ultimate solution

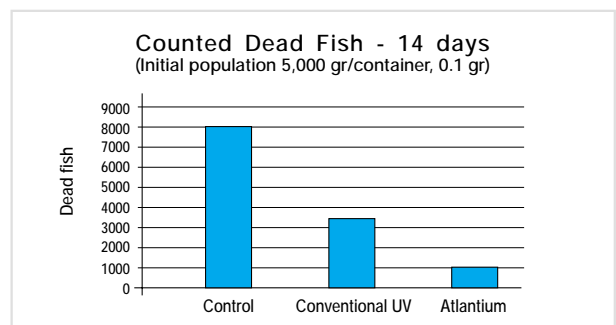
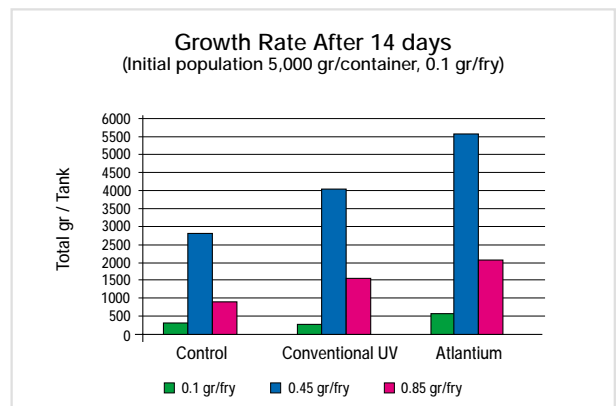
HOD technology offers enormous benefits:

- Reliable solution proven in harsh seawater environments
- Comprehensive solution, >5 log reduction of harmful viruses, fungi, parasites & bacteria, (e.g. Vibrio spp. E Coli, KHV)
- Substantial increased survival rates - up to 100% increase
- Minimizes medication, chemicals and antibiotic usage
- Significant improvement in FCR (Food Conversion Rate)
- Guarantees stable production plan implementation
- Very low maintenance - simple, easy and quick
- Environmentally friendly - no danger of harmful residual substances
- Cost effective - ROI in less than one year

HOD technology

Taking water disinfection to unprecedented levels of effectiveness and reliability

Results from a Koi hatchery



HOD 28 days later:
inactivated sea water algae, no recovery