Improve and maintain water quality for aquaculture

PRO GROWTH ®

APOLLON

(GRANULE)

Why granule type?

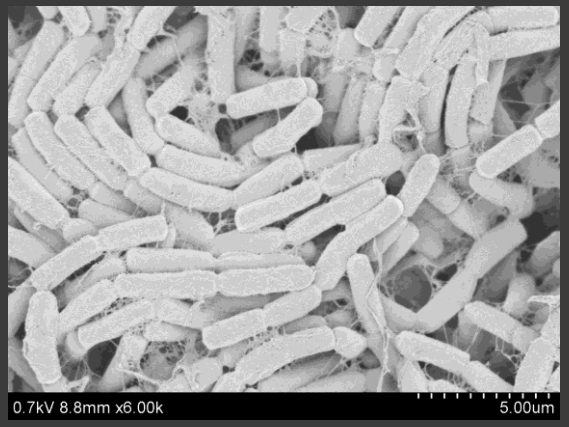
Apollon D-2

Previous type
- hard to use
- (installation, maintenance and disposal)

Apollon (granule)

Granule
- only sprinkle the granule into pond.
- easy to measure and adjust dosage
- decompose leftover feeds and waste products directly
- easy maintenance of viable bacteria count

About Apollon bacteria



- Show a higher proliferation rate and antibacterial activity than previous strain.
- Granulated highly concentrated bacteria cell.
- Bacteria cell is spore form.
- The bacteria is rod cell after activation. (Cell length 2-3 μm width 0.7-0.8 μm)
- The bacteria show antibacterial activity against harmful fungus and bacteria.
- The bacteria coexist with useful other bacteria.

Decrease high-molecular compound (decrease of sludge)

[Medium composed of fat-free milk]

Affter 2-3 days culture, casein around colony was decomposed.

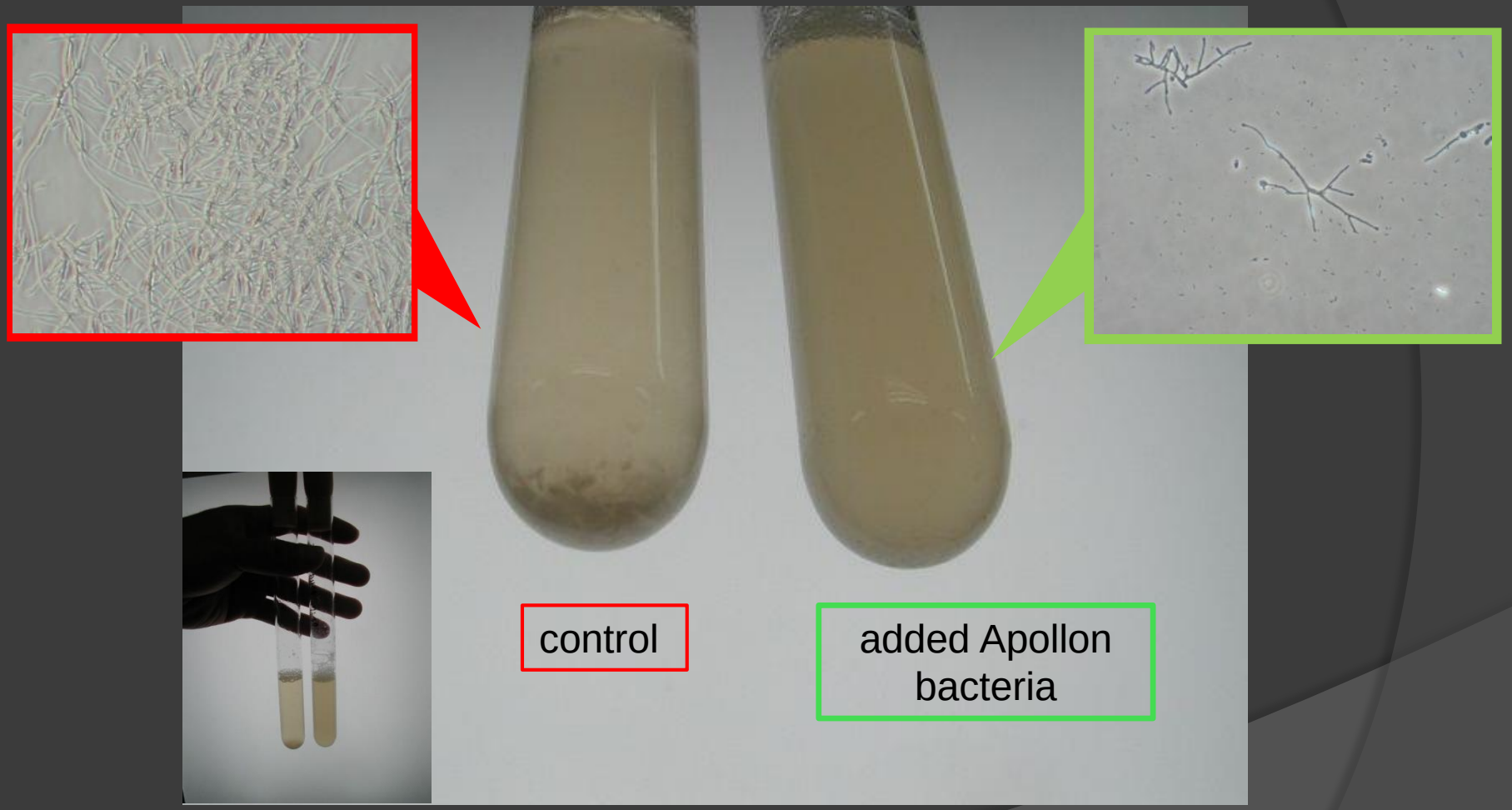
[Medium composed of starch]

Color reaction of iodine after culturing for 2-3days. The color around the colony became yellow.

[Medium composed of lipid]

Color reaction of Victoria Blue agar plate with Apollon bacteria
The color around the colony became blue after culturing for 3-5days.

Inhibitive effect on *Fusarium solani*



Inhibitive effect on several *vibrio spp*.

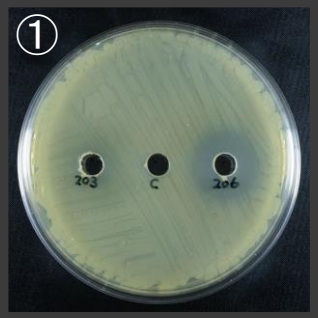
① *Vibrio alginolyticus* NBRC15630^T

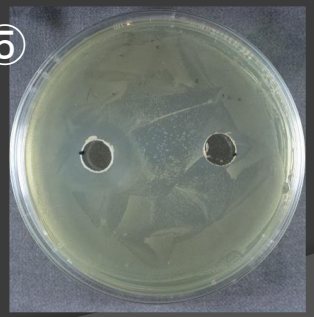
② *Vibrio harveyi* NBRC15634^T

③ *Vibrio parahaemolyticus* NBRC12711^T

④ *Vibrio penaeicida* NBRC15640^T

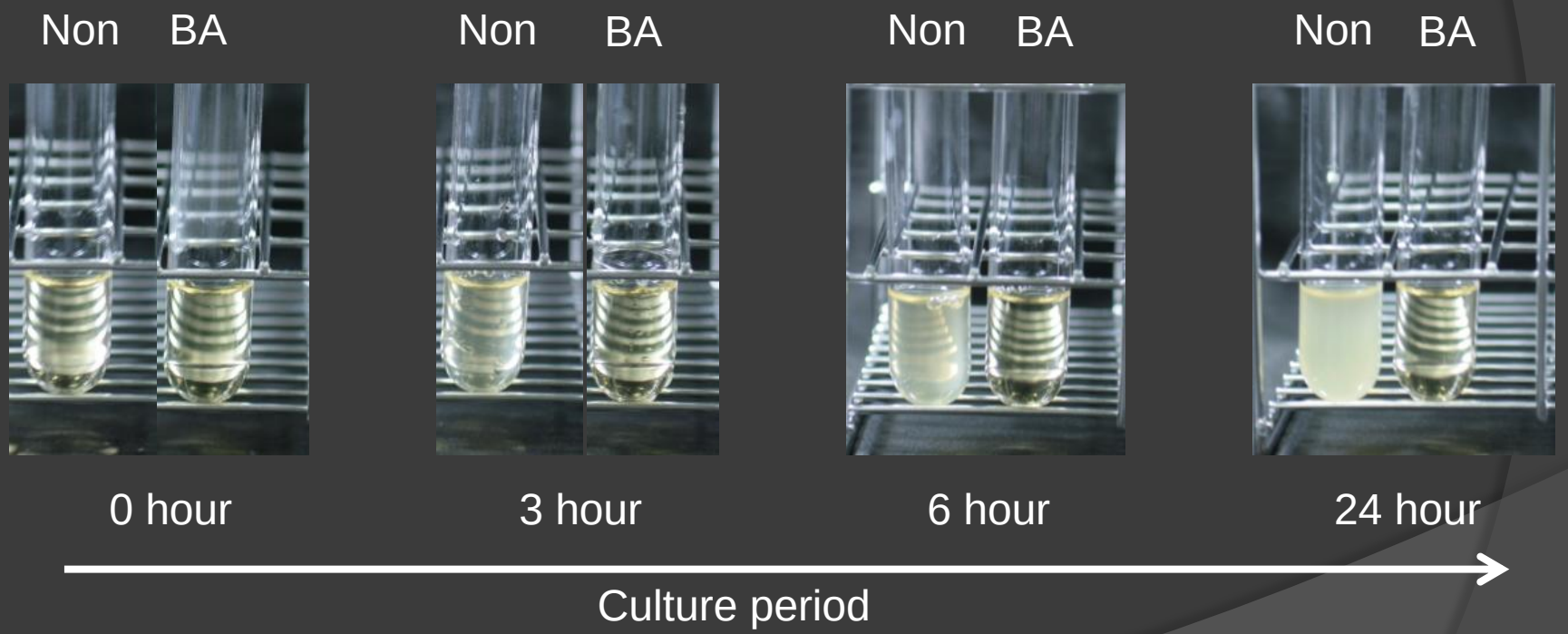
⑤ *Aeromonas salmonicida*NBRC 12718





Inhibitive effect on Vibrio harveyi.

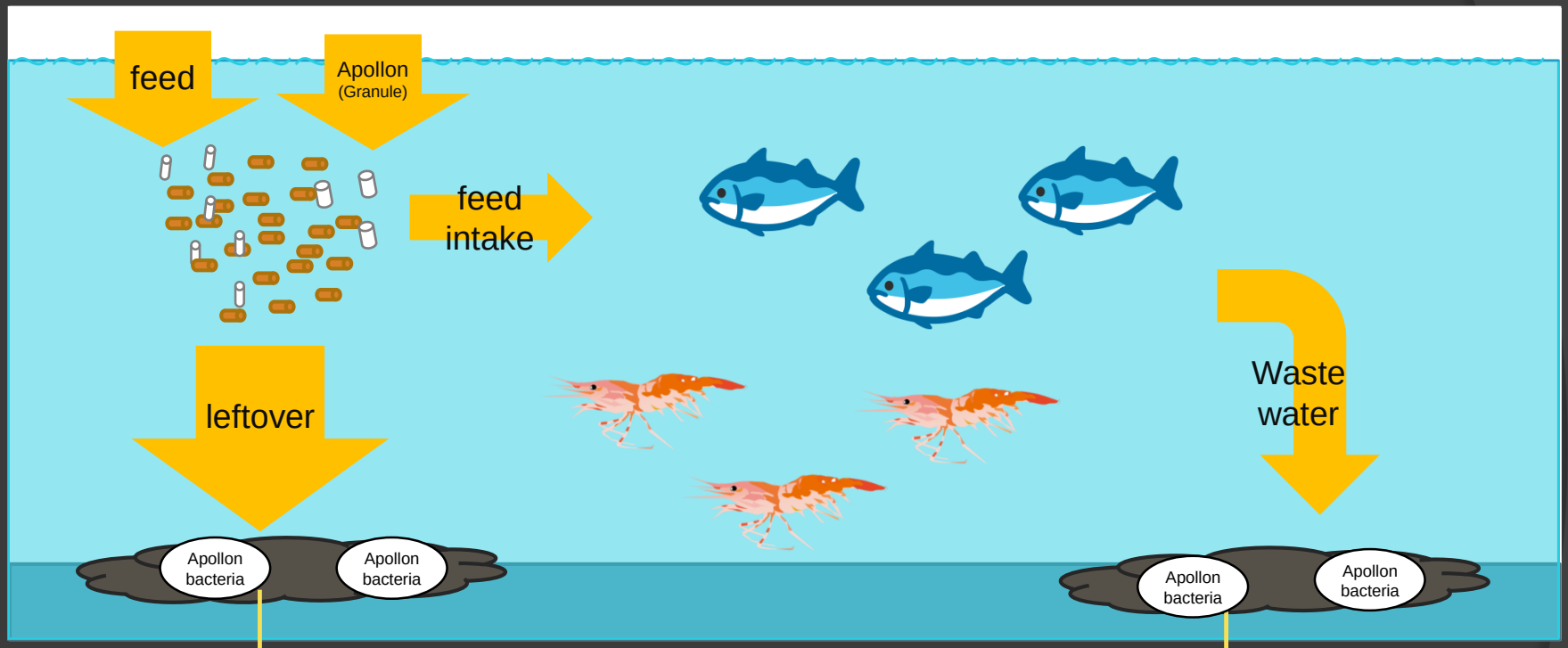
Non: control BA: added Apollon bacteria



List of pathogens inhibited by Apollon

Pathogen	Species
Bacteria	*Aeromonas hydrophila*
	Flavobacterium psychrophilum
	Flavobacterium columnare
	Edwardsiella tarda
	Streptococcus iniae
	Streptococcus parauberis
	Vibrio (Listonella) anguillarum
	Vibrio alginolyticus
	Vibrio harveyi
	Vibrio parahaemolyticus
	Vibrio penaeicida
Fungi	*Aphanomyces piscicida*
	Fusarium incarnatum
	Fusarium monilifolme
	Fusarium solani
	Lagenidium callinectes
	Lagenidium thermophilum
	Saprolegnia parasitica

Mechanism of Apollon(granule)



Apollon granule directly decomposes leftover feeds.

Apollon granule directly decomposes waste water and organic matter.

⇒Bacillus bacterial strain will surpress the proliferation of vibrio and mold.

Directions : Hatchery tank

(For water treatment of larvae stocking tank)

- Apply 5ppm of Apollon concentration per day to the tank.(based on the water volume)
- Needs aeration by waterwheel or aeration system.
- Apply Apollon a few days prior to stocking the larvae.
- [Example] Apply 5g of Apollon in 1-ton culturing tank per day.
- [Caution] Apollon needs Oxygen, never switch off the aeration system.

Directions : Brine hatch tank

(For water treatment of artemia hatching tank)

- Hatching tank: 2t Artemia cysts:2kg Apollon:10g
- Use clean sea water with a specific gravity of 1.01-1.02(salinity of about 30‰). Add artemia cysts and Apollon.
- During hatching, use sufficient aeration to keep all eggs in circulation at all times. Pump the air through an air stone to get a smooth flow.
- The optimum hatching temperature is 82-86 ℉(28-30℃).
- Most hatching will occur after 24 hours.
- To harvest , remove the air supply and wait 10-15 minutes. The nauplii will school on the bottom. Siphon them into a fine mesh net.