Epicore BioNetworks Inc.

EPICIN®-3W
Biological Aquaculture Pond Treatment

PRODUCT DESCRIPTION

EPICIN-3W is a natural microbial ecosystem with added stabilizers and growth media for detoxifying aquaculture grow-out ponds. It eliminates water-fouling waste products such as ammonia, nitrites and hydrogen sulfide, thereby lowering stress and providing a healthier environment for aquatic animal growth. It also improves animal health and disease resistance by creating a probiotic environment.

BENEFITS TO AQUACULTURE

- Effectively and rapidly reduces from pond water dangerous levels of ammonia, nitrite, and sulfide pollutants.
- Establishes a strong natural bacteria culture in the pond that suppresses the growth of harmful bacteria such as *Vibrio sp*.
- Increases animal survival and yields.
- Allows higher stocking densities.
- Promotes animal weight gain for either faster growth cycles or heavier and more valuable animals.
- Reduces need for water exchanges providing a more bio-secure environment.
- Leaves behind cleaner pond soil reducing pond renovation costs and downtime.
- Mineralizes organic matter to produce nutrients for pond algae that feed the shrimp.
- Mineralization reduces the need for traditional chemical fertilization.
- Is formulated for pond-side grow-up to deliver maximum microbial cells economically.

MODE OF ACTION

Treatment of aquaculture grow-out ponds with specially formulated products based on carefully selected, natural bacteria provides a natural way to eliminate pollution and to create a beneficial microbial environment that inhibits the development of harmful organisms. Bacteria have a powerful capacity to utilize pollutants such as ammonia, nitrates and nitrites in their normal metabolism of organic carbon. Additionally, a thriving culture of the right natural bacteria provide a “probiotic” environment which suppresses the growth of harmful organisms. Through these two mechanisms, a healthier aquatic creature is raised that has greater vitality and immunity to disease.

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INGREDIENTS

Contains non-toxic, natural microbial cultures and enzymes with added stabilizers and growth stimulants on an inert carbohydrate carrier.

PRODUCT DATA

Form	Powder with white, tan and yellow particles
Odor	Slightly sweet
Bulk Density	Approximately 1.0 gm/ml (61 lbs./cubic foot)
Total Aerobic Count	1.0E+09 cfu/gm, minimum

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TREATMENT SUGGESTIONS

- A preventative program is strongly recommended over a remedial one. Applying EPICIN-3W before problems develop consistently protects animal health and minimizes the impact of problems on survival and pond yield.
- In high stocking density, intensive ponds pollutants are the main problem usually late in the grow-out cycle so EPICIN-3W usage should be concentrated later in the cycle. Where mortality early in the grow-out cycle is the main problem, concentrate EPICIN-3W treatment in the first sixty days to achieve the strongest probiotic effect.
- The following treatment rates are suggested as starting points:

Stocking Density (PL/m^2):	**6 to10**	**11 to 15**	**16 to 30**	**>30**
Cycle Days	**EPICIN-3W Dosage (gm/ha)**			
0	25	100	200	450
15	25	100	200	450
25	50	100	200	450
30	200	200	400	900
45	100	100	200	450
60	50	100	200	450
75	0	0	0	600
90	0	0	0	900
105	0	0	0	900
120	0	0	0	900
Total per ha-cycle:	**450**	**700**	**1300**	**6450**

- **EPICIN-3W Grow-Up Procedure:**
  (1) Fill a clean container with 100 liters fresh water or disease-free pond water
  (2) If water quality is questionable, chlorinate or treat with 110 gm calcium hydroxide.
  (3) De-chlorinate with sodium thiosulfate.
  (4) Add the required amount of EPICIN-3W from the table above.
  (5) Start either continuous agitation or aeration with an air stone.
  (6) Mix or aerate mixture for 24 hours.
  (7) Broadcast immediately over pond surface; do not let hydration mixture sit more than 4 hours before use.
- If the unionized ammonia level rises above 0.4 ppm, immediately apply an extra dose of EPICIN-3W.
- For a heavy *Vibrio sp.* infestation, add twice the normal dose of EPICIN-3W when infestation is first noticed and again each day for three days in a row.

PRODUCT PERFORMANCE

The following pond trial results were obtained in a multi-year study in Ecuador. EPICIN-3W gave a 19.4% increase in yield.

	# Ponds	Avg ha	Stock Density	Days Culture	Survival Rate	Avg Grams	Kg/ha/ Year	FCR
Control	66	9.4	16.8	125	38.8	12.5	2037	1.62
Epicin-3W	38	8.3	15.0	121	47.6	14.0	2499	1.35

PRODUCT STORAGE: Keep dry; do not store continuously at temperatures above 45°C; store out of direct sunlight in a well ventilated area; do not pre-mix with other products not recommended by Epicore especially biocides and harsh chemicals.

SHELF LIFE: Shelf life is two years if stored as recommended.

PACKAGING: Supplied in 40-kg fiber drums with polyethylene liners, in 10-kg (5 U.S. gallon) open head polyethylene pails and in 1-kg resealable plastic bags.