

# CIBA EHP cura I – a natural therapeutic formulation for the treatment of EHP

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ICAR-CIBA developed a natural therapeutic formulation 'CIBA EHP cura I' for the treatment and control of *Enterocytozoon hepatopenaei* (EHP). EHP is the causative agent of the disease Hepatopancreatic microsporidiosis (HPM) in shrimp. The microsporidian parasite was reported to affect the black tiger shrimp *Penaeus monodon* in Thailand in the year 2009. Since then, EHP is widespread in most of the Southeast Asian countries, including India. EHP cause severe morbidity, stunted growth and white feces syndrome (WFS) and results in severe production and economic losses in shrimp farming.



CIBA EHP Cura I

## PRODUCT COMPOSITION AND MODE OF ACTION

'CIBA EHP Cura I' is a unique formulation of bioactive phytochemical, hepatoprotective nutraceutical, and nutritional supplements exhibiting anti-microsporidian, anti-microbial, immune modulating and anti-inflammatory properties. The formulation targets the EHP pathogen and support shrimp by:

- ❖ **Inhibits spore germination:** The phytochemical component in 'CIBA EHP cura I' can penetrate the spore wall and can directly inhibit the spore germination and prevent the EHP form further proliferation within the shrimp hepatopancreas.
- ❖ **Hepatoprotective effects:** The nutraceutical component and nutritional supplements acts as anti-oxidants, supports the cellular integrity, reduces the oxidative stress and inflammation and protect the hepatopancreatic cells affected by EHP.
- ❖ **Boosting immune defence:** The components in 'CIBA EHP cura I' can stimulate the phagocytosis, immune response and can resist the EHP infection.
- ❖ **Improving digestive health:** By reducing the pathogenic load and exhibiting the hepatoprotective function, 'CIBA EHP cura I' facilitates the digestion, nutrient absorption, enhancing better growth, survival and feed conversion ratios.
- ❖ **Control white feces syndrome:** The formulation also exhibit anti-bacterial activity. By reducing the both EHP and vibrio load, this product can control the manifestation of white feces syndrome (WFS).

## BENEFITS OF CIBA EHP CURA I

- ❖ **Reduction in EHP infection:** By targeting the EHP pathogen directly, the product protects the shrimp population from EHP infection spread and severity.
- ❖ **Enhanced growth and survival:** By reducing the pathogen load, improving the digestion, supporting the metabolic function, increasing the immune response and ultimately enhancing the growth and survival.

- ❖ **Sustainable and Eco-friendly:** As a natural formulation, 'CIBA EHP cura I' is very safe to the shrimp and environment and can be an apt alternative measure to antibiotic usage in targeting the sustainable aquaculture practices.
- ❖ **Improved Farm profitability:** By improving the health, growth and reduces the disease severity, 'CIBA EHP cura I' increases survival rate, better feed conversion and ultimately the profitability of shrimp culture.

## APPLICATION AND DOSAGE

- ❖ **Dose:** Administer 50ml per kg of feed for 1-2 weeks
- ❖ **Mode of application:** By top coating in the feed
- ❖ **Feeding Schedule:** The product can be given twice per day preferably in the morning and late evening meals. If the infection is severe, administer in all the four meals. The product can be used as a prophylactic measure as one meal per day.



Feed Top Coating of CIBA EHP Cura I

## FIELD EVALUATION AND COMMERCIALIZATION

- ❖ The product has been extensively field validated in the shrimp farms of Tamil Nadu, Andhra Pradesh, Gujarat, West Bengal and Punjab. The product has been commercialized to Meenam, aqua needs, Chennai, Sai aqua feeds, Bapatla, Neomeds Pvt Ltd, Hyderabad for marketing.



Field evaluation of CIBA EHP cura I in 5 states