

# Spore-Out



EHP (*Enterocytozoon hepatopenaei*) is one of the most important diseases in the recent shrimp culture industry. The pathogen is categorized as microsporidia, an intracellular parasite, which can infect the hepatopancreas to cause the slow growth. Spore-Out is from the natural plant extracts which can block the EHP-cell adhesive mechanism to reduce the chance of infection. It can also avoid the massive reproduction of EHP, relief the symptom, and delay the time for the EHP amount over the growth retardation threshold, to avoid the economic loss from this disease.

## Features

- ▶ Natural plant extracts, no antibiotics and toxic chemicals included.
- ▶ Delay the EHP outbreak, control the EHP amount to prevent the slow growth at the culture period.
- ▶ Work with Gut-Well for better performance.
- ▶ The best EHP controlling product in the market.
- ▶ The key issues of EHP control are stocking the EHP free PLs, and applying complete disinfection protocol. Spore-Out can only delay the time of growth retardation to avoid it happened at the culture period at the early infectious stage. It cannot cure the EHP problem.

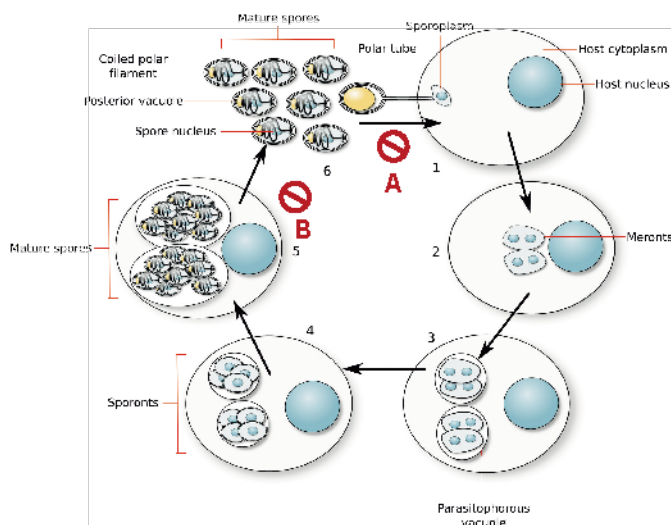


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## The life cycle of microsporidia



(T. Martin Embley *et al.*, 2015)

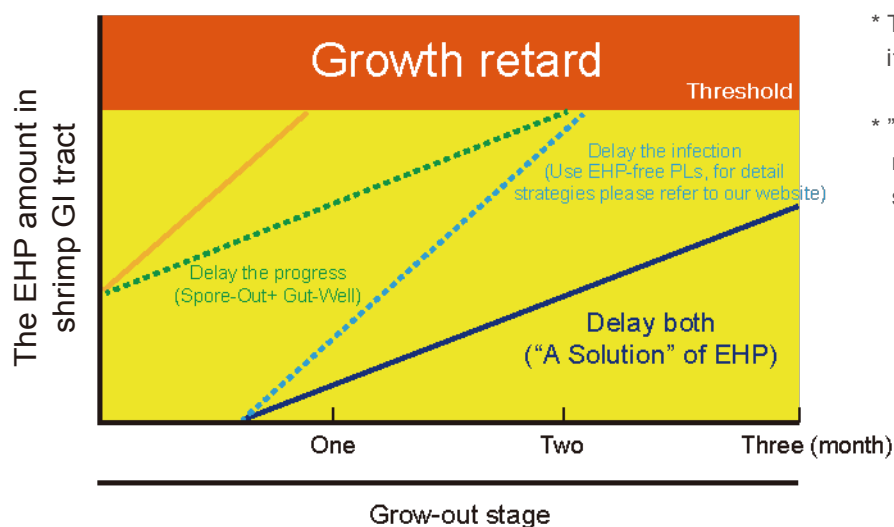
\* Controlling strategies of EHP:

**Strategy A:** Block the spore-cell adhesive mechanism to reduce the chance of infection.

**Strategy B:** Use specific anti-EHP bacteriocin to stop the EHP spreading.

“A Solution” for the EHP control combines these two strategies to avoid the slow growth happened at the culture period.

## The correlation of EHP amount and the growth retardation



\* The symptom of slow growth would only happen if the EHP amount is above the threshold.

\* “A Solution” EHP controlling strategies include not only delay the initial infection time but also slow down the progress of the disease.

### Directions of use

Combine use of Spore-Out and Gut-Well is highly recommended. Please refer to the manual of Gut-Well for detail information of activation and dosage.

- (1) Hatchery: For 10kg of feed, mix 200g Spore-Out with 1L activated Gut-Well, use twice per day.
- (2) Grow-out: For 50kg of feed, dilute 1L of the activated Gut-Well to 5L, mix with 500g Spore-Out, use twice per day.

### Package and storage

1kg/pack. One year shelf life after manufacturing at cool dry condition. Use up as soon as possible if opened for best quality.

### Safety

Natural plant extracts. Environmentally friendly and harmless for human health.