



# Sinbiotik untuk pencegahan infeksi IMNV (*Infectious Myonecrosis Virus*) pada udang vaname *Litopenaeus vannamei*

## Synbiotic for prevention of IMNV (Infectious Myonecrosis Virus) infection in white shrimp *Litopenaeus vannamei*

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### Abstract

White shrimp *Litopenaeus vannamei* is a prioritized export of Indonesian fisheries commodity. However, outbreak of main bacterial and viral diseases often decreased the white shrimp production. One of the viral diseases which often attack white shrimp is IMNV (Infectious Myonecrosis Virus). This study evaluated the effectiveness of different frequencies of administration of synbiotic on survival, growth, and immune response of white shrimp infected by IMNV. Shrimp with an initial average body weight of shrimp  $0,493 \pm 0,035$  g was stocked at a density of 15 shrimps per aquarium (60x35x30) cm. The study was conducted with five treatments consisted of A (without synbiotic and infected by IMNV), B (without synbiotic and without infection of IMNV), C (daily synbiotic administration and infected by IMNV), D (twice a week of synbiotic administration and infected by IMNV), and E (weekly synbiotic administration and infected by IMNV). Shrimp with daily synbiotic administration and infected by IMNV resulted in the highest survival (80%) and better immune response than other treatments.

**Keywords:** *White shrimp, IMNV, Sinbiotic, Survival rate, Immune response*

### Abstrak

Udang vaname (*Litopenaeus vannamei*) merupakan salah satu komoditas ekspor unggulan di bidang perikanan. Namun penyakit bakterial dan viral sering menjadi kendala dalam budidaya udang vaname. Salah satu penyakit viral yang saat ini banyak menyerang udang vaname adalah IMNV (*Infectious Myonecrosis Virus*). Penelitian ini dilakukan untuk menguji efektivitas pemberian sinbiotik dengan frekuensi berbeda terhadap sintasan, pertumbuhan, dan respons imun udang vaname yang diinfeksi IMNV. Udang yang digunakan memiliki bobot  $0,493 \pm 0,035$  gram/ekor, dipelihara sebanyak 15 ekor dalam akuarium berukuran 60x35x30 cm yang diisi air laut sebanyak 30 liter. Penelitian dilakukan dengan 5 perlakuan yaitu A (tanpa pemberian sinbiotik dan diinfeksi

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IMNV), B (tanpa pemberian sinbiotik dan tanpa diinfeksi IMNV), C (pemberian sinbiotik setiap hari dan diinfeksi IMNV), D (pemberian sinbiotik dua kali seminggu dan diinfeksi IMNV), dan E (pemberian sinbiotik satu kali seminggu dan diinfeksi IMNV). Hasil penelitian menunjukkan bahwa pemberian sinbiotik dengan frekuensi setiap hari memberikan pengaruh yang lebih baik dibanding perlakuan lainnya. Udang yang dipelihara dengan pemberian sinbiotik setiap hari dan diinfeksi IMNV memiliki sintasan yang tinggi (80%) serta respons imun yang lebih baik.

**Kata Kunci: Udang Vaname, IMNV, Sinbiotik, Sintasan, Respons imun**

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