# KOMPARASI PENGGUNAAN PROBIOTIK YANG BERBEDA TERHADAP TINGKAT KELULUSHIDUPAN LARVA UDANG VANAME (*Litopenaeus vannamei*)

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## ABSTRAK

Peningkatan produksi udang vaname (*L. vannamei*) menyebabkan kebutuhan akan benih unggul juga semakin meningkat. Tujuan penelitian ini adalah untuk mengetahui pengaruh penggunaan probiotik yang berbeda terhadap tingkat kelulushidupan larva udang vaname dan untuk mengetahui probiotik yang mampu memberikan hasil terbaik. Penelitian ini dilakukan selama 17 hari, dimulai dari stadia *nauplius* hingga *post larva* (PL-10). Jenis penelitian ini adalah eksperimen dengan menggunakan rancangan acak lengkap (RAL), yang terdiri dari P0 (Kontrol), P1 (Probiotik A), dan P2 (Probiotik B). Masing-masing percobaan dilakukan ulangan sebanyak 3 kali. Probiotik A mengandung mikroba *Bacillus subtilis, Bacillus megaterium, Bacillus polymyxa*, sedangkan probiotik B mengandung mikroba *Bacillus subtilis, Bacillus licheniformis, Lactobacillus acidophilus, Bacillus pumilus, Saccharomyes cerevisae.* Aplikasi probiotik dicampurkan pada air media budidaya. Data utama yang dikumpulkan yaitu tingkat kelulushidupan larva, serta data pendukung lainnya meliputi berat larva, panjang larva, kualitas air, dan pengamatan larva. Data tingkat kelulushidupan, berat, dan panjang larva dianalisis menggunakan uji ANOVA yang dilanjutkan dengan uji Tukey, sedangkan data kualitas air dan pengamatan larva dianalisis secara deskriptif. Hasil penelitian menunjukkan bahwa penggunaan probiotik yang berbeda berpengaruh nyata terhadap tingkat kelulushidupan larva udang vaname ($P<0.05$). Perlakuan P2 (Probiotik B) memberikan nilai sintasan larva terbaik sebesar 80.79%±2.03, disusul dengan P1 (Probiotik A) sebesar 60.33%±3.08, dan terendah P0 (Kontrol) sebesar 38.21%±4.77.

Kata-kata kunci: larva, kelulushidupan, probiotik, udang vaname

# COMPARISON OF DIFFERENT PROBIOTICS ON THE SURVIVAL RATE OF VANNAMEI SHRIMP LARVAE (*Litopenaeus vannamei*)

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## ABSTRACT

The increasing production of vannamei shrimp (*L. vannamei*) causes the demand for vannamei shrimp fry also increase. The purpose of this study is to determine the effect of using different probiotics on the survival rate of vannamei shrimp larvae and to determine which probiotics could give the best results. This research was conducted for 17 days, starting from the nauplii stage to post larvae (PL-10). This type of research was experimental using a complete randomized design, which consisted of P0 (Control), P1 (Probiotic A), and P2 (Probiotic B). Each experiment was repeated 3 times. Probiotic A contains microbes such as *Bacillus subtilis, Bacillus megaterium, Bacillus polymyxa,* while probiotic B contains microbes such as *Bacillus subtilis, Bacillus licheniformis, Lactobacillus acidophilus, Bacillus pumilus, Saccharomyes cerevisae*. The application of probiotics is mixed in the culture water. The main data collected is the survival rate, and other supporting data such as weight, length, water quality, and observation. Data from the survival rate, weight, and length of vannamei shrimp larvae were analyzed using the ANOVA test and then continued with the Tukey test, while the water quality and observation data were analyzed descriptively. The results showed that the use of different probiotics had a significant effect on the survival rate of vannamei shrimp larvae ($P<0.05$). Treatment P2 (Probiotic B) gave the best survival rate, which was 80.79%±2.03, the next is P1 (Probiotic A) which was 60.33%±3.08, and the lowest was P0 (Control) which was 38.21%±4.77.

Keywords: larvae; survival rate; probiotics; vannamei shrim