

Effect of probiotics on white shrimp (*litopenaeus vannamei*) growth

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Abstrak

Indonesia is the second largest supplier of white shrimp (*Litopenaeus vannamei*, Boone 1931) in the USA market. Hence, the need for its sustainable production and improved growth. Probiotics, among others, are known for their growth enhancing attributes. Therefore, this study was conducted to determine the effects of powder and liquid probiotics on the growth of white shrimps at the Minaloka Jaya shrimp ponds, Grabag District, Purworejo Regency, Central Java. The shrimps were cultivated for 60 days and applied with three probiotic treatments, namely commercial liquid probiotics with dosage of 10 mL/kg feed, powder probiotics with dosage of 10 g/kg feed and liquid probiotic with dosage of 10 mL/kg feed. Each probiotic preparation was administered four times a day to over 150,000 vannamei shrimps which were cultured in a semi-intensive system. Probiotics in powder and liquid forms contain *Lactobacillus fermentum*, *L. acidophilus*, *L. plantarum*, *L. curvatus*, *Bacillus licheniformis*, *B. subtilis*, and *B. polymyxa*. *B. megaterium*, *B. coagulans*, *Pseudomonasputida*, *Nitrosomonas* sp. and *Nitrobacter* sp. Using the Randomized Block Design (RBD), the three treatments were replicated five times. The application of probiotics in both powder and liquid forms had increased the growth yield of the vannamei shrimp. However, the powder probiotic had shown better growth performance than the commercial liquid probiotics and liquid preparation of probiotics. Probiotic powder form provides a specific growth rate (SGR) of 8.18%, absolute body length of 9.68 cm, absolute biomass of 6.78 g, and feed conversion ratio (FCR) of 1.93.