

ABSTRACT

Setya Rahma Nur Istiqomah. 24020120140151. Immune Response of Vannamei Shrimp (*Litopenaeus vannamei*) After Postbiotic Feeding of Purple Nonsulfur Bacteria (PNSB) Extract. Under the guidance of Kasiyati dan Agung Janika Sitasiwi.

The productivity of vaname shrimp as a leading export commodity for marine products in Indonesia is influenced by feed and cultivation water conditions. Postbiotic feeding is an alternative in meeting protein needs and reducing the spread of shrimp disease. *Purple Nonsulfur Bacteria* (PNSB) postbiotics are microorganisms that are killed with metabolite products that have a positive impact on the host, but their effectiveness on the immune response of vannamei shrimp is still unknown. This study aims to analyse the immune response of vannamei shrimp (*Litopenaeus vannamei*) after being fed PNSB extract postbiotics as measured by lysozyme, respiratory burst (RB), and prophenol oxidase (PPO) activities and their impact on survival rate (SR). This study was designed using two treatments and three repetitions in a box container (boxcon) with 200 shrimps/boxcon. Treatments included control and postbiotic feeding. Variables measured included lysozyme activity, RB, and PPO as well as SR. The data were analysed by independent t-test at 5% significance level ($\alpha=0.05$). The results of the immune response showed a significant difference at week one testing, but the final SR value did not show a significant difference between the two treatment groups. The conclusion of this research is that the administration of 0.2% postbiotic feed did not have a negative impact on the immune response and survival rate (SR) of vannamei shrimp.

Keywords : *lysozyme, prophenol oxidase, respiratory burst, survival rate*