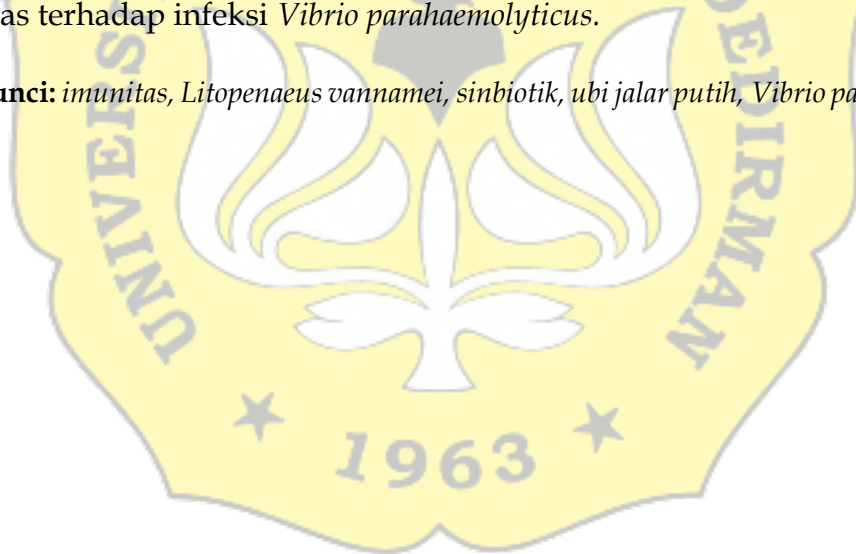


ABSTRAK

Penerapan sistem intensif hingga super intensif pada budidaya udang vaname (*Litopenaeus vannamei*) meningkatkan potensi infeksi patogen dan penyakit. Tindakan penanganan timbulnya penyakit seperti pemberian vitamin dan antibiotik dinilai sudah kurang optimal. Oleh karena itu, muncul penggunaan kombinasi prebiotik dan probiotik dalam bentuk sinbiotik yang dapat diaplikasikan pada pakan secara oral sebagai langkah preventif infeksi patogen dan penyakit. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian kombinasi probiotik *Lactobacillus* sp. dengan prebiotik tepung ubi jalar putih (*Ipomoea batatas* L.) terhadap performa pertumbuhan dan imunitas udang vaname. Post larva udang vaname ($0,588 \pm 0,074$ g) dipelihara selama 21 hari dan diberikan tiga jenis perlakuan dengan kadar prebiotik sebanyak 2%, 3%, dan 4% per kg pakan. Udang sampel diinfeksi *Vibrio parahaemolyticus* dengan konsentrasi 10^7 CFU/mL. Nilai *growth rate* dan *average daily growth* menunjukkan tidak berbeda nyata antar perlakuan ($p > 0,05$). Pemberian 3% kadar prebiotik memberikan nilai performa pertumbuhan terbaik. Perlakuan sinbiotik memiliki nilai persentase *lipid droplets* dalam hepatopankreas yang tinggi sebelum dan sesudah infeksi. Pemberian sinbiotik pada pemeliharaan udang vaname memberikan peningkatan performa pertumbuhan dan mempertahankan kondisi imunitas terhadap infeksi *Vibrio parahaemolyticus*.

Kata kunci: imunitas, *Litopenaeus vannamei*, sinbiotik, ubi jalar putih, *Vibrio parahaemolyticus*



ABSTRACT

The application of intensive to super intensive systems in vaname shrimp (*L. vannamei*) cultivation increases the potential for pathogen infection and disease. Therefore, the use of a combination of prebiotics and probiotics in the form of synbiotics that can be applied to feed through oral as a preventive measure of pathogen infection and disease. This study aims to determine the effect of giving a combination of probiotics *Lactobacillus* sp. with white sweet potato flour prebiotic (*Ipomoea batatas* L.) on the growth performance and immunity of vaname shrimp. Post larva of vaname shrimp (0.588 ± 0.074 g) was maintained for 21 days and given three types of treatment with prebiotic levels of 2%, 3%, and 4% per kg of feed. Shrimp samples were infected with *V. parahaemolyticus* with a concentration of 10^7 CFU / mL. Growth rate and average daily growth values showed no significant difference between treatments ($p > 0.05$). The 3% prebiotic level gives the best growth performance value. Synbiotic treatment has a high percentage of lipid droplets in hepatopancreas before and after infection. Synbiotic administration in the maintenance of vaname shrimp provides improved growth performance and maintain immunity against *V. parahaemolyticus* infection.

Keywords: *immunity, Litopenaeus vannamei, synbiotic, white sweet potato, Vibrio parahaemolyticus*

