

RINGKASAN

Srihartati Jun, 2022. Patogenitas Bakteri *Vibrio parahaemolyticus* Dengan Konsentrasi Berbeda dan Histopatologi Otot Udang Vaname (*Litopenaeus vannamei*). Yang dibimbing oleh Bapak Dr. Muh Aris, S.Pi.,M.P dan ibu Juharni, S.Pi, M.Si.

Penyakit AHPND (*Acute hepatopancreatic necrosis disease*) merupakan penyakit yang telah mengakibatkan kegagalan usaha budidaya udang vaname diberbagai sentra produksi pengembangan udang vaname. Penyakit ini disebabkan oleh bakteri *Vibrio parahaemolyticus*. Kemunculan serangan penyakit ini sangat berhubungan erat dengan kemampuan infeksi bakteri patogen, yang dapat menimbulkan dampak pada organ vital udang vaname yang ditandai dengan terjadinya kerusakan organ dan jaringan sel terutama pada organ hepatopankreas dan otot. Penelitian bertujuan untuk mengetahui tingkat patogenitas bakteri *Vibrio parahaemolyticus*, untuk mengetahui konsentrasi jumlah bakteri *Vibrio parahaemolyticus* yang menimbulkan kerusakan jaringan otot dan untuk melihat tingkat kerusakan jaringan otot udang vaname. Penelitian ini menggunakan metode eksperimental dengan rancangan penelitian Rancangan Acak Lengkap (RAL) dengan 3 perlakuan 1 kontrol dan 3 kali ulangan konsentrasi bakteri (10^4 CFU/ml, 10^6 CFU/ml dan 10^8 CFU/ml). Dari hasil penelitian, tingkat kematian tertinggi pada perlakuan A dengan pesentasi 73,33%, dan untuk perlakuan B tingkat kematian sebesar 53,33%, sedangkan tingkat kematian pada perlakuan C sebesar 33,33%, hal tersebut menunjukkan bahwa bakteri *Vibrio parahaemolyticus* dapat menyebabkan kematian pada udang vaname hingga 100%. Dari hasil pengamatan uji patogenitas tingkat kematian terendah yaitu pada perlakuan D (Kontrol) tanpa penambahan bakteri, dengan tingkat kematian 00,00%. Hasil pengamatan histologi udang vaname menunjukkan bahwa tingkat kerusakan tertinggi pada perlakuan A, jaringan otot mengalami kerusakan yang cukup parah, hal ini terlihat dengan terjadinya degenerasi, nekrosis, dan adanya infiltrasi sel radang pada jaringan otot, sedangkan pada perlakuan D (kontrol) masih normal.

Kata kunci : *Udang vaname, Vibrio parahaemolyticus, AHPND dan Histpatologi Otot.*

ABSTRACT

Srihartati Jun. 2022. Pathogenicity of *Vibrio parahaemolyticus* Bacteria with Different Concentrations and Muscle Histopathology of Vannamei Shrimp (*Litopenaeus vannamei*). Which is guided by Mr. Dr. Muh Aris, S.Pi.,M.P and Mrs. Juharni, S.Pi, M.Si.

AHPND (Acute hepatopancreatic necrosis disease) is a diseases that have resulted in the failure of vaname shrimp cultivation in various centers production of vaname shrimp development. This disease is caused by the *Vibrio* bacteria *parahaemolyticus*. The emergence of this disease attack is closely related to the ability to infect pathogenic bacteria, which can have an impact on the vital organs of vaname shrimp, which is characterized by the occurrence of organ and cell tissue damage, especially in the hepatopancreas and muscles. The aim of the study was to determine the level of pathogenicity of *Vibrio parahaemolyticus* bacteria, to determine the concentration of the number of bacteria *Vibrio parahaemolyticus* which causes muscle tissue damage and to see the level of muscle tissue damage of white shrimp. This research uses the method of experimental design with Completely Randomized Design (CRD) with 3 treatments 1 control and 3 replications of bacterial concentration (10^4 CFU/ml, 10^6 CFU/ml and 10^8 CFU/ml). From the results of the study, the highest mortality rate was in treatment A with a percentage of 73.33%, and for treatment B the mortality rate was 53.33%, while 10^8 CFU/ml). From the results of the study, the highest mortality rate was in treatment A with a percentage of 73.33%, and for treatment B the mortality rate was 53.33%, while The mortality rate in treatment C was 33.33%, this indicates that *Vibrio parahaemolyticus* bacteria can cause death in white shrimp up to 100%. From the observations of the pathogenicity test the lowest mortality rate was in treatment D (Control) without the addition of bacteria, with a mortality rate of 00.00%. Results Histological observations of vaname shrimp showed that the highest level of damage was in treatment A, muscle tissue was severely damaged, this was seen by the occurrence of degeneration, necrosis, and the presence of hemocytic infiltration in muscle tissue, while in treatment D (control) was still normal.

Keywords : Vannamei shrimp, Vibrio parahaemolyticus, AHPND and Muscle Histopathology