ANALISIS SEBARAN *WHITE SPOT SYNDROME VIRUS* (WSSV) PENYEBAB PENYAKIT PADA UDANG VANAME (*Litopenaeus vannamei*) DI BALI

Oleh

Billy Andri Agrifa Barus, NIM 2113111034

Jurusan Biologi dan Perikanan Kelautan

ABSTRAK

WSSV merupakan virus penyebab bintik putih pada udang yang berdiameter 0,5 – 2 mm pada bagian *cephalotorax*. WSSV dapat menyebabkan kematian masal pada udang sampai 100% 3 – 10 hari setelah gejala muncul. Penyebaran WSSV cepat dan sulit terdeteksi mengakibatkan kerugian ekonomi yang besar bagi petambak udang di Indonesia. Udang vaname sendiri merupakan penyumbang tertinggi kedua komoditas budidaya laut di Bali setelah rumput laut (Deswati *et al.*,, 2020). Penghasil benur udang vaname berada di Kecamatan Gerokgak dan Kecamatan Seririt Kabupaten Buleleng, Bali Utara. Kecepatan penyebaran virus WSSV sulit untuk dikendalikan, hal ini mendorong perlu dilakukan identifikasi kemunculan dan karakteristik WSSV. Latar belakang diatas, menjadi alsaan dilakukannya penelitian dengan judul Analisis Sebaran WSSV Penyebab Penyakit Pada Udang Vaname (*L.vanname*) di Bali. Tujuan Penelitian untuk mengetahui sebaran virus WSSV di Bali, dengan melihat hubungan kualitas air terhadap hasil deteksi PCR, menganalisis hubungan antara kualitas air dengan kejadian WSSV, dan tingkat kematian pada udang vaname dari tambak pemantauan. Metode penelitian yang digunakan berfokus pada proses pemeriksaan PCR dan kualitas air pada udang vaname, dari Kab. Karangasem, Kab. Buleleng, dan Kab. Jembrana yang dilakukan oleh BKI. Metode deteksi PCR serta pemeriksaan kualitas air diataranya pemeriksaan (Suhu, Kecerahan, pH, DO, Salinitas, Nitrit, Nitrat, Amoniak, Pospat) menggunakan metode Test Kit. Hasil penelitian menunjukkan tidak ditemukan adanya virus WSSV di semua lokasi sampling pada periode pemeriksaan dilakukan. berdasarkan hasil PCR sampel yang diuji berada pada 200 - 400bp, untuk standar positif WSSV berada pada 941bp. Dari hasil uji kualitas air setiap sampel memenuhi kriteria dan sesuai dengan parameter BBKHIT, hal tersebut merupakan upaya pencegah pertumbuhan dan pesebaran penyakit WSSV di kolam budidaya.

Kata Kunci: WSSV, PCR, Kualitas air, Udang Vaname, Bali, *Virus,* Sebaran.

ANALYSIS OF THE DISTRIBUTION OF WHITE SPOT SYNDROME VIRUS (WSSV) THE CAUSE OF DISEASE IN VANAME SHRIMP (Litopenaeus vannamei) IN BALI

By

Billy Andri Agrifa Barus, NIM 2113111034

Aquaculture Study Program

ABSTRACT

WSSV is a virus that causes white spots on shrimp that are 0.5 - 2 mm in diameter on the cephalotora. WSSV can cause mass mortality in shrimp up to 100% 3 - 10 days after symptoms appear. The spread of WSSV is rapid and difficult to detect, resulting in large economic losses for shrimp farmers in Indonesia. Vaname shrimp itself is the second highest contributor to marine aquaculture commodities in Bali after seaweed (Deswati et al.,, 2020). Vaname shrimp fry producers are located in Gerokgak and Seririt sub - districts of Buleleng Regency, North Bali. The speed at which WSSV spreads is difficult to control, making it necessary to identify the occurrence and characteristics of WSSV. The above background is the reason for conducting research with the title Distribution Analysis of WSSV Causing Disease in Vaname Shrimp (L.vanname) in Bali. The purpose of the study was to determine the distribution of WSSV virus in Bali, by looking at the relationship between water quality and PCR detection results, analyzing the relationship between water quality and WSSV incidence, and mortality rates in vaname shrimp from monitoring ponds. The research methods used focused on the PCR and water quality screening of vaname shrimp from Karangasem, Buleleng and Jembrana districts conducted by BKI. The PCR detection method and water quality examination included examination (Temperature, Brightness, pH, DO, Salinity, Nitrite, Nitrate, Ammonia, Phosphate) using the Test Kit method.The results showed that no WSSV virus was found at all sampling locations during the examination period.. based on the PCR results the samples tested were at 200 - 400bp, for the positive WSSV standard at 941bp. From the results of water quality tests, each sample meets the criteria and is in accordance with BBKHIT parameters, this is an effort to prevent the growth and spread of WSSV disease in aquaculture ponds.

Keywords: WSSV, PCR, Water quality, Vaname Shrimp, Bali, Virus, Distribution.