

## INTISARI

### **ASPEK TEKNIK, KUALITAS AIR, DAN PERTUMBUHAN PADA SISTEM BUDIDAYA INTENSIF UDANG VANAME (*Litopenaeus vannamei* Boone, 1931) DI DESA TAPIAN NAULI I, KECAMATAN TAPIAN NAULI, KABUPATEN TAPANULI TENGAH**

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Penelitian ini bertujuan untuk mengetahui teknik, kualitas air, pertumbuhan, dan produksi udang vaname (*Litopenaeus vannamei* Boone, 1931) pada tambak intensif di Desa Tapian Nauli I, Kecamatan Tapian Nauli, Kabupaten Tapanuli Tengah. Penelitian dilakukan pada periode budidaya yang ke – 2, 3, dan 4 sepanjang tahun 2019. Penelitian dilakukan dengan metode pengamatan langsung (observasi) terhadap tiga petak tambak. Petak tambak yang diamati berukuran 1.000 m<sup>2</sup>; dengan lapisan plastik HDPE (*High-density Polyethylene*); kedalaman air 1,2 m; dan dengan padat tebar benih udang 199 ekor/m<sup>2</sup>. Data yang diamati pada penelitian ini meliputi teknik budidaya yang diterapkan, kualitas air (fisika, kimia, dan mikrobiologi), pertumbuhan udang vaname, dan produksi tambak. Pengamatan kualitas air dan pertumbuhan udang dilakukan sebanyak 6 kali, yaitu sejak umur budidaya minggu ke – 5 hingga minggu ke – 15. Pengamatan kualitas air pada masing-masing tambak dilakukan pada tiga titik untuk mewakili kualitas air seluruh badan air tambak. Data yang diperoleh dianalisis secara deskriptif. Hasil penelitian ini menunjukkan bahwa teknik budidaya yang dilakukan terutama pada pengelolaan kualitas air. Kualitas air budidaya udang vaname dari periode budidaya yang ke – 2, 3, dan 4 rata-rata berada dalam kisaran yang optimal untuk kehidupan udang vaname, kecuali bahan organik total, alkalinitas, amonia total, nitrit, dan ortofosfat termasuk agak tinggi. Pertumbuhan udang vaname selama budidaya tergolong agak tinggi hingga tinggi (berkisar antara 0,22 – 0,40 gram/hari), dan produksi udang termasuk tinggi (rata-rata sebesar 37 ton/ha), dengan sintasan (kelulushidupan) sebesar 93 % dan nisbah konversi pakan sebesar (*feed conversion ratio*) sebesar 1,35.

Kata kunci : kualitas air, pertumbuhan, produksi, sistem budidaya intensif, udang vaname

## ABSTRACT

### TECHNIQUE, WATER QUALITY, AND GROWTH ASPECT IN INTENSIVE CULTURE SYSTEM OF PACIFIC WHITE SHRIMP (*Litopenaeus vannamei* Boone, 1931) AT TAPIAN NAULI I VILLAGE, TAPIAN NAULI SUB-DISTRICT, TAPANULI TENGAH DISTRICT

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This research aimed to determine the technique, water quality, growth, and production of Pacific White Shrimp (*Litopenaeus vannamei* Boone, 1931) in intensive ponds at Tapan Nauli I Village, Tapan Nauli Sub-district, Tapanuli Tengah District. The research was conducted in the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> culture periods in 2019. The research was conducted with the direct observation method in three shrimp ponds. Each pond had 1.000 m<sup>2</sup> in size; coated with High-density Polyethylene (HDPE) plastic; 1.2 m water depths; and with stocking density 199 shrimps/m<sup>2</sup>. The research focused on shrimp culture technique at the shrimp farm, water quality analysis (physical, chemical, and microbiology parameters), shrimp growth, and pond production of shrimp. The observation of water quality and shrimp growth was carried out six times, ie from the cultivation age of the 5<sup>th</sup> week to the 15<sup>th</sup> week. The water samples were collected at the three sites at each pond to represent the water quality of pond water bodies. The water quality, shrimp growth, and pond production of shrimp data were analyzed descriptively. The result of this study showed that the cultivation techniques carried out to emphasize water quality management. The water quality of shrimp pond during the cultivation period was in the optimal range for shrimp life, except for total organic matter, alkalinity, total ammonia, nitrite, and orthophosphate of ponds water were quite high. The shrimp growth during cultivation was rather high to high (ranging 0,22 – 0,40 grams/day), and shrimp production was high (an average of 37 tons/ha), with survival rate (SR) of 93 %, and feed conversion ratio (FCR) of 1,35.

Key words : growth, intensive cultivation system, pacific white shrimp, production, water quality