

**HUBUNGAN KUALITAS AIR DENGAN BAKTERI *Vibrio* sp.
PADA PETAK TAMBAK DAN BUANGAN
BUDIDAYA UDANG VANAME (*Litopenaeus vannamei* Boone, 1931)
DI PESISIR DEPOK KABUPATEN BANTUL**

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INTISARI

Penelitian ini bertujuan untuk mengetahui kelimpahan dan kelayakan bakteri *Vibrio* sp. dan bakteri total serta hubungan kualitas air dengan kelimpahan bakteri *Vibrio* sp. dan bakteri total air tambak dan petak buangan. air petak tambak dan petak buangan pada periode 38-66 hari pemeliharaan udang vaname (*Litopenaeus vannamei*) pada tambak di Pesisir Depok, Kabupaten Bantul. Penelitian dilaksanakan pada bulan Oktober sampai November 2018. Penelitian dilakukan dengan metode pengamatan secara langsung terhadap 2 petak tambak dan 1 petak buangan. Pengamatan dilakukan setiap 7 hari selama 30 hari, pada periode pemeliharaan udang 38-66 hari. Parameter yang diamati ialah suhu, salinitas, derajat keasamaan, oksigen terlarut, bahan organik, amonia, bakteri *Vibrio* sp. dan bakteri total. Data hasil pengamatan dianalisis secara deskriptif dan hubungan kualitas air dengan bakteri *Vibrio* sp dan bakteri total dianalisis dengan regresi linear berganda. Hasil penelitian menunjukkan bahwa bakteri *Vibrio* sp air tambak berkisar antara $2,0 \times 10^2 - 1,7 \times 10^6$ CFU/ml termasuk layak hingga tidak layak untuk budidaya udang vaname. Bakteri total air tambak berkisar antara $3,6 \times 10^3 - 5,0 \times 10^8$ CFU/ml termasuk tidak layak hingga layak untuk budidaya udang vaname. Bakteri *Vibrio* sp air petak buangan berkisar antara $2,4 \times 10^3 - 2,3 \times 10^6$ CFU/ml termasuk tidak layak sebagai air buangan budidaya udang vaname. Bakteri total air petak buangan berkisar antara $5,6 \times 10^3 - 2,7 \times 10^8$ CFU/ml termasuk tidak layak hingga layak sebagai air buangan budidaya udang vaname. Bakteri *Vibrio* sp. dan bakteri total air tambak nyata meningkat dalam hubungannya dengan peningkatan bahan organik, sedangkan peningkatan bakteri total juga berhubungan dengan peningkatan derajat keasamaan (pH). Bakteri *Vibrio* sp. dan bakteri total air petak buangan nyata meningkat dalam hubungannya dengan peningkatan oksigen terlarut sedangkan peningkatan bakteri total juga berhubungan dengan peningkatan bahan organik.

Kata kunci : bakteri, kualitas air, petak buangan, tambak, vibrio

**RELATION WATER QUALITY WITH *VIBRIO* SP. BACTERIA
IN CULTIVATION PONDS AND WASTE PONDS CULTURE
PACIFIC WHITE SHRIMP (*Litopenaeus vannamei* Boone, 1931)
IN DEPOK COASTAL AREA BANTUL REGENCY BANTUL**

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ABSTRACT

This study aimed to determine the abundance and viability of *Vibrio* sp. and total bacteria and the relation between water quality and abundance of *Vibrio* sp. and total bacterial in cultivation ponds and waste ponds for the periods of 38- 66 day of Pacific white shrimp (*Litopenaeus vannamei*, Boone 1931) culture in Depok Coastal Area Bantul, Regency Bantul. Research was conducted from October to November 2018. The study was conducted with a direct observation method of 2 cultivation ponds and 1 waste ponds. Observations were made every 7 days for 30 days, in the period of shrimp rearing 38-66 days. The parameters observed were temperature, salinity, pH, dissolved oxygen, organic matter, ammonia, total *Vibrio* sp and total bacteria. Observational data were analyzed descriptively and the relationship of water quality with total *Vibrio* sp and total bacteria were analyzed by multiple linear regression. The results showed that the *Vibrio* sp bacteria of cultivation ponds ranged from 2.0×10^2 - 1.7×10^6 CFU / ml including feasible to unfeasible for pasific white shrimp culture. The total bacteria of cultivation ponds ranged from 3.6×10^3 - 5.0×10^8 CFU/ ml including unfeasible to feasible for pasific white shrimp culture. Bacteria *Vibrio* sp of waste ponds ranging from 2.4×10^3 – 2.3×10^8 CFU/ml including unfeasible as pasific white shrimp wastewater. The total bacteria of waste ponds ranging from 5.6×10^3 - 27×10^8 CFU/ml including unfeasible to feasible as pasific white shrimp wastewater. Bacteria *Vibrio* sp. and total bacteria of cultivation pond significantly increase mereased in relation with mereasing of organic matter, while total bacteria were also associated with mereasing of acidity (pH). Bacteria *Vibrio* sp. and total bacterial waste ponds were markedly increased in relation with mereasing of dissolved oxygen, while total bacteria was also associated with mereasing organic matter.

Keywords: bacteria, cultivation ponds, vibrio ,water quality, waste pond