

## ABSTRAK

Udang Vannamei merupakan komoditas primadona yang memiliki banyak keunggulan. Budidaya Udang Vannamei tak luput dari berbagai masalah seperti buruknya kualitas air dan rendahnya pertumbuhan. Aplikasi mineral dilakukan sebagai upaya mengatasi permasalahan budidaya Udang Vannamei. Penelitian ini bertujuan untuk mengetahui pengaruh aplikasi mineral terhadap kualitas air dan pertumbuhan Udang Vannamei. Penelitian dilakukan pada tanggal 4 - 25 Oktober 2022 yaitu periode budidaya DOC 70 - 92. Penelitian dilakukan di CV Cemasewu Sumber Rejeki, dengan mengamati kolam A7, A8, A9, dan A10. Metode yang dilakukan pada penelitian ini adalah metode survey dan metode observasi. Aplikasi mineral yang diterapkan adalah aplikasi 10 ppm Omya, 3 ppm Minmag, 1 ppm Pupuk Mahkota, 1 ppm semen putih Tiga Roda, dan 1 ppm soda ash. Hasil pengukuran kualitas air menunjukkan nilai pH berkisar 7,6 - 8,3, nilai alkalinitas berkisar 142,9 - 155,4 ppm, *Ca hardness* berkisar 865 - 1.731 ppm, *Mg hardness* 1.635 - 3.750 ppm, serta populasi plankton didominasi oleh *Green Algae* dan *Diatom*. Hasil sampling pertumbuhan udang menunjukkan ADG berkisar 0,2 - 0,86 g, MBW pada sampling terakhir berkisar 25,35 - 30,75 g, dan size pada sampling terakhir berkisar 33 - 39 ekor/kg. Hasil penelitian menunjukkan nilai parameter kualitas air dan nilai pertumbuhan Udang Vannamei yang memenuhi standar baku mutu. Aplikasi mineral terbukti mampu mempertahankan kualitas air dalam rentang optimal, serta dapat menghasilkan pertumbuhan Udang Vannamei yang tinggi.

**Kata kunci:** Udang Vannamei, mineral, kualitas air, pertumbuhan.

## ABSTRACT

Vannamei Shrimp is an excellent commodity that has many advantages. Vannamei Shrimp cultivation is not free from various problems such as poor water quality and low productivity. Mineral application is done as an effort to overcome the problems of Vannamei Shrimp cultivation. This study aims to determine the effect of mineral application on water quality and productivity of Vannamei Shrimp. The research was conducted on October 4<sup>th</sup> - 25<sup>th</sup>, 2022, which is the cultivation period of DOC 70 - 92. The research was conducted at CV Cemasewu Sumber Rejeki, by observing ponds A7, A8, A9, and A10. The methods used in this research were survey method and observation method. Mineral applications applied are applications of 10 ppm Omya, 3 ppm Minmag, 1 ppm Mahkota Fertilizer, 1 ppm Tiga Roda white cement, and 1 ppm soda ash. The results of water quality measurements showed pH values ranging from 7.6 - 8.3, alkalinity values ranging from 142.9 - 155.4 ppm, Ca hardness ranging from 865 - 1,731 ppm, Mg hardness 1,635 - 3,750 ppm, and plankton populations dominated by Green Algae and Diatoms. The results of sampling shrimp growth showed ADG ranged from 0.2 - 0.86 g, MBW at the last sampling ranged from 25.35 - 30.75 g, and size at the last sampling ranged from 33 - 39 fish/kg. The results showed the value of water quality parameters and productivity values of Vannamei Shrimp that meet the quality standards. Mineral application is proven to be able to maintain water quality in the optimal range, and can produce high productivity of Vannamei Shrimp.

**Keywords:** *Vannamei shrimp, minerals, water quality, productivity.*