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Effects of Artificial Substrates and Stocking Density on the Growth and Glycogen Content in the Cultivation of *Litopenaeus vannamei* in Floating Cage (*Karamba Jaring Apung)*

Arif Setiawan*, Muhammad Fadjar, Muhamad Firdaus

Master Program of Aquaculture, Faculty of Fisheries and Marine Sciences, Universitas Brawijaya, Jl. Veteran, Malang 65145, Jawa Timur Province, Indonesia

Abstract : Research was to identify effect of artificial substrates and stocking densities on growth, glycogen, and amino acid content on *Litopenaeus vannamei*. Randomized block design with six treatment and three group used design. Treatments were intensively from PL28 for 60 days in floating cage system at stocking densities of A (100 shrimp^{-3}), B (100 shrimp^{-3} + substrates), C (200 shrimp^{-3}), D (200 shrimp^{-3} + substrates), E (300 shrimp^{-3}), and F (300 shrimp^{-3} + substrates). Shrimp growth was significantly greater at the addition substrates and lower density. Mean growth shrimp B (0,1816 gr/day), D (0,1495 gr/day) treatment F (0,1294 gr/day), this was actually better than the non-substrate which A (0,1650 gr/day), C (0,1346 gr/day), and E (0,1186 gr/day). Highest survival rate B 83,56% while the lowest was in E 74,3%. Glycogen content with the addition of substrates was ranging from 8,463-24,509 mg/g while the amino acid content of the substrate treatment was better than those without substrates. Based on the results, it can be concluded that the use of artificial substrates may be able to increase the surface area so that it could increase the stocking density and reduce the negative effects of high stocking density so as to increase the production.
Keywords : Litopenaeus vannamei, artificial substrates, growth, glycogen-amino acid.

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