

Retention and Survival Optimization of Juvenile Green Mussel (*Perna Viridis*) by Using Substrate from Seaweed Extract

Title	Retention and Survival Optimization of Juvenile Green Mussel (<i>Perna Viridis</i>) by Using Substrate from Seaweed Extract
Author Order	1 of 3
Accreditation	
Abstract	<p>Highlight ResearchThe qualitative bioactive assay on terpenoid compound of six macroalgae species were tested. The effect of six macroalgae extracts as inducer mediating settlement to juvenile <i>Perna viridis</i> were observed. Three macroalgae species were potentially promote the retention of juvenile <i>P. viridis</i>.</p> <p>AbstractThe low retention of juvenile of green mussels (<i>Perna viridis</i>) in the aquaculture holding system has become a constraint for its production. The depress number of juvenile mussel on the collector rope might be caused due to both limited spawning season and their secondary settlement behaviour. Therefore, providing suitable substrate which able to improve green mussel seed retention is required. One of the solutions is by applying inducer mediating settlement as substrate enrichment in order to optimize the retention of juvenile <i>P. viridis</i>. The potential substrates thought to have these inductive activities is seaweed. Seaweed bioactive compound which may improve juvenile mussel retention is terpenoid. Six seaweed extracts used in the current study and the terpenoid of these six macroalgae species were tested. Qualitatively all six seaweed showed a positive result on the terpenoid compound. The retention and survival of juvenile green mussel observed by using 20 conical tanks with a complete randomized design experiment. Each of the seaweed species tested separately comparing with three other experimental treatments under 24 h observation time, A (rope), B (rope + Phytigel™), C (rope + Phytigel™ I+ solvent), D (rope + Phytigel™ + seaweed extract), it made four experimental treatments with 5 times replications. The result indicated a variation pattern on the retention of juvenile mussels according to the experimental substrate. The juvenile mussels were preferably settled on enriched substrate of <i>G. latifolium</i> and <i>S. polycystum</i>, extracts ($p < 0.05$). Adding seaweed extracts on the substrate did not affect the mussels survival ($p > 0.05$).</p>
Publisher Name	Faculty of Fisheries and Marine Universitas Airlangga
Publish Date	2021-09-28
Publish Year	2021
Doi	DOI: 10.20473/jipk.v13i2.23515
Citation	
Source	Jurnal Ilmiah Perikanan dan Kelautan
Source Issue	Vol. 13 No. 2 (2021): JURNAL ILMIAH PERIKANAN DAN KELAUTAN
Source Page	313-320
Url	https://e-journal.unair.ac.id/JIPK/article/view/23515/15697
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