Effect of Planting Media Modification on Seed Growth and Development of Three Mangroves Species from Jakarta and Kebumen, Indonesia

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Author Order	3 of 5
Accreditation	
Abstract	The rehabilitation of mangroves depends on the availability of high-quality, sufficiently prominent seeds. Currently, a lot of mangrove nursery activities continue to employ traditional techniques, which results in low-quality and slowly growing seedlings. The mangroves of Jakarta were selected because they represent a heavily polluted mangrove ecosystem on Java's northern coast, whereas the mangroves in Kebumen, on Java's southern coast, are in the opposite situation. This study proposed to find an approach to supply Indonesia's mangrove restoration projects with adequate seeds. An experimental approach with a complete randomized design and a factorial pattern was used. The variables tested were planting media and three kinds of mangroves: Rhizophora mucronata, Ceriops tagal, and Bruguiera gymnorrhiza. Mangroves from Jakarta are treated with mud, soil media, or a mix of them. A mixture of mud, husk, and husk charcoal is used for six treatments planting media for mangroves from Kebumen. The mangrove seedlings' growth, biomass, and chlorophyll content are the dependent variables. ANOVA was used to evaluate the data with a 95% confidence level, and Duncan's comparison of means test followed. The growth of mangrove seedlings was discovered to be impacted by media type, while the chlorophyll content, dry biomass of roots, stems, and leaves were not affected by this factor. Three species of mangroves differ regarding growth rate, biomass of roots, stems, and leaves, and chlorophyll content. In order to support Indonesia's efforts to rehabilitate mangroves, this research can offer understanding regarding how to select and employ the best media to effectively produce high-quality seeds.
Publisher Name	Marine Science Department Diponegoro University
Publish Date	2024-06-25
Publish Year	2024
Doi	DOI: 10.14710/ik.ijms.29.2.285-292
Citation	
Source	ILMU KELAUTAN: Indonesian Journal of Marine Sciences
Source Issue	Vol 29, No 2 (2024): Ilmu Kelautan
Source Page	285-292
Url	https://ejournal.undip.ac.id/index.php/ijms/article/view/61094/pdf
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