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Rahim, F.A.A.^a, Hamid, T.H.T.A.^a, Zainuddin, Z.^b

Jatropha curcas as a potential plant for bauxite phytoremediation

(2019) *IOP Conference Series: Earth and Environmental Science*, 308 (1), art. no. 012006, .

DOI: 10.1088/1755-1315/308/1/012006

^a Dept. of Biotechnology, Kulliyah of Science, International Islamic University Malaysia, Jalan Sultan Ahmad Shah, Bandar Indera Mahkota, Pahang, Kuantan, 25200, Malaysia

^b Dept. of Plant Science, Kulliyah of Science, International Islamic University Malaysia, Jalan Sultan Ahmad Shah, Bandar Indera Mahkota, Pahang, Kuantan, 25200, Malaysia

Abstract

Abandon bauxite mining sites can cause serious environmental problems, such as poor soil quality, air pollution, erosion and flood. *Jatropha curcas* could possibly be used to remediate barren bauxite mining sites. The objective of this study was to study the growth performance of *J. curcas* on top soil (control) and bauxite mined soil. Observation of the plant growth was recorded weekly, including days to rooting, number of roots per cutting, days to new bud opening, number of shoots per cutting, number of leaves per cutting, plant height and chlorophyll content. Data collected on the growth performance of *J. curcas* were analyzed using SPSS 11.5 for Windows Standard Version. Based on the results obtained, *J. curcas* could thrive and grow on bauxite mined soil as it has higher significantly difference in number of leaves and plant height after growing on bauxite mined soil. Therefore, *J. curcas* is suitable for phytoremediation, in order to solve the environmental problems that occur on the bauxite mined site. © 2019 IOP Publishing Ltd. All rights reserved.

Index Keywords

Bioremediation, Biotechnology, Plants (botany), Revegetation, Soil conservation, Soils; Bauxite mining, Chlorophyll contents, Environmental problems, Growth performance, *Jatropha curcas*, Phytoremediation, Soil quality, Standard versions; Bauxite deposits

Funding details

Ministry of Higher Education, MalaysiaMOHE

Sponsors: PT Agritek Tani Indonesia; PT Free Port Indonesia; PT Hatfield Consultants; PT Petrokimia Kayaku; PT Rodamas; Research Center for Biology

Publisher: Institute of Physics Publishing

Conference name: International Symposium on Bioremediation, Biomaterial, Revegetation, and Conservation 2018, IS BIOREV 2018

Conference date: 27 September 2018 through 28 September 2018

Conference code: 152075

ISSN: 17551307

Language of Original Document: English

Abbreviated Source Title: IOP Conf. Ser. Earth Environ. Sci.

2-s2.0-85072929471

Document Type: Conference Paper

Publication Stage: Final

Source: Scopus

Access Type: Open Access