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Jatropha curcas: A potential biofuel plant for sustainable environmental development

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ABSTRACT

Jatropha curcas L. (JCL) has been propagated as unique and potential tropical plant for augmenting renewable energy sources due to its several merits for which it deserves to be considered as sole candidate in the tangible and intangible benefits of ecology and environment. The species has been advocated for extensive plantations on degraded wasteland throughout the world. Our current knowledge of JCL is inadequate to understand their contribution in societal and environmental benefit. Presently, this species has received much attention because of its immense role in bio-diesel production an eco-friendly fuel, bio-degradable, renewable and non-toxic in nature compared to petro-diesel except few carcinogenic compounds found in oil cake. However, complete information on the multiple roles of JCL for eco-environmental benefits is lacking. Recent reports on various roles of JCL such as effective phytoremediator, carbon sequester, degraded land developer, and soil erosion controller have been discussed in this communication. Additionally, some of its contribution for medicinal and deriving as therapeutic uses are also highlighted. JCL related problems are also discussed. Further there is a controversial debate on its application, extension, and risks, which needs to be exploited well for its beneficial role in tropical environment. These issues are dealt herewith to observe its future scope to mitigate energy crisis, environmental management and sustainable productions.

Contents

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