International Journal of ChemTech Research
CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555
Vol.9, No.07 pp 37-45, 2016

Morphological, Biochemical and Molecul *Jatropha curcas* Seedlings

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Abstract: Pot experiments were carried out in the two seasons of 2014 and 2015 at the greenhouse of National Research Centre, in order to evaluate the morphological, biochemical and molecular studies on *Jatropha curcas* L. seedlings. The results indicate that all morphological plant growth traits as well as stem and root length, stem diameter, number of shoot, leaves and root/plant, leaf area and fresh and dry weight of different plant organs were determined at the end of experiment. Moreover Biochemical study such as Dry matter (DM), Organic matter (OM), Ash and Neutral detergent fiber (NDF) were examined. Organic matter for different parts of *Jatropha* plant; crude protein, crude fiber, ether extracts, nitrogen extract and neutral detergent fiber (CP, CF, EE and NFE) were estimated and varied according to different plant parts. So, the biochemical study provides a reliable account of the endogenic concentrations of such chemicals present in different plant organs. In addition, molecular studies were carried out to compare between Inter-simple sequence repeat (ISSR) and direct amplification of minisatellite-region DNA (DAMD) markers to identify on *J. curcas* L. Ten ISSR and four DAMD markers were applied to identify *J. curcas* L. The ISSR analysis gave a total number of 124 reproducible bands ranging from 100 to 2000 bp scored using ten primers. On the other hand, a total of 33 bands were obtained using four primers DAMD. The number of amplified product varied from 185-1300 bp depending on the minisatellite primers used. This study shows efficiency both ISSR and DAMD markers in characterization of *J. curcas* plant.

Keywords: Morphological, Biochemical, Molecular marker, Microsatellite, Minisatellite.

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