World Academy of Science, Engineering and Technology
International Journal of Agricultural and Biosystems Engineering
Vol:10, No:01, 2016

Evaluation of Genetic Diversity Through RAPD Markers Among Melia azedarach L (Chinabery)

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Abstract : Melia azedarach L. is freshly fruited small to medium sized tree native to China and North western India. It is growing in Pakistan and Turkey in various areas facing great environmental changes to maintain its survival. The species is valued for its high quality wood, medicinal, ornamental and shade purposes. The present work was aimed to estimate the genetic variation among the populations of Melia azedarach L. leaf samples that were collected from five different locations of Turkey and three different areas of Pakistan. These populations were chosen on the random bases by applying RAPD primers in order to construct a dendogram using UPGMA method to show genetic diversity. After that appropriate conservation strategies were suggested. 14 primers producing polymorphic and monomorphic bands were analyzed. Genetic distances were calculated for all the species studied by RAPD-PCR methods. According to the results the lowest genetic identity values and the highest genetic polymorphic values were determined. It is observed that there was a clear split among populations from different areas in Turkey and Pakistan. These differences may be due to eco-geographical association with genetic variation and should be conserved to retain the genetic variation of the species.

Keywords : melia azedarach L., genetic diversity, conservation, RAPD-PCR, medicinal plant
Conference Title : ICAB 2016 : International Conference on Agriculture and Biotechnology
Conference Location : Jeddah, Saudi Arabia
Conference Dates : January 26-27, 2016