

Investigation of Genetic Diversity of *Tilia tomentosa* Moench. (Silver Lime) in Duzce-Turkey

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Abstract : In this study, we have performed genetic diversity analysis of *Tilia tomentosa* genotypes by using randomly amplified polymorphic DNA (RAPD) primers. A total of 28 genotypes, including 25 members from the urban ecosystem and 3 genotypes from forest ecosystem as outgroup were used. 8 RAPD primers produced a total of 53 bands, of which 48 (90.6 %) were polymorphic. Percentage of polymorphic loci (P), observed number of alleles (Na), effective number of alleles (Ne), Nei's (1973) gene diversity (h), and Shannon's information index (I) were found as 94.29 %, 1.94, 1.60, 0.34, and 0.50, respectively. The unweighted pair-group method with arithmetic average (UPGMA) cluster analysis revealed that two major groups were observed. The genotypes of urban and forest ecosystems showed a high genetic similarity between 28% and 92% and these genotypes did not separate from each other in UPGMA tree. Also, urban and forest genotypes clustered together in principal component analysis (PCA).

Keywords : *Tilia tomentosa*, genetic diversity, urban ecosystem, RAPD, UPGMA

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