EVALUATION OF AIR POLLUTION TOLERANCE INDEX (APTI) OF SOME ROADSIDE PLANTS AS BIO-INDICATORS IN ESFAHAN CITY, IRAN

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Introduction: This paper describes air pollution tolerance among roadside plants exposed to varying degrees of vehicular pollutants. Evaluation of air pollution tolerance index (APTI) of 9 selected plant species was carried out to assess their response to ambient levels of air pollutants along East of Esfahan city.

Material and method: Four parameters namely total chlorophyll, ascorbic acid, pH of leaf extract and relative water content were determined and computed together to signify air pollution tolerance index (APTI) of plants. Stress metabolites like ascorbic acid and chlorophyll of certain plant species exhibits different levels of sensitivity and tolerance towards air pollution.

Result and discussion: The highest and the lowest deposition rates were observed in Morus alba and Cercis sliquastrum, respectively. Among the nine different plant species examined, APTI value is maximum in Morus alba suggesting its higher tolerance. The Ornamental shrubs with lower APTI values (sensitive) were recommended to be utilized as bioindictors of poor urban air quality while shrubs with high APTI values (Tolerant) are to be planted around areas anticipated having high air pollution load.