ABSTRACT

Air pollution has become a major problem of urban areas of developing nations. Air pollution increased by rapid urbanization and industrialization. Lahore is the second largest city of Pakistan, is known as "City of Gardens". The key contribution of atmospheric pollution are vegetation loss, developmental activities, uncontrolled industrial emissions, increase in vehicular load resulted into atmospheric pollution. Vehicles operating on gasoline, diesel, Compressed Natural gas (CNG) have contributed in the emission of Carbon monoxide, Nitrogen Oxides and hydrocarbons. *Ficus religiosa* L. is one of the native tree of Lahore city planted on the road side because of its tolerance toward air pollutants. In this study Leaf area, Dust accumulation, Ascorbic Acid Content, Total chlorophyll content, Leaf extract pH, Relative Water Content and Air Pollution Tolerance Index of *Ficus religiosa* L. plants planted along the polluted roadsides of Lahore city were determined and compared with the control plants (Changa manga forest). The maximum dust was accumulated in *Ficus religiosa* L. leaves that was collected from Mall road Lahore whereas, minimum dust was noticed in leaves of control site. Data shows that the plants that's were grown near to roads having the less leaf area as compared to the control plants. Our study also told that higher contents of ascorbic acid were noticed in the plants grown on the roadsides of major three roads of the Lahore. The recent study showed that's the control plants having the higher value of pH, and total chlorophyll contents relative water content as compared to the plants grown on the roadsides of the city Lahore. Maximum Air pollution Tolerance index was recorded in the plants grown on Mall road which means that these samples shows higher tolerance toward air pollution. In the present investigation, expression level of matK gene in the *Ficus religiosa* L. Planted along the polluted roadsides of Lahore city were studied. DNA isolation from leaf samples of *Ficus religiosa* L. was carried out by using CTAB method. PCR amplification was tested with 1% agarose gel electrophoresis, results showed that the morphology of plants alters under the influence of air pollution stress. Expression level of matK gene is low in the *Ficus religiosa* L. that's were grown on Mall road as compared to the plants grown on Control site (Changa manga). Hence, it is concluded that the air pollution has deeply effect on genomorphic characters of *Ficus religiosa* L. planted on the polluted roads of Lahore