

NATURAL CLIMATE CONDITIONS AFFECT THE DEGREE OF AIR POLLUTION IN URBAN AREA

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The natural climate conditions such as temperature and moisture is a key factor affecting the degree of air pollution when urban area is compared to villages. The effect of various climate conditions on air pollutions in cities with similar traffic and population has not been compared extensively. In this research we compared the degree of air pollution in two different cities in Iran. A rapid and reliable test to measure the degree of air pollution used, based on the variation of peroxidase activity in the raw extracts of leaves from trees. Peroxidases are enzymes that are highly distributed in plant kingdom. Their biological activity changes as a response to various physical conditions such as heat shock and air pollution. The two cities in terms of traffic, the selected trees, their age and growth conditions were similar. The time of the year for study and the climate temperature was also similar, the two cities differed largely on the degree of air moisture. It was found that peroxidase activity was remarkably higher in leaves collected from trees grown in Tehran, a city located in Central Iran with dry climate, when compared to the peroxidase activity in leaves of trees grown in Rasht, a city near the Caspian sea where the degree of air moisture is 70-98%. It can be concluded from these results that the moisture in air is able to absorb some of the air pollutants caused by road traffic, leading to a moderate shock to the tree.