

MONITORING OF LEAD AND CADMIUM LOAD ON ROAD SIDE PLANT SPECIES

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ABSTRACT : Leaded petrol used earlier contaminated the environment and affected the health, paving way for use unleaded petrol vis-a-vis reduction of lead (Pb) burden. However, Pb and cadmium (Cd) in building materials, welding, paints and other application still contaminate the environment. Therefore, a comparative study was conducted in 1996 and 2007 to estimate Pb and Cd in leaves *Cassia fistula* (Amaltas), *Tamarindus indica* (Emlī), *Ficus bengalensis* (Vat), *Ficus religiosa* (Peepal), *Aegle marmelos* (Bel), *Zizyphus jujuba* (Ber), *Azadirachta indica* (Neem), *Hibiscus rosasiensis* (Jaswant), *Nerium indicum* (kaner), *Polyalthia longifolia* (Ashok) growing along road side of Lucknow university, Lucknow. The content of Pb and Cd in leaves were significantly reduced in 2007 compared to 1996, possibly due to use of unleaded petrol and tremendous building and offices construction in the area during 1996. The leaves of *Aegle marmelos*, *Zizyphus jujuba* and *Azadirachta indica* was found to be 12.06, 9.76 and 9.06 µg Pb/g in 1996 and 1.12, 5.65 and 2.23 µg Pb/g in 2007, respectively. The leaves of *Cassia fistula*, *Zizyphus jujuba* and *Ficus religiosa* accumulated 3.73, 3.50 and 3.50 µg/g in 1996 and 0.12, 0.27 and 0.30 µg/g in 2007, respectively. Thus, the leaves of *Zizyphus jujuba* were maximum accumulator of both Pb and Cd in 1996 and 2007. The species can be used as a marker for Pb and Cd pollution.

Keyword: *Cadmium, Heavy metals, Lead, Marker, Plant species*