



# Detection of Air Pollution of Road Origin by a Bio-accumulating Plant Species (*Pinus halepensis*) and Evaluation of the Concentrations of Heavy Metals in Western Algeria

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**Abstract:** The study was conducted to observe air pollution and evaluation of the concentrations of heavy metals by using a bio-accumulating plant species Aleppo pine (*Pinus halepensis*). Analyses of heavy metals in the needles and litter of Aleppo pine, revealed seven heavy metals (Cd, Cr, Cu, Fe, Ni, Pb and Zn) at both study sites (an urban site, Bosquet forest and a rural site located in a Telagh gas station). Each of them is divided into three sampling areas in the Sidi-Bel-Abbès in Algeria. The urban site is less polluted than the rural site. The areas exposed to road traffic in each of the two sites have a higher degree of heavy metal contamination than the other sampling areas. The pine litter accumulates more heavy metals than pine needles. The high concentrations of heavy metals recorded at the two sampling sites show that traffic and road infrastructure is a major source of heavy metals that are toxic to the environment. Lead, iron and zinc, the main metallic pollutants come from exhaust fumes, wear of brake linings, tires and corrosion of guardrails, are present in high concentrations in both sites.

**Keywords:** Aleppo pine, Bio accumulation, Heavy metals, Road traffic pollution, Western Algeria

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