

## ASSESSMENT OF METAL ATMOSPHERIC POLLUTION DURING AND AFTER THE CONSTRUCTION OF A PERIPHERAL HIGHWAY USING *TILLANDSIA USNEOIDES* AS BIOMONITOR

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São Paulo city has one of the biggest vehicle fleets in the world, with more than seven million circulating motor vehicles in the city, which are the main source of atmospheric pollution. The peripheral highway Mario Covas (SP-21) was planned in order to remove cars and trucks that cross the expanded city center on their way to other cities. In this study, *Tillandsia usneoides* (L.) L., an aerial epiphytic bromeliad, was used as biomonitor aiming to verify if the construction of the western and southern parts of the peripheral highway SP-21 in São Paulo city would alter the profile of atmospheric contamination by the elements Ba, Cd, Cr, Cu, Fe, Mo, Ni, Pb, Sb and Zn in the region. These elements are often associated with traffic and can indicate contaminated urban areas. Neutron Activation Analysis was employed as analytical technique for the determination of Ba, Cr, Fe, Mo, Sb and Zn. Samples of *T. usneoides* were irradiated at the IEA-R1 nuclear reactor at IPEN-CNEN/SP, and the induced activity was measured by high resolution gamma-ray spectrometry. The elements Cd, Cu, Ni and Pb were determined by ICP OES. Increasing concentrations of the analyzed elements were observed in the biomonitor after the inauguration of the highway, indicating that these elements originated from vehicular emissions and that the profile of atmospheric contamination changed in the region.