

Muhammad Arifudin Mubarak, 2020, **Korelasi Aktivitas Kendaraan Bermotor Terhadap Kandungan Timbal (Pb) dan Kerapatan Stomata pada Tanaman *Sansevieria sp* di Kota Surabaya**. Skripsi ini dibawah Bimbingan Dr. Hamidah, M.Kes. dan Dr. Moch. Affandi, M.Si. Departemen Biologi, Fakultas Sains dan Teknologi Universitas Airlangga, Surabaya

ABSTRAK

Emisi bahan bakar kendaraan bermotor merupakan salah satu penyebab terjadinya pencemaran udara di Kota Surabaya. Salah satu polutan yang menyebabkan pencemaran udara adalah timbal (Pb). Tanaman lidah mertua (*Sansevieria sp*) memiliki kemampuan sebagai biofilter udara yang dapat menyerap dan menjerap partikulat Pb di udara. Penelitian ini bertujuan untuk mengetahui kandungan Pb, kerapatan stomata, korelasi aktivitas kendaraan bermotor terhadap kandungan Pb, korelasi aktivitas kendaraan bermotor terhadap kerapatan stomata dan korelasi kandungan Pb terhadap kerapatan stomata daun *Sansevieria sp*. Pengambilan sampel dilakukan di lokasi jalan yang memiliki tingkat aktivitas kendaraan bermotor yang berbeda yaitu di jalan ramai (Jl. Urip Sumoharjo), sedang (Jl. Genteng Kali), dan sepi (Kawasan Kampus C Universitas Airlangga). Penelitian ini termasuk penelitian observasional yang menggunakan analisis data dengan metode deskriptif dan kuantitatif dengan SPSS 22.0. Penelitian ini dilaksanakan pada bulan Februari sampai April 2020. Kandungan Pb dianalisis menggunakan metode SSA destruksi kering di Balai Penelitian dan Konsultasi Industri (BPKI) Surabaya. Kandungan Pb pada daun *Sansevieria sp* di tiga lokasi jalan di Kota Surabaya berkisar antara 0,62 µg/g - 1,51 µg/g. Kerapatan stomata daun *Sansevieria sp* di tiga lokasi jalan di Kota Surabaya berkisar antara 33 - 45 stomata/mm². Korelasi aktivitas kendaraan bermotor terhadap kandungan timbal sebesar 0,989, Korelasi aktivitas kendaraan bermotor terhadap kerapatan stomata sebesar 0,983 dan korelasi kandungan timbal Pb terhadap kerapatan stomata sebesar 0,966, dimana dari ketiga korelasi tersebut dihitung menggunakan metode korelasi *pearson* dan menunjukkan adanya korelasi yang sempurna.

Kata Kunci : Timbal (Pb), Kerapatan stomata, Daun lidah mertua, *Sansevieria sp*, Polusi udara.

Muhammad Arifudin Mubarok, 2020, **Correlation Between Motorized Vehicle Activity and Lead (pb) Levels, As Well As Stomatal Density of *Sansevieria sp* Plants in Surabaya**. This script is under the guidance of Dr. Hamidah, M.Kes. and Dr. Moch. Affandi, M.Si. Department of Biology, Faculty of Science and Technology, Airlangga University, Surabaya

ABSTRACT

*Motor vehicle fuel emissions are one of the causes of air pollution in City of Surabaya. One pollutant that causes air pollution is lead (Pb). The tongue in law (*Sansevieria sp*) plants have the ability as an air biofilter that can absorb Pb particulates in the air. This study aims to determine the Pb content, stomata density, correlation of motorized vehicle activity to lead Pb content, correlation of motorized activity to leaf stomatal density and correlation of lead (Pb) levels to stomata density of leaf *Sansevieria sp*. Sampling was carried out at the road locations which had a different level of motor vehicle activity, namely on the crowded road (Jl. Urip Sumoharjo), moderate (Jl. Genteng kali), and quiet (campus C Airlangga University). This study included observational research that used data analysis with descriptive and quantitative methods with SPSS 22.0. The research was conducted in February - April 2020. The Pb content was analyzed using AAS at the Surabaya Industrial Research and Consultation Center (BPKI). The Pb content of leaf *Sansevieria sp* in three road locations in City of Surabaya ranged from 0,62 µg/g - 1,51 µg/g. The leaf stomatal density of *Sansevieria sp* in three road locations in City of Surabaya ranged from 153—371 stomata/mm². Correlation of motor vehicle activity to lead content was 0.989, Correlation of motor vehicle activity to stomata density was 0,983 and Pb lead content to stomata damage was 0.966, of which the three correlations were calculated using correlation the Pearson method and showed a perfect correlation.*

Keywords: *Lead (Pb), Stomata density, The tongue in law leaf, *Sansevieria sp* Air Pollution.*