

Influence of vehicular emissions on metropolitan trees using chlorophyll contents

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Abstract

The study assessed carbon sequestration potential of the identified trees {Gmelina, Mango, Neem, Masquerade, Step and Cassia} along the five selected roadsides in Abeokuta metropolitan. Leaves of the identified trees were plucked, digested in triplicate and analysed for chlorophyll (Ch) A, B and A+B contents using UV-visible spectrophotometer. Obtained data were subjected to descriptive and inferential statistics while correlation analysis for relationship between the analysed leaf Ch contents. Results indicated that leaf chlorophyll contents varied. The ranking of tree to metropolitan vehicular emission along roadsides was Neem < Gmelina < Mango < Masquerade tree. Correlation matrix analysis indicated that production of the Ch contents across the roadsides tree species was not alike and might be due to their specific reactions to vehicular emission. In conclusion, the order of Ch contents might be the tree species potential to withstand vehicular pollutants.

Keywords: Vehicular emission; urban trees; chlorophyll; uv-spectrophotometer; Abeokuta.

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