Biomonitoring of atmospheric ozone concentration analyses of soluble carbohydrates in leaves of *Nicotiana tabacum* Bel-W3

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The oxidative stress can be caused by exposition to high concentrations of ozone. The negative effects of ozone on plants include decreases rates of photosynthesis, leaf injury, reduced growth of shoots and roots, accelerated senescence, and reduced crop yield. The most frequency physiological effect caused by ozone refers to the modification in the carbohydrates metabolism, modifying the level of the carbohydrate accumulation on different organs and tissues. Sensitive plants have been used as simple and effective indicators of the O_3 biomonitoring. For this purposes *Nicotiana tabacum* Bel-W3, was exposed for 21 days, in three different places with high traffic cars in Presidente Prudente city to identify the presence of tropospheric ozone and quantify the soluble carbohydrates in the leaves of the exposures plants and comparing with leaves of plants in environmental without ozone. The visual analyses showed that all the leaves of the exposure plants were injuried. The plants in the rotatory of the City Museum presented an average ozone concentration of 12,2 ug/m³ after 21 days. The plants in Urban Terminal presented average concentration of 11,1 ug/m³ in the same period. There was also increase of total sugar concentration (quantified by Dubois et al., 1956), to the exposure plants in the environment with high traffic cars. However, the results of the visual analyses and the quantification of the carbohydrates showed that in the selected environments of this work there is a great ozone concentration.

Keywords: Biomonitoring, ozone, Presidente Prudente.

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