Suitability of *Nicotiana tabacum* ‘Bel W3’ for biomonitoring Ozone in São Paulo City, Southeast Brazil

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*Nicotiana tabacum* ‘Bel-W3’ is the most widely used sensitive bioindicator for ambient ozone especially in the United States and Europe. However, the knowledge on its visible leaf responses to ozone is limited in tropical and subtropical countries. Meteorological conditions, different from those the cultivar is acclimated, may influence the plant metabolism, such as the antioxidative responses, and then the occurrence of leaf necroses. For these reasons, the present study aimed at determining the relations between the percentages of leaf area affected by necroses in plants of *N. tabacum* and ozone concentrations and the influence of antioxidant on them. The plants were exposed in different sites of São Paulo during periods of fourteen days, along fifteen months and to increasing concentrations of ozone in fumigation chambers (20, 40, 60 and 80 ppb), for four days (3 hours/day). The percentages of affected leaf area were estimated as recommended by the Association of German Engineers (VDI). The leaf concentrations of ascorbic acid (AA) were also determined in plants submitted experimentally to ozone. A weak linear relation between leaf area with necroses and ozone ($R^2 = 0.10$) was determined in the field. The necrosed leaf area in fumigated plants enhanced exponentially. Ozone also promoted a significant decrease in the levels AA, the most pronounced reduction being detected in plants submitted to 40 ppb, which coincided with the occurrence of maximum leaf area affected by necroses. Further regression analyses were performed with data from the field study taking in account these results. The linear relation between leaf damage and ozone concentrations was clearly improved when the ozone levels were limited to 40 ppb or less ($R^2 = 0.30$), showing that *N. tabacum* ‘Bel-W3’ is suitable for biomonitoring low levels of ozone in São Paulo.