

EMISSIONS FROM THREE PLANT SPECIES IN FOREST SURROUNDING MEXICO CITY

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Ozone induce stress in plants leading to increase or decrease the synthesis of biogenic compounds as a mechanism of defense. Isoprene and monoterpenes are two biogenic compounds that are precursors in ozone formation. This could increase the problem related to ozone exposure. In this study, three native plant species were sampled in forests surrounding Mexico City. The emission factors were obtained during the last months of 2002 and the beginning of 2003. The plants sampled were *Abies religiosa*, *Pinus patula* and *Quercus rugosa*. The emission factors were obtained from two seasons: autumn (Au) and spring (Sp). Au started at the end of the raining season and Sp was the hottest months of the year. The emission in *Abies* was of 4.544 $\mu\text{g gDW}^{-1} \text{h}^{-1}$ in Au and of 0.0119 $\mu\text{g gDW}^{-1} \text{h}^{-1}$ in Sp. In Pine was 3.55 $\mu\text{g gDW}^{-1} \text{h}^{-1}$ in Au and of 1.115 $\mu\text{g gDW}^{-1} \text{h}^{-1}$ in Sp. The changes in the emissions were due to the leave development. In *Quercus*, the emission was 17.175 $\mu\text{g gDW}^{-1} \text{h}^{-1}$ in Au and 126.5 $\mu\text{g gDW}^{-1} \text{h}^{-1}$ in Sp. It was also sampled during summer and the emission found was 1.19 $\mu\text{g gDW}^{-1} \text{h}^{-1}$. It seems that isoprene emission served as a protection against ozone. As soon as the rain started the pollution was cleaned from the air and the emission presented a drop. In the case of *Abies*, old leaves looked damaged by ozone, they turned yellow and died.