PLANTAS EM AMBIENTES ESTRESSANTES: EFEITOS INDUZIDOS PELO OZÔNIO

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ABSTRACT. Tropospheric ozone is the most important air pollutant worldwide nowadays. Not only it is found in vast regions of the planet, both urban and rural, but it also reduces crop productivity and is a risk factor to plant communities and ecosystems. Ozone (O_3) is a strong oxidant formed in the atmosphere through photochemical reactions between nitrogen oxides and volatile organic compounds. Ozone phytotoxicity is related to its reactive character. In the apoplast, it reacts instantaneously with cell wall and plasma membrane components, producing reactive oxygen species (ROS). As ROS are inherent to plant life, cells have defense mechanisms against this natural stress factor however, by increasing the production of ROS, O_3 promote cellular perturbation that can lead to reductions in photosynthetic rate, premature leaf senescence, leaf necrosis and reduction in productivity and growth. O_3 effects are specie-specific and sensitive genotypes may be locally extinct resulting in alterations in competitive relantionships, reductions of species richness and changes in the community structure.