

THE ROLE OF NITRIC OXIDE AND TYROSINE PHOSPHATASE DURING MAIZE (*ZEA MAYS*) SEED GERMINATION UNDER SALINE STRESS

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Phosphorylation and dephosphorylation of tyrosine residues is an important pathway involved in cell development and differentiation during seeds germination. High salinity can modify this metabolism that is characterized by an important factor involved in plant growth. Nitric oxide (NO) promotes the reverse of saline stress in plants and it has been studied in abiotic stress, root development and others events. The objective of this study was to observe the action of the NO donor (Ascorbic Acid 200 μ M + NaNO₂ 100 μ M) and this relationship with tyrosine phosphatase during maize seed germination. NO donor promotes reversion of growth in seeds soaked with NaCl 0,3M after 36h of germination. Our results showed an increase of protein content (two fold) and tyrosine phosphatase activity (four fold) in embryos soaked with NaCl + NO donor, compared with the embryos soaked only with NaCl in 48h of germination. Thus the protein profile analysed by SDS-PAGE suggests an inhibition of protein degradation when NaCl was used, although when NO donor was added the proteolysis was reversed. Therefore this NO donor was capable to overturn the negative effect of NaCl in this phase of maize germination.

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