

NITRIC OXIDE AS AN INDUCER OF PAPAYA DEFENSE SYSTEM

Dias, G.B.¹, Rodrigues, S.P.¹, Ventura, J.A.^{1,2}, Fernandes, P.M.B.¹

¹Núcleo de Biotecnologia, Universidade Federal do Espírito Santo; ²Instituto Capixaba de Pesquisa, Assistência Técnica e Extensão Rural, Vitória, Brazil.

Defense mechanisms in plants are activated by the interaction between an elicitor molecule and the plant cell proteins. To achieve a better disease and pest control in plants it is important to understand the role of each member on the biochemistry process of plant defense. Nitric oxide (NO), a reactive oxygen specie, has been shown to have an important role in plant stress response. In this work, an NO donor, sodium nitroprusside (10 mM SNP) was used to analyze the role of this compound as system defense inducer in papaya seedlings. NO treated plants showed a gradual increase of O_2^- and H_2O_2 during the first 24 hours, stabilizing after this period. SNP treatment also induced an increase of peroxidase gene expression, an enzyme related to lignin production. In conclusion, NO acted as an elicitor in papaya seedlings, inducing reactive oxygen species accumulation, which may promote resistance to pathogen attack.

Financial support: FINEP, BNB, CNPq

Key words: *Carica papaya*, reactive oxygen species, stress.