

INDUCTION OF POLYPHENOL OXIDASE ACTIVITY OF CASHEW APPLE
(*ANACARDIUM OCCIDENTALE*, L.) BY WOUNDING

Christiane Queiroz, Carolina F. F. Moreira, Luciana S. Gomes, Maria L. M. Lopes,
Eliane Fialho, Vera L. Valente-Mesquita

Departamento de Nutrição Básica e Experimental, Instituto de Nutrição Josué de
Castro, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil

Cashew tree is native from Brazil where its culture has a large socioeconomic importance, mostly by its nuts. The peduncles (cashew apple) do not have high commercial importance due its astringency and high perishability, related to the presence of tannins and the oxidation of phenolic compounds and ascorbic acid. Polyphenol oxidase (PPO) is an enzyme responsible for browning in tissues by catalyzing the oxidation of polyphenols to quinones, which polymerize producing colored pigments. The objective of this study was to evaluate the effects of wounding in total and free phenolic compounds, condensed tannins and enzymatic activity in juices extracted after 0 (control), 6 and 24 hours of cutting. Injury increased 8-fold the enzymatic activity and decreased total and free polyphenols and tannins content by 17, 34 and 44%, respectively. In SDS-PAGE it was observed a band with 50 kDa, which became more intense after 6 hours of injury. Cashew apple has a high content of polyphenols and the reduction of these compounds could be related to the increasing of PPO activity.

Key words: cashew apple, wounding, PPO, phenolic compounds

Supported by: FAPERJ, CAPES