ENZIMATIC ANALYSIS OF PAPAYA SUBJECTED TO ULTRASOUND PROCESSING

Francisca I. P. de Oliveira, Francisca D. L. Almeida, Ana K. F. Leite, Fabiano A. N. Fernandes, Sueli Rodrigues. Department of Chemical Engineering, Federal University of Ceará - UFC, Av. Mister Hull s/n, 60021-970, Fortaleza, Ceará, Brazil

Proteolytic enzymes are involved in important biological processes, since the polyphenyloxidase is related to darkening in fruits. As such controlling these enzymes are of great importance in studies related to food. The objective of this study was to evaluate the behavior of papaya enzymes when subjected to ultrasound and to osmotic solutions of 0, 25 and 50% of sucrose. The results showed that the processing time significantly affect the residual activity of the PPO enzyme in 60 minutes. The inactivation increased with increasing ultrasound time. For the test conducted to determine the protease enzyme, which the same conditions and concentrations of osmotic PPO used was applied a higher concentration 50% resulted in the most enzymatic inactivation. Fruit not sonicated showed a higher inactivation PPO and protease in the concentration of 25% and 60 min. The sonication is efficient for total enzyme inactivation, this operation is important to ensure a stable product with a considerably better shelf life.