

Use of Thermosonication to Obtain Minimally Processed Mosambi Juice

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Abstract : Extent of inactivation of pectin methylesterase (PME) in mosambi juice during thermal and thermosonication treatments was studied to obtain a minimally processed product. Effect of both treatments on cloud value, pH, titratable acidity, °Brix, and sensory attributes (flavour and taste) was studied. Thermal treatments (HT) were carried out at three temperatures 60, 70, and 80°C in a serological water bath for 5, 10, 15, and 20 min at each temperature. Thermosonication treatments (TS) were also given for same time-temperature combinations in water bath of a thermosonicator. Treated samples were stored in a deep freezer at 18°C for PME assay. PME activity of untreated sample was also assayed and residual PME activity and % loss in PME activity was calculated at each time-temperature combination. The extent of inactivation of PME increased with increase in treatment temperature and duration. Thermosonication treatments were found far more effective than thermal treatments of same time temperature combination in PME inactivation and retention of sensory attributes.

Keywords : pectin methylesterase, heat inactivation kinetics, thermosonication, thermal treatment

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