Development of a High Pressure Processed Pineapple Jam Rich in Fiber Content and Antioxidants

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The increasing demand for minimally processed food products is attracting the attention of food industries towards non-thermal food processing technologies like high pressure processing (HPP). A fruit jam is mostly added with artificial colors and flavors because of the loss of these quality attributes during thermal processing (TP). Moreover, a huge loss of bioactive compounds occurs during the thermal processing of jam. Therefore, high pressure processing was used to prepare a pineapple jam with the target to achieve a better quality as compared to the thermal-treated jam. Also, the high pressure processed jam was supplemented with sapota fiber, and antioxidant rich pomegranate peel extract. Dynamic rheological characterization of the samples was used to select a suitable concentration of fiber required for texture development of HPP jam. The high pressure processed jam containing 12% fiber showed similar rheological properties as that of the thermal processed jam. And, the nutritional composition (total phenols, total flavonoids, and antioxidant activity) was better than the thermal processed jam. The antioxidant activity of jam samples increased with the increase in extract concentration. But, a 0.9% concentration was selected based on the sensory analysis. There was no significant change found in bioactive compounds and sensory attributes of the jam after processing under high pressure, but decreased significantly after thermal-treatment.

Keywords: Antioxidants; Fiber; High pressure processing; Pineapple jam; Rheology; Sensory analysis.

Biography

Ms. Kaunsar Jabeen Shinwari has completed her M.Tech in Food Engineering and Technology from Sant Longowal Institute of Engineering and Technology in 2012. She is now pursuing PhD in Food Process Engineering from IIT Kharagpur. Her area of specialization includes non-thermal food processing and extraction technologies, and food characterization based on rheology, bioactive compounds, structural and functional properties.

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