

Title Effect of Ultra-high pressure on the Quality and Safety of Fresh-cut longan Fruit
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Abstract

Longan fruit could be peeled, sliced and packaged to commercially sold. However, peeling and cutting increased the area of injured tissue available for microbial proliferation and biochemical deterioration for longan fruit to reduce the shelf-life of it as compared to intact longan fruit. Thereby, it is necessary to develop a suitable technology to extend the shelf life for the commercial use of fresh-cut longan fruit. In this paper, the effects of ultra-high pressure (UHP) on the quality of fresh-cut longan fruit were studied. The slices of fresh-cut longan fruit were treated with different pressure for 10 min and then were stored at 4°C for 9 days. The effect of UHP on micro-organisms, sensory characteristics, total soluble solids, titratable acidity and ascorbic acid of fresh-cut longan fruit was determined during different storage time. UHP of 400MPa was able to reduce the number of bacteria on fresh-cut longan fruit by 4.47 log 10cfu/g and no bacteria was assayed on fresh-cut longan fruit treated with 600 MPa before storage. On the 9th day of storage, the total bacteria counts on fresh-cut longan fruit treated with 400 MPa and 600MPa were 1.55 log₁₀cfu/g and 0 log₁₀cfu/g, respectively. The UHP treatment of 600MPa effectively prevented the browning of fresh-cut longan fruit and microorganisms growth in it, either, the processing maintains maintaining quality of fresh-cut longan fruit. The UHP treatment could result in microbial destruction and product stabilization without affecting the sensory characteristics of samples, so, UHP was an alternative potential nonthermal preservation method for pasteurization o fresh-cut longan fruit.