Oral Session | Postharvest/Food Technology and Process Engineering

[4-1330-A]Postharvest/Food Technology and Process Engineering (2)

Chair:Olaniyi A. Fawole(Stellenbosch University, South Africa), nutthachai pongprasert(King Mongkut's University of Technology Thonburi, Thailand)

Wed. Sep 4, 2019 1:30 PM - 3:30 PM Hall A (Main Hall)

2:15 PM - 2:30 PM

[4-1330-A-04]Combination of high pressure processing and heat treatment on quality and antioxidant activity of fresh-cut persimmon

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The effect of high pressure processing (HPP) in combination with heat treatment on storage quality and antioxidant activity of fresh-cut persimmon were investigated. Flesh persimmon (*Diospyros kaki* L., cv. ‘Hiratanenashi’) were cut and treated by HPP at 80 MPa combined with heat treatment at 40° C for 5, 10 and 15 minutes, non-treated was used as a control treatment. Then, they were stored at 5 ° C for 8 days. The quality determinations were measured for respiration rate, weight loss, color, flesh firmness, total soluble solid, polyphenol oxidase activity (PPO), total phenolic content (TPC) and antioxidant activity by 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging activity and ferric reducing antioxidant power (FRAP) assays. The result showed that HPP-treated had significantly lower respiration rate and weight loss than the non-treated. During the period evaluated, L^*, C^* and flesh firmness were significantly lower in HPP-treated than the non-treated. PPO activity increased during storage however HPP-treated for 5 and 10 min could reduce the PPO activity when compared with other treatments. TPC, DPPH radical scavenging activity and FRAP activity decreased during storage but HPP-treated for 5 min maintained significantly higher values of TPC, DPPH and FRAP than the other treatments. HPP (80 MPa) combined with mild heat treatment (40° C) for 5 min provides potentially beneficial maintained high antioxidant activity and reduced respiration rate, weight loss and PPO activity with only a slight translucency caused by high pressure in fresh-cut persimmon.