Effect of high pressure processing and modified atmosphere packaging on the safety and quality of sliced ready-to-eat "lacón", a cured–cooked pork meat product

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Abstract

Microbiological and sensory characteristics of sliced "lacón", a cured–cooked meat product, vacuum-packaged (VP), pressurized at 500 or 600 MPa, and modified atmosphere packaged (MAP), were investigated during storage at 4 °C for 120 days. Viable bacterial counts exceeded 10^8 cfu/g in VP and MAP "lacón" from day 30 while this level was not reached in pressurized "lacón" until day 90. Pressurization at 500 MPa was the best procedure to control Gram-negative bacteria. During storage the pH value declined by 0.13 units in VP, 0.23 units in MAP, and 0.49 units in pressurized "lacón". Primary and secondary lipid oxidation indexes declined during storage, with small differences between treatments. Flavour quality scores for 90-day and 120-day samples averaged 5.63 for VP "lacón", 6.51 for MAP "lacón", 6.48 for 500 MPa "lacón" and 5.81 for 600 MPa "lacón". Flavour quality correlated negatively with viable bacterial counts, lactic acid bacteria and Gram-negative bacteria.