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

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Abstract

Volatile compounds and odour characteristics of sliced "lacón", a cured–cooked pork meat product, vacuum-packaged (VP), modified-atmosphere-packaged (MAP), and high-pressure-processed (HPP) at 500 or 600 MPa were investigated during a 120-day refrigerated-storage period. A total of 142 volatile compounds were identified by gas chromatography–mass spectrometry. Benzenic compounds, alcohols, esters and ketones predominated, followed by acids, aldehydes, hydrocarbons, nitrogen compounds, terpenoids, sulphur compounds, halogenated compounds and ethers. In VP "lacón", levels of esters, alcohols, acids and benzenic compounds increased until day 120 while ketones and sulphur compounds peaked on day 60 and declined afterwards. In MAP "lacón", the levels of esters, sulphur compounds and alcohols were lower, and the levels of hydrocarbons higher, than in VP "lacón". In HPP "lacón", the levels of acids, alcohols, esters and sulphur compounds were lower, and the levels of aldehydes higher, than in VP "lacón". Differences in odour characteristics between treatments were negligible, according to sensory analysis.