

# **Influence of physicochemical parameters and high pressure processing on the volatile compounds of Serrano dry-cured ham after prolonged refrigerated storage**

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## **Abstract**

One hundred and three volatile compounds were detected by solid-phase microextraction followed by gas chromatography–mass spectrometry in 30 ripened Serrano dry-cured hams, submitted or not to high pressure processing (HPP) and afterwards held for 5 months at 4 °C. The effect of ham physicochemical parameters and HPP (600 MPa for 6 min) on volatile compounds was assessed. Physicochemical parameters primarily affected the levels of acids, alcohols, alkanes, esters, benzene compounds, sulfur compounds and some miscellaneous compounds. Intramuscular fat content was the physicochemical parameter with the most pronounced effect on the volatile fraction of untreated Serrano ham after refrigerated storage, influencing the levels of 38 volatile compounds while  $a_w$ , salt content and salt-in-lean ratio respectively influenced the levels of 4, 4 and 5 volatile compounds. HPP treatment affected 21 volatile compounds, resulting in higher levels of alkanes and ketones and lower levels of esters and secondary alcohols, what might affect Serrano ham odor and aroma after 5 months of refrigerated storage.