

## **Effect of chemical composition and high pressure processing on the volatile fraction of Serrano dry-cured ham**

*Meat Science* (2016) 111, 130-138

Nerea Martínez-Onandi, Ana Rivas-Cañedo, Manuel Nuñez\*, Antonia Picon.

Departamento de Tecnología de Alimentos, INIA, Carretera de La Coruña km 7, Madrid 28040, Spain.

\* Corresponding author: nunez@inia.es

### **Abstract**

The volatile fraction of 30 Serrano dry-cured hams with different salt and intramuscular fat contents was investigated. In addition, the effect of high pressure processing (HPP) at 600MPa for 6 min at 21 °C on the volatile compounds of those hams was studied. One hundred volatile compounds were identified and their levels subjected to analysis of variance with ham chemical composition (aw, salt content, intramuscular fat content and salt in lean ratio) and HPP treatment as main effects. Chemical composition mainly affected the relative abundance of acids, alcohols, branched-chain aldehydes, ketones, benzene compounds, sulfur compounds and some miscellaneous compounds. Salt content and fat content influenced a greater number of volatile compounds than aw. High pressure processing had a significant effect on only 8 volatile compounds, with higher levels of methanethiol and sulfur dioxide in HPP-treated samples and higher levels of ethyl acetate, ethyl butanoate, ethyl 2-methylbutanoate, ethyl 3-methylbutanoate, dimethyl disulfide and dimethyl trisulfide in control untreated samples.