

Abstract

Dry fermented sausages process is crucial to develop suitable sensory characteristics, being aroma and taste the most important quality parameters for consumers. Therefore, the knowledge of aroma active compounds is of great interest to find out which of them define the sensory acceptability, in order to design new technological strategies to enhance the aroma of dry fermented sausages. In view of this, the present Thesis deals with the study of aroma volatile compounds by means of two decisive steps in compounds identification; the extraction and detection technique employed. From standpoint of the volatile compound extraction, solvent extraction (SAFE) and headspace (SPME) techniques were applied to traditional dry fermented sausages. Furthermore, olfactometry techniques (gas chromatography-olfatometry and odour activity value) were applied to know which technique obtains a representative aroma extract of the dry fermented sausages. From the point of view of the volatile compounds detection, different specific chromatographic detectors (flame photometric, nitrogen-phosphorus, olfactometry) were used to facilitate the identification, using gas chromatography-mass spectrometry and multidimensional gas chromatography, of minor volatile compounds generated throughout the dry curing process.

On the other hand, consumer health interests are of great importance to meat industry. To this end, the effect of salt reduction on sausage quality has been determined, as well as, the effect of fat and salt/fat reduction. In addition, a *Debaryomyces hansenii* strain was used as alternative to enhance the aroma of reformulated sausages. In this sense, the physic-chemical, microbiological and sensory parameters of reduced salt and/or fat sausages inoculated with *D. hansenii* were studied. Also, the generation of volatiles compounds and their aroma potency in these reformulated sausages were studied.