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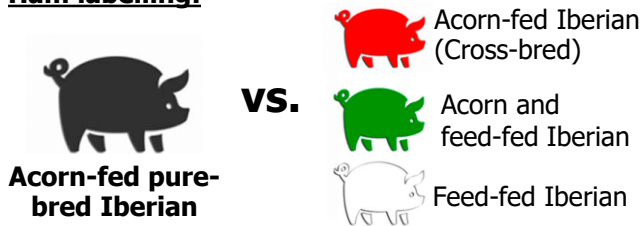
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## INTRODUCTION

Iberian ham is a worldwide appreciated product, which is classified in different quality categories depending on the pig breed purity and feeding regime

The most valuable category: **Acorn-fed purebred Iberian ham** is obtained from Iberian pigs fattened on grazing acorns and a long processing period (>3 years)

### Ham labelling:



A method based on gas chromatography-ion mobility spectrometry (**GC-IMS**) was used with good results for **classification of Iberian ham samples** using 120 samples<sup>(1)</sup>.

(1) Andrés Martín-Gómez, Natalia Arroyo-Manzanares, Vicente Rodríguez-Estévez, Lourdes Arce. Meat Science, 2019. **152**: p. 146-154.

## OBJECTIVE

The large-scale extrapolation of previously published results, analyzing a **large volume of samples (998)** from different origins and with high variability

## NON-DESTRUCTIVE SAMPLING

A needle was used to sample the fat from the ham piece. The needle impregnated with fat is encapsulated in a vial and the volatile compounds are analysed by GC-IMS



## ANALYSIS HS-GC-IMS

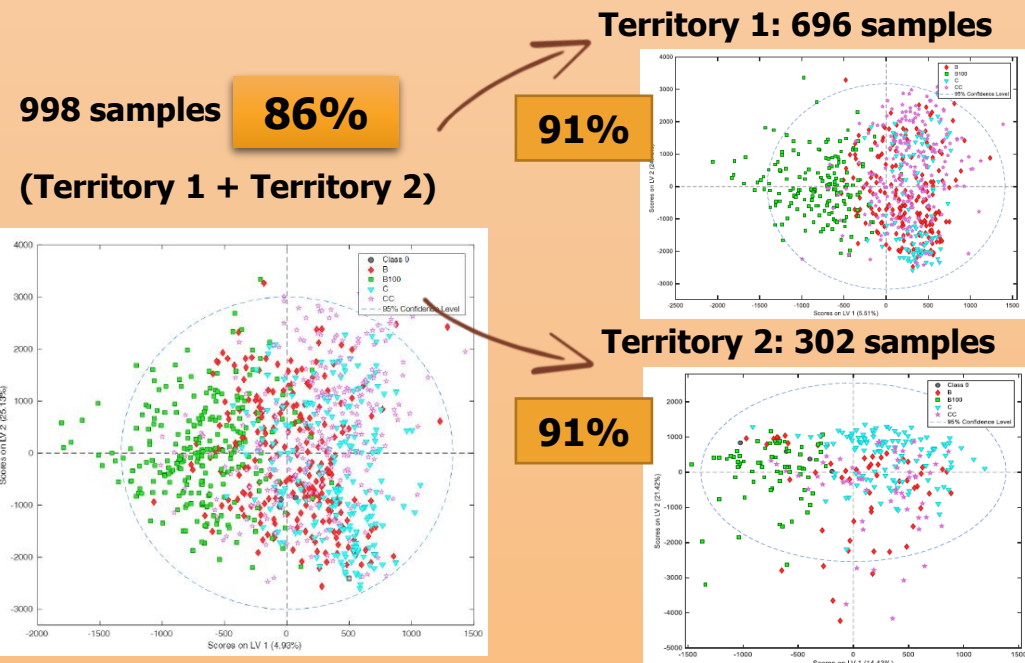
- <sup>3</sup>H radioactive ionization source
- Carrier gas: He
- Drift gas: N<sub>2</sub>
- Sample incubation: 80 °C / 5 min.
- GC ramp temperature: 40 °C (3 min), 5 °C/min, 100 °C, 15 °C/min, 130 °C (10 min)
- Drift tube temperature: 45 °C



## NON-TARGETED CHEMOMETRICS

### Partial Least Squares-Discriminant Analysis (PLS-DA)

Discrimination between two categories: The most valued commercial category (Acorn-fed purebred Iberian ham) vs The rest



## CONCLUSIONS

- The chemometric non-targeted approach provides good results for the classification of 998 Iberian hams despite sample variability an different origin
- The success in the classification increases if using samples of a single territory, due to the variability of the "territory" factor that exists in the organoleptic properties of this type of product
- The non-destructive sampling method is valid for high value products