

Introduction



Objectives

- Characterize the free volatile aroma compounds of Trujillo melons from La Mancha region (Spain) during three consecutive harvests by GC-MS.
- Define the olfactive and gustative sensory profile of Trujillo melons from La Mancha region (Spain) by quantitative descriptive sensory analysis.

Materials and Methods.

MELONS

Field trials were performed at La Entresierra field station at Ciudad Real in central Spain (3° 56' W; 39°0' N; 640m altitude), during May to September of 2011, 2012 and 2013.

Melon is cultivated during the dry season, with an average annual rainfall of 400 mm

Harvested when there were a significant number of fully ripe fruits in the field and harvesting was carried out weekly

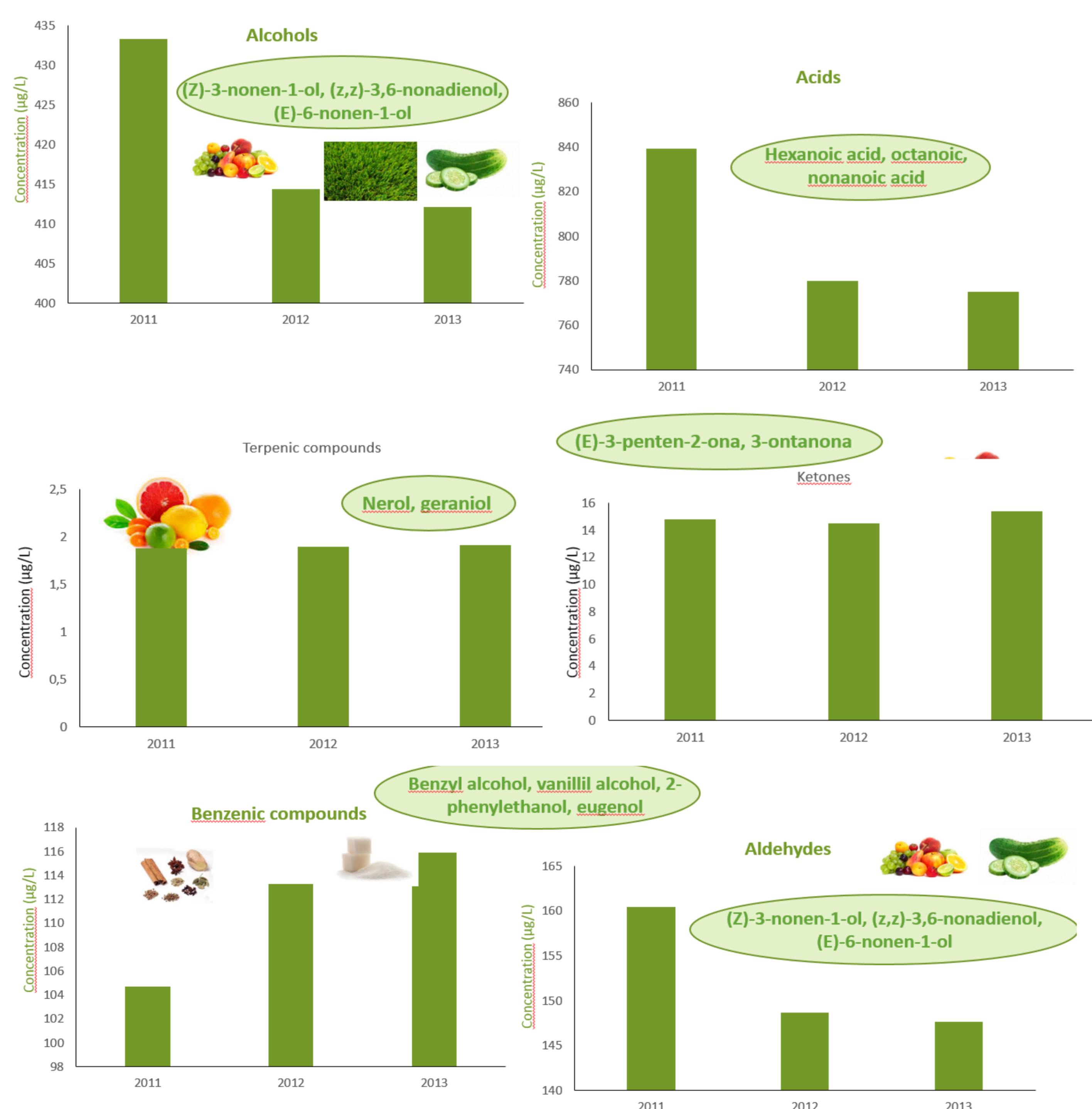
Uniform fruit, fully netted, with no defects weighing about 3.5 kg were washed and brushed.

Melons were stored at 15°C before analysis and all analyses were performed within 2 days of harvest



RESULTS

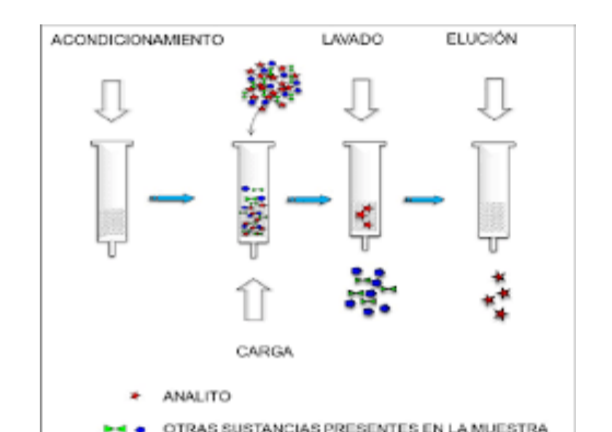
VOLATILE COMPOUNDS



Quantitative Descriptive Sensory Analysis (QDA): A group of 8 assessors (6 female and 2 male), between 30 and 56 years of age staff members from the University of Castilla-La Mancha, Spain, and experienced in food sensory evaluation using quantitative descriptive analysis judged the intensity of the attributes selected to describe Trujillo La Mancha melons Tests were conducted in a standard room (ISO 8589, 2007) equipped with a table for joint sessions and fourteen individual taste booths.

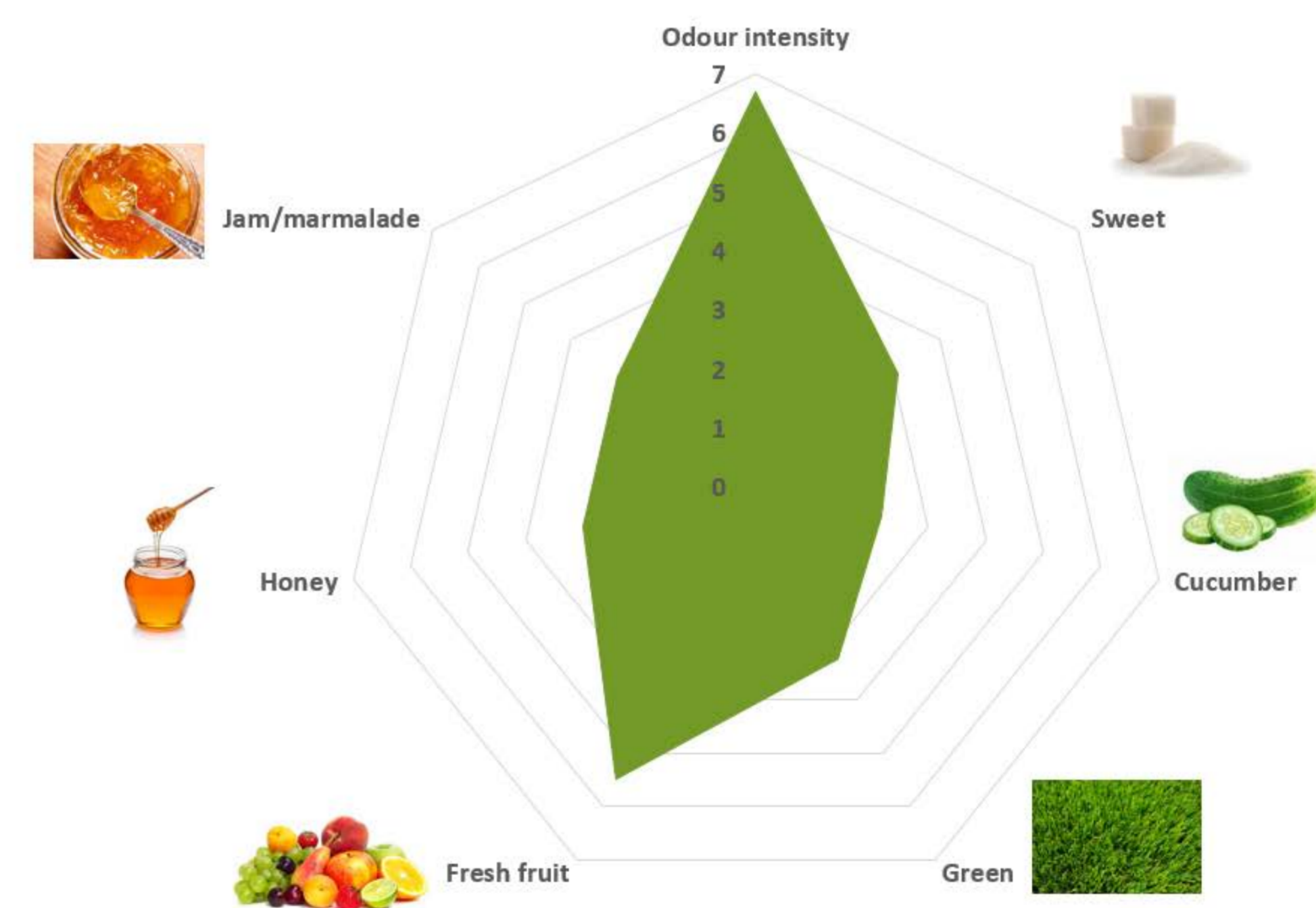
VOLATILE COMPOUNDS:

- Volatile compounds were determined by GC-MS.
- Extraction of volatile compounds was carried out according to the method proposed by Sánchez-Palomo et al., 2006 using styrene-divinylbenzene cartridges (LiChrolut EN, Merck, 0.5g of phase)



SENSORY ANALYSIS

AROMA SENSORY PROFILE LA MANCHA TRUJILLO MELONS



TASTE AND AFTER TASTE SENSORY PROFILE LA MANCHA TRUJILLO MELONS: PCA



CONCLUSIONS

- This work provide a better knowledge of the aroma composition and sensory profile of Trujillo melons grown in La Mancha region, also this study presents results from the first experiment performed on the free aroma compounds from this melon type from Castilla La Mancha region.
- La Mancha Trujillo melons present a complex chemical profile with a high richness in their aromatic composition. The free aroma of La Mancha Trujillo melons is characterized by large amounts of alcohols, acids, aldehydes and benzenic compounds.
- Sensory aroma profile of Trujillo melons was characterized by jam/marmalade, cucumber, fresh fruit, sweet and ripe fruit aroma descriptors and the sensory taste profile was characterized by sweet, honey, jam/marmalade, cucumber, fresh fruit ripe fruit and green flavour-by-mouth descriptors