Title Long-term postharvest aroma evolution of tomatoes with the alcobaça (*alc*) mutation

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Citation European Food Research and Technology, 233, Number 2, 331-342, 2011

Keywords Alcobaça; Aroma; Postharvest; Ripening mutants; Sensory analysis; Tomato landrace

Abstract

The postharvest evolution of Penjar tomatoes has been studied in four accessions representative of the variability of the varietal type. The long-term shelf life of these materials, which carry the *alc* allele, was confirmed with 31.2–59.1% of commercial fruits after 6 months of effective conservation at room temperature and a limited loss of weight (21.1–27.9%). Aroma in Penjar tomatoes is differentiated from other tomato varieties by a characteristic 'sharp-floral' aroma descriptor. The evolution of the 'sharp-floral' aroma during postharvest showed a peak of intensity at 2 months of postharvest, though in one accession a delay of 2 months in this response was detected. Out of 25 volatiles analysed, including main and background notes, a reverse iPLS variable selection revealed that the main candidates behind this aromatic behaviour are α-terpineol, *trans*-2-hexenal, 6-methyl-5-hepten-2-one, *trans*-2-octenal, α-pinene, β-ionone, 2 + 3-methylbutanol and phenylacetaldehyde. Between harvest and 2 months postharvest, most compounds reduced considerably their concentration, while the intensity of the 'sharp-floral' descriptor increased, which means that probably there is a rearrangement of the relative concentrations among volatiles that may lead to masking/unmasking processes.

http://www.springerlink.com/content/356704k77373v368/fulltext.pdf