

# Nectarine volatilome response to fresh-cutting and storage

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## Abstract

The offer of fresh-cut peaches and nectarines represents a valid alternative for stone fruit commercialization and matches the increasing market demand of ready-to-eat (RTE) products.

In this study we explored the effect of fruit processing and storage on the volatilome of RTE fresh-cut nectarine. Fruit of three cultivars were sliced and packed in an industrial line and stored for 5 d at 5 °C. Volatile organic compound (VOC) evolution was assessed daily in both intact and processed fruit by an exhaustive untargeted analysis, performed by proton transfer reaction-time of flight-mass spectrometry (PTR-ToF-MS) and solid phase microextraction- gas chromatography-mass spectrometry (SPME/GC-MS).

Fresh-cut processing induced a major variation in nectarine volatilome depending on genetic differences and storage. This volatilome amelioration may be considered as an applicable strategy to enhance peach and nectarine perceived quality. Moreover, results of this study allowed the detection of a set of possible biomarkers enabling the selection of the best nectarine genotypes for processing and the prediction of the product shelf life based on the release of flavours and off-flavours.