2nd Global Conference on Agriculture

Berlin, Germany 09-11 Dec 2022

Identification of active volatile compounds in cajá, umbu and cajá-umbu pulp

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Abstract

Fruits of genus *Spondias* are considered exotic fruits of good appearance, nutritional quality, pleasant aroma and flavor, and these are very much appreciated for consumption in the fresh or processed form. One of the main quality attributes in fruits is the aroma, which along with its taste results inmflavor, being one of the main indicators of the appreciation of a fruit and its derived products. Thus, this work aimed to analyze the aromatic profile and identify the active compounds of the aroma of fruits of genus *Spondias*, viz. cajá, umbu and cajá-umbu and in products derived by means of gas chromatography coupled with gas-olfactometry mass spectrometry (GC-MS/O) using HSSE-SBSE techniques for extractions. The extraction by HSSE captured volatile compounds of the 3 species of *Spondias* analyzed, presented a greater number of compounds (112). Among the volatile compounds identified in the pulp of cajá, umbu and cajá-umbu fruits, were the butyl butanoate, possessing green and poignant aroma, which was common in the three fruits, with a lower concentration (51 µg/mL) in umbu, intermediate (156 µg/mL) in cajá-umbu and higher (1573 µg/mL) in cajá. Eighteen main biomarker compounds of aroma were identified in pulp of cajá, 13 for the aroma of umbu and 14 for the aroma of cajá-umbu, among which ethyl butanoate and butyl butanoate presented characteristic odors of cajá and umbu fruits. The GC-O indicated that terpenes and esters were the major chemical classes of volatile compounds in the pulps analyzed, contributing to their characteristic aroma with a predominance of fruity, sweet, floral and citrus odor notes.

Keywords: Active odor, GC-O, Headspace sortive extraction, Spondias, volatiles compounds