Characterization of the volatile profile of marmelada espinho fruit (Alibertia sesselis)


Alibertia sesselis berry is a fruit commonly known as marmelada espinho. Fruits of the Cerrado have greatly appreciated exotic flavors, but studies on the volatile profiles are lacking. Fruits at three maturation stages (green, intermediate and mature) were investigated in a simple randomized study. The volatiles were extracted from 2 g samples by SPME fiber, Carboxen/polydimethylsiloxane 65 µm, and analyzed by GC/MS. The initial temperature of the column was 40°C, which was increased to 200°C in 40 minutes. We identified 36, 66 and 46 compounds in the green, intermediary and mature stages, respectively. The volatile compounds identified were: 14 alcohols, 11 aldehydes; two carboxylic acids; 14 ketones, 25 hydrocarbons, 10 esters; 6 nitrogen compounds. The three stages of maturation showed differences, the highest number of volatile compounds being found at the intermediate maturation stage. The volatile compounds present in larger quantities (area percentages) were butyl acetate (16.50 ± 12.82), hexane-1-ol (16.95 ± 6.21), 2,6-dimethylheptane-3-one (22.56 ± 5.78), dihydro-5-methylfuran-2(3H)-one (10.19) and benzyl 2-hydroxybenzoate (7.82). Some of the compounds identified are associated in the literature with flavors described as pungent, green, fruity, sweet and herbaceous. The aromatic profile of Alibertia sesselis, characterized for the first time, can assist in the preservation of this species.