FLAVOR CHARACTERIZATION OF WHITE PITAYA (*Hylocereus undatus*) AND RED PITAYA (*Hylocereus polyrhizus*)

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ABSTRACT

Pitaya is one of newcomers on market. It is also one genus of the cactus family that is unique and interesting to be more deeply explored. Pitaya market demand increases every year. This is correlated with consumer demand for pitaya flavor in a variety of food products. Therefore, this study took the domain about flavor characterization of white and red pitaya to characterize their sensory description and their volatile composition. This research was divided into two stages. The first study involved the selection and training of panelists, pitaya flavor extraction, selection of extraction methods with sensory evaluation, and QDA (Quantitative Descriptive Analysis). The extraction was done using two methods, the maceration and the Likens-Nickerson. The second study included extraction of volatile components that form pitaya flavor using method that had been selected and identification using GC-MS. Based on trained panelists’ evaluation, some fruit aromas description in both of pitayas were sweet, fruity, floral, green leafy, fatty green, and plastic green. Trained panelists revealed in QDA test that the most intense aroma in both of pitayas is green leafy. According to output data from identification result using GC-MS, white and red pitaya contain alcohols, carboxylic acids, alcanes, aldehydes, ketones, alcenes, esters, and terpenoids as their volatile compositions. Alcohol compounds present as major concentration in both of pitayas, with most of this being due to 1-tetradecanol (143.40 μg/g) in white pitaya and 1-hexadecanol (114.62 μg/g) in red pitaya. These volatile compositions had correlation with FGD sensory description. It is expected that the results of this research can contribute significantly to world food and flavor.

Keywords: pitaya, the extraction of flavor, sensory description, volatile composition, aroma