Aroma Characterization in the Imported and Domestic Arabica Coffee of Taiwan

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Outline

Abstract

Coffee is one of the most popular beverages worldwide, and the demand for Taiwan coffee is also increasing. However, there are few researches on aromas analysis of Taiwan coffee. Therefore, this study aimed to preliminarily analyse the potent volatile organic compounds (VOCs) in the imported and domestic Arabica coffee of Taiwan. The methods of data analysis were mainly divided into two part. The first part included charaterazing the normalized concentrations of the VOCs of the coffee, from the different coffee producing regions, roasted under the same conditions. The PCA results presented that the concentrations of the VOCs in Dongshan and Nicaragua coffee powder were the most different under light-roasting condition, whereas those in Indonesia, Gukeng, and Ethiopia coffee were the most different under medium and dark- roasting condition. In the aspect of brewed coffee, Ethiopia, Colombia and Dongshan light coffee were the most divided groups. Ethiopia, Indonesia, and Alishan medium coffee were the most different. In addition, Alishan, Ethiopia, Colombia, and Dongshan dark coffee were the most divided groups. The second part was about charaterazing the different VOCs of the highest loadings in PCA results of the coffee, from the same coffee producing regions, roasted under the different conditions. The top selected VOCs of the highest loadings are methyl formate, 2-methylpyrazine, and 2-acetylfuran denominated in Ethiopia and Alishan; Colombia and Gukeng, and Taiwu; Nicaragua coffee powder, respectively. Besides, Indole played a great part in Gukeng, Dongshan, and Taiwu brewed coffee, whereas 2-acetylfuran is important in Alishan coffee. In conclusion, these findings demonstrated that the charaterization of coffee aroma from different places and roasting conditions would be due to the various growing environment of coffee producing regions.

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