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The Effects of the Usage of β -Glycosidase Enzyme on the Aroma of Fruit Juice Obtained from Kozan Muscatel Orange

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Abstract

Appearance, color, taste and aroma features of foods have a significant impact on the consumers' understanding of "quality". "Aroma" has a distinctive place among those features. Some certain technological applications on the fruits may change the natural aroma of the products. Enzyme applications is one of these technological applications. This study aims to research the effects of the usage of β -Glycosidase Enzyme on the aroma of fruit juice obtained from Kozan Muscatel orange. The extraction of free-aroma compounds was carried out liquid-liquid extraction method, whereas the extraction of bounded aroma compounds was performed through solid-phase extraction. GC-FID and GC-MS techniques were used to calculate and identify the quantity of aroma substances in orange juice. According to the evidences, while control sample has 110 aroma compounds, the sample which has gone through an enzyme application is found to have 113 aroma compounds. Total amount of 40 bounded aroma substances is identified in the both samples. As for free-aroma compounds, it is seen that enzyme application has an impact on transforming bounded aroma into a free condition. Additionally, the samples of orange juice were evaluated in terms of its sensual qualifications. Consequently, the orange juice samples which has gone through an enzyme process found to have highest ranks.

Keywords: Orange, Juice, Aroma, β -Glycosidase