

Olive Oil Extraction From Three Olive Varieties Using Enzyme Processing

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In this study, the effect of olive variety (Kroneiki, Iranian native oleaginous and mission) and enzyme concentration on yield, acidity, peroxide value, iodine value, turbidity, integral color index and total polyphenols of extracted oil was investigated. The statistical analysis was carried out using factorial experiment 3×3 in Completely Randomized Design (CRD) with three replicates. Our results showed that the effect of variety on all of examined factors was significant ($P < 0.01$). The effect of enzyme concentration on extraction yield, color, turbidity and total polyphenol showed significant difference ($P < 0.01$). Although, there was not significant effect ($P < 0.05$) on acidity, peroxide value and iodine value. Color and phenolic content in extracted oil produced by aqueous enzymatic process as compared with those in control showed significant difference ($P < 0.01$) between 13 to 62.2 and 13.9 to 72.6 percent, respectively. Turbidity showed significant ($P < 0.01$) reduction between 29.6 to 67.4 percent. On the basis of our result, the yield of oil extraction by processing aid was significantly ($P < 0.01$) higher (1.3-2.4 percent) than that of control. It was concluded that application of enzymatic pretreatment increases quantity and quality of extracted oil and it is applicable as a processing aid in oil extraction unit operation.

Key words : Olive oil , Enzymatic processing aid , Yield of extraction , Quality of oil.

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