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### Characteristics of Shodo Island Olive Oils in Japan : Fatty Acid Composition and Antioxidative Compounds

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The fatty acid composition, total phenol content and tocopherol content of olive oils from Shodo Island of Japan were analyzed for different varieties, maturation stages and extraction methods. Radical-scavenging activity of olive oils was also determined spectrophotometrically by measuring the disappearance of 1,1-diphenyl-2-picrylhydrazyl radical at 517nm. The differences in fatty acids composition, total phenol and tocopherol content in virgin olive oils were not great among the varieties. The content of oleic acid was in range of 66-78%. Though virgin olive oils contained more phenolic compounds than hexane-extracted olive oils, tocopherol content was not very different. In hexane-extracted olive oils, the total phenol content decreased during olive maturation. The tocopherol content of three types of olive oils also decreased during maturation. Still, large amounts of phenolic compounds remained in the olive residue after hexane extraction. The contribution of tocopherols to radical-scavenging activity was 39-61% in virgin olive oil, which suggests that both tocopherols and phenolic compounds contribute to radical-scavenging activity.

**Keywords:** [olive oil](#), [fatty acid composition](#), [phenol](#), [tocopherol](#), [radical-scavenging activity](#)

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