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Influence of olive harvesting dates on the sensory and chemical characteristics of the Jordanian olive oil

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Abstract:

The effect of olive harvesting dates on several sensory, physicochemical and other compositional data, has been studied as an attempt to understand relationships between sensory and chemical properties of Nabali and Rumi olive oils. The proper harvesting dates, as indicated by the maturation index were between 10/11-28/11 for Rumi and 22/11 – 7/12 for Nabali. The organoleptic assessment of olive oil for its quality classification was not satisfactory and it is preferred to be done parallel with acidity determination. Throughout the harvesting periods studied, most sensory, chemical and quality characteristics were found to significantly change parallel with the progressive of harvesting date of the two virgin olive oil varieties under investigation. In general, weak correlation was found between the sensory attributes and some related chemical parameters, while high correlation was found between PV, OD 232 nm and oxidative stability with total phenol content of olive oil samples

Keywords: Olive oil, harvesting dates, cultivars, sensory and chemical properties

Introduction

The composition and quality of virgin olive oil are greatly influenced by many factors including olive variety, environmental conditions, stage of ripening, sanitary state of drupes, storage conditions and extraction technology (Amr and Abu-Al-Rub 1993; Stefanoudaki *et al.* 2000; Aparicio and Luna 2002). Oils of high quality are obtained when olives are fresh and wholesome and harvested at the optimal ripening point (Ryan *et al.* 1999). However, it is difficult to demonstrate clearly which cultivars, environments and harvest stage give the best quality of olive oil.

More attention has been given recently to the Jordanian olive and olive oil sector with focusing on the quantity and quality of the obtained oil. Different varieties were cultivated in different locations in Jordan that differ in the rain fall and climate (Jordan valley, Ajloun, etc), which may produce oils with different chemical and sensory properties (Al-Juneidi 2005).

The most appropriate date for harvesting olives destined for oil production is at optimum maturity; at that date oil content and oil quality are at their highest level (Kiritsakis *et al.* 2000). Several studies have been carried out in the last few years dealing with the classification of virgin olive oil on the basis of their fatty acid, triglyceride and sterol compositional data. On the other hand, few studies have been carried out using sensory data and the relationship between the sensory and chemical properties of olive oil. The main objective of this study was to investigate the effect of the harvesting dates on several sensory, physico-chemical properties as well as the relationship between the sensory and the chemical properties of the olive oil under study.

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