

INFLUENCE OF THE CULTIVAR AND DEGREE OF RIPENESS IN THE COMPOSITION OF THREE PORTUGUES OLIVE OILS

J.S. Amara^(1,2), L.C. Matos⁽³⁾, I. Cifóva⁽³⁾, J.A. Pereira⁽⁴⁾, R. Seabra⁽¹⁾, M.B.P.P. Oliveira⁽³⁾

⁽¹⁾Serviço de Farmacognosia and ⁽³⁾Serviço de Bromatologia, Faculdade de Farmacia, Rua Aníbal Cunha 164, 4030-099 Porto, Portugal

⁽²⁾ESTiG and ⁽⁴⁾ESA, Instituto Politécnico de Bragança, Ap. 172, 5300 Bragança, Portugal

Olive maturation is a slow process that involves a complex group of chemical and physical reactions, providing specific characteristics to the drupe and its oil. Nowadays, assessment of identity and quality of vegetable oils is a challenge that generally involves many tests, including analysis of fatty acid and sterol compositions since these are probably the most important major and minor components, respectively. Besides, the fatty acid profile and phytosterols are important issues where health is concerned.

As it is known, olive oil composition, as well as its quality, can be influenced by factors such as the cultivar and the olives ripeness. In this work, three Portuguese olive oils extracted from distinct cultivars (*cv.* Cobrançosa, Madural and Verdeal Transmontana) in different stages of maturation, were evaluated in terms of fatty acid and sterol compositions. The maturation index (MI) was determined as a function of fruit color in both skin and pulp. Both fatty acid and sterol compositions were determined by gas-liquid chromatography coupled to a flame ionization detector (GLC/FID). The fatty acid composition was distinct for the studied cultivars but there were no significant changes during ripeness. The mean value of oleic acid ranged from 72.7% in *cv.* Madural to 81.6% in *cv.* Verdeal. Total sterol content ranged from 1365 mg/kg in *cv.* Verdeal (MI = 6) to 2936 mg/kg in *cv.* Madural (MI = 4). *Cv.* Verdeal seems to decrease the sterol content with the maturation index, what is not so clearly in the other two cultivars. Respecting to the sterol content, all the studied samples were in good agreement with the European legislation.