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Quantitation of Total Oil Contents, Proteins and Fatty Acids Composition in Fruits of *Pistacia* Species and Their Hybrids Growing in Turkey. V. SÜZERER, A. Onay, V. Kuzma, N. Çalı, A. A. Urunçoğlu, A. Boukelou, F. Ilkiçoglu, E. Tilkat, Y. O. Çiftçi, O. F. Akdemir, F. M. Kühn, and Y. Ersah. 1Department of Medical Services and Techniques, the University of Bingöl, 12000 Bingöl, TURKEY; 2Department of Biology, Faculty of Science, the University of Dicle, 21280, Diyarbakır, TURKEY; 3Department of Biology, Faculty of Science, the University of Istanbul, TURKEY; 4Department of Bioengineering, Faculty of Engineering, the University of Marmara, 34722, Istanbul, TURKEY; 5Pistachio Research Institute, Sahinbey 27001, Gaziantep, TURKEY; 6Department of Biology, Faculty of Science and Literature, the University of Batman, Batman, TURKEY; and 7Department of Molecular Biology and Genetics, Faculty of Science, the Gebze Institute of Technology, 41400 Gebze, Kocaeli, TURKEY. Email: beyso1985@gmail.com

Several studies have been reported on the chemical compositions of the different pistachio species, but so far there is no report on the chemical composition of the hybrid *Pistacia* genotypes. This study focuses on assessment of protein yields, oil yields and fatty acid compositions in the mature fruits of 4 *Pistacia* species (P. vera L., P. chinensis L., P. atlantica DeSf and P. kibinjęk Stocks) and their 8 hybrid genotypes grown in Pistachio Research Station in Gaziantep, Turkey. Fruit oils were extracted by using chloroform/methanol (2:1). FAMEs of the fruit oils were analyzed by GC and protein content was determined by Kjeldal method. The oil content of the hybrids varied in a relatively high range between 15.93% and 30.23%. Thirteen fatty acid components representing about 99% of the total oils were characterized. Oleic acid, which accounted for 46.66 to 68.75% of the total fatty acids, was the sole fatty acid component in all genotypes studied. Oleic acid (C18:1), linoleic acid (C18:2) and palmitic acid (C16:0) were the main fatty acid components in both *Pistacia* species and their hybrid genotypes. Regarding of the total oil and protein contents of the fruits from *Pistacia* species and their hybrids, there have been significant differences between cultivars. The total content of protein components in the fruits ranged between 35.21% and 19.62%. Other fatty acids such as myristic, pentadecanoic, palmitoleic and stearic acid were present only in trace proportions. This research is a part of our investigations on exploiting fatty acids and bioactive other natural products with the prospects for the utilization of them in industrial applications.

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*In Vitro* Production of Anticancer Phenolic Compounds from Lentisk, *Pistacia lentiscus* L. V. SÜZERER, S. Onay, M. A. Yılmaz, A. Ertaş, A. Onay, Y. Ersah, and E. Tilkat. 1Department of Medical Services and Techniques, the University of Bingöl, 12000 Bingöl, TURKEY; 2The Private Middle East College, Science High School, 21280, Diyarbakır, TURKEY; 3Department of Pharmacognosy, Faculty of Pharmacy, the University of Dicle, 21280, Diyarbakır, TURKEY; 4Department of Biology, Faculty of Science, the University of Dicle, 21280, Diyarbakır, TURKEY; and 5Department of Biology, Faculty of Science and Literature, the University of Batman, Batman TURKEY. Email: beyso1985@gmail.com

*Pistacia lentiscus* L. is an evergreen tree which belongs to the Anacardiaceae family. The different part of the lentisk such as fruits, galls, resin and leaves are utilized as folk medicine since the ancient Greeks. Based on this ethno pharmacologic knowledge, in the 20th century several studies were published on the utilization of primer and secondary products of lentisk i.e. in the perfumery, food and especially pharmaceutical industries. The aim of this study was to show the production of anticancer phenolic compounds in the extracts of the leaf samples grown in vitro, and compare them with the results reported from in vivo grown samples. *In vitro* stock cultures initiated from the seeds of one genotype containing highest phenolic content grown in vivo were proliferated in the MS media containing different cytokinins (BA, Kin, TDZ, MeJA, each at 1 mg/l) and 1.0 mg/l BA + 0.2 mg/l MeJA and 1.0 mg/l BA + 10 mg/l the seed oil extracted from *P. lentiscus* seed. The phenolic and flavonoid compositions of the ethanolic extracts were determined by liquid chromatography-triple quadrupole mass spectrometry (LC-MS / MS). Although phenolic compounds obtained from the leaves of male and female genotypes grown in their natural environment vary quantitatively, there was no significant difference in main components. Among the 27 compounds studied, quinic, malic, gallic and