Online journal ISSN - 1676-5680
GMR Genetics and Molecular Research
EVOLUTION AND TECHNOLOGY

SSR analysis demonstrates that olive production in the southern Marmara region in Turkey uses a single genotype

A. Ipek[1], E. Barut[1], H. Gulen[1], A.T. Oz[2], N.A. Tangu[3] and M. Ipek[1]

[1]Uludag University, Faculty of Agriculture, Horticulture Department, Gorukle, Bursa, Turkey
[2]Atatürk Central Horticultural Research Institute, Yalova, Turkey
[3]Kahramanmaras Agricultural Research Institute, Kahramanmaras, Turkey

Corresponding author: A. Ipek
E-mail: maipek@uludag.edu.tr

Genet. Mol. Res. 8 (4): 1264-1272 (2009)
Received July 16, 2009
Accepted August 11, 2009
Published October 20, 2009

ABSTRACT. The southern Marmara region in Turkey was surveyed to determine the olive cultivars that are used for olive production. Genetic diversity analysis using simple sequence repeat (SSR) markers indicated that the cultivar Gemlik is the major olive cultivar grown in this region, while other olive cultivars are grown only for use as pollinators of Gemlik or for growers' own exotic consumption. Although the quality of Gemlik is widely accepted in Turkey, its tendency toward alternate bearing is a major drawback. Twenty-four genotypes were selected within the cultivar Gemlik because of their tolerance to alternate bearing. These selected genotypes have the same SSR alleles as Gemlik, making them good candidates for developing a Gemlik olive with reduced alternate bearing. About 8% of samples did not share the same SSR alleles with Gemlik, though these genotypes were identified as Gemlik by the growers.

Some other standard cultivars that are grown in other regions of Turkey were mistakenly called Gemlik in this region, probably due to the popularity of this cultivar in the southern Marmara region. In conclusion, as indicated by SSR analysis, Gemlik has become the standard cultivar in this region; future research should be focused on techniques to improve the production and quality of table olives and olive oil from this cultivar.

Key words: Olive; *Olea europaea*; Molecular markers; Simple sequence repeat markers

