

The Color of Olive Fruits and Olive Oils of „Picholine“ and „Buža Momjanska“ Varieties during Ripening

Krapac, M., Brkić Bubola, K. and Sladonja, B. Institute of Agriculture and Tourism,
K. Huguesa 8, 52440 Poreč, Croatia

The color of olive oil is important quality attribute, depending on fruit variety, cultivation area, harvesting time, used processing methods and changing with ripening.

In this paper the effect of the maturation process on the color of the fruit and color and pigments content of the oils of “Picholine” and “Buža Momjanska” varieties, grown in the same orchard in the Istria region (Croatia) was investigated.

The color of olive fruits in different stage of maturation was determined by colorimetry and compared by classical, visual method used for this purpose in order to investigate usefulness of color assessment as a tool for determination of appropriate harvesting date. Chlorophyll and carotenoid pigments and the color (expressed numerically according to the chromatic coordinates a^* , b^* , lightness L^* , and the chroma C) of the related extra virgin olive oil, extracted in the same operative conditions from olive fruits at different stages of maturation were determined. Theoretical olive oil content of the fruits in different stages of ripening was determined by Soxtec apparatus.

Fruit color decrease with maturity in lightness L^* , chromatic coordinate b^* and chroma C . There are no significant differences in L^* , a^* , b^* , C and h between olives with reddish-brown skin and black skin, while there is significant differences between fruits with green-yellowish skin and green skin with reddish spots.

The oil pigment concentration decreased with fruit maturity in the both varieties. Quantitative differences in oil pigments between varieties in the same stage of ripeness were observed. Concentrations of pigments were higher in “Picholine” variety than in “Buža Momjanska” variety oils in all investigated stages of maturity. It was observed that values of a^* , b^* and C decreased in a similar way to the values observed in chlorophyll and carotenoid pigments during ripening in the oils of both varieties. On the contrary, the lightness L of the oils increased with fruit maturity.

Oil content on a dry weight basis in the fruits of “Picholine” and “Buža Momjanska” varieties increased by ripening from 47.93 % to 54.16 % and from 45.55 to 53.06 %, respectively.