

Fatty acid composition and some bioactive properties of edible oil extracted from different varieties of poppy (*Papaver somniferum* L.) seeds

M. Abudak^a
H.H. Kara^b *

^aFood Engineering Department
Graduate School of Nature
and Applied Sciences
Afyon Kocatepe University
Afyonkarahisar, Turkey

^bNecmettin Erbakan University
Health Sciences Faculty
Nutrition and Dietetics Department
Selçuklu - Konya, Turkey

Poppy seed is an oilseed obtained from the opium poppy (*Papaver somniferum*) plant. They are used as an ingredient in many foods in several forms and are pressed to yield poppyseed oil. In this study, six poppy seed varieties (OFIS 95, OFIS 96, OFIS 3, OFIS 8, TMO-T and TMO-1) having different colors (white, yellow, grey) were investigated in terms of fatty acid composition, antioxidant activity, total phenolic and vitamin E (α -tocopherol) contents. The major fatty acids in poppy seed oils were linoleic acid ((65.52% (TMO-T) - 74.97% (OFIS 96)), oleic acid ((13.26% (OFIS 96) - 21.43% (TMO-T)) and palmitic acid ((8.65% (OFIS 95) - 10.06% (TMO-T)), respectively. Total phenolic content, antioxidant activity and vitamin E content of the samples varied between 2.617 (TMO-T) - 2.916 (OFIS 96) mg GAE/mL oil, 56.50% (TMO-1) - 87.30% (OFIS 96) and 29.4 (TMO-T) - 54.0 (OFIS 95) (mg/kg oil), respectively. Linoleic and stearic acid were found to be higher in yellow-colored poppy seed oils whereas oleic and palmitic acids were the major fatty acids in the grey-colored ones. Total polyunsaturated fatty acid (Σ PUFA) content of yellow-colored poppy seed and total phenolic content and antioxidant activity of white-colored poppy seed oil were found to be higher than the other poppy seed oils.

Key words: Poppy seed, oil, fatty acid, phenolic compound, antioxidant activity, tocopherol, color.

(*) CORRESPONDING AUTHOR:
e-mail: kara-academic@yandex.com