

Changes in composition of grape seed oil during vegetation

T. Ovcharova¹
M. Zlatanov^{1*}
A. Ivanov²

¹Department of Chemical Technology
University of Plovdiv "Paisii Hilendarski"
Plovdiv, Bulgaria

²Agricultural University
Faculty of Viticulture and Horticulture
Plovdiv, Bulgaria

This study was done to show what changes occur in the composition of developing seeds of Bulgarian grape variety (*Super ran bolgar*). The investigation was carried out on the 50th, 80th and 110th day after flowering (DAF). The grape sample collected at an early stage (50th) showed very low oil content (0.7%) compared with the grapes collected later (13.9% on the 80th and 16.5% on the 110th DAF). The content of proteins decreased from 11.7% to 6.3% and of carbohydrates from 70.2% to 68.2% during different stages of berry development. Other biologically active components such as phospholipids, sterols and tocopherols are formed almost completely in the first stage during vegetation. In the third stage of the picking (110 day of growing) their quantity decreased significantly with the exception of the amount of sterols from 0.2% on the 80th day to 0.3% on the 110th day. The content of phospholipids dropped from 24.2% to 0.6% and that of tocopherols from 1727.9 mg/kg in the first stage of development to 67.7 mg/kg in the last stage, respectively. In the triacylglycerol fraction during the whole period of vegetation was found that the content of the essential linoleic acid increased from 49.8% to 72.3%, oleic from 15.9% to 17.3% and palmitic decreased from 24.1% to 8.8%.

Keywords: grape seed oil, triacylglycerols, tocopherols, sterols, phospholipids, vegetation.

(*) CORRESPONDING AUTHOR:

Magdalen D. Zlatanov

Department of Chemical Technology

University of Plovdiv

24 Tsar Assen Str.

4000 Plovdiv, Bulgaria

E-mail: magzlat@uni-plovdiv.bg

E-mail: temenuzhka_ovcharova@mail.bg

Tel(Phone): 00359 261269

Tel(Phone): 00359 261 277