

GRAPESEED OIL

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Numerous varieties of grapes (family Vitaceae) grow over large areas in Uzbekistan. In the industry, more than 3355 tons of grape seeds accumulate as waste material each year. Grape seed oil can be used successfully in place of olive oil and for the preparation of bakery articles [3].

In view of the planned industrial extraction of fatty oil from grape seeds, we have investigated the seeds of mixed Uzbek varieties of grape.

There is incomplete information in the literature on the oils of some varieties of grape seed [1-6]. We have found no information on the oils of Uzbek varieties of grape. The grape seeds are isolated from the dried marc of the Kibrai and Yangiyul' wineries.

The physical and chemical indices of the seeds and oil varied within the following ranges: weight of 1000 seeds 30.22-30.56 g; oil content calculated on the absolutely dry weight 15.8-16.3%; density of the oil 0.9242-0.9248 g/cm³; refractive index 1.4759-1.4767; Engler viscosity at 20° C, 8.17-8.2 E°; acid No. 1.14-1.20 mg KOH; saponification number 190.2-191.3 mg KOH/g; iodine No. 116.91-118.12% I₂; thiocyanogen No. 73.84-74.63% I₂; Hehner No. 94.7-95.6%; Reichert-Meissl No. 1.58-1.6%; Polenske No. 0.59-0.65%.

The triglyceride composition of the oil was determined by enzymatic hydrolysis. Found: G1SSS 0.4-0.5%; G1SSU 2.5-2.7%; G1SUS 6.9-7.3%; G1SUU 35.1-37.1%; G1USU 3.0-3.3%; GIUUU 49.7-51.5%.

Consequently, the bulk of the triglycerides of the oil consists of di- and triunsaturated glycerides.

The fatty-acid composition determined by gas-liquid chromatography was (%): myristic 1.6-1.7; palmitic 11.5-13.1; stearic 7.0-8.0; oleic 21.2-24.3; linolenic 55.1-56.1. Consequently, the grape oil is characterized by high proportion of unsaturated acids (about 80% of the total amount).

Thus, the fatty-acid composition of the oil of the seeds of Uzbek varieties of grape is similar to the composition of the seed oil of *Vitis vinifera* grapes [1]. The hydroxy acids present in the oils of some species of grape according to the literature [1] were not found in the oil of the Uzbek varieties.

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