

THE OIL OF *Fumaria vaillantii*

M. Mirzabaeva, A. U. Umarov,
and M. R. Shukurova

UDC 547.915.665.34

The plant *Fumaria vaillantii*, family Papaveraceae, is widely distributed in the Namangan, Samarkand, Tashkent, and other oblasts of the Uzbek SSR [1]. We have studied the seeds of *F. vaillantii* collected in April, 1970, on the grounds of the Tashkent Botanical Garden.

The oil obtained by cold extraction with petroleum ether (bp 40-60°C was dark green and fluid with a pleasant odor. The oil content of the seeds was 26.53%. The physicochemical indices of the oil (Table 1) are close to those for the oils of *Glaucium fimbriigerum* and *Romeria refracta* from the same family [2].

The compositions of the fatty acids of the oil isolated by the usual method (Table 2) and of the individual fractions obtained by low-temperature crystallization from acetone were determined by paper and gas-liquid chromatography [3]. It can be seen from Table 2 that linoleic acid predominates in the oil of the seeds of *F. vaillantii*.

The UV spectrum of the fatty acids of the oil showed the presence of 3.65% of conjugated dienic acids in it.

TABLE 1

Index	<i>Fumaria vaillantii</i>		<i>Glaucium fimbriigerum</i>		<i>Romeria refracta</i>	
	oil	fatty acids	oil	fatty acids	oil	fatty acids
Density, d_4^{20}	0,9124	—	0,9188	—	0,9123	—
Refractive index, n_D^{20}	1,4715	—	1,4746	—	1,4720	—
Hehner No., %	95,30	—	94,08	—	93,72	—
Saponification No., mg of KOH/g	194,30	—	191,78	—	194,02	—
Iodine No., % I ₂	126,40	133,29	139,33	141,11	124,95	130,05
Neutralization No., mg of KOH/g	—	203,50	—	199,63	—	202,91
Mean mol. wt.	—	275	—	281,07	—	276,52
Content of unsaponifiables, %	1,15	—	0,54	—	0,76	—

TABLE 2

Fatty acids	Composition, %		
	<i>Fumaria vaillantii</i>	<i>Glaucium fimbriigerum</i>	<i>Romeria refracta</i>
Myristic	0,79	—	—
Palmitic	13,09	4,31	7,99
Palmitoleic	1,24	—	—
Stearic	1,91	2,60	3,96
Oleic	19,12	23,87	33,66
Linoleic	63,85	69,22	54,39

Institute of the Chemistry of Plant Substances, Academy of Sciences of the Uzbek SSR. Translated from *Khimiya Prirodnykh Soedinenii*, No. 6, pp. 826-827, November-December, 1971. Original article submitted July 9, 1971.

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The following triglyceride composition of the oil was established by enzymatic hydrolysis: GISSS-0.08, GISSU - 0.62, GIUSU - 2.23, GISUS - 4.09, GISUU - 30.88, GIUUU - 62.10.

A chloroform solution of the unsaponifiables gave a positive reaction for an alkaloid with the Dragendorff reagent.

With respect to its drying properties, the oil of F. vaillantii behaves like poppy oil, drying completely with red lead in 81 h.

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