

THE OIL OF THE SEEDS OF SALVIA SCLAREA

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Salvia sclarea (sclary sage) belongs to the family Labiatae [1]. The fatty oil of this plant has been little studied [2].

The following data are characteristic for the seeds of *Salvia*: average length 2.6 mm; weight of 1000 seeds 432 g; oil content 32.34%.

<u>Index</u>	<u>Oil</u>	<u>Fatty acid</u>
Specific gravity, d_4^{20}	0.9267	—
Refractive index n_D^{18}	1.4811	—
Relative viscosity, °E	6.22	—
Saponification no., mg KOH/g	186.62	—
Hehner no., %	94.52	—
Iodine no., % I ₂	178.63	181.94
Thiocyanogen no., % I ₂	107.91	109.18
Acetyl no., mg KOH	34.56	—
Content of unsaponifiables, %	0.902	—
Content of phosphatides, %	0.0104	—
Neutralization no., mg KOH/g	—	195.22
Mean mol. wt.	—	287.4
Hexabromide no., %	—	42.04
Content of saturated acids, %	—	8.67
Neutralization no. of the acids	—	188.05
Their mean mol. wt.	—	298.38

The physical and chemical properties of the oil and of the fatty acids isolated from it are given above.

Composition of the fatty acids: capric 0.92%, palmitic 7.05%, stearic 2.82%, oleic 21.71%, linoleic 16.82, linolenic 50.66%, and arachidic, behenic, lignoceric, and cerotic—traces. Triglyceride composition: SSS 0.06%, SSU 0.74%, SUS 2.10%, USU 2.14%, SUU 24.38%, UUU 70.58%.

The unsaturated fatty acids had the normal structure, as was confirmed by periodate-permanganate oxidation. The pigment complex of the oil includes α -carotene and chlorophyll-b. Among the unsaponifiables sterols were detected qualitatively. The oil belongs to the drying group.

REFERENCES

1. Flora Uzbekistana, Tashkent, 5, p. 389, 1961.
2. N. I. Sharapov, Oil-Bearing Plants and the Oil-Forming Process [in Russian], Moscow, pp. 216, 350, 1959; N. F. Dublyanskaya, MZhP, no. 5, 24, 1964; L. M. Dranovskaya, MZhP, no. 6, 20, 1961.

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THE OIL OF THE SEEDS OF MACLURA AURANTIACA

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Maclura aurantiaca (*M. pomifera*; osageorange) belongs to the family Moraceae [1]. It forms globular fruit with a diameter of 6-14 cm containing 100-700 seeds. In shape, the seeds are similar to melon seeds and have a light yellow skin-like sheath. The dimensions are $9 \times 4.5 \times 2$ mm, bulk density 470 g/l, weight of 1000 seeds 46.25 g. The kernel amounts to 66.6% and the husk to 33.4%. The oil content of the seed is 30.75%, that of the kernel being 42.6%.

The oil is light golden in color with a faint pleasant odor. The physical and chemical characteristics of the oil and the fatty acids are as follows:

<u>Index</u>	<u>Oil</u>	<u>Fatty acids</u>
Specific gravity	0.9234	—
Refractive index, n_D^{18}	1.4769	1.4680
Saponification no., mg KOH/g	194.34	—
Neutralization no., mg KOH/g	—	199.88
Mean mol. wt.	—	280.72
Iodine no., %	144.37	149.52
Thiocyanogen no., %	79.65	80.64
Content of saturated acids, %	—	10.33
Their neutralization no.	—	223.09
Their mean mol. wt.	—	251.51
Content of nonvolatile water-insoluble acids, %	93.13	—
Content of unsaponifiabiles, %	2.21	—
Content of phosphatides, %	0.29	—

The fatty-acid composition of the oil, determined by the GLC method, is shown below:

<u>Acid</u>	<u>Content, %</u>
Capric	0.095
Palmitic	7.31
Stearic	2.17
Oleic	10.83
Linoleic	78.29
Linolenic	1.29

The oil belongs to the group of semidrying oils.

REFERENCE

1. Flora Uzbekistana, Tashkent, 11, p. 87, 1953.

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OIL OF THE SEEDS OF NIEDZWEDZKIA SEMIRETCHENSKAIA

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Niedzwedzkia semiretchenskaia is assigned in the "Flora of the USSR" to the family Bignoniaceae; however, the question of its belonging to this family remains disputable [1]. The fruit of the plant consists of pods within which there are seeds with dimensions of $7 \times 5 \times 1.1$ mm. The weight of 1000 seeds is 9.2 g, and their oil content 36.1%. The oil is greenish yellow. Its physical and chemical characteristics are as follows:

<u>Index</u>	<u>Oil</u>	<u>Fatty acids</u>
Specific gravity	0.9224	—
Refractive index, n_D^{20}	1.4782	—
Saponification no., mg KOH/g	184.63	—
Neutralization no., mg KOH/g	—	203.32
Mean mol. wt.	—	275.97
Iodine no.	137.59	141.53
Thiocyanogen no.	82.41	83.70
Hehner no., %	95.06	—
Content of unsaponifiabiles, %	1.24	—
Content of phosphatides, %	0.19	—