

OIL OF THE SEEDS OF LUFFA CYLINDRICA

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Luffa cylindrica (suakwa vegetablesponge), family Cucurbitaceae is cultivated in the hot zones of the globe and, in the USSR, in the Caucasus, in the Crimea, and in the Central Asian republics.

The dimensions of the seeds are: length 12–14 mm, breadth 6–7 mm, thickness about 3 mm; weight of 1000 seeds 110 g. Ratio of the weight of the kernel to the weight of the husk 52:48. Oil content of the seeds (absolutely dry matter) 23.5%, kernel 43.1%. The seeds are rather bitter and on internal consumption act as a laxative.

The oil isolated from them is red with a greenish tinge. Specific gravity d_4^{20} 0.9204; n_D^{20} 1.4785; viscosity 10.25° E. Saponification no. 187.4 mg/g; iodine no. 108.5; thiocyanogen number 66.85%. Neutralization number of the fatty acids isolated from the oil 202.5; mean molecular weight 277. The mixtures of fatty acids have the following composition: palmitic 8.95%, stearic 18.23%, oleic 29.98%, linoleic 47.10%, dienoic C_{18} with conjugated double bonds 3.74%.

Pigments present in the oil are γ -carotene and chlorophyll-b, and it contains 0.47% of phosphatides. The unsaponifiable fraction contains a crystalline substance with mp 142° C giving positive Sal'kovskii, Liebermann-Burchard, and Chugaev reactions for sterols [1].

REFERENCE

1. K. Bauer, Organic Analysis [Russian translation], Moscow, p. 432, 1953.

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THE OIL OF FRAXINUS SEEDS

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We have studied the oil of two species of ash growing in the Central Asian republics: Fraxinus pensylvanica (red ash) and F. lanceolata (green ash), family Oleaceae. There is information in the literature only on the oils of F. speciosa [1] and F. excelsior (European ash) [2].

Index	Red ash		Green ash	
	oil	fatty acids	oil	fatty acids
Specific gravity, d_4^{20}	0.9247	—	0.9267	—
Refractive index, n_D^{20}	1.4820	—	1.4822	—
Viscosity, poise	0.5064	—	0.6080	—
Saponification no., mg/g	194.20	—	186.71	—
Iodine no., %	148.84	134.78	148.36	133.93
Thiocyanate no., %	93.07	84.99	92.94	84.78
Neutralization no., mg/g	—	198.01	—	204.45
Mean mol. wt.	—	283.30	—	274.44
Acetyl no., mg/g	11.80	—	12.14	—
Content of				
Phosphatides	Traces	—	Traces	—
Unsaponifiables, %	19.87	—	12.14	—