

OIL FROM THE SEEDS OF *STACHYS BETONICIFLORA*

A. S. Akramova, A. U. Umarov, and A. L. Markman

Khimiya Prirodnikh Soedinenii, Vol. 4, No. 4, pp. 244-245, 1968

Stachys betoniciflora, which belongs to the family Labiatae, grows in Central Asia [1]. The seeds are small, 1000 weighing 0.96 g. The oil content on the absolute dry weight is 24.1%.

Index	Oil	Fatty Acids	Index	Oil	Fatty Acids
Density, d_4^{20} , g/l	0.9232	—	Mean mol. wt.	—	278.06
Relative viscosity, °E	14.29	—	Content of sat. fatty acids, %	—	2.35
Refractive index, n_D^{20}	1.4764	—	Neutralization no., mg KOH/g	—	214.15
Acid no., mg KOH/g	6.69	—	Mean mol. wt.	—	261.91
Saponification no., mg KOH/g	188.51	—	Iodine no., %	139.20	143.0
Hehner no., %	94.94	—	Thiocyanogen no., %	86.59	89.36
Acetyl no., mg KOH/g	235.48	—	Content of unsaponifiables, %	1.46	—
Content of hydroxy groups, %	9.67	—	Content of phosphatides, %	1.12	—
Neutralization no., mg KOH/g	—	201.72			

The composition of the mixture of fatty acids was determined by gas-liquid chromatography.

The oil was extracted from the plant in petroleum ether. By saponification with 2 N alcoholic alkali, the total fatty acids without unsaponifiables were isolated from the oil. The physical and chemical properties of the oil and the fatty acids are given in the table.

Acid	Content, %
Pelargonic	0.17
Capric	0.59
Lauric	0.46
Myristic	0.24
Palmitic	1.21
Palmitoleic	0.91
Margaric	0.29
Oleic	25.96
Linoleic	68.44
Linolenic	1.73

Of the pigments in the oil, β -carotene and α -chlorophyll were identified. n-Heptacosane [2] was isolated from the unsaponifiables fraction.

REFERENCES

1. Flora Uzbekistana, Tashkent, 5, 379, 1961.
2. J. Gluud, Ber., 52, 1052, 1919; W. Hildebrand and K. Wachter, J. Amer. Chem. Soc., 51, 2487, 1929.

22 February 1968

Institute of the Chemistry of Plant Substances AS UzSSR