BRIEF COMMUNICATIONS

A STUDY OF THE OIL OF THE SEEDS OF Ficus carica

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Ficus carica L. (common fig) is a woody plant belonging to the family Moraceae which is cultivated and grows in the wild state in Transcaucasia. The composition of the fatty oil of the seeds of the varieties grown in the USSR has not been investigated previously. We have studied the fatty oil contained in fig seeds collected in August-September, 1969, in the Kobuleti region (Adzhar ASSR). Extraction of the comminuted seeds with petroleum ether (bp 40-60°C) yielded 29.4% of an odorless light-yellow fatty oil with d_4^{20} 0.9280, n_D^{20} 1.484-1.487, saponification No. 188.9 mg KOH/g, iodine No. 167.0% of I_2. By saponification with 2 N ethanolic alkali, the combined fatty acids were isolated from the oil without the unsaponifiables. The composition of the fatty acids was determined by gas-liquid chromatography on a UKh-2 chromatograph using a column 2.5 m long and 0.4 mm in diameter containing PES [poly(ethylene succinate)] deposited on TM8-TS-M microspherical support and heated to 200°C with helium as the carrier gas and a bridge current of 200 mA.

The amounts of the individual fatty acids in the oil were as follows (%):

Acid	F. carica
Capric	traces
Palmitic	8.58
Stearic	2.12
Palmitoleic	0.58
Oleic	11.77
Linoleic	28.24
Linolenic	48.71

Fig oil belongs to the category of rapid-drying oils and can be used in industry as a film-forming agent (in the manufacture of points).

On comparing the fatty-acid composition of the oil of Ficus carica L. studied and those of Cannabis sativa and Maclura aurantiaca [2-4], it can be seen that the fig oil is distinguished by a higher content of trienic acid (48.71%), the hemp oil containing 16% and the osage orange oil containing only 1.29%. Thus, fig oil is characterized by the highest content of linolenic acid.

The glyceride composition of fig oil was studied by enzymatic hydrolysis on the basis of the indices of the fatty-acid composition of the total mixture of acids and the acids of the monoglyceride fraction [4]: Gl SSS 0.04%, Gl SSU 0.39%, Gl SUS 2.30%, Gl SUU 25.51%, Gl USU 1.10, Gl UUU 70.66% (where Gl represents the glycerol radical, S saturated acyl, and U unsaturated acyl groups).

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