and glycerol, and also traces of mannose. The formation of erythritol shows the predominance of β-1 → 4-bonds between hexopyranose residues. From a comparison of the results obtained and those given in the literature [4] it follows that the glucomannan that we had isolated differed from known glucomannans by a high mannose content.

The bulbs contained a total of 8.4% of combined polysaccharides (isolated with ammonium oxalate and oxalic acid) consisting of a uronic acid and the neutral sugars rhamnose (Rha), Glc, and Gal in a ratio of 1:16.2:3.6, together with traces of Ara and Man.

The combined polysaccharides gave a blue coloration with iodine. Consequently they contained a glucan of the starch type.

The alkali-soluble polysaccharides consisted of hemicelluloses A and B with yields of 4.3 and 2.1%, respectively. In hemicellulose A we found Rha, Ara, Xyl, Man, Glc, and Gal in a ratio of 1:10.8:3.6:17.5:6. The same sugars with the exception of Ara were found in hemicellulose B, in a ratio of 1:7.6:8.6:28.5:8.3.

Thus, fractionation has shown that the carbohydrate complex of the bulbs of *Hyacinthus litwinovii* includes mono- and oligosaccharides, a water-soluble polysaccharide (a natively acetylated glucomannan), an acidic polysaccharide, starch, and hemicelluloses.

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FATTY ACID COMPOSITION OF OILS OF VARIOUS TYPES OF *Olea europaea*

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Information on the main physicochemical indices and composition of the fatty acids of the oil of the olive *Olea europae* L. is given in the literature [1-5].

We have studied the qualitative and quantitative compositions of the fatty oils obtained from the flesh with skin and the seeds of various varieties of olive (Baky-zeituny, Agostino, Santa Katarina, Ragiakhi) of the 1983 harvest grown on the Apsheron peninsula (Azerbaidzhan SSR) [4, 5].

The oil was extracted with n-hexane in a Soxhlet apparatus [6]. The composition and relative percentage amounts of the fatty acids in the oils were studied by gas-liquid chromatography on a Chrom-4 chromatograph with a 4 mm × 2.5 m column filled with 17% of ethylene succinate on Chromaton NAW-DMCS at 196°C. The fatty acids of the oils were chromatographed in the form of their methyl esters. The peaks of the fatty acid methyl esters were identified from their relative retention times [7].

The oils of the flesh with skin and of the seeds of the varieties studied did not differ in relation to the qualitative compositions of the fatty acids but there were some differences in their relative amounts (Table 1).

The oils of the seeds of the varieties mentioned were characterized by higher amounts of oleic (18:1), linoleic (18:2), and stearic (18:0) acids, and the oils of the flesh with skin

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TABLE 1

Variety	Fatty acid							Total acids	
	16:0	16:1	18:0	18:1	18:2	18:3	20:0	saturated	unsaturated
Baky-zeituny									
Flesh with skin	10,8	1,8	2,3	72,8	9,7	2,5	0,1	13,1	86,9
Seeds	4,8	0,7	2,9	76,1	13,7	1,8	Tr.	7,7	92,3
Santa- Katerina									
Flesh with skin	13,9	2,1	2,6	70,4	8,2	2,8	Tr.	16,5	83,5
Seeds	5,7	0,9	3,7	76,4	12,1	1,2	Tr.	9,4	90,6
Agostino									
Flesh with skin	12,6	1,8	2,4	72,4	8,0	2,7	0,1	15,1	84,9
Seeds	5,2	0,6	3,6	77,3	11,6	1,6	0,1	8,9	91,1
Ragiakhi									
Flesh with skin	12,0	2,3	2,7	70,5	9,5	2,9	0,1	14,8	85,2
Seeds	5,5	0,6	3,9	76,8	12,0	1,2	Tr.	9,4	90,6

by relatively high amounts of palmitic (16:0), palmitoleic (16:1), and linolenic (18:3) acids. In all cases among the fatty acids the 16:0 representative was predominant, and among the unsaturated acids the 18:1 representative. Thus, the seed oils were highly unsaturated, containing more than 90% of linoleic, oleic, and linolenic acids and also a small amount of palmitoleic acid, as is confirmed in the literature [3, 8].

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