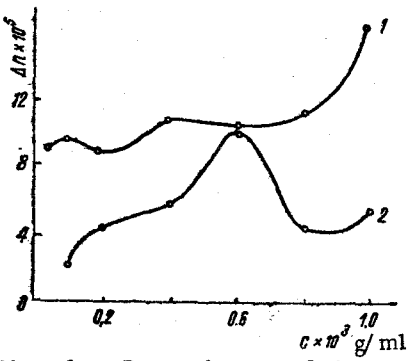

Fig. 1. Dependence of Δn on c for apiogalacturonan in 0.8 M (1) and in 1 M (2) urea.

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PHOSPHOLIPIDS OF THE COTTONPLANT OF VARIETY TERMEZ-7

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Thin-fibered cotton plant *G. barbadense* of variety Termez-7 is a new promising early-ripening high-yielding variety resistant to fusarial wilt. One of its ancestors is variety 5904-I [1], the phospholipid contents of which we have studied previously [2-4]. The aim of the present work was a study of the phospholipids (PLs) of the new variety and a comparison of them with those of variety 5904-I.

The phospholipids of the seed kernels were isolated and were characterized by methods similar to those described previously [2-4]. Six groups of phospholipids were found, which are given in order of increasing polarity: unidentified PLs X_1 and X_2, phosphatidylethanolamines (PEs), phosphatidylinositols (PIs), phosphatidylcholines (PCs), and lyso-PCs. Their amounts were 2.6, 7.0, 14.2, 22.6, 48.4, and 5.1%, respectively.

Structures of the main phospholipids, the PCs, PEs, and PIs, were confirmed by physical and chemical methods and corresponded to known compounds.

The total fatty-acid compositions and the position distributions of the acyl radicals in the molecules of the main phospholipids were established by methods described previously [3] (Table 1). The position distribution of the fatty acids enabled us to calculate the possible molecular compositions: 42 species each in the PCs and PEs, and 49 species in the PIs. In relation to saturation, these species are distributed in the following way (%):

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TABLE 1

Fatty acid	Phosphatidylcholines			Phosphatidylethanol			Phosphatidylinositols		
	total	position		total	position		total	position	
		1	2		1	2		1	2
12:0	1,1	1,1	0,9	1,9	3,4	1,7	2,4	2,1	2,0
14:0	0,8	0,9	0,7	1,7	2,7	1,6	2,0	1,2	1,8
16:0	18,8	36,4	1,6	28,0	50,0	3,6	36,0	51,7	24,0
16:1	0,9	1,3	0,3	1,1	2,7	0,6	2,0	1,0	2,0
18:0	1,0	2,8	—	1,2	1,8	—	2,6	6,5	2,3
18:1	27,7	23,5	31,5	13,0	4,4	19,6	11,6	7,7	9,6
18:2	49,7	34,0	65,0	53,1	35,0	72,9	43,4	29,8	58,3
Total saturateds	21,7	41,2	3,2	32,8	57,9	6,9	43,0	61,5	30,1
Total unsaturateds	78,3	58,8	96,8	67,2	42,1	93,1	57,0	38,5	69,9

Species	PCs	PEs	PIs
Disaturateds	1.3	3.8	18.8
Diunsaturateds	57.8	39.7	27.1
Monosaturated-monounsaturateds	39.0	53.6	42.8
Monounsaturated-monosaturateds	1.9	2.9	11.3

Thus, the results of the investigation have shown that the qualitative and quantitative set of phospholipids of the seed kernels of the new variety of the cottonplant are close to those of variety 5904-I [4].

As compared with variety 5904-I, the fatty-acid composition of the variety investigated is characterized by an increase in the total degree of unsaturation in the PCs and PIs and by some decrease of it in the PEs. The qualitative sets of fatty acids in the PLs are identical: Position 2 of the glycerol residues of the molecules contains mainly the unsaturated acids. In order of increasing saturatedness, the phospholipids again form the sequence PCs → PEs → PIs.

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