was separated by centrifuging, was washed with ethanol, acetone, and ether, and was dried in vacuum over P_2O_5. Another 200 ml of ethanol was added to the supernatant liquid. The resulting precipitate was treated similarly. The operation was continued until the polysaccharides had been precipitated completely. The yields of the fractions were (g): I) 0,03 (1.8%, II) 1.03 (51.8%), III) 0.48 (12%, IV) 0.16 (8%), V) 0.05 (2.5%). Chromatography of a hydrolyzate of fraction II yielded mannose.

Further extraction of the meal of the bulbs with hot water yielded starch, $[\alpha]_D^{25}$ + 120° (c 1.0; 0.5 N NaOH). With iodine, the pectin substances of the bulbs gave a blue coloration and they therefore contain a glucan of the starch type. The pectin was separated on a column of DEAE-cellulose into a glucan and an acidic polysaccharide (72%). The latter contained, in addition to D-galacturonic acid, Gal, Glc, Ara, and Rha in a ratio of 5:3:1:70.

Thus, the polysaccharides predominating quantitatively in the leaves are pectin substances, and in the bulbs they are reserve polysaccharides: natively acetylated mannan and starch.

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CYCLOPROPENOID FATTY ACIDS IN THE PHOSPHOLIPIDS OF *Gossypium barbadense*

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The phospholipids of plants of the family Malvaceae contain fatty acids having the cyclopropene $-C=C-CH_2$ grouping [1, 2]. In view of this, we have attempted to isolate such acids from the phospholipids of the seeds of the cotton plant of variety 5904-I.

The methyl esters of the fatty acids of the total phospholipids showed a positive Halphen reaction [3] for cyclopropene acids (CPA's) and in their UV spectrum their is an absorption band in the 495 nm region. In order to determine the localization of the CPA's in the phospholipids by the method that we have described previously [4], we obtained homogeneous fractions of the phospholipids and found that they were localized mainly in the phosphatidylcholine and were qualitatively absent from the other fractions.

For the quantitative determination of the CPA's, the methyl esters of the fatty acids from the phosphatidylcholine were hydrogenated in methanol at room temperature for 2 h (Pd–Al catalyst). In the IR spectrum, an absorption band appeared in the 1020 cm^{-1} region corresponding to a cyclopropane group. On GLC (column containing 11% of polybutanediol succinate on Celite-545 at 180°C) we identified an acid corresponding to hydrogenated malvalic acid from *Hibiscus syriacus*, which agrees with information in the literature [5].

In order to determine the position of the cyclopropene ring, the hydrogenated product was oxidized with CrO_3 in glacial acetic acid at 60°C for 30 min [6]. The degradation products were found to contain azelaic and pelargonic acids [GLC; column containing 17% of PEGS; and TLC on cellulose in the tert-butanol–25% ammonia–water (25:3:5) system] which confirms the 9,10-cyclopropenoic structure of the malvalic acid.

Thus, the acid that we identified from phosphatidylcholine proved to be malvalic acid, and it amounted to 1.30% of the total fatty acid methyl esters. This is the first time that malvalic acid has been found in the phospholipids of the cotton plant *G. barbadense*.

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MINOR PHOSPHOLIPIDS OF THE COTTON PLANT OF VARIETY 159-F

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Continuing a study of the phospholipids (PL's) of the cotton plant of variety 159-F "Elit," 1974 harvest [1], by preparative TLC on type KSK silica gel in the chloroform–methanol–water (65:25:4) and chloroform–methanol–25% ammonia (14:6:1) systems we have isolated the homogeneous minor PL's (MPL's) x_2, x_3, and x_4 and lysophosphatidylcholine (lyso-PC).

In the products of the acid hydrolysis of the MPL's, in addition to fatty acids (FA's) we detected glycerol in the case of x_2 and x_3, ethanolamine and glycerol in the case of x_4, and choline and glycerol in the case of the lyso-PC. All the MPL's belong to the glycerophospholipid group:

Acid	x_2	x_3	x_4			Lyso-PC
			Total	O-acyl	N-acyl	
12:0	2,6	10,7	3,8	1,1	2,4	—
14:0	1,8	—	—	—	—	—
16:0	25,7	37,2	25,3	27,1	25,4	24,1
18:0	4,2	—	3,5	—	6,0	2,0
18:1	7,4	15,0	16,0	16,6	17,6	21,7
18:2	58,3	31,1	51,4	55,2	48,6	52,2
ΣS	34,3	47,9	32,6	28,2	33,8	26,1
ΣU	65,7	52,1	67,4	71,8	66,2	73,9

The IR spectra of all the MPL's had the characteristic absorption of CH, CH_2, CH_3, P–O–C and C=O (ester) groups and, in addition, in the case of x_4 there were the bands of a $C(=O)NHR$ group (1540 and 1640 cm^{-1}) and in the case of the lyso-PC the bands of P=O, $N^+(CH_3)_3$, and OH groups (1250, 975, and 3400-3200 cm^{-1}, respectively). As a standard we synthesized a N-acylphosphatidylethanolamine (N-acyl-PE) from phosphatidylethanolamine and margaroyl chloride [2]. The identity of the IR spectra, chromatographic mobilities, and the products of alkaline and acid hydrolysis of the N-acyl-PE and x_4 showed that x_4 is a N-acyl-PE.

We determined the N- and O-acyl groups in x_4 by Bomstein's method [3] (see above). As compared with other varieties of the cotton plant [4, 5], the total fatty-acid composition of the N-acyl-PE from the variety 159-F was more unsaturated. The fatty acids of the O- and N-acyl groups were distributed qualitatively and quantitatively almost identically, with the exception of the 18:0 acid attached to the amino group.

In its qualitative and quantitative composition, the lyso-PC of the cotton plant of variety 159-F differs little from that of other varieties [5].

On the basis of chromatographic mobilities, qualitative reactions, IR spectra, and the products of acid hydrolysis it may be assumed that x_2 and x_3 are polyglycerophosphatides.

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