Institute of Vaccines and Sera, where they are obtained from the corresponding microorganisms by Westphal's method of aqueous phenol extraction.

The investigation was performed in the following way. One drop of a 3% aqueous solution of KOH was deposited on a microscope slide, various amounts of powders of the polysaccharides were added and, after mixing, the mixtures were observed at room temperature for 2-3 min. The samples of lipopolysaccharides were weighed out on a microbalance.

It was found that on the addition to a drop of a 3% solution of caustic potash of 50 and 20 μg of the powders of the lipopolysaccharide under investigation a gel was formed while om the addition of smaller amounts of the lipopolysaccharide powders (10 μg) no gel was formed.

Thus, the lipopolysaccharides take a direct part in the formation of a gel by pyrogen-forming microorganisms. The results show simultaneously the possibility of detecting lipopolysaccharides by the gel-forming reaction.

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FATTY OILS FROM THE SEEDS OF SOME PLANTS OF THE FAMILY FABACEAE

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We have investigated the fatty oils from the seeds of three representatives of wild-growing plants of the family Fabaceae: *Sophora alopecuroides* L. (environs of Alma-Ata, Kaz-SSR), *Genista aetnensis* DC, and *Spartium junceum* L. (village of Karakala, TurkmSSR) — in comparison with the oil from the seeds of *Glycine hispida* Maxima growing in Kazakhstan.

We give results from the study of the amounts of carotenoids, tocopherols [1], and chlorophylls [2] in the seeds, and also the fatty-acid compositions of the oils. The fatty oils were isolated by extraction with petroleum ether (Table 1).

The fatty acid compositions of the oils (Table 2) were studied by gas-liquid chromatography on a Vyrukhrom instrument with a flame-ionization detector. The fatty acids were analyzed in the form of their methyl esters [3] on an 0.4 × 250 cm steel column filled with Chromaton NAW (0.40-0.60 mm) impregnated with 15% of poly(ethylene glycol succinate). Column temperature 204°C, evaporator temperature 250°C, pressure of the carrier gas 0.6 kg/cm^3.

TABLE 1. Physicochemical Constants of the Fatty Oils

Constant	Sophora alopecuroides	Genista aetnensis	Spartium junceum	Glycine hispida
Yield, %	0,9	2,8	3,4	17,2
Color	Golden-yellow	Yellow-brown	Dark yellow	Golden-yellow
n_D^{20}	—	1,4738	1,4745	1,4783
d_4^{20}		0,918	0,922	0,923
Acid No., mg KOH/g	0,15	7,00	6,60	0,21
Saponification No., mg KOH/g	202	187	186	192
Iodine No., %	106	68	122	148
Unsaponifiable substances, %	15,5	6,4	9,6	5,4
Carotenoids, mg/kg	5,0	7,7	12,5	25,8
β-Carotene »	1,1	0,8	0,9	6,3
Tocopherols »	13,0	17,0	21,0	176,9
Chlorophyll a »	10,0	2,4	2,0	—
Chlorophyll b »	7,4	2,7	3,8	—

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TABLE 2. Fatty Acid Compositions of the Oils from the Seeds

Acid	Amount of the acid, wt.%			
	Sophora alopecuroides	Genista aetnensis	Spartium junceum	Glycine hispida
$C_{10:0}$	—	0,2	0,1	—
$C_{11:0}$	—	0,2	0,1	—
$C_{12:0}$	—	0,2	Tr.*	—
$C_{14:0}$	1,5	0,5	0,1	—
$C_{15:0}$	—	0,9	0,5	—
$C_{16:0}$	16,9	29,8	13,9	9,3
$C_{16:1}$	2,9	14,8	2,5	1,0
$C_{17:0}$	0,4	1,5	0,4	—
$C_{18:0}$	5,9	6,2	3,2	0,8
$C_{18:1}$	21,1	28,2	21,1	19,9
$C_{18:2}$	40,7	14,2	55,3	56,0
$C_{18:3}$	4,0	0,5	0,2	12,8
$C_{20:0}$	3,0	2,0	2,5	0,2
$C_{20:1}$	3,6	0,8	Tr.	—
$\Sigma_{unsat.}$	27,7	41,5	18,3	10,1
$\Sigma_{monoenic}$	27,6	43,8	26,1	20,9
$\Sigma_{polyenic}$	44,7	14,7	55,5	69,0

*Tr. — less than 0.1%.

Thus, in the oils from the seeds of *Sophora alopecuroides* L. and *Spartium junceum* L. the main acids are linoleic, oleic, and palmitic. The fatty oil of *Genista aetnensis* DC differs from the oils of the other representatives of this faimly by a high content of palmitoleic acid.

The amounts of pigments and vitamins in the wild representatives of the family Fabaceae are low, in contrast to *Glycine hispida* Maxima.

We are the first to have studied the fatty acid compositions of the oils and the amounts of pigments and vitamins in the seeds of *Sophora alopecuroides* L., *Genista aetnensis* DC, and *Spartium junceum* L.

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