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BRIEF COMMUNICATIONS

Eremurus POLYSACCHARIDES. XXVII. FRACTIONATION OF THE PECTIN SUBSTANCES FROM THE LEAVES OF *Eremurus lactiflorus*

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We have previously studied the dynamics of the accumulation of pectin substances (PcSs) in the leaves of *Eremurus lactiflorus* O. Fedtsch. [1]. In the present communication we give the results of an investigation of homogeneous fractions isolated from the the PcSs of *E. lactiflorus* leaves.

Gel chromatography on Sephadex G-100 showed that the PcSs were polydisperse. In order to obtain homogeneous fractions, the PcSs were subjected to alkaline saponification with 0.15% caustic soda at room temperature for 18 h. On neutralization with 18% HCl solution, a precipitate deposited, and this was washed with 80% methanol and with pure methanol — fraction I (yield 62%). The mother solution was dialyzed, dried, and precipitated with methanol (1:2), giving fraction II (yield 10%). The characteristics of the fractions obtained by alkaline saponification are given below:

Fraction	$[\alpha]_D^{20}$, deg	Monosaccharide composition, moles						
	(*c* 0.25; H_2O)	Rha	Ara	Xyl	Man	Glc	Gal	GalUa
I	+230	5.56	7.66	4.4	1.12	1.0	6.3	+
II	+190	6.8	6.4	11.4	1.0	6.2	28.4	+

To determine their monosaccharide compositions, samples were hydrolyzed with 2 N H_2SO_4 in sealed tubes at 100°C for 48 h, and the products were subjected to paper chromatography (PC) (system: butan-1-ol—pyridine—water (6:4:3), revealing agent aniline hydrogen phthalate) and, in the form of aldononitrile acetates, to GLC [1, 2].

To obtain homogeneous fractions, a 1% solution of fraction I was treated with 1 N NaOH (4 ml), and then a 2 M solution of CH_3COONa (6 ml) was added dropwise, and the mixture was left at +4°C for 18 h. The precipitate that deposited (fraction D) was centrifuged off and was washed with 80% methanol and with pure methanol (yield of fraction D, 23%). The supernatant was treated with a 2 M solution of CH_3COONa (3 ml) and the resulting precipitate was separated off (fraction E) and was washed with 80% and with pure methanol (the yield of fraction E was 4%). The mother solution was dialyzed, concentrated, and precipitated with methanol (1:2), giving fraction F (yield, 50%). The homogeneity of fractions D, E, and F was confirmed by gel chromatography on Sephadex G-10. Their characteristics are given below:

Fraction	$[\alpha]_D^{20}$, deg	GalUA content, %	Monosaccharide composition, moles			
	(*c* 0.25; H_2O)		Rha	Ara	Xyl	Gal
D	−156	60.0	1.63	1.0	3.25	3.0
E	−170	61.0	1.6	1.0	3.4	4.0
F	−184	67.5	1.7	1.0	4.0	5.0

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Thus, the PcSs of the leaves of *E. lactiflorus* have been fractionated to give three homogeneous fractions.

REFERENCES

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