

OILS OF THREE REPRESENTATIVES OF THE FAMILY CRUCIFERAE

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Diplotaxis tenuifolia (slimleaf wallrocket), *Matthiola bicornis* (Grecian stock), and *Isatis tinctoria* (dryers' woad) belong to the family Cruciferae [1]. The fatty oil of the wallrocket has not been studied, and information on the others is incomplete [2-4].

We have investigated the seeds of the wallrocket collected in June-August, 1970, on the experimental plot of the Zaporozhe Medical Institute. The weight of 1000 wallrocket seeds was 0.32 g, the corresponding figures for the stock and the woad being 0.68 and 1.66 g. The physicochemical properties of the oils and fatty acids from the plants mentioned are given in Table 1, and the fatty-acid compositions of the oils according to GLC are given in Table 2.

TABLE 1

Index	Wallrocket		Stock		Woad	
	oil	fatty acids	oil	fatty acids	oil	fatty acids
Density, d_4^{20}	0,8992	—	0,9282	—	0,9187	—
Refractive index, n_D^{20}	1,4765	—	—	—	1,4760	—
Relative viscosity, E_{20}^0	9,82	—	6,58	—	9,85	—
Acid No., mg KOH/g	3,03	—	4,46	—	1,19	—
Sapon. No., mg KOH/g	180,67	—	189,31	—	177,58	—
Iodine No., %	127,80	143,9	194,25	196,8	130,48	131,24
Thiocyanogen No., %	93,15	100,08	22,06	125,2	103,51	104,48
Neutralization No., mg KOH/g	—	186,53	—	202,9	—	179,18
Mean mol. wt. Reichert-Meissel No., %	—	301,29	—	279,77	—	313,11
Polensk No., %	0,57	—	2,64	—	1,28	—
Unsaponifiables, %	1,09	—	0,32	—	0,63	—
Phosphatides, %	0,78	—	0,52	—	1,86	—
	0,10	—	0,18	—	0,53	—
Oil content, %	36,50		31,49		32,85	

TABLE 2

Acid	Wall-rocket	Stock	Woad	Acid	Wall-rocket	Stock	Woad
	%				%		
Myristic	Traces	0,40	Traces	Arachidic	5,74	—	10,22
Palmitic	4,80	6,21	3,40	Eicosenoic	1,10	—	0,57
Palmitoleic	0,55	0,51	0,21	Eicosadienoic	Traces	—	0,92
Stearic	2,12	2,30	1,29	Behenic	Traces	—	—
Oleic	12,63	14,33	16,19	Erucic	11,80	—	25,5
Linoleic	22,32	10,25	10,49	Lignoceric	—	—	3,47
Linolenic	38,94	66,00	27,74				

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