CAROTENOIDS OF PROMISING CITRUS HYBRIDS

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Using a method described previously [1], we have investigated the carotenoid composition of the peel of the fruit of the hybrids *Citrus sinensis* Osb. (orange) with the other Azakhikan grapefruit and the peel of the fruit of *C. ichagensis* Sw. × *Junos* Tan. (Wilson citrus) [2].

The carotenoids were identified by spectrophotometry in the visible and ultraviolet regions of the spectrum, from the coloration and position of the zones on the chromatogram, and by chromatograph of mixed samples of the isolated zones with known carotenoids and the performance of characteristic color reactions.

The total amount of carotenoid pigments was determined by the colorometric method.

The amounts of individual components as percentages of the total amount of carotenoids in the peel of the hybrids is given below:

Carotenoid	*Orange × Azakhikan grapefruit*	*Wilson citrus*
Phytoene	Tr.	—
Phytofluene	"	Tr.
η-Carotene	0,6	11,7
α-Carotene	4,5	—
β-Carotene	1,2	—
β-Zeacarotene	3,3	—
r-Carotene	2,2	—
Neo-β-carotene	2,6	—
Mutatochrome	—	12,2
Hydroxy-α-carotene	0,5	—
β-Apo-8-carotenal	41,3	39,8
Neurosporin (7′,8′-dihydrolycopene)	0,4	—
cis-Mutatoxanthin	2,5	—
Apo-10′-violaxanthal	1,6	—
Auroxanthin	6,4	1,2
Luteoxanthin	1,0	9,3
Mutatoxanthin	1,4	1,2
cis-Luteoxanthin	1,7	—
Flavoxanthin	5 6	—
Cryptoflavin	—	0,6
Unidentified carotenoids	23,2	24,0
	(5 carotenoids)	(2 carotenoids)
TOTAL, %	100	100

The carotenoid complex of orange × Azakhikan grapefruit consists of 23 individual compounds of which 18 have been identified. The amount of vitamin-A-active carotenoids is 54% of the mass of carotenoids of the peel of the hybrid fruit.

The carotenoid complex of the peel of the fruit of the Wilson citrus consists of ten individual substances, eight of which have been identified. The vitamin-A-active carotenoids amount to about 64% of the mass of all the mass of all the carotenoids of the complex.

LITERATURE CITED

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