



1 **Improvement of health-promoting functionality of**
 2 **rye bread by fortification with free and**
 3 **microencapsulated powders from *Amelanchier***
 4 ***alnifolia* Nutt.**

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Table S1. The content of phenolic compounds in pure fruit powder, encapsulated fruit powders with maltodextrin, and encapsulated fruit powders with inulin [mg/100 g d.s.]

Class of polyphenols	Compounds	FPI	FPM	FP
Flavanols	K-3-gal	42.4±0.8b ²	50.2±1.0a	19.2±0.4c
	Q-3-ara	3.3±0.1a	3.6±0.1a	1.0±0.01b
	K-3-glu	2.2±0.1a	2.1±0.1a	0.0±0.0b
	Q	0.2±0.1a	0.1±0.1a	0.0±0.0a
	Q-3-rut	43.2±0.9b	46.9±0.9a	27.9±0.6c
	Q-3-rob	0.2±0.01b	0.3±0.01b	1.9±0.01a
	Q-3-gal	201±4b	225±4a	151±3c
	Q-3-glu	9.9±0.2c	11.0±0.2b	19.2±0.4a
	Q-3-ara	3.6±0.1c	5.5±0.1b	6.7±0.1a
	Q-3-xyl	1.8±0.1b	1.9±0.1b	7.7±0.2a
	Q-3-6gal	2.0±0.1b	2.0±0.1b	6.7±0.1a
	Q-3-6glu	6.3±0.1b	7.7±0.2a	2.9±0.1c
	Qdhe	5.2±0.1c	7.7±0.2a	6.7±0.1b
	SUM	322±55b	364±61a	251±40c
Phenolic acids	PrA	6.9±0.1b	9.9±0.2a	1.9±0.1c
	CH	6.6±0.1a	5.7±0.1a	0.0±0.0b
	ThA	22.3±0.4a	23.8±0.5a	24.4±0.5a
	3CQA	319±6b	326±6a	239±4c
	Cag	71.4±1.4a	66.9±1.3b	64.4±1.3c
	5CQA	816±16a	786±15c	791.3±15.8b
	4CQA	200±4a	197±4b	170±3c
	3pCQA	55.8±1.1a	19.7±0.4c	21.2±0.4b
	trans-4CQA	0.0±0.0c	0.0±0.0b	12.5±0.3a
	DCQA	9.0±0.2a	7.6±0.2b	0.0±0.0c
DCQA	3.4±0.1a	2.8±0.1b	0.0±0.0c	

	SUM	1511±246a	1447±240b	1325±236c	
Anthocyanins	C-3-hexepi	0.0±0.0b	0.0±0.0b	8.2±0.2a	
	C-3-pentepi	0.0±0.0b	0.0±0.0b	3.8±0.1a	
	C-3-hexepicat	0.0±0.0b	0.0±0.0b	6.7±0.1a	
	C-3-O-gal	1651±33a	1501±30b	1230±24c	
	C-3-O-glu	443±8a	423±8b	272±5c	
	C-3-O-ara	106±2a	64.1±1.3c	70.2±1.4b	
	C-3-O-xyl	159±3a	120±2b	109±2c	
	C	2.7±0.1a	2.0±0.1b	0.0±0.0c	
	SUM	2363±568a	2111±520b	1701±421c	
Flavan-3-ols	PB4	228±4a	204±4b	0.0±0.0c	
	PB4	7.4±0.1a	4.6±0.1b	0.0±0.0c	
	PA2	79.5±1.6b	67.8±1.4c	100±2a	
	PB2	47.6±1c	51.1±1.0b	92.3±1.8a	
	Cat	30.4±0.6a	23.8±0.5b	23.1±0.5b	
	PB3	40.8±0.8b	55.9±1.1a	55.8±1.1a	
	Epi	4.2±0.1c	5.4±0.1b	10.6±0.2a	
	PB4	33.0±0.7c	56.4±1.1a	43.3±0.9b	
	PB4	4.8±0.1a	4.7±0.1a	2.1±0.1b	
	PB3	15.8±0.3	15.9±0.3	25.8±0.5	
	PB3	6.3±0.1a	5.7±0.1b	4.8±0.1c	
	PB4	29.3±0.6a	29.7±0.6a	6.7±0.1b	
	PB4	47.2±0.9a	44.2±0.9b	0.0±0.0c	
		SUM	574±59a	569±53b	364±35c
	Total phenolic compounds		4772±933a	4492±809b	3642±714c
Antioxidant activity [µmol TE/g d.s.]	FRAP	33.1±0.7b	38.0±0.8a	18.0±0.4c	
	ABTS	50.0±1.0a	49.5±1.0a	30.1±0.6b	

¹ Values are expressed as the mean (n = 3) ± standard deviation. Mean values bearing different letters in the same row denote statistical difference (a>b>c...etc).

Epi, (-)-epicatechin; Cat, (+)-catechin; PB4, B-type procyanidin tetramer; PB3, B-type procyanidin trimer; PB2, B-type procyanidin dimer; PA2, A-type procyanidin dimer; C-3-gal, cyanidin-3-O-galactoside; C-3-glu, cyanidin-3-O-glucoside; C-3-ara, cyanidin-3-O-arabinoside; C-3-xyl, cyanidin-3-O-xyloside; C, cyaniding; PrA, protocatechuic acid; Cag, caffeic acid glucoside; Chx, caffeoylhexose; ThA, trihydroxycinnamoylquinic acid isomers; 3CQA, 3-O-caffeoylquinic acid; 5CQA, 5-O-caffeoylquinic acid; 4CQA, 4-O-caffeoylquinic acid; 3pCQA, 3-O-p-coumaroylquinic acid; DCQA, di-caffeoylquinic acid; DCQA, di-caffeoylquinic acid; Q, quercetin; Q-3-rob, quercetin-3-O-robinobioside; Q-3-rut, quercetin-3-O-rutinoside; Q-3-ara, quercetin-3-O-arabinoside; Q-3-xyl, quercetin-3-O-xyloside; Q-3-glu, quercetin-3-O-glucoside; Q-3-gal, quercetin-3-O-galactoside; Q-3-arab, quercetin-3-O-arabinobioside; Q-3-6glu, quercetin-3-O-(6"-acetyl)glucoside; Q-3-6gal, quercetin-3-O-(6"-acetyl)galactoside; Qdhe, quercetin-deoxyhexo-heksoside; K-3-gal, kaempferol-3-O-galactoside; K-3-glu, kaempferol-3-O-glucoside; C-3-hexepi, C-3-hexoside-(epi)catechin; C-3-pentepi, C-3-pentoside-(epi)catechin; C-3-hexepicat, C-3-hexoside-(epi)cat-(epi)cat.

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