

Table1 Composition and content of polyphenols in pericarp of 12 apple landraces grown in Heilongjiang Province mg·kg⁻¹ (FW)

Variety	Hydroxycinnamic acids							Flavonols			
	GALAC	PROAC	CINAC	CHLAC	NEOAC	CRYAC	KAE	QUERU	QUEAL	QUEGL	QUERC
'Longshuai'	nd	nd	7.80±0.02	10.40±0.26	nd	4.03±0.44	nd	5.72±0.01	16.93±0.98	7.83±0.59	17.99±2.06
'Huahong'	nd	5.11±0.00	7.87±0.21	29.44±0.01	nd	4.20±0.63	nd	6.68±0.00	69.36±0.00	13.47±0.00	16.01±1.97
'Cuiping'	16.57±0.01	nd	8.20±0.71	12.45±1.09	4.14±0.13	4.89±1.18	nd	7.40±0.57	23.53±1.98	12.08±0.81	20.19±1.24
'Jixinguo'	nd	nd	nd	3.69±0.39	nd	nd	nd	nd	6.22±0.01	7.54±0.00	14.13±1.02
'Qizaohong'	nd	nd	7.80±0.10	3.68±0.02	nd	4.41±0.00	9.50±0.39	nd	5.36±0.00	7.46±0.18	14.34±1.03
'Number 1 Jixi'	nd	nd	7.78±0.00	3.23±0.13	4.36±0.00	4.88±2.38	nd	nd	4.93±0.02	22.36±0.00	11.73±1.48
'Shuangqiu'	nd	nd	nd	3.32±0.19	nd	nd	nd	nd	nd	8.15±0.71	12.08±2.10
'Zikui'	nd	nd	7.67±0.00	47.12±1.35	nd	5.12±0.67	nd	6.47±0.00	6.56±1.21	12.49±1.64	11.82±1.31
'124'	nd	nd	9.09±1.44	3.71±0.37	4.16±0.00	3.66±0.07	11.00±0.39	119.11±0.67	16.59±0.00	19.37±2.15	nd
'Longhong'	nd	nd	7.96±0.25	14.68±2.34	nd	6.42±2.07	nd	5.95±0.01	88.38±2.62	15.62±1.75	49.64±1.19
'Zixiang'	nd	nd	8.05±0.36	3.16±0.19	nd	nd	nd	nd	14.84±0.00	13.43±1.21	25.36±2.82
'Tianfeng'	nd	nd	12.82±0.00	3.06±0.16	nd	3.66±0.00	nd	nd	10.44±1.58	11.91±0.98	nd
Mutations coefficient/%			50.83	119.10	180.97	64.03	234.30	267.18	126.25	37.48	79.64

Variety	Dihydrochalcones	Anthocyanins			Proanthocyanidins					
	PHL	CYAGA	CAYGL	ANTRH	PROB1	CAT	PROB4	PROB2	EP	
'Longshuai'	16.02±1.67	9.85±1.28	nd	nd	3.04±0.02	2.89±2.09	nd	8.46±0.45	32.78±1.61	
'Huahong'	16.94±2.67	58.35±0.00	6.63±0.01	105.64±0.01	13.01±2.08	94.61±0.00	46.86±0.01	nd	19.49±0.55	
'Cuiping'	77.41±1.58	12.30±1.83	6.03±0.00	6.25±0.00	7.79±1.11	15.65±1.37	2.65±0.00	20.74±1.55	22.89±2.55	
'Jixinguo'	nd	nd	nd	12.88±1.03	nd	nd	9.29±0.00	6.71±2.71	10.20±0.66	
'Qizaohong'	nd	nd	16.07±0.20	nd	nd	5.35±1.16	2.49±0.00	nd	73.77±2.02	
'Number 1 Jixi'	8.56±0.00	33.04±0.00	14.15±1.96	11.28±0.00	3.01±0.99	5.88±1.36	3.49±1.02	7.12±0.89	8.81±0.44	
'Shuangqiu'	7.75±0.00	nd	6.97±0.00	6.88±0.03	4.04±2.12	0.07±0.00	2.89±0.11	5.06±0.20	8.07±0.00	
'Zikui'	18.06±1.89	28.87±0.00	5.80±0.00	16.08±1.44	5.76±1.95	37.93±0.00	7.45±1.56	7.42±0.79	22.71±0.00	
'124'	8.31±0.29	15.56±0.00	5.78±0.00	nd	nd	107.59±0.37	3.51±0.86	5.13±0.00	28.07±1.29	
'Longhong'	41.53±1.07	13.31±2.41	5.69±0.00	nd	7.39±1.47	7.71±2.68	nd	14.35±1.38	24.79±1.82	
'Zixiang'	8.16±0.48	nd	nd	9.38±1.29	3.04±0.58	1.01±0.01	nd	5.76±0.63	19.02±1.22	
'Tianfeng'	50.51±0.01	nd	9.80±0.00	nd	11.23±0.00	2.38±1.57	7.38±0.00	5.49±0.07	8.65±0.03	
Mutations coefficient/%	111.24	125.91	80.07	209.68	88.71	161.69	159.72	78.92	76.91	

Note: nd: Not detected. GALAC: gallic acid; PROAC: Protocatechuic acid; CINAC: Cinnamic acid; CHLAC: Chlorogenic acid; NEOAC: Neochlorogenic acid; CRYAC: Cryptochlorogenic acid; KAE: Kaempferol; QUERU: Rutin; QUEAL: Quercetin 3-galactoside; QUEGL: Quercetin 3-glucoside; QUERC: Quercetin; PHL: Phlorizin; CYAGA: Cyanidin 3-galactoside; CAYGL: Cyanidin-3-O-glucoside; ANTRH: Anthocyanin rhamnoside; PROB1: Proanthocyanidin B1; PROB2: Proanthocyanidin B2; PROB4: Proanthocyanidin B4; CAT: Catechins; EP: Epicatechin