

Figure S1. Schematic representation of sample processing.



Table S1. Chemical composition of rape, buckwheat and rose bee pollen samples.

	Rape	Buckwheat	Rose
Ash (%)	3.25±0.04 ^b	4.37±0.23 ^a	2.41±0.12 ^c
Fat (%)	6.80±0.36 ^b	8.46±0.42 ^a	1.65±0.14 ^c
Protein (%)	30.88±0.65 ^a	18.30±0.57 ^b	32.24±1.44 ^a
Total sugar (%)	36.68±0.96 ^c	42.43±0.55 ^b	52.17±0.47 ^a
Starch (%)	8.59±1.04 ^c	13.61±0.95 ^b	18.02±1.68 ^a
Fiber (%)	7.50±0.76 ^b	8.77±0.4 ^a	8.55±0.82 ^a

Results were expressed on a dry basis. Values with different letters in the same row are significantly different ($p<0.05$) from each other, which was carried out using one-way analysis of variance (ANOVA), followed by Duncan's multiple range tests.

Table S2. Elemental concentrations of rape, buckwheat and rose bee pollen samples.

	Rape	Buckwheat	Rose
Macroelement			
K (g/kg)	5.10±0.10 ^b	11.40±0.00 ^a	5.40±0.20 ^b
Ca (g/kg)	3.23±0.02 ^a	3.05±0.05 ^b	3.25±0.05 ^a
Mg (g/kg)	1.72±0.02 ^b	5.44±0.04 ^a	1.21±0.01 ^c
Na (mg/kg)	66.50±3.50 ^a	31.00±3.00 ^b	32.50±2.50 ^b
Microelement			
Fe (mg/kg)	110.50±0.50 ^b	153.50±0.50 ^a	95.00±2.00 ^c
Zn (mg/kg)	39.50±0.50 ^a	15.00±1.00 ^b	38.00±2.00 ^a
Mn (mg/kg)	25.50±0.50 ^b	22.00±1.00 ^b	182.5±2.5 ^a
Cu (mg/kg)	8.35±0.25 ^b	4.25±0.05 ^c	11.50±0.50 ^a
Heavy metal elements			
Cr (mg/kg)	0.23±0.02 ^a	0.17±0.04 ^a	0.11±0.02 ^a
Pb (mg/kg)	0.32±0.06 ^a	0.27±0.13 ^a	0.15±0.00 ^a
Cd (mg/kg)	<0.10	<0.10	<0.10
As (mg/kg)	<0.050	<0.050	<0.050

Results were expressed on a dry basis. Values with different letters in the same row are significantly different ($p<0.05$) from each other, which was carried out using one-way analysis of variance (ANOVA), followed by Duncan's multiple range tests.