

Supplementary Tables

Table S1. Content of each phenolic compound and total phenolics of flours from bean and rice co-products cultivated with macrofungi.

Compound (mg/g)	CF	CFA	102F	102AF	134F	134AF	161F	161AF
Quinic acid	ND	ND	ND	ND	ND	ND	0.1695 ± 0.0044	ND
Protocatechuic acid	0.0462 ± 0.0005 ^c	0.0505 ± 0.0005 ^b	0.0525 ± 0.0027 ^{bc}	0.0578 ± 0.0003 ^b	0.0557 ± 0.0003 ^b	0.0925 ± 0.0043 ^a	0.0381 ± 0.0004 ^d	0.0874 ± 0.0023 ^a
Gallic acid	0.0071 ± 0.0004 ^a	0.0023 ± 0.0005 ^b	ND	ND	ND	ND	NQ	NQ
(+)-Catechin	ND	ND	0.0771 ± 0.0009 ^c	0.0501 ± 0.0007 ^c	0.0709 ± 0.0011 ^{cd}	0.0652 ± 0.0006 ^d	0.1308 ± 0.0007 ^b	0.2186 ± 0.0066 ^a
Syringic acid	ND	ND	ND	ND	ND	ND	0.1070 ± 0.0019	ND
Chlorogenic acid	0.1547 ± 0.0003 ^b	0.1851 ± 0.0038 ^a	0.1302 ± 0.0005 ^d	0.1475 ± 0.0005 ^c	ND	ND	ND	ND
4-Hydroxybenzoic acid	0.00004 ± 0.0000 ^c	0.0029 ± 0.0038 ^c	NQ	ND	0.2141 ± 0.0033 ^a	0.1891 ± 0.0042 ^b	0.0019 ± 0.0000 ^c	0.0015 ± 0.0001 ^c
(-)-Epicatechin	0.1321 ± 0.0013 ^a	0.1218 ± 0.0012 ^b	0.1283 ± 0.0012 ^{ab}	ND	0.0601 ± 0.0050 ^c	ND	ND	ND
Vanillic acid	0.1092 ± 0.0003 ^b	0.1199 ± 0.0002 ^a	ND	ND	ND	ND	ND	ND
Sinapic acid	0.0086 ± 0.0001 ^f	0.0227 ± 0.0005 ^d	0.0061 ± 0.0004 ^f	0.0569 ± 0.0039 ^c	1.2475 ± 0.003 ^a	1.2365 ± 0.0016 ^b	0.0673 ± 0.0032 ^c	0.0303 ± 0.0002 ^d
Ellagic acid	ND	ND	1.1919 ± 0.0002 ^b	1.1918 ± 0.0002 ^b	ND	ND	1.1941 ± 0.0004 ^a	ND
Ferulic acid	ND	ND	0.0426 ± 0.0001 ^a	0.0359 ± 0.0002 ^d	0.0367 ± 0.0002 ^c	0.0375 ± 0.0001 ^b	ND	ND
Total phenolics	0.4579 ± 0.0528^e	0.5053 ± 0.0064^d	1.6287 ± 0.006^b	1.5402 ± 0.0059^c	1.6852 ± 0.013^a	1.6209 ± 0.0108^b	1.7012 ± 0.0109^a	0.3313 ± 0.0093^f

Means followed by the same letter on the line do not differ statistically from each other ($p < 0.05$). CF = Control, broken ‘carioca’ beans without colonization; CFA = Mixture (70% broken ‘carioca’ beans + 20% rice bran + 10% broken rice), without colonization; 102F = flour from broken carioca beans cultivated with *Fistulina hepatica*; 134F = flour from broken carioca beans cultivated with *Pycnoporus sanguineus*; 161F = flour from broken carioca beans cultivated with *Laetiporus cincinnatus*; 102AF = Flour from the mixture, cultivated with *Fistulina hepatica*; 134AF = flour from the mixture, cultivated with *Pycnoporus sanguineus*; 161AF = flour from the mixture, cultivated with *Laetiporus cincinnatus*.

*ND - not detected.

**NQ - not quantifiable, below the limits of quantification.

Table S2. Cytotoxicity of extracts of flours from bean and rice co-products, fermented and non-fermented.

Sample	GI ₅₀ (µg/ml)					
	AGS	CaCo2	MCF-7	NCI-H460	VERO	RAW
CF	-	-	-	-	-	-
102F	70.68 ± 7	27.38 ± 2	53.52 ± 5	189.54 ± 18	278.02 ± 14	-
134F	197.99 ± 6	277.99 ± 3	203.48 ± 19	-	380.13 ± 8	-
161F	-	-	-	-	-	-
CFA	-	-	-	-	-	-
102AF	194.55 ± 19	301.13 ± 20	238.65 ± 4	252.78 ± 20	-	-
134AF	-	-	-	-	-	-
161AF	365.68 ± 16	-	-	-	-	-

CF = Control, broken ‘carioca’ beans without colonization; CFA = Mixture (70% broken ‘carioca’ beans + 20% rice bran + 10% broken rice), without colonization; 102F = flour from broken carioca beans cultivated with *Fistulina hepatica*; 134F = flour from broken carioca beans cultivated with *Pycnoporus sanguineus*; 161F = flour from broken carioca beans cultivated with *Laetiporus cincinnatus*; 102AF = Flour from the mixture, cultivated with *Fistulina hepatica*; 134AF = flour from the mixture, cultivated with *Pycnoporus sanguineus*; 161AF = flour from the mixture, cultivated with *Laetiporus cincinnatus*.

Table S3. Amino acid profile (%) of flours from bean and rice co-products cultivated with macrofungi.

Amino acid (%)	Broken beans			Mixture (broken beans + rice co-products)		
	<i>F. hepatica</i>	<i>P. sanguineus</i>	<i>L. cincinnatus</i>	<i>F. hepatica</i>	<i>P. sanguineus</i>	<i>L. cincinnatus</i>
Asp	2.66	3.01	2.57	2.08	2.10	1.96
Glu	3.25	3.59	3.16	2.72	2.85	2.49
Ser	1.27	1.31	1.28	1.00	1.08	0.98
Gly	1.11	1.41	1.03	0.96	1.01	0.92
His	0.87	0.89	0.84	0.68	0.64	0.72
Tau	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Arg	1.51	1.16	1.39	1.36	0.98	1.15
Thr*	1.10	1.20	1.08	0.89	0.88	0.83
Ala	1.15	1.25	1.08	0.98	0.95	0.88
Pro	0.80	0.95	0.79	0.69	0.66	0.68
Tyr	0.80	0.80	0.74	0.64	0.67	0.60
Val*	1.42	1.56	1.34	1.16	1.15	1.05
Met*	0.17	0.17	0.15	0.14	0.16	0.13
Cys	0.24	0.33	0.20	0.18	0.21	0.16
Ile*	1.19	1.29	1.14	0.95	0.95	0.85
Leu*	1.76	1.80	1.83	1.45	1.55	1.39
Phe*	1.29	1.31	1.43	1.06	1.18	1.07
Lys*	1.30	0.98	1.34	0.91	0.66	1.14
Hyp	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Trp*	0.33	0.52	0.31	0.31	0.31	0.29

*Essential amino acid