

[Back to article](#)**Table S1.** Phytic acid content and antioxidant properties of cookies

Dephytinisation method	w(teff flour)/%	w(phytic acid)/(mg/100 g)	w(TPC as GAE)/(mg/100 g)	AA/%
Undephytinised	0	72.3±1.8	88.7±1.0	26.1±2.0
	10	156.7±2.4	100.2±4.0	28.1±3.0
	20	249.1±5.8	129.1±5.8	31.3±1.9
	30	334.6±6.2	152.7±3.8	32.4±2.2
	40	413.8±5.9	169.4±11.9	35.3±2.5
Fermented	0	73.2±3.1	88.4±3.4	26.0±1.4
	10	72.6±3.7	92.4±4.8	27.9±0.1
	20	73.9±5.5	99.7±6.7	29.5±0.6
	30	70.1±4.1	121.7±2.4	31.4±2.2
	40	71.4±5.1	138.4±2.0	32.5±2.1
Autoclaved	0	71.9±1.6	88.0±5.7	26.3±1.9
	10	92.8±3.1	103.4±4.8	29.2±2.6
	20	118.0±4.2	114.4±6.2	30.6±0.3
	30	137.3±3.8	118.1±4.3	32.2±1.2
	40	151.7±4.7	134.6±3.5	32.8±1.7
Phytase-treated	0	73.0±2.8	89.0±5.6	27.0±1.4
	10	73.2±2.6	96.1±7.2	29.3±1.9
	20	71.9±4.4	103.4±4.8	30.4±2.3
	30	74.6±0.6	114.4±3.7	31.0±1.4
	40	69.0±5.7	132.7±3.9	32.6±2.2

Values are the average of triplicate measurements of the duplicate samples. The results are expressed on dry mass basis. TPC=total phenol content, GAE=gallic acid equivalents, AA=antioxidant activity

[Back to article](#)**Table S2.** Nutrient composition of cookies

Dephytinisation method	w(teff flour)/%	w(ash)/%	w(protein)/%	w(fat)/%
Undephytinised	0	1.55±0.03	5.6±0.2	20.8±0.1
	10	1.62±0.04	5.5±0.1	21.0±0.3
	20	1.67±0.03	5.6±0.1	21.2±0.3
	30	1.73±0.04	5.7±0.1	21.6±0.2
	40	1.79±0.01	5.8±0.2	21.8±0.2
Fermented	0	1.51±0.00	5.6±0.1	20.7±0.2
	10	1.55±0.06	5.6±0.1	20.9±0.3
	20	1.58±0.01	5.7±0.1	21.1±0.1
	30	1.63±0.04	5.8±0.1	21.2±0.2
	40	1.66±0.01	5.8±0.1	21.4±0.3
Autoclaved	0	1.53±0.03	5.6±0.1	20.8±0.2
	10	1.59±0.06	5.6±0.0	21.0±0.4
	20	1.65±0.07	5.7±0.1	21.2±0.2
	30	1.78±0.04	5.7±0.1	21.2±0.3
	40	1.79±0.01	5.7±0.1	21.3±0.4
Phytase-treated	0	1.52±0.04	5.6±0.1	20.8±1.1
	10	1.57±0.01	5.6±0.1	20.8±0.3
	20	1.61±0.06	5.6±0.0	21.0±0.2
	30	1.68±0.00	5.6±0.1	21.1±0.2
	40	1.74±0.01	5.7±0.1	21.5±0.2

Values are the average of triplicate measurements of the duplicate samples. The results are expressed on dry mass basis

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Table S3. Mineral composition of cookies

Dephytinisation method	w(teff flour)/%	w(mineral)/(mg/100 g)					
		Ca	Fe	K	Mg	P	Zn
Undephytinised	0	36.4±0.6	1.3±0.1	99.2±2.0	27.6±0.8	230.2±2.6	0.4±0.1
	10	40.8±1.1	1.4±0.0	115.3±1.8	30.5±0.7	250.4±1.6	0.5±0.1
	20	42.6±0.8	1.7±0.0	137.9±2.0	38.9±0.8	275.6±2.3	0.5±0.0
	30	47.2±0.3	2.0±0.1	149.6±0.8	45.6±0.8	294.8±2.6	0.7±0.1
	40	52.4±0.6	2.2±0.3	157.2±1.7	50.8±1.1	309.2±1.7	0.9±0.2
Fermented	0	37.6±0.8	1.2±0.1	103.2±1.0	28.3±0.4	232.4±3.4	0.4±0.1
	10	40.5±0.7	1.5±0.0	105.7±0.4	29.1±0.6	240.4±2.3	0.4±0.1
	20	45.6±0.8	1.9±0.1	113.6±1.6	31.4±0.6	245.1±1.6	0.5±0.1
	30	47.8±1.1	2.1±0.1	116.1±1.3	35.6±0.8	258.4±2.0	0.7±0.3
	40	50.7±1.0	2.2±0.1	121.3±1.0	36.3±0.4	265.6±2.3	0.8±0.1
Autoclaved	0	36.2±0.3	1.3±0.1	98.6±2.0	27.3±0.4	229.6±1.6	0.5±0.1
	10	40.3±0.4	1.5±0.1	108.3±1.8	33.9±0.6	251.7±0.4	0.5±0.2
	20	46.7±1.0	1.6±0.1	120.7±0.4	39.2±0.4	264.3±1.8	0.6±0.0
	30	49.6±0.8	1.9±0.1	132.9±1.6	45.6±0.8	288.5±2.1	0.8±0.1
	40	50.9±1.3	2.0±0.3	142.3±1.0	47.9±0.6	307.7±2.8	0.8±0.0
Phytase-treated	0	37.4±0.6	1.4±0.1	100.8±1.7	27.1±0.6	231.4±2.3	0.4±0.1
	10	39.2±0.3	1.6±0.0	105.1±1.6	30.5±0.7	240.6±2.0	0.5±0.0
	20	41.3±0.4	2.2±0.0	112.4±2.0	34.6±0.8	253.7±2.4	0.6±0.0
	30	45.6±0.8	2.5±0.1	115.7±1.0	36.5±0.7	261.7±1.8	0.8±0.1
	40	47.3±0.4	3.1±0.3	122.6±1.6	37.5±0.7	272.9±2.7	0.9±0.1

Values are the average of triplicate measurements of the duplicate samples

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Table S4. Moisture content, physical properties, hardness and colour values of cookies

Dephytinisation method	w(teff flour)/%	w(moisture)/%	d/mm	Thickness/mm	Spread ratio	Hardness/g	L*	a*	b*
Undephytinised	0	4.09±0.03	58.2±0.2	6.60±0.05	8.8±0.1	3571±14	74.2±0.2	0.61±0.01	23.92±0.07
	10	4.71±0.10	58.9±0.3	6.27±0.02	9.4±0.2	2910±8	62.1±0.2	4.51±0.04	20.51±0.11
	20	3.45±0.07	60.1±0.1	5.71±0.06	10.5±0.1	2585±5	55.4±0.2	6.22±0.03	18.41±0.06
	30	3.74±0.03	60.5±0.1	5.65±0.04	10.7±0.1	2622±22	51.7±0.1	6.54±0.01	16.25±0.13
	40	3.13±0.07	61.1±0.1	5.25±0.13	11.6±0.1	2158±18	48.8±0.1	6.86±0.05	14.83±0.03
Fermented	0	3.95±0.18	58.1±0.1	6.67±0.06	8.7±0.2	3565±5	74.0±0.1	0.62±0.01	23.87±0.02
	10	3.61±0.06	58.3±0.3	6.68±0.03	8.7±0.1	3360±20	62.5±0.2	3.86±0.06	18.24±0.01
	20	3.41±0.13	58.5±0.3	6.34±0.09	9.2±0.1	3116±4	54.1±0.4	5.76±0.06	16.02±0.07
	30	3.36±0.08	59.4±0.1	5.73±0.08	10.4±0.1	2655±10	49.7±0.1	6.60±0.03	15.04±0.08
	40	3.41±0.06	60.6±0.1	5.63±0.12	10.8±0.1	2502±13	46.9±0.1	6.45±0.01	13.05±0.08
Autoclaved	0	4.05±0.10	58.2±0.2	6.59±0.16	8.8±0.1	3559±6	74.3±0.0	0.60±0.00	23.84±0.02
	10	3.37±0.08	58.4±0.1	6.18±0.21	9.5±0.1	2511±8	62.4±0.1	4.20±0.03	17.99±0.21
	20	3.25±0.07	58.5±0.2	5.86±0.08	10.0±0.2	2374±6	57.2±0.2	5.28±0.07	15.65±0.10
	30	2.97±0.03	58.9±0.1	5.83±0.14	10.1±0.1	2148±11	51.3±0.1	6.05±0.04	13.85±0.07
	40	2.58±0.03	58.8±0.1	5.75±0.27	10.2±0.2	2062±13	48.3±0.2	6.65±0.05	14.53±0.08
Phytase-treated	0	4.10±0.08	58.2±0.2	6.62±0.07	8.8±0.1	3608±10	74.2±0.1	0.59±0.00	23.96±0.10
	10	3.09±0.11	58.3±0.3	6.23±0.36	9.4±0.3	3515±5	63.7±0.2	3.93±0.06	17.63±0.06
	20	3.59±0.08	58.5±0.1	6.20±0.19	9.4±0.1	3094±14	57.9±0.2	5.19±0.06	14.91±0.11
	30	2.67±0.03	59.3±0.1	6.05±0.07	9.8±0.1	2429±21	52.4±0.2	5.81±0.04	13.87±0.16
	40	2.78±0.16	59.5±0.1	5.95±0.04	10.0±0.2	2355±14	49.1±0.2	6.31±0.01	13.25±0.13

Values are the average of triplicate measurements of the duplicate samples