

## SUPPLEMENTARY MATERIAL

**Table S1.** Centesimal compositional and physicochemical characteristic of Brazil nut beverage

**Table S2.** Inactivation of *E. coli* (CECT 434) (~10<sup>8</sup> CFU/ml) by HPH of the Brazil nut beverage

**Table S3.** Physicochemical characteristics of the Brazil nut beverage (BBN) treated by high-pressure homogenization (HPH) and pasteurization (PAS) and stored preserved at 5°C for 21 days.

**Table S4.** TBA values (µg MDA/ mL) of the Brazil nut beverage treated by HPH (T1, T2 and T3) and pasteurization (PAS) and stored at 5 °C for 21 days

**Table S1.** Centesimal compositional and physicochemical characteristic of Brazil nut beverage

<b>Composition/ Physicochemical</b>	<b>BNB 1</b>	<b>BNB 2</b>	<b>BNB 3</b>
<i>Total solid (%<i>, w/w</i>)</i>	4.8 ±0.5 <sup>a</sup>	7.1 ±0.3 <sup>c</sup>	5.7 ±0.1 <sup>b</sup>
<i>Wet (%<i>, w/w</i>)</i>	95.2 ±0.4 <sup>b</sup>	92.9 ±0.3 <sup>a</sup>	94.3 ±0.3 <sup>b</sup>
<i>Lipid total (%<i>, w/w</i>)</i>	2.8 ±0.4 <sup>a</sup>	3.4 ±0.2 <sup>b</sup>	2.9 ±0.0 <sup>a</sup>
<i>Protein (%<i>, w/w</i>)</i>	1.2 ±0.1	1.18 ±0.0 <sup>a</sup>	1.27 ±0.0 <sup>b</sup>
<i>Carbohydrate (%<i>, w/w</i>)</i>	0.93 ±0.4 <sup>a</sup>	2.36 ±0.2 <sup>b</sup>	1.06 ±0.2 <sup>a</sup>
<i>Ash (%<i>, w/w</i>)</i>	0.15 ±0.01 <sup>a</sup>	0.15 ±0.02 <sup>a</sup>	0.14 ±0.0 <sup>a</sup>
<i>pH</i>	6.7 ±0.1 <sup>a</sup>	6.6 ±0.1 <sup>a</sup>	6.65 ±0.1 <sup>a</sup>
<i>Acidity (%<i>, w/v</i>)</i>	0.02 ±0.0 <sup>a</sup>	0.03 ±0.0 <sup>a</sup>	0.03 ±0.0 <sup>a</sup>
<i>°Brix</i>	2.3 ±0.1 <sup>a</sup>	2.5 ±0.1 <sup>b</sup>	2.23 ±0.1 <sup>a</sup>

BNB 1, Beverage with reincorporation of 30% of fat fraction; BNB 2, Beverage of intermediate phase after repose by 5 h; BNB 3, Beverage of intermediate phase after repose by 15 h. The data are provided as mean value ± standard deviation (n = 3). Values with different letters in row are different (p < 0.05).

**Table S2.** Inactivation of *E. coli* (CECT 434) (~108 CFU/ml) by HPH of the Brazil nut beverage

Pressure (Mpa)	Log N <sub>0</sub> /N (CFU/mL)		
	25 °C	55 °C	75 °C
50	0.6 ±0.1 <sup>a</sup>	1.3 ±0.0 <sup>b</sup>	8.2 ±0.0 <sup>f</sup>
100	1.7 ±0.1 <sup>b</sup>	5.0 ±0.1 <sup>d</sup>	8.2 ±0.0 <sup>f</sup>
150	3.9 ±0.1 <sup>c</sup>	6.1 ±0.4 <sup>e</sup>	8.2 ±0.0 <sup>f</sup>
180	8.0 ±0.4 <sup>f</sup>	8.1 ±0.2 <sup>f</sup>	8.2 ±0.0 <sup>f</sup>

The data are provided as mean value ± standard deviation (n = 3). Values with different letters in the same column or row are different (p < 0.05).

**Table S3.** Physicochemical characteristics of the Brazil nut beverage (BBN) treated by high-pressure homogenization (HPH) and pasteurization (PAS) and stored preserved at 5°C for 21 days.

Parameters	Day	BNB	PAS	T1	T2	T3
°Brix	0	2.6 ±0.1 <sup>A</sup>	2.9 ±0.1 <sup>Bb</sup>	4.1 ±0.1 <sup>Cab</sup>	4.8 ±0.1 <sup>Da</sup>	5.3 ±0.1 <sup>Ea</sup>
	2	**	2.9 ±0.2 <sup>b</sup>	4.2 ±0.1 <sup>ab</sup>	4.7 ±0.3 <sup>a</sup>	5.1 ±0.5 <sup>a</sup>
	5	**	2.8 ±0.3 <sup>b</sup>	4.3 ±0.3 <sup>b</sup>	4.8 ±0.3 <sup>a</sup>	5.1 ±0.5 <sup>a</sup>
	9	**	2.7 ±0.1 <sup>b</sup>	4.4 ±0.1 <sup>b</sup>	4.9 ±0.1 <sup>a</sup>	4.8 ±0.2 <sup>a</sup>
	15	**	2.6 ±0.2 <sup>ab</sup>	4.0 ±0.1 <sup>ab</sup>	4.7 ±0.1 <sup>a</sup>	4.5 ±0.2 <sup>a</sup>
	21	**	2.2 ±0.2 <sup>a</sup>	3.8 ±0.2 <sup>a</sup>	4.4 ±0.2 <sup>a</sup>	4.6 ±0.3 <sup>a</sup>
pH	0	6.8 ±0.0 <sup>A</sup>	6.8 ±0.0 <sup>Abc</sup>	6.8 ±0.1 <sup>Aa</sup>	6.7 ±0.0 <sup>Aa</sup>	6.7 ±0.0 <sup>Aa</sup>
	2	**	6.8 ±0.0 <sup>c</sup>	6.8 ±0.0 <sup>a</sup>	6.7 ±0.0 <sup>a</sup>	6.7 ±0.0 <sup>a</sup>
	5	**	6.8 ±0.0 <sup>c</sup>	6.7 ±0.0 <sup>a</sup>	6.7 ±0.1 <sup>a</sup>	6.7 ±0.0 <sup>a</sup>
	9	**	6.6 ±0.0 <sup>a</sup>	6.7 ±0.0 <sup>a</sup>	6.7 ±0.0 <sup>a</sup>	6.7 ±0.0 <sup>a</sup>
	15	**	6.7 ±0.0 <sup>ab</sup>	6.7 ±0.0 <sup>a</sup>	6.7 ±0.0 <sup>a</sup>	6.7 ±0.0 <sup>a</sup>
	21	**	6.7 ±0.0 <sup>a</sup>	6.7 ±0.0 <sup>a</sup>	6.7 ±0.0 <sup>a</sup>	6.8 ±0.0 <sup>a</sup>
Acidity	0	0.02 ±0.0 <sup>A</sup>	0.02 ±0.0 <sup>Aa</sup>	0.02 ±0.0 <sup>Aa</sup>	0.02 ±0.0 <sup>Aa</sup>	0.02 ±0.0 <sup>Aa</sup>
	2	**	0.02 ±0.0 <sup>a</sup>	0.02 ±0.0 <sup>a</sup>	0.02 ±0.0 <sup>a</sup>	0.02 ±0.0 <sup>a</sup>
	5	**	0.02 ±0.0 <sup>a</sup>	0.02 ±0.0 <sup>a</sup>	0.02 ±0.0 <sup>a</sup>	0.02 ±0.0 <sup>a</sup>
	9	**	0.03 ±0.0 <sup>b</sup>	0.02 ±0.0 <sup>a</sup>	0.02 ±0.0 <sup>a</sup>	0.02 ±0.0 <sup>a</sup>
	15	**	0.03 ±0.0 <sup>b</sup>	0.02 ±0.0 <sup>a</sup>	0.02 ±0.0 <sup>a</sup>	0.02 ±0.0 <sup>a</sup>
	21	**	0.03 ±0.0 <sup>b</sup>	0.02 ±0.0 <sup>a</sup>	0.02 ±0.0 <sup>a</sup>	0.02 ±0.0 <sup>a</sup>

The data are provided as mean value ± standard deviation (n = 3). Values with different letters in the same column are different (p < 0.05).

**Table S4.** TBA values ( $\mu\text{g MDA/ mL}$ ) of the Brazil nut beverage treated by HPH (T1, T2 and T3) and pasteurization (PAS) and stored at 5 °C for 21 days

Samples		Day 0	Day 9	Day 21
BNB	(untreated)	0.97 $\pm$ 0.04 <sup>BC</sup>	**	**
PAST	(63 °C, 30 min)	0.87 $\pm$ 0.02 <sup>aAB</sup>	0.96 $\pm$ 0.02 <sup>a</sup>	0.93 $\pm$ 0.02 <sup>a</sup>
T1	(75 °C, 50 MPa)	0.95 $\pm$ 0.01 <sup>aBC</sup>	0.97 $\pm$ 0.04 <sup>a</sup>	0.95 $\pm$ 0.09 <sup>a</sup>
T2	(55 °C, 150 MPa)	0.82 $\pm$ 0.06 <sup>aA</sup>	0.77 $\pm$ 0.05 <sup>a</sup>	0.75 $\pm$ 0.08 <sup>a</sup>
T3	(25 °C, 180 MPa)	1.03 $\pm$ 0.03 <sup>aC</sup>	1.07 $\pm$ 0.04 <sup>a</sup>	1.02 $\pm$ 0.01 <sup>a</sup>

The data are provided as mean value  $\pm$  standard deviation (n = 3). Values with different letters, lowercase in row or uppercase in column (day 0), are different (p < 0.05).