

Supplementary material

Development of Gluten-Free Bread Based on Maize and Buckwheat and Enriched with Aromatic Herbs and Spices

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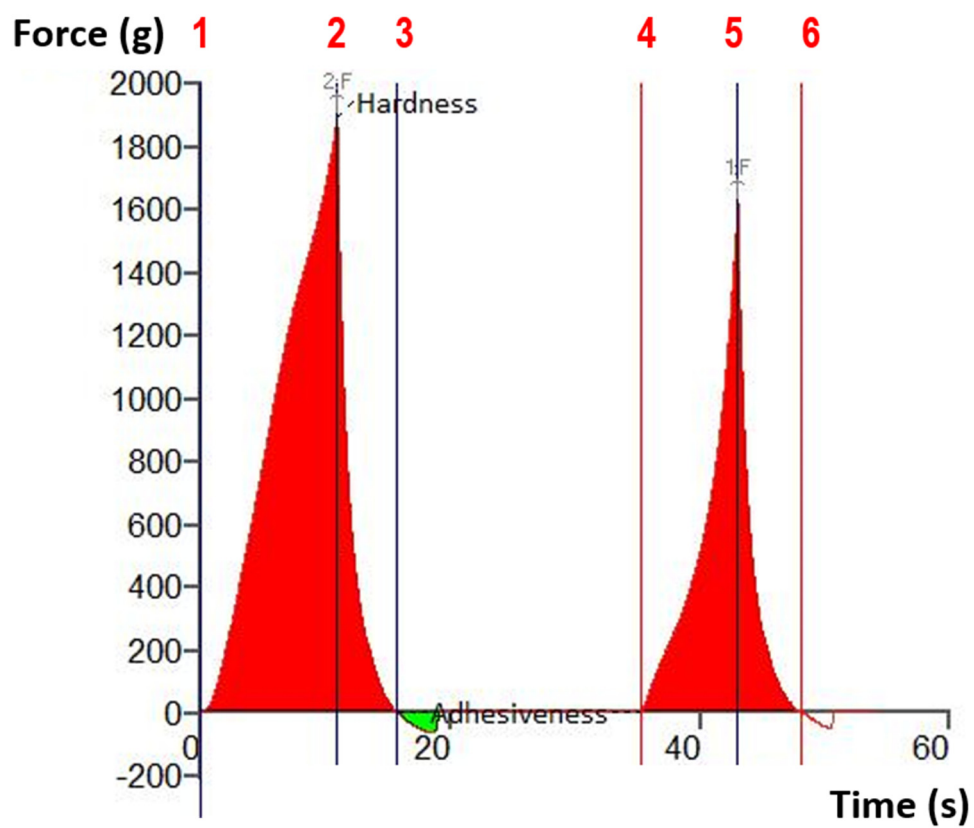


Figure S1. Force-time curve obtained from the TPA test for control gluten-free bread



Figure S2. Presentation of the codified gluten-free bread samples for sensory analysis.

Table S1. Specific volume and textural parameters values obtained from the experimental design.

Experiment	Specific volume (cm ³ /g)	Hardness (g)	Adhesiveness (g.sec)	Springiness**	Cohesiveness**	Chewiness**	Resilience**
1	1.3 _c ± 0.1*	7839 _a ± 1247	-13 _a ± 8	0.62 _{cd} ± 0.04	0.45 _a ± 0.06	2186 _{ab} ± 438	0.20 _{abcd} ± 0.03
2	1.8 _a ± 0.4	1835 _e ± 246	-316 _{bc} ± 178	0.57 _d ± 0.04	0.40 _a ± 0.02	422 _d ± 65	0.15 _d ± 0.01
3	1.57 _{abc} ± 0.02	3701 _{cd} ± 117	-129 _{ab} ± 32	0.67 _{abcd} ± 0.08	0.50 _a ± 0.04	1208 _{bcd} ± 51	0.19 _{abcd} ± 0.03
4	1.62 _{abc} ± 0.09	2740 _{de} ± 72	-54 _a ± 20	0.70 _{abcd} ± 0.02	0.43 _a ± 0.03	819 _{cd} ± 64	0.18 _{cd} ± 0.02
5	1.37 _{bc} ± 0.07	8570 _a ± 803	-16 _a ± 38	0.64 _{bcd} ± 0.04	0.40 _a ± 0.01	2215 _{ab} ± 257	0.17 _{cd} ± 0.01
6	1.38 _{bc} ± 0.02	8051 _a ± 303	-25 _a ± 15	0.61 _{cd} ± 0.05	0.42 _a ± 0.02	2074 _{ab} ± 279	0.17 _{cd} ± 0.01
7	1.58 _{abc} ± 0.08	3758 _{cd} ± 329	21 _a ± 9	0.83 _a ± 0.04	0.54 _a ± 0.06	1674 _{abc} ± 181	0.26 _a ± 0.04
8	1.48 _{abc} ± 0.08	4423 _{bc} ± 593	-71 _a ± 110	0.7 _{abcd} ± 0.1	0.42 _a ± 0.04	1220 _{bcd} ± 202	0.14 _d ± 0.01
9	1.23 _c ± 0.01	4805 _{bc} ± 111	-5 _a ± 2	0.70 _{abcd} ± 0.02	0.43 _a ± 0.01	1426 _{abcd} ± 121	0.18 _{bcd} ± 0.01
10	1.34 _{bc} ± 0.07	5240 _b ± 303	-361 _c ± 286	0.54 _d ± 0.04	0.45 _a ± 0.02	1283 _{abcd} ± 146	0.18 _{cd} ± 0.02
11	1.53 _{abc} ± 0.06	4122 _{bcd} ± 57	-15 _a ± 5	0.68 _{abcd} ± 0.06	0.51 _a ± 0.05	1419 _{abcd} ± 90	0.24 _{abc} ± 0.03
12	1.7 _{ab} ± 0.1	3542 _{cd} ± 80	-61 _a ± 43	0.8 _{ab} ± 0.8	0.5 _a ± 0.1	2309 _a ± 1092	0.26 _{ab} ± 0.06
13	1.62 _{abc} ± 0.07	1979 _e ± 159	-106 _a ± 57	0.75 _{abc} ± 0.05	0.48 _a ± 0.03	721 _{cd} ± 112	0.19 _{abcd} ± 0.01

* Results are the means ± standard deviation. Values in the same column with different superscript letters are significantly different ($p \leq 0.05$) (post hoc Tukey test)

**Dimensionless

Table S2. Color parameters values obtained from the experimental design.

Experiment	L*	a*	b*
1	63 ± 1 ^{ab*}	3.0 ± 0.2 ^{bcde}	34 ± 1 ^{bcd}
2	62 ± 1 ^{ab}	1.8 ± 0.3 ^e	36.02 ± 0.05 ^{bc}
3	57 ± 1 ^{de}	3.7 ± 0.6 ^{abc}	33.60 ± 0.05 ^{bcd}
4	65 ± 1 ^a	2.0 ± 0.6 ^{de}	43.0 ± 0.3 ^a
5	62 ± 1 ^{abc}	4.2 ± 0.2 ^a	45.6 ± 0.9 ^a
6	59.4 ± 0.3 ^{abcde}	3.3 ± 0.1 ^{abc}	30.50 ± 0.06 ^d
7	59 ± 2 ^{bcde}	3 ± 1 ^{cde}	31 ± 4 ^d
8	55 ± 4 ^e	3.1 ± 0.3 ^{abcd}	30.2 ± 0.7 ^d
9	61.3 ± 0.2 ^{abcd}	2.49 ± 0.09 ^{cde}	37.4 ± 0.4 ^b
10	56 ± 3 ^{de}	3.96 ± 0.06 ^{ab}	37.8 ± 2 ^b
11	60 ± 1 ^{abcde}	3.5 ± 0.3 ^{abc}	44.0 ± 0.8 ^a
12	57.9 ± 0.3 ^{cde}	2.5 ± 0.3 ^{cde}	32.2 ± 0.7 ^{cd}
13	58.6 ± 0.9 ^{bcde}	2.8 ± 0.5 ^{bcde}	31 ± 2 ^d

* Results are the means ± standard deviation. Values in the same column with different superscript letters are significantly different ($p \leq 0.05$) (post hoc Tukey test)