

Supplementary Materials

Mercatante et al. Nutritional, Chemical and Functional Properties of Wholegrain Einkorn Pasta through Cooking and Digestion: A Comparative Study with Wholegrain Durum Wheat Pasta

Table S1. Primers pairs used in this study.

Mix target	Gene target	Sequence 5'-3'	Reference
<i>Bifidobacteria</i>	RecA r-RNA	fw: CGTYTCBCAGCCGGAYAAC rev: CCARVGCRCCTGGTCATC	Masco et al. (2007) [111]
<i>Lactobacilli</i>	16S V3/V4 r-RNA	fw: GCAGCAGTAGGGAATCT rev: GCATTYCACCGCTACACA	Walter et al. (2000) [112]
<i>Escherichia coli</i>	16S V3/V4 r-RNA	fw: GTTAATACCTTTGCTCATTGA rev: ACCAGGGTATCTAATCCTGTT	Malinen et al. (2003) [113]

Table S2. Main fatty acids profile of raw, cooked and digested pasta samples.

Fatty acids	Raw		Cooked		Digested		T	C	<i>p</i> Value		
	EP	DP	EP	DP	EP	DP			D	T×C	T×D
	(% of total fatty acids)										
C16:0	15.48±0.21 ^{B,b}	17.27±0.34 ^{A,a}	16.34±0.17 ^{B,ab}	17.47±0.19 ^{A,a}	12.15±0.32 ^{B,c}	13.47±1.19 ^{A,c}	**	<i>ns</i>	***	<i>ns</i>	<i>ns</i>
C18:0	1.40±0.05 ^{A,b}	1.51±0.13 ^{A,b}	1.16±0.11 ^{A,b}	1.22±0.10 ^{A,b}	3.62±0.19 ^{A,a}	3.78±0.16 ^{A,a}	<i>ns</i>	**	***	<i>ns</i>	*
C18:1	21.60±0.42 ^{A,c}	17.49±0.19 ^{B,d}	18.42±0.08 ^{A,d}	15.89±0.24 ^{B,d}	42.18±1.84 ^{A,a}	36.90±1.71 ^{B,b}	***	**	***	<i>ns</i>	*
C18:2	55.05±0.27 ^{A,b}	55.84±0.57 ^{A,ab}	57.95±0.28 ^{B,ab}	59.26±0.20 ^{A,a}	34.72±1.44 ^{A,c}	36.05±2.73 ^{A,c}	<i>ns</i>	**	***	<i>ns</i>	<i>ns</i>
C20:0	0.18±0.01 ^{A,b}	0.11±0.01 ^{B,cd}	0.15±0.02 ^{A,bc}	0.10±0.02 ^{B,d}	0.26±0.01 ^{A,a}	0.25±0.02 ^{A,a}	**	*	***	<i>ns</i>	<i>ns</i>
C18:3 α linolenic	3.07±0.11 ^{B,c}	3.83±0.06 ^{A,a}	3.29±0.03 ^{A,b}	3.98±0.04 ^{A,a}	1.64±0.02 ^{B,e}	2.00±0.07 ^{A,d}	***	**	***	<i>ns</i>	**
C20:1	0.84±0.03 ^{A,a}	0.55±0.06 ^{B,c}	0.70±0.02 ^{A,b}	0.54±0.02 ^{B,c}	0.58±0.00 ^{A,c}	0.43±0.02 ^{B,d}	***	**	***	**	<i>ns</i>
C22:0	0.20±0.01 ^{A,ab}	0.13±0.02 ^{B,bc}	0.19±0.03 ^{A,ab}	0.08±0.01 ^{B,c}	0.23±0.00 ^{A,a}	0.22±0.02 ^{A,a}	*	<i>ns</i>	***	<i>ns</i>	**
C22:1	0.08±0.01 ^{A,bc}	0.04±0.01 ^{B,c}	0.08±0.01 ^{B,bc}	0.13±0.07 ^{A,ab}	0.17±0.01 ^{A,a}	0.00±0.00 ^{B,c}	***	*	<i>ns</i>	*	***
C24:0	0.13±0.03 ^{A,a}	0.11±0.03 ^{A,a}	0.17±0.09 ^{A,a}	0.16±0.04 ^{A,a}	0.17±0.01 ^{A,a}	0.13±0.01 ^{B,a}	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>

Results as reported as mean±SD (standard deviation) of 3 independent replicates. A–B indicates significant differences (Tukey's test; $p < 0.05$) between DP, wholegrain durum wheat pasta and EP; einkorn pasta samples. a–f indicates significant differences (Tukey's test; $p < 0.05$) between samples. *ns*, not significant. DP, wholegrain durum wheat pasta EP; einkorn pasta. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.0001$. *ns*, not significant. C, cooking; D, digestion; T, type.

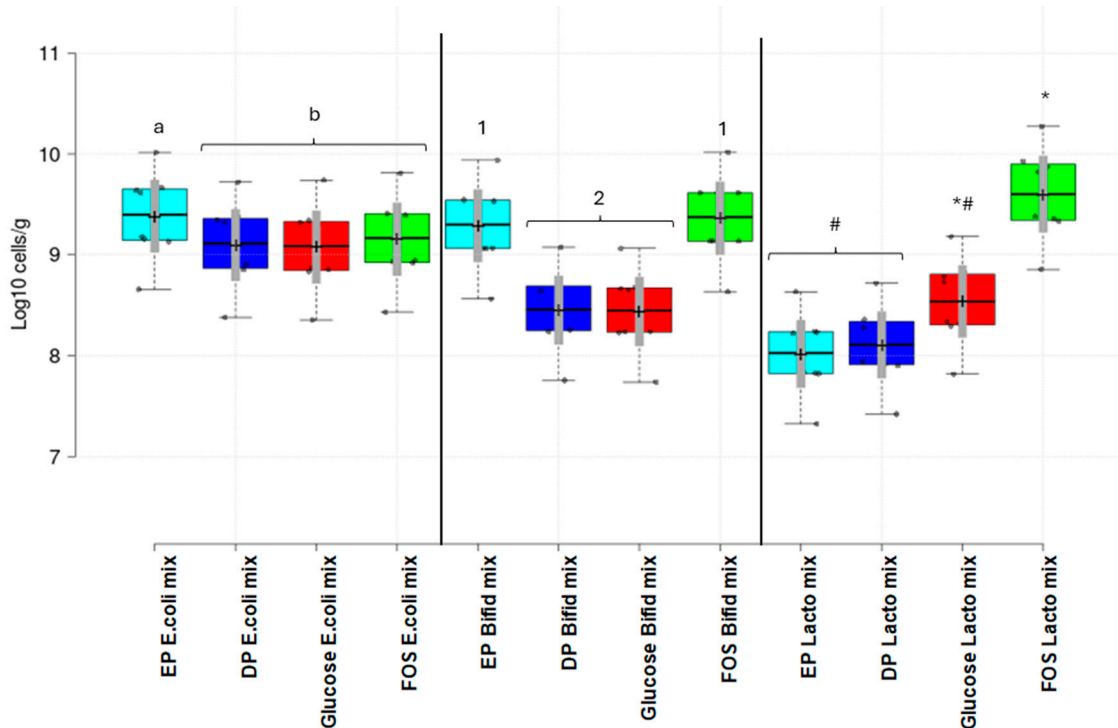


Figure S1. Selective bacterial growth on cooked pasta. Glucose = negative control; FOS (Fructooligosaccharides) = positive control. From left to right: *E. coli* mix = aerobic growth on BHI agar of *Escherichia coli* mix; Bifid = anaerobic growth on MRS cysteine agar of bifidobacteria mix; Lacto = Anaerobic growth on MRS agar of lactobacilli mix. DP, wholegrain durum wheat pasta EP; einkorn pasta. Letters, numbers and symbols indicate statistical differences by ANOVA and Tukey's *post hoc* test ($p < 0.05$).

References

111. Masco, L.; Vanhoutte, T.; Temmerman, R.; Swings, J.; Huys, G. Evaluation of real-time PCR targeting the 16S rRNA and *recA* genes for the enumeration of *bifidobacteria* in probiotic products. *Int. J. Food Microbiol.* **2007**, *113*, 351-357. <https://doi.org/10.1016/j.ijfoodmicro.2006.07.021>.
112. Walter, J.; Tannock, G.W.; Tilsala-Timisjarvi, A.; Rodtong, S.; Loach, D.M.; Munro, K.; Alatossava, T. Detection and identification of gastrointestinal *Lactobacillus* species by using denaturing gradient gel electrophoresis and species-specific PCR primers. *Appl. Environ. Microbiol.* **2000**, *66*, 297-303. <https://doi.org/10.1128/AEM.66.1.297-303.2000>.
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