

Comparison of the effects of two soy waste-based culture media on the technological properties of *Lactocaseibacillus paracasei* 90 as adjunct culture in miniature Cremoso cheese: microbiological and chemical aspects

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SUPPLEMENTARY FILE

Table S1. Supplements added to the growth media formulated with the waste obtained from soy industrialization.

Component	m1	m2
Glucose (% w/v)	-	1.137
Yeast extract (% w/v)	0.682	0.533
MnSO ₄ (% w/v)	0.001	0.001
MgSO ₄ (% w/v)	0.050	0.042

Table S2. Volatile compounds (means \pm standard deviation) of chesses at 40 days of ripening.

	Cc	E-m1	E-m2	E-mrs
Alcohols				
Ethanol	72.82 \pm 4.52	62.55 \pm 17.81	45.80 \pm 5.70	46.52 \pm 2.63
1-propanol	1.07 \pm 0.28	1.26 \pm 0.29	0.91 \pm 0.05	1.18 \pm 0.20
1-pentanol	3.22 \pm 0.38	3.48 \pm 0.06	3.83 \pm 0.24	4.28 \pm 0.37
2-heptanol	4.22 \pm 0.77	5.00 \pm 0.41	5.10 \pm 0.13	5.33 \pm 0.37
1-hexanol	4.77 \pm 0.50	4.86 \pm 0.63	4.25 \pm 0.40	4.54 \pm 0.27
3-methyl 1-butanol	6.37 \pm 4.82	4.25 \pm 1.17	2.20 \pm 0.47	3.79 \pm 2.22
2-nonanol	3.79 \pm 1.14	ND	ND	ND
Aldehydes				
Acetaldehyde	3.08 \pm 0.60	7.39 \pm 0.16	2.89 \pm 1.20	23.18 \pm 4.11
2-methyl butanal	0.22 \pm 0.39	0.29 \pm 0.51	0.57 \pm 0.06	0.78 \pm 0.13
Ketones				
2-propanona	21.97 \pm 28.38	4.41 \pm 1.05	5.54 \pm 0.73	5.40 \pm 0.46
2-butanone	3.91 \pm 0.45	2.98 \pm 0.95	3.58 \pm 0.66	3.28 \pm 0.47
2-pentanone	2.01 \pm 0.12	1.91 \pm 0.35	1.97 \pm 0.32	2.15 \pm 0.23
2-hexanone	0.61 \pm 0.10	1.19 \pm 0.66	1.72 \pm 0.43	1.73 \pm 0.49
2-heptanone	3.16 \pm 0.52	2.87 \pm 0.28	3.15 \pm 0.38	3.47 \pm 0.68
2-nonanone	1.09 \pm 0.17	1.06 \pm 0.11	0.99 \pm 0.15	1.08 \pm 0.16
Diacetyl	9.37 \pm 2.15	21.48 \pm 7.00	21.16 \pm 4.62	20.46 \pm 5.75
Acetoin	67.85 \pm 11.29	64.08 \pm 3.25	76.54 \pm 4.88	72.83 \pm 5.03
Acids				
Acetic acid	10.08 \pm 5.08	7.57 \pm 4.86	12.03 \pm 1.44	13.85 \pm 2.81
Butyric acid	22.85 \pm 3.41	28.01 \pm 5.98	25.30 \pm 4.32	28.27 \pm 4.01
Hexanoic acid	13.33 \pm 0.87	17.16 \pm 4.10	15.45 \pm 1.76	17.06 \pm 1.79
Octanoic acid	7.32 \pm 0.33	8.04 \pm 1.73	7.51 \pm 0.59	8.11 \pm 0.87
Decanoic acid	3.84 \pm 0.21	4.57 \pm 0.99	3.90 \pm 0.29	4.38 \pm 1.03
Esters				
Ethyl butanoate	1.96 \pm 0.51	2.07 \pm 0.75	1.22 \pm 0.08	1.37 \pm 0.10
Ethyl acetate	0.68 \pm 0.19	1.15 \pm 0.52	0.53 \pm 0.04	1.20 \pm 0.46

Values are expressed as peak area values ($\times 10^4$) for each compound.

Cheese labels: C: control; E-m1, E-m2, E-mrs: experimental cheeses with L90 grown in different culture media.