

Supplementary Table 1. Formulations of the experimental doughs (DY = 210) made using protein-rich or structuring flours. Baker's yeast was used at 1.25 % (wt/wt).

	CTR	QUI	TEF	CHP	FAB	LUP	LEN	PEA	PSY	CHI	HCHI	FLE	PSY-FLE	PSY-HCHI	PSY-HCHI-FLE
<i>Rice</i>	23.81	21.43	21.43	21.43	21.43	21.43	21.43	21.43	22.86	22.86	22.86	22.86	22.38	22.38	22.38
<i>Corn</i>	23.81	21.43	21.43	21.43	21.43	21.43	21.43	21.43	22.86	22.86	22.86	22.86	22.38	22.38	22.38
<i>Quinoa</i>	-	4.76	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Teff</i>	-	-	4.76	-	-	-	-	-	-	-	-	-	-	-	-
<i>Chickpea</i>	-	-	-	4.76	-	-	-	-	-	-	-	-	-	-	-
<i>Faba</i>	-	-	-	-	4.76	-	-	-	-	-	-	-	-	-	-
<i>Lupin</i>	-	-	-	-	-	4.76	-	-	-	-	-	-	-	-	-
<i>Red lentil</i>	-	-	-	-	-	-	4.76	-	-	-	-	-	-	-	-
<i>Pea</i>	-	-	-	-	-	-	-	4.76	-	-	-	-	-	-	-
<i>Psyllium</i>	-	-	-	-	-	-	-	-	1.90	-	-	-	1.90	1.90	1.90
<i>Chia</i>	-	-	-	-	-	-	-	-	-	1.90	-	-	-	-	-
<i>Hydrated chia*</i>	-	-	-	-	-	-	-	-	-	-	7.62	-	-	3.81	1.90
<i>Flaxseed</i>	-	-	-	-	-	-	-	-	-	-	-	1.90	0.96	-	0.48
<i>Water</i>	52.38	52.38	52.38	52.38	52.38	52.38	52.38	52.38	52.38	52.38	46.66	52.38	52.38	49.53	50.96

Data are expressed as percentage (%) of total dough weight.

* The hydration process (chia flour: tap water ratio, 1:3) was carried out for 30 min at 20 °C.

Supplementary Table 2. Formulations of the experimental sourdoughs (DY = 210) made with rice and corn flours, and supplemented with quinoa and chestnut flours (10 or 20% of the flours total weight). Sourdoughs were fermented by *Weissella cibaria* P9 (initial cell density in dough of 7.0 log₁₀ cfu/g) at 30 °C for 24 h.

	s-CT	s-C10	s-C20	s-Q10	s-Q20	s-CQ10
<i>Rice</i>	23.81	21.43	19.05	21.43	19.05	19.05
<i>Corn</i>	23.81	21.43	19.05	21.43	19.05	19.05
<i>Chestnut</i>	-	4.76	9.52	-	-	4.76
<i>Quinoa</i>	-	-	-	4.76	9.52	4.76
<i>Water</i>	52.38	52.38	52.38	52.38	52.38	52.38

Data are expressed as percentage (%) of total dough weight.