

SUPPLEMENTARY TABLES

Table S1: Kinetic parameters of growth and acidification of different lactic acid bacteria in white kidney bean sourdough.

LAB strains	A (Log cfu/g)	$\lambda$ (h)	Vmax ( $\Delta$ log cfu/g/h)	$\Delta$ pH	$\lambda$ (h)	Vmax ( $\Delta$ pH/h)
L1	2.53±0.12 <sup>a</sup>	2.56±0.15 <sup>d</sup>	0.39±0.13 <sup>a</sup>	2.33±0.04 <sup>a</sup>	0.46±0.07 <sup>b</sup>	0.48±0.02 <sup>a</sup>
M12	2.20±0.20 <sup>b</sup>	3.45±0.22 <sup>c</sup>	0.25±0.08 <sup>ab</sup>	2.09±0.04 <sup>b</sup>	0.82±0.20 <sup>a</sup>	0.31±0.12 <sup>ab</sup>
N2-9	1.86±0.09 <sup>c</sup>	4.23±0.17 <sup>a</sup>	0.16±0.05 <sup>b</sup>	1.80±0.03 <sup>c</sup>	0.58±0.04 <sup>b</sup>	0.19±0.08 <sup>b</sup>
C2-8	2.12±0.14 <sup>b</sup>	3.68±0.10 <sup>b</sup>	0.28±0.10 <sup>ab</sup>	1.84±0.08 <sup>c</sup>	0.97±0.30 <sup>a</sup>	0.22±0.03 <sup>b</sup>
J28	2.46±0.20 <sup>a</sup>	2.30±0.14 <sup>c</sup>	0.41±0.15 <sup>a</sup>	2.28±0.06 <sup>a</sup>	0.40±0.15 <sup>b</sup>	0.42±0.07 <sup>a</sup>

LAB strains, L1: *Lactobacillus plantarum* LPL-1, M12: *Lactobacillus harbinensis* FQ003, N2-9: *Lactobacillus plantarum* SCHI, C2-8: *Lactobacillus fermentum* LG1 and J28: *Pediococcus pentosaceus* SCHI isolated from Qu starters.

Table S2. Formulation and nutrition of the different customized bread diets.

Ingredient (g)	Customized bread diets**		
	WK	WKS-JK	WKS-LK
Bread powder*	500	500	500
Casein, 30 Mesh	100	100	100
L-Cystine	1.5	1.5	1.5
Corn Starch	198.5	198.5	198.5
Maltodextrin	66	66	66
Sucrose	50	50	50
Cellulose	25	25	25
Soybean Oil	35	35	35
t-Butylhydroquinone	0.007	0.007	0.007
Mineral Mix S10022G	17.5	17.5	17.5
Vitamin Mix V10037	5	5	5
Choline Bitartrate	1.25	1.25	1.25
<b>Total</b>	<b>1000</b>	<b>1000</b>	<b>1000</b>

\*Bread (Table 1) dried (40°C for 8 h) and pulverized into a powder.

\*\*Processed into pellets, purified (irradiated) by Jiangsu synergy pharmaceutical Bioengineering Co., Ltd (Nanjing, China) (Order number: xd202112001640).