

Supplement tables

Table 1. Chemical characteristics of fermented milk by combined starter culture during storage at 4°C

Chemical characteristics	Combined starter cultures fermented yoghurt			
	1d	7d	14d	21d
Free amino acid(mg/mL)	0.401±0.021	0.408±0.096	0.507±0.034	0.362±0.062
Hardness(g)	111.31±4.98	104.79±8.81	99.75±20.93	105.75±6.97
Consistency (g•s)	359.53±20.36	343.44±13.66	342.84±61.79	335.79±25.25
Cohesion(g)	-35.45±0.95419	-32.08±4.772	-29.69±6.365	-33.85±4.517
Viscosity index (g•s)	-95.84±19.804	-86.84±2.418	-88.22±23.335	-90.51±8.226
Firmness(g)	111.31±4.98	104.79±8.81	105.75±6.97	99.75±20.12

Data represent the mean \pm SD (n=10). a-c), mean values with different letters are significantly different ($P < 0.05$) according to a Duncan multiple range test.

Supplement

Hardness and cohesion are important parameters of gel network structure of fermented milk. The greater the hardness, the stronger the gel network structure, and the greater the cohesion indicates the higher the internal bond strength of the fermented milk. As shown in **Table. 1**, the texture of combined starter culture fermented milk was the best on the first day of storage. The hardness of the fermented milk decreased in the later stage of storage with no significant difference. The hardness and consistency of the fermented milk were the lowest on 21 d of storage, but the cohesion and viscosity index changed little. Generally speaking, the texture properties of the combined starter culture fermented milk were stable and did not change significantly during storage.

The content of free amino acids in fermented milk can reflect the protein hydrolysis ability of starter culture and is the precursor of many flavor substances, so

the protein hydrolysis ability of starter culture is an important factor affecting the flavor and texture of fermented milk.²⁰ It can be seen from Table. 1 that the combined starter culture has high protein hydrolysis ability. During 21 days of storage, the level of free amino acid increased at first and then decreased (0.362 ± 0.06 to 0.507 ± 0.13 mg/mL). The degree of protein hydrolysis was the highest on the 14 d of storage, and the level of free amino acid was stable as a whole during storage.