

Supplemental files

Table S1. Amino acid composition for the fermented feed

Amino acid type	Raw materials (%)	Fermented feed (%)	Percentage change
Essential amino acid			
Isoleucine	0.72 ± 0.08 ^b	0.93 ± 0.07 ^a	0.21
Threonine	0.58 ± 0.06 ^b	0.74 ± 0.04 ^a	0.16
Valine	0.84 ± 0.15 ^b	1.02 ± 0.13 ^a	0.18
Methionine	0.35 ± 0.13 ^b	0.48 ± 0.09 ^a	0.13
Leucine	1.64 ± 0.04 ^b	2.00 ± 0.05 ^a	0.36
Phenylalanine	0.83 ± 0.11 ^b	0.97 ± 0.13 ^a	0.14
Histidine	0.51 ± 0.05 ^b	0.61 ± 0.07 ^a	0.10
Arginine	0.91 ± 0.09 ^b	1.06 ± 0.11 ^a	0.15
Lysine	0.86 ± 0.06 ^b	0.98 ± 0.03 ^a	0.12
non-essential amino acid			
Alanine	0.80 ± 0.15 ^b	1.08 ± 0.15 ^a	0.28
Aspartic Acid	1.52 ± 0.16 ^b	1.85 ± 0.15 ^a	0.33
Tyrosine	0.49 ± 0.14	0.49 ± 0.03	0.00
Serine	0.80 ± 0.04 ^b	1.03 ± 0.06 ^a	0.23
glutamic acid	2.97 ± 0.06 ^b	3.7 ± 0.04 ^a	0.73
Glycine	0.59 ± 0.09 ^b	0.81 ± 0.08 ^a	0.22
Cystine	0.40 ± 0.13 ^b	0.44 ± 0.11 ^a	0.04
Proline	0.99 ± 0.06 ^b	1.30 ± 0.08 ^a	0.31
Total amino acid	15.79 ± 1.60 ^b	19.49 ± 1.69 ^a	3.7

Note: Different shoulder marked letters in the same row indicate significant differences (P<0.05).

Table S2. The relative abundance data for TOP10 bacteria at species level

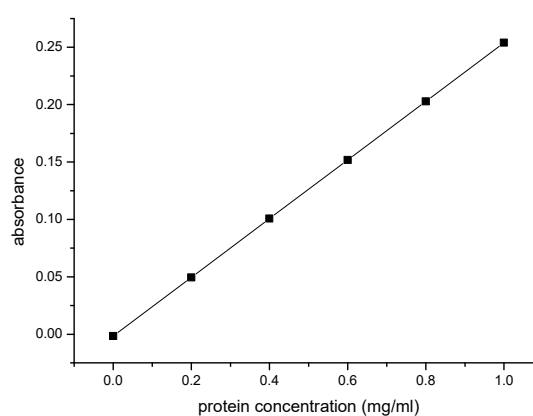
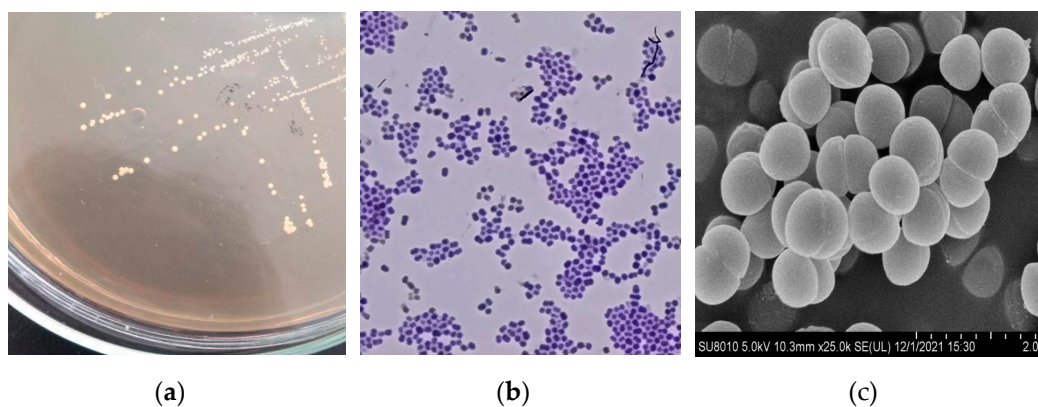
species name	SL.B.0h	SL.B.48h	SL.B.96h
<i>Sugarcane phytoplasma</i> (uncharacterized)	0.9008	0.0697	0.0737
<i>Pediococcus acidilactici</i>		0.0283	0.8295
<i>Bacillus subtilis</i>			0.0052
<i>Glycine soja</i>	0.0046	0.0003	0.0012
<i>Lactobacillus plantarum</i>			0.0040
<i>Aerococcus christensenii</i>			0.0039
<i>Acetobacter pasteurianus</i>			0.0026
<i>Zea mays</i>	0.0017		
<i>Stenotrophomonas maltophilia</i>			0.0014
<i>Pediococcus sp_L04</i>			0.0005
Others	0.0929	0.9016	0.0778

Table S3. The relative abundance data for TOP10 fungus at species level

Species name	SL.B.0h	SL.B.48h	SL.B.96h
<i>Saccharomyces cerevisiae</i>		0.2867	0.9848
<i>Fungi sp.</i>	0.8087	0.5868	0.0060
<i>Aspergillus pseudoglaucus</i>	0.1444	0.0323	0.0013
<i>Aspergillus penicillioides</i>	0.0379	0.0180	0.0001
<i>Chaetothyriales sp.</i>		0.0108	
<i>Chaetomiaceae sp.</i>		0.0090	
<i>Meyerozyma sp.</i>			0.0068
<i>Byssochlamys spectabilis</i>		0.0056	
<i>Ascomycota sp.</i>		0.0044	
<i>Penicillium chrysogenum</i>		0.0036	
Others	0.0090	0.0427	0.0012

Table S4. The Results of *Salmonella* test

Item	The method of detection	The result
<i>Salmonella</i>	GB13091-2018	No <i>Salmonella</i> was detected in 25g samples.

**Figure S1.** The standard curve of proteins by biuret method.**Figure S2.** Morphological picture of strain SLB-04. (a) Plate colony morphology; (b) Morphology of the cells under light microscope(×1000); (c) Morphology of the cells under electron microscope(×25000).

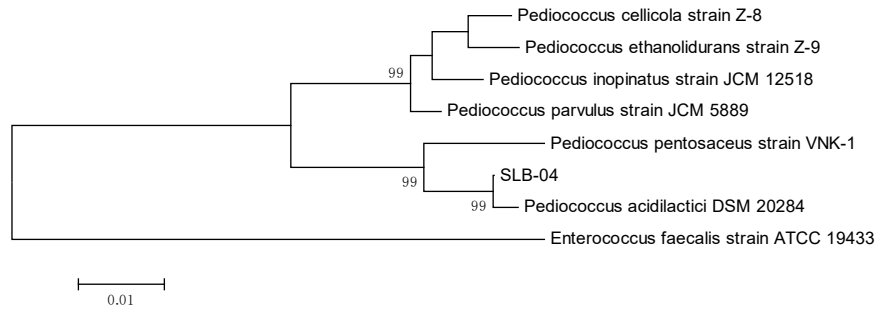


Figure S3. 16S rDNA phylogenetic tree constructed on the base of maximum likelihood method.