

Table S1. Alpha diversity of the bacterial microbiota of direct-cut and wilted guinea grass silage stored at 25°C and 40°C for 3 days, 1 month, and 2 months.

		Direct-cut silage		Wilted silage	
		Observed OTUs	Faith PD	Observed OTUs	Faith PD
25°C	3 days	56.0 b	5.82	91.5	9.89
	1 month	81.5 a	7.01	54.0	6.65
	2 months	73.0 ab	6.51	59.5	7.58
	SE	5.42	0.27	8.73	1.00
40°C	3 days	63.5 x	7.33 x	67.5	8.20 x
	1 month	47.5 y	4.94 y	59.0	5.97 y
	2 months	73.5 x	7.26 x	68.0	7.75 xy
	SE	2.63	0.23	4.63	0.43
Two-way ANOVA					
	T	<0.05	<0.05	<0.05	<0.05
	P	<0.05	0.767	0.562	0.290
	T×P	<0.01	<0.01	0.110	0.522

OTUs, operational taxonomic units; PD, phylogenetic diversity; SE, Pooled standard error; T, storage temperature; P, storage period. Values in the same column with different following letters (a–b, x–y) are significantly different. Because the interaction was observed for several items, one-way analysis of variance was performed for the storage at 25°C and 40°C separately.

Table S2. Alpha diversity of the fungal microbiota of direct-cut and wilted guinea grass silage stored at 25°C and 40°C for 3 days, 1 month, and 2 months.

		Direct-cut silage		Wilted silage	
		Observed OTUs	Faith PD	Observed OTUs	Faith PD
25°C	3 days	46.5 a	13.5	45.5	14.6
	1 month	38.0 b	13.4	24.0	10.3
	2 months	34.0 b	14.0	27.0	11.4
	SE	1.55	1.81	7.77	3.13
40°C	3 days	63.0 x	18.3	43.0 z	14.5 z
	1 month	47.5 xy	15.3	70.0 y	19.6 y
	2 months	44.0 y	15.9	83.0 x	24.1 x
	SE	3.62	0.97	2.52	0.35
Two-way ANOVA					
	T	<0.01	0.589	0.234	0.372
	P	<0.01	0.053	<0.01	<0.01
	T×P	0.427	0.555	<0.01	0.065

OTUs, operational taxonomic units; PD, phylogenetic diversity; SE, Pooled standard error; T, storage temperature; P, storage period. Values in the same column with different following letters (a–b, x–z) are significantly different. Because the interaction was observed for one item, one-way analysis of variance was performed for the storage at 25°C and 40°C separately.