TABLE 2 | Effects of the diet on the rumen fermentation, absolute abundance, and alpha diversity of the main microbial groups in sheep.

Item	CON	PAS	SED	*P-value*
Body weight (kg)	65.7	70.1	1.038	<0.001
RUMEN FERMENTATION				
pH	6.86	6.77	0.052	0.117
Ammonia-N (mg/l)	26.8	105	6.285	<0.001
VFA (mM)	87.7	59.4	3.284	<0.001
Molar proportion (%)				
Acetate	71.4	59.4	0.963	<0.001
Propionate	15.4	20.1	1.053	<0.001
Butyrate	9.39	13.5	0.240	<0.001
Iso-butyrate	1.70	2.23	0.106	<0.001
Valerate	0.69	1.36	0.035	<0.001
Iso-valerate	1.14	2.15	0.080	<0.001
Caproate	0.25	0.75	0.096	<0.001
Iso-caproate	0.01	0.44	0.027	<0.001
Lactate (mM)	11.9	5.91	1.561	<0.001
D/L Lactate ratio	0.30	2.25	0.036	<0.001
H_2 production[a] (mM)	173	117	6.200	<0.001
CONCENTRATIONS (LOG COPIES/MG DM)				
Bacteria	8.38	8.91	0.104	<0.001
Methanogens	5.90	6.28	0.702	0.593
Methanogens ($10^3 \times \Delta C^T$)	0.31	1.00	0.130	<0.001
Anaerobic fungi	6.90	5.85	0.446	0.027
Protozoa	5.10	8.49	1.226	0.011
BACTERIAL ALPHA DIVERSITY				
Richness	1940	2161	73.77	0.006
Shannon	6.10	6.35	0.080	0.006
Evenness	0.81	0.83	0.008	0.015
Simpson	0.99	0.99	0.001	0.077
Good's	0.93	0.92	0.004	0.040
METHANOGENS ALPHA DIVERSITY				
Richness	25.4	28.0	0.668	<0.001
Shannon	2.33	2.27	0.054	0.263
Evenness	0.72	0.68	0.014	0.008
Simpson	0.84	0.83	0.012	0.307
Good's	0.86	0.79	0.020	0.002
FUNGAL ALPHA DIVERSITY				
Richness	66.7	87.6	6.906	0.006
Shannon	1.37	1.97	0.079	<0.001
Evenness	0.33	0.44	0.016	<0.001
Simpson	0.61	0.73	0.025	<0.001
Good's	0.75	0.76	0.043	0.794

CON, ryegrass hay diet supplemented with concentrate; PAS, ryegrass pasture.
[a]*Hydrogen production stoichiometrically calculated (Marty and Demeyer, 1973).*

Marty, R. J., and Demeyer, D. I. (1973). Effect of inhibitors of methane production on fermentation pattern and sotichiometry *in vitro* using rumen contents from sheep given molasses. *Br. J. Nutr.* 30, 369–376. doi: 10.1079/BJN19730041