

**Table S1.** Chemical compositions of substrates

Items	RS	BFRS
DM, %	82.35	46.19
CP, %	4.76	4.99
NDF, %	75.05	69.91
NDS, %	24.95	30.09
ADF, %	36.91	36.37
Lignin, %	5.93	4.76
Hemicellulose	38.15	33.54
Cellulose	28.85	29.73

DM: dry matter, CP: crude protein, NDF: neutral detergent fiber, NDS; neutral detergent solute, ADF: acid detergent fiber, ADL: acid detergent lignin, RS: rice straw, BFRS: bio-fermented rice straw.

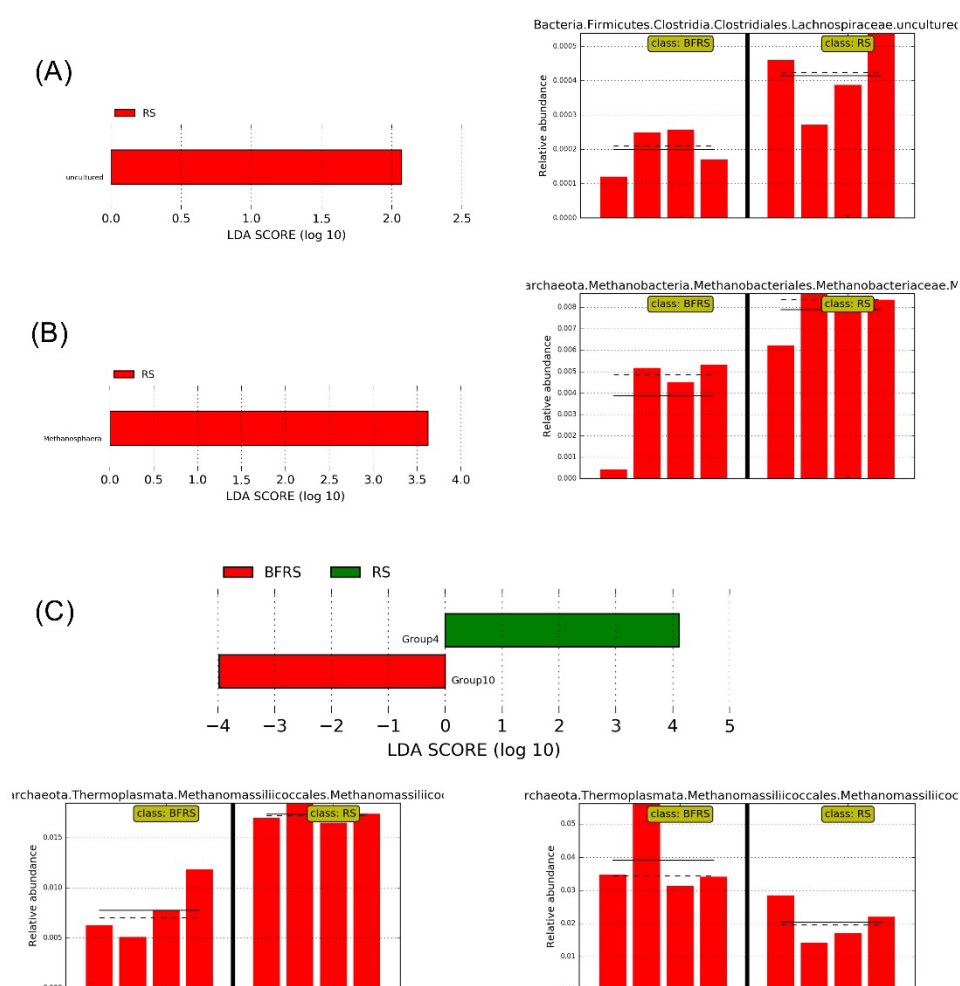


Figure S1. LEfSe analysis of the loosely attached bacteria (A), and archaea (B), and tightly attached archaea (C). RS: rice straw, BFRS: bio-fermented rice straw.