**Table S2.** Results of mixed model ANOVA (based on GLIMMIX procedure in SAS) testing effects of agricultural season, nitrogen fertilization rate, and grass species on the alpha-diversity of *amoA* genes. F-values are reported.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Alpha diversity | Chao1 estimator | Observed OTUs | Shannon index | Pielou’s evenness |
| Season | **5.21**\* | **4.29**\* | 0.26 | 0.34 |
| Nitrogen | 1.98 | **17.26\*\*\*** | **56.65\*\*\*** | **52.52\*\*\*** |
| Grass | **9.31\*\*** | **16.87\*\*\*** | 2.29 | 0.11 |
| Season×Nitrogen | 0.97 | 0.39 | 0.75 | 0.82 |
| Season×Grass | 2.40 | 0.98 | 0.10 | 0.06 |
| Nitrogen×Grass | 1.00 | 1.77 | 1.97 | 2.59 |
| Season×Nitrogen×Grass | 0.32 | 0.71 | 0.57 | 0.53 |

Significance level: \* 0.01 < *p*-value ≤ 0.05; \*\*0.001 < *p*-value ≤ 0.01; \*\*\* *p*-value ≤ 0.001.