

Supplementary Table S1. PERMANOVA of the significance of the effects of farming systems, fertilization treatments and rice cv. on root microbial community structure.

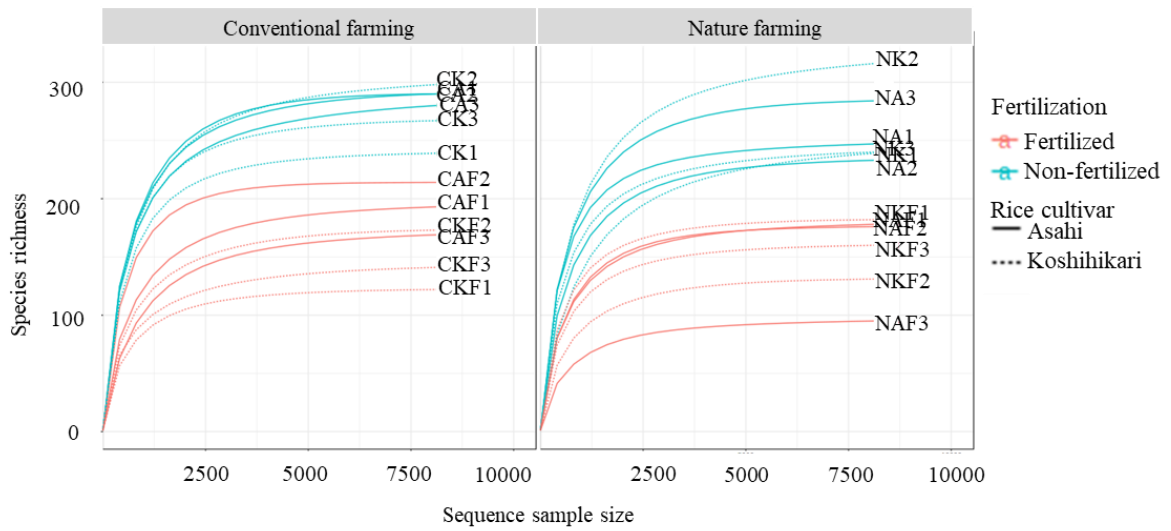
		Farming systems		Fertilization treatments		Rice cultivars	
		F	p	F	p	F	p
Microbial structure	community	3.380	<0.004	10.111	<0.001	0.554	0.862

F values indicate the magnitude of the change in microbial community structure. Significance was defined as $p < 0.05$.

Supplementary Table S2. Soil chemical property

	pH	EC	TC	TN	N-NH ₄	N-NO ₃	C/N ratio	Avail-P
		(mS/m)	(g/kg)	(g/kg)	(mgN/kg)	(mgN/kg)		(mgP/kg)
Conventional farming	6.59	5.70	35.7	1.41	11.1	5.80	25.3	429
Nature farming	6.00	3.38	37.2	2.48	9.84	1.12	15.0	11.8

EC: electric conductivity; TC: total carbon content in soil; TN: total nitrogen content in soil; N-NH₄: ammonium nitrogen in soil; N-NO₃: nitrate nitrogen; C/N ratio: ratio of total carbon and nitrogen; Avail-P: available phosphorus.



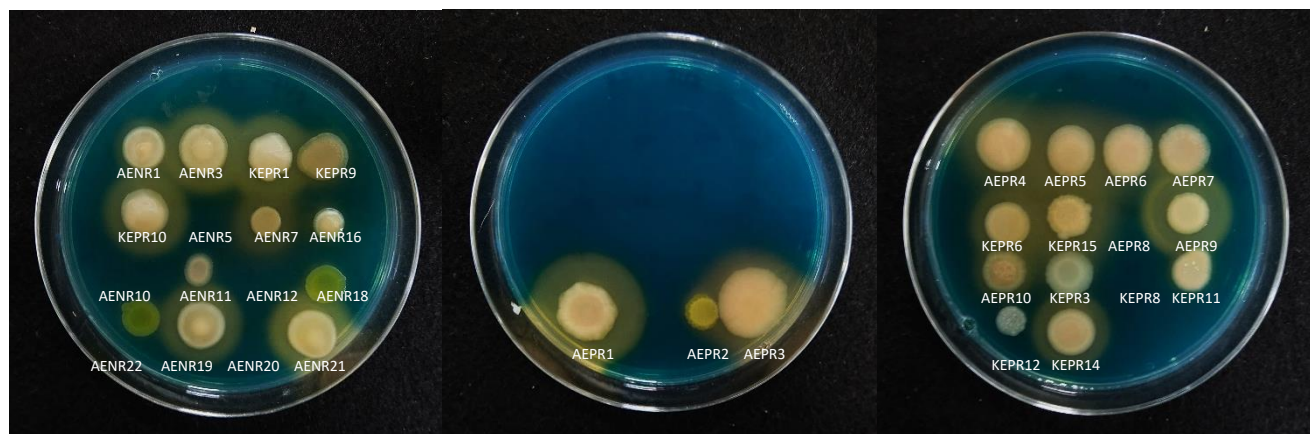
Supplementary Figure S1. Rarefaction curve for the root samples under (a) nature farming and (b) conventional farming managements based on observed OTUs.



Supplementary Figure S2. Phosphate solubilization activity of bacteria isolates associated with nature farming observed through the halo zone formed on NBRIP + 0.5% $\text{Ca}_3(\text{PO}_4)_2$ media.



Supplementary Figure S3. Potassium solubilization activity of bacteria isolates associated with nature farming observed through the halo zone formed on Aleksandrov + 0.2% sericite mica media.



Supplementary Figure S4. Siderophore production activity of bacteria isolates associated with nature farming observed through the yellow zone formed on modified Chrome Azurol-S media.