	Experiment 1	Experiment 2	Experiment 3
pH (H <sub>2</sub> O)	6.86	5.95	7.09
$EC (dS m^{-1})$	0.11	0.12	0.08
$NH_3-N (mg kg^{-1})$	8.5	6.7	9.5
$NO_3$ -N (mg kg <sup>-1</sup> )	14.8	26.9	7.4
Available P $(P_2O_5 \text{ mg kg}^{-1})^{\text{b}}$	1,940	20	30
Exchangeable K ( $K_2O \text{ mg kg}^{-1}$ )	490	280	300
Exchangeable Ca (CaO mg kg <sup>-1</sup> )	3,980	3,310	3,040
Exchangeable Mg (MgO mg kg <sup>-1</sup> )	680	540	770
Phosphate absorption coefficient	2565	2824	2662
$CEC (cmol_c kg^{-1})$	22.2	27.7	20.8

1 Table S1. Chemical characteristics of soil used in experiments in the present study<sup>a</sup>

<sup>a</sup> pH and EC were measured in moist soil and the other characteristics were measured in air-dried soil.

<sup>b</sup> Truog method.

**Fig. S1** Growth of spinach on June 17, 2015. Cont, compound inorganic fertilizer; MI10, microbial inoculant applied with 10,000 kg ha<sup>-1</sup>.



Cont



MI10

## Fig. S1 Mitsuboshi