## **Supplementary Material**

## Plant species, nitrogen status and endophytes are drivers of soil microbial communities in grasslands

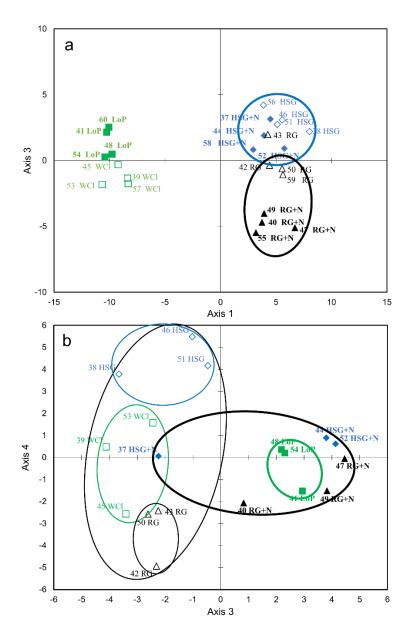
Susanne Rasmussen<sup>A</sup>, Anthony J. Parsons<sup>A</sup>, Julia Russell<sup>B</sup>, Daniel A. Bastías<sup>C</sup>, and Qianhe Liu<sup>C,\*</sup>

<sup>A</sup>Institute of Agriculture and Environment, Massey University, Palmerston North, New Zealand.

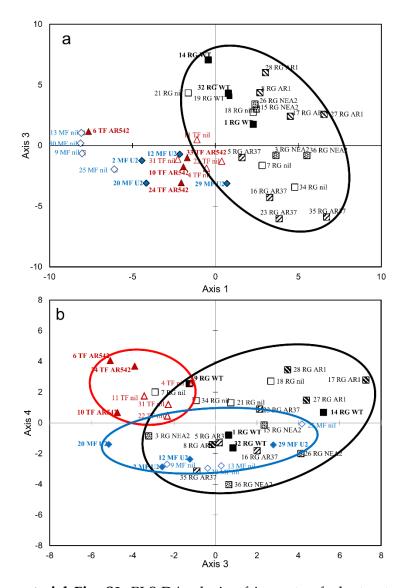
<sup>B</sup>John Innes Centre, Norwich Research Park, Norwich, UK.

<sup>C</sup>AgResearch Limited, Grasslands Research Centre, Palmerston North, New Zealand.

\*Correspondence to: Qianhe Liu AgResearch Ltd., Grasslands Research Centre, P.B. 11008, Tennent Drive, Palmerston North 4442, New Zealand Email: qianhe.liu@agresearch.co.nz



Supplementary material Fig. S1. Partial Least Square Discrimination Analysis (PLS-DAnalysis) of impacts of plant species/ traits and N fertilization on the abundance of fungal (a) and bacterial (b) genera. Blue open diamonds: HSG (high sugar grass; *Lolium perenne* cv. AberDart), blue closed diamonds: HSG+N, black open triangles: RG (ryegrass; *L. perenne* cv. Impact), black closed triangles: RG+N, green open square: WCl (white clover; *Trifolium repens*), green closed squares: LoP (*Lotus pedunculatus*). Abundancies were box-cox transformed prior to PLS-DAnalysis. Groups showing major spatial separations were confined within ellipses.



Supplementary material Fig. S2. PLS-DAnalysis of impacts of plant extended phenotype (endophyte) and grass species on the abundance of fungal (a) and bacterial (b) genera. Black open squares: RG\_nil (ryegrass without endophyte), black closed squares: RG\_WT (ryegrass infected with *Epichloë festucae* var. *lolii* wild type endophyte), black downward striped squares: RG\_AR1 (ryegrass infected with *E. festucae* var. *lolii* AR1 endophyte), black upward striped squares: RG\_AR37 (ryegrass infected with *Epichloë* sp. LpTG-3 strain AR37 endophyte), black dotted squares: RG\_NEA2 (ryegrass infected with *E. festucae* var. *lolii* NEA2 endophyte), blue open diamonds: MF\_nil (meadow fescue), blue closed diamonds: MF\_U2 (meadow fescue infected with *Epichloë uncinata* U2 endophyte), red open triangles: TF\_nil (tall fescue in fected

with *Epichloë coenophiala* AR542 endophyte), red closed triangle: TF\_AR542. Groups showing major spatial separations were confined within ellipses.