

Communication

Soil Organic Nitrogen Indirectly Enhances Pepper-Residue-Mediated Soil Disease Suppression through Manipulation of Soil Microbiome

Shan Hong^{1,2,3}, Hongling Jv², Xianfu Yuan⁴, Jianjian Geng², Beibei Wang², Yan Zhao², Qing Wang², Rong Li⁴, Zhongjun Jia^{2,5,*} and Yunze Ruan^{2,*}

¹ Hainan Key Laboratory of Vegetable Biology, The Institute of Vegetables, Hainan Academy of Agricultural Sciences, Haikou 570228, China

² Sanya Nanfan Research Institute of Hainan University, Hainan University, Sanya 572025, China

³ Key Laboratory of Genetic Improvement and Quality Regulation for Tropical Spice and Beverage Crops of Hainan Province, Spice and Beverage Research Institute, Chinese Academy of Tropical Agricultural Science, Wanning 571533, China

⁴ Jiangsu Provincial Key Lab of Solid Organic Waste Utilization, Jiangsu Collaborative Innovation Center of Solid Organic Wastes, Educational Ministry Engineering Center of Resource-Saving Fertilizers, Nanjing Agricultural University, Nanjing 210095, China

⁵ State Key Laboratory of Soil and Sustainable Agriculture, Institute of Soil Science, Chinese Academy of Sciences, Nanjing 210008, China

* Correspondence: jia@issas.ac.cn (Z.J.); ruanyunze1974@hainanu.edu.cn (Y.R.); Tel.: +86-08-98662-79014 (Y.R.)

Supplementary Figures

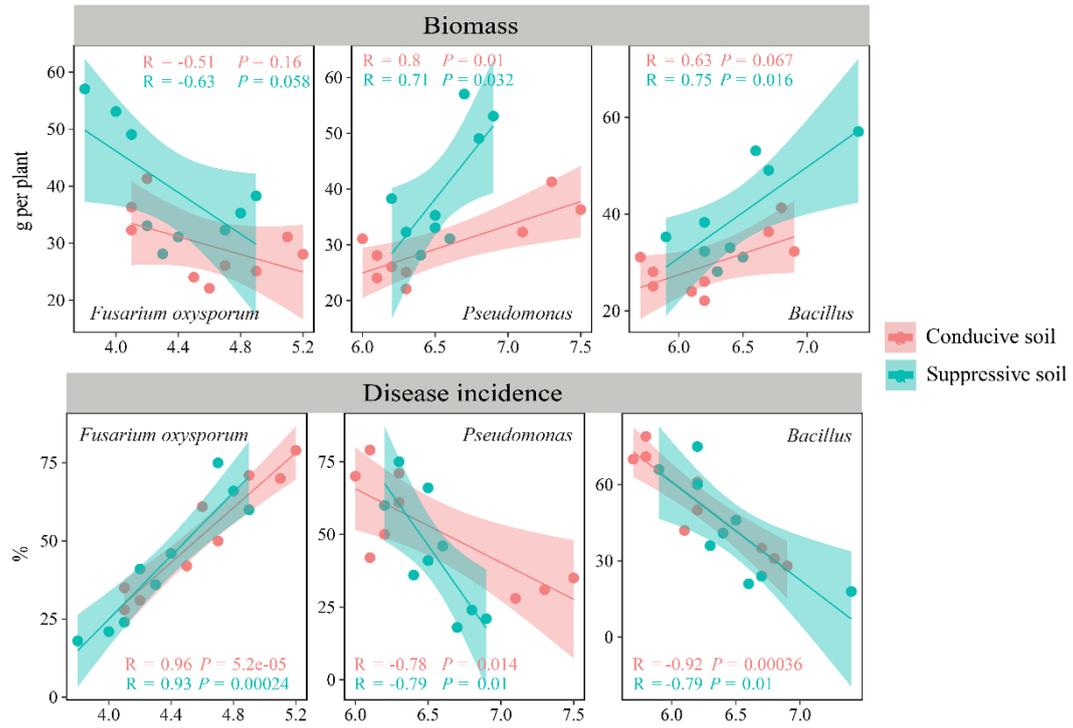


Figure S1. Pearson correlation between soil culturable microbes and biomass and disease incidence after adding different crop residues to conductive and suppressive soil.

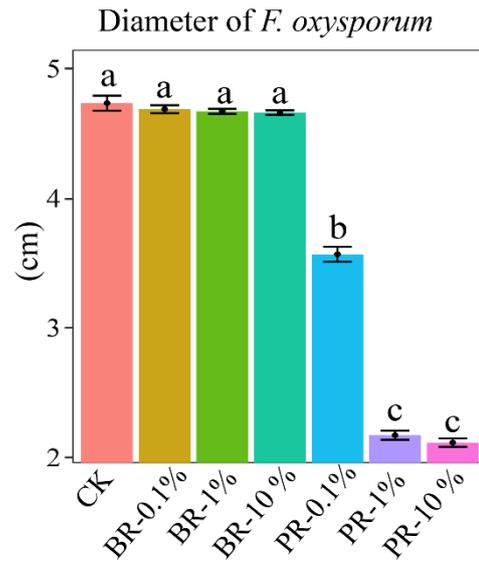


Figure S2. Effect of different residue extract concentrations of pepper and banana plant on the diameter of fungus *Fusarium oxysporum* f. sp. *ubense* race 4. CK: no crop residue added; BR: banana residue added; PR: pepper residue added. Different letters above the bars indicate significant differences at the 0.05 probability level according to the Duncan test (n=10).