***Supplementary Materials***

**Fungal Inhibition of Agricultural Soil Pathogen Stimulated by Nitrogen-Reducing Fertilization**

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**Table S1.** Fertilization strategies of field experiments.

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| **Treatments** | **Fertilization Strategies** |
| CK | Fermented soybeans (N: P: K= 6: 1: 2), 300 kg ha-1; Tobacco fomulated fertilizer (N: P: K= 10: 10: 20), 324 kg ha-1; Diammonium Phosphate (N: P: K= 18: 46: 0), 30 kg ha-1; Potassium sulfate (N: P: K= 0: 0: 50), 153 kg ha-1. |
| RNTe | Fermented soybeans (N: P: K= 6: 1: 2), 270 kg ha-1; Tobacco fomulated fertilizer (N: P: K= 10: 10: 20), 291.6 kg ha-1; Diammonium Phosphate (N: P: K= 18: 46: 0), 27 kg ha-1; Potassium sulfate (N: P: K= 0: 0: 50), 167.16 kg ha-1; Calcium Superphosphate (N: P: K= 0: 20: 0), 24.6 kg ha-1. |
| RNTw | Fermented soybeans (N: P: K= 6: 1: 2), 240 kg ha-1; Tobacco fomulated fertilizer (N: P: K= 10: 10: 20), 259.2 kg ha-1; Diammonium Phosphate (N: P: K= 18: 46: 0), 24 kg ha-1; Potassium sulfate (N: P: K= 0: 0: 50), 181.32 kg ha-1; Calcium Superphosphate (N: P: K= 0: 20: 0), 49.2 kg ha-1. |
| RNTh | Fermented soybeans (N: P: K= 6: 1: 2), 210 kg ha-1; Tobacco fomulated fertilizer (N: P: K= 10: 10: 20), 226.8 kg ha-1; Diammonium Phosphate (N: P: K= 18: 46: 0), 21 kg ha-1; Potassium sulfate (N: P: K= 0: 0: 50), 195.48 kg ha-1; Calcium Superphosphate (N: P: K= 0: 20: 0), 73.8 kg ha-1. |

**Table S2.** **The physicochemical data of the tobacco-planting soil.**

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| **Soil type** | **pH** | **AN/ mg kg-1** | **AP/ mg kg-1** | **AK/ mg kg-1** | **SOM/ g kg-1** | **AMg/ mg kg-1** | **AZn/ mg kg-1** | **AB/ mg kg-1** | **AMo/ mg kg-1** |
| Brown soil | 6.09 | 105.55 | 23.01 | 105.68 | 10.02 | 277.30 | 1.14 | 0.68 | 0.043 |

AN represented available nitrogen; AP represented available phosphorus; AK represented available potassium; SOM represented soil organic matter; AMg represented available magnesium; AZn represented available zinc; AB represented available boron; Amo represented available molybdenum.

**Table S3. The OTU table of all treatments.**

**Note:** As the Table S3 was too large to be placed in this Word, please check the Excel file named “Table S3: The OTU table of all treatments.”