



Figure S1 Nitrous oxide ($\text{N}_2\text{O-N}$) emission rates in the treatments of soil alone (S), manure compost pellets alone (P) and soil mixed with manure compost pellets (P+S) in the preliminary incubation experiment. Headspace volume of the cylindrical incubation tube was 434 cm^3 (inner diameter, 6.4 cm; height, 13.5 cm). For the S treatment, 30 g of soil on a dry matter basis was placed in a beaker. For the P treatment, 8 fresh pellets (1.4 g) were placed in a beaker. For the P+S treatment, 15 g of soil on a dry matter basis was placed on the bottom of a beaker and 8 fresh pellets (1.4 g) were placed on the soil and then covered with an additional 15 g of soil. In the S and P+S treatments, soil water content was adjusted to 0.50 g g^{-1} . In the P treatment, distilled water was supplied at 0.7 volumes to the fresh weight of pellets (final water content, 0.88 g g^{-1}). The beakers were covered with aluminum foil and incubated at 30° C . When measuring N_2O emission, each beaker was enclosed within the incubation tube for 1h at 30° C . Cumulative $\text{N}_2\text{O-N}$ emission rates over the 14-day incubation period were 1.4 µg in the S treatment, 259.4 µg in the P treatment and 391.0 µg in the P+S treatment. The incubation experiment was conducted in duplicate for each treatment. Error bars indicate standard deviations.