**S3 File. Mean oxygen consumption during oxic incubations and kinetics of gas production (N2, N2O, NO, CO2) and consumption (O2) during anoxic incubations**



Figure A. Mean oxygen consumption in BC amended soils during oxic incubations. Treatment mean is the average of 3 replicates with standard error. Treatment means followed by different letters are significantly different (P<0.05). Note different scaling of y-axis.



Figure B. Denitrification kinetics and CO2 and O2 concentrations in incubations of Mkushi soil amended with untreated cacao shell BC. Shown are averages of three incubations; error bars denote SE. Approximately 7.2 µmol NO3--N g-1 was added to 8.3 g soil in the bottles.



Figure C. Denitrification kinetics and CO2 and O2 concentrations in incubations of Lampung soil amended with uncharred cacao shell (upper 2 panels) and 0.1M NaOH (lower 2 panels). Shown are averages of three incubations; error bars denote SE. Approximately 7.1 µmol NO3--N g-1 was added to 8.4 g soil in the bottles.



Figure D. Denitrification kinetics and CO2 and O2 concentrations in anoxic incubations of 2.36 g BC without soil in 30 ml 2mM KNO3. Acid-leached BCs were spiked with N2O gas (0.1 ml at 1 atm pressure) at 65 hrs of incubation. Shown are averages of three incubations; error bars denote SE. Approximately 25.38 µmol NO3--N g-1 BC was added to the bottles.



Figure E. Denitrification kinetics and CO2 and O2 concentrations in incubations of Lampung soil amended with water-leached rice husk BC (upper 2 panels) and cacao shell BC (lower 2 panels). Shown are averages of three incubations; error bars denote SE. Approximately 7.4 µmol NO3--N g-1 was added to 8.1 g soil in the bottles.



Figure F. Denitrification kinetics and CO2 and O2 concentrations in incubations of Lampung soil amended with acid-leached rice husk BC (upper 2 panels) and cacao shell BC (lower 2 panels). Shown are averages of three incubations; error bars denote SE. Approximately 7.6 µmol NO3--N g-1 was added to 7.9 g soil in the bottles.