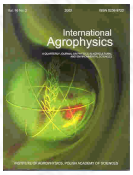

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CO2, N2O and NH3 emissions from two different type of soils as affected by applications of dairy sewage sludge

(get PDF)

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abstract A pot experiment with the dairy sewage sludge (DSS) was conducted under aerobic condition (60% WHC, water holding capacity) for a period of 240 days. The emissions of carbon dioxide (CO2), nitrous oxide (N2O) and ammonia (NH3) were determined in grey-brown podzolic and brown soils. Both soils were amended by different doses of DSS (0, 30, 60, 80, 120, 200, 300 and 600 t ha-1). In general, the amendment of DSS stimulated CO2 and N2O emissions from both soils. This effect increased after the incorporation of high doses of DSS. It was confirmed by significant positive correlations between the doses of DSS and CO2 and N2O fluxes. This study showed that DSS application had no sicnificant influence on the emission of NH3. In both soils the NH3 emission was noted only once during the incubation period and only in the treatments with the highest doses of DSS. The long-term addition of DSS on this parameters needs further examination.

keywords brown soil, carbon dioxide, dairy sewage sludge, grey-brown podzolic soil, nitrous oxide