## The Effect of Long-term Application of Compost on Microbial Diversity in Ammonia Oxidizer Communities. (S03-fortuna142526-Oral)

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## Abstract:

Research in southwest MI, USA indicated that use of compost as a N fertilizer source decreased nitrification potentials. We used PCRamplified 16S ribosomal DNA fragments of beta-proteobacterial ammonia oxidizing bacteria by denaturing gradient gel electrophoresis (DGGE) and sequencing of DGGE excised bands to determine whether the source (compost vs. inorganic sources) and quantity of NH4+ influenced the community composition. DGGE patterns for soils in which compost management and inorganic fertilizer were compared showed little banding variation. However, band intensity within lanes of the same DGGE gel suggested a difference in relative abundance of dominant ammonia-oxidizers in compost amended soil. Comparison of DGGE patterns from agronomic and grassland soils indicated that community structure differs between ecosystem types rather than agronomic managements. Sequences isolated in 1994 from adjacent agronomic field plots were primarily Nitrosospira and identified as closely related to sequences from December 2001 suggesting that ammonia oxidizer communities are stable over long periods.

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