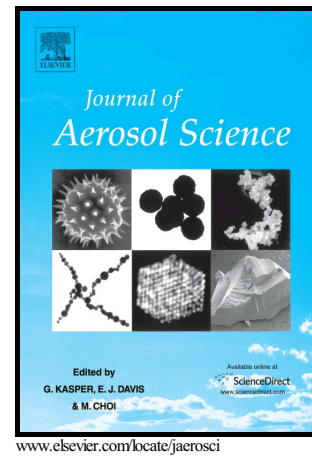


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Preferential aerosolization of *Actinobacteria* during handling of composting organic matter

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## ABSTRACT

Bioaerosols are commonly defined as biological particles suspended in the air. The concentration of bioaerosols found in the air of composting plants depend upon the source nature and composition, season, physical and mechanical factors such as wind and temperature. The aerosolization potential of particular microorganisms could significantly differ between species depending on morphological and biochemical characteristics, although this phenomenon is poorly understood. The aim of this study was to investigate, using new sequencing technologies and qPCR, the preferential aerosolization of microorganisms in different composting plants processing various raw materials. *Bacteroidetes*, *Firmicutes*, *Proteobacteria* and *Actinobacteria* constituted the major *phyla* of bacteria found in bioaerosols from compost. There is a clear association between microorganisms found in the air and in compost samples. Nevertheless,

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