



Study of gas emission during composting of sewage sludge and rice straw

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In this work, we studied the changes in different parameters of blend materials during the composting process of sewage sludge (SE) and rice straw (RS). Three SE and RS composting mixtures were done with varying relations of C/N values inside 210 L composting apparatus which is enable for passive aeration of the mixtures. Temperature, chemical parameters and concentration of CO₂, SH₂, CH₄, O₂ and NH₃ were determined during the composting process. The results obtained showed that the low C/N relations in the SE and RS mixtures led to increased greenhouse gas emissions (CO₂ and CH₄) and also the malodorous gases (SH₂ and NH₃) in contrast to the values obtained of some parameters related to compost maturity and quality (lowering of the C/N ratio, cationic exchange capacity). Therefore, it may be stated that it is convenient that the SE and RS initial blends present C/N relations that equal or exceed 20 in order to minimize the negative impact that the emission of these gases have on the environment. This implies the dilemma of putting production interests before those of the environment, or vice versa