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## **REDUCING THE VOLUME OF WASTE BY COMPOSTING VEGETABLE WASTE, SEWAGE SLUDGE AND SAWDUST**

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### **Abstract**

Our research was focused on developing some new procedures to reduce the biodegradable wastes by composting. The aim of this study was to obtain and assess at laboratory scale the maturity of three compost samples of different proportion of vegetable waste, beech sawdust and sewage sludge by analyzing their FT-IR spectra and C/N ratio. The composting process was monitored by tests performed weekly on the three samples in order to investigate the physical parameters (pH and electroconductivity EC) and chemical parameters. Thus, organic N was determined as amionic N from amino acids content and as total organic N content. Organic C content was determined as monosaccharides content and TOC content. The results were also confirmed by C/N ratios. At the end of the composting process germination tests were performed for 7 days and the GI were determined. All the lab tests showed that the maturity of composts was achieved in all three samples, proving also that sawdust acts as an inhibitor of the activity of microorganisms in the decomposition of complex compounds and the sludge contributes to the improvement of their activity by the addition of nutrients.

*Key words:* composting, sawdust, sewage sludge, vegetable waste

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