

ABSTRACT

This research analyzes the efficiency in the compost quality generated from organic waste coming from a refinery dining room besides its green areas prunings, for which a 1:1 volume/volume ratio has been used to contribute to the organic waste reuse and its circular economy, through composting, using organic waste from a metal refinery located in Lima. One kind of organic waste is that coming from the food preparation, the wash dishes and prepared food waste, this is generated at an average of 570 kilos per day; the other kind of organic waste corresponds to pruning from the maintenance of 6.4 hectares of the refinery green area. Both types of organic waste, before the project, ended up disposed of in authorized landfills. During the compost elaboration process, temperature and CO₂ control was carried out; before and after the turns over, for the pre-composting and composting stages. Ten tryouts were carried out under the same compost elaboration process conditions and the same 1:1 volume ratio, and ten compost samples were sent to an external laboratory in order to evaluate the quality parameters: pH, %humidity (%Hu), organic material (MO), total nitrogen (Nt), relation C/N, phosphorus (P) and potassium (K) and were compared with the technical standards NTC5167-2004 (NTC), NTCh2880-204 (NTCh) and the Peruvian compost standard NTP 201.208.2021 (NTP). The results of a comparison test of averages between piles, indicate to us that there are no significant differences between them, so the ANOVA design applied is relevant, showing variance homogeneity of the samples. This project aims to produce good quality compost and use it as an input for the maintenance of the refinery green areas.