

Enhancing compost of Organic municipal solid waste using Phosphate rock

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Introduction: In Egypt, numerous efforts have been made to control municipal solid waste (MSW) management specifically the organic part that could be fermented into organic fertilizer that replaces the chemical ones. Almost 60% of municipal solid waste (MSW) is considered organic waste that with improper handling in open or uncontrolled dumping sites produces methane, initiates fires, and uses space. This research is aimed to valorizing the organic waste that comes from MSW on a large scale.

Materials and method: compost prepared on a large scale around 300 tons/ matrix comes from MSW. Phosphate rock collected from a quarry in the Suez Canal, Egypt. A preliminary analysis of two materials was conducted to measure the elements' percentages. Furthermore, different mixtures were prepared to be assessed in the pot Experiment. To determine the optimum concentration of mixtures, samples from plants and soil were taken.

Conclusion: mixing compost with phosphate rock has long-lasting effects on plant morphological Parameters and physiological activities. Further research should be done to valorize different types of waste.