

EVALUATION OF DIFFERENT COMPOST TYPES PROPERTIES AND THEIR FERTILIZATION VALUE

S.A. Abou El-Naga , O.N. Massoud and S.A. Abdel-Gawad
Dept. Soil Sci., Fac. Agric., Minufiya University, Shibin Elkom, Egypt.

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ABSTRACT: *Two different types of compost, namely plant residues compost (PRC) and cattle manure compost (CMC), were characterized, irrespectively, for their physico-chemical, nutritional and microbiological, as well as maturity indices. Results cleared that different characteristics of the used compost types, Physico – chemical and nutritional properties, i.e., bulk density and C/N ratio of the two composts had a suitable values and both composts contained appreciable contents of macro- and micro-nutrients, particularly the CMC.*

Microbiological aspects, both composts exhibited a distinct microbial potency, which was reflected by high numbers of the main groups of microorganisms, as well as the activity of dehydrogenase enzyme. CMC exhibited more microbial numbers than PRC, and the main groups of microorganisms, such as cellulose - decomposing and N₂ fixers were identified. The dominant mesophilic species isolated from PRC and CMC were Bacillus, Trichoderma and Streptomyces .

Maturity and stability indices of the two composts (e.g. C/N ratio, pH value, E₄/E₆ ratio, NH₄⁺-N / NO₃⁻ -N ratio, seed germination index (for each of cress, barley, and faba bean, "as indicator plants") and evolution of CO₂, indicated that such composts are well matured and may be used without any restrictions.

Key Words: *Compost, plant residues, cattle manure, dehydrogenase enzyme and seed germination index.*
