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## AN INNOVATIVE PROCEDURE TO CHARACTERIZE PROPERTIES FROM TAILORED COMPOSTS

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### Abstract

The first objective in aerobic conversion and composting process is to recycle biowaste, food and agriculture products and animal breeding residue. Compost obtained from different organic waste sources (municipal solid waste, biomass, etc.) is increasingly used as a product suitable for agricultural purposes. It is possible to obtain a compost that can be used in different applications such as a marketable fertilizer, substrate and soil substitute for environmental restoration etc. Each of the compost properties can be used for specific application of stabilized organic material: designed compost for landfill cover, in biofilter preparation for land recovery or in specialized fertilizer for niche agricultural products (i.e. soilless agriculture). In relation with specific application of compost, the production of dedicated compost can be obtained using additives or enzyme for a tailored and a specific designed material. The specific properties have to be monitored by quality control systems. A specific and “*ad hoc*” applications on compost products characterization can be carried out by dedicated lab test and assessment methods. In this paper a characterization method of tailored compost (Compost PAV) is reported as methodological proposal for compost quality testing, using a hyperspectral imaging approach. This technique, which combines the advantage of spectroscopy and the classical imaging, could be particularly useful to assess compost maturity and to detect contaminants, in respect of a full quality control and certification of compost. Compost patterns showed similar behaviour, with higher reflectance level in correspondence with the increase of compost ageing.

*Key words:* compost, compost PAV, hyperspectral imaging, sorting, quality control

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