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Abstract : Many organic solid wastes are produced in the world. Poultry manure (PM), municipal organic wastes (MOW) and sugar beet lime sludge (LS) are produced in large quantities in Morocco. The co-composting of these organic wastes was investigated. The recycling and the valorization of such wastes is environmentally and economically beneficial especially for PM which is known source of bacterial pathogens. The aerobic biodegradation process was carried out by using three windrows of variable compositions: C1 prepared without LS (only MOW were composted with PM), C2 prepared from MOW plus PM and 10% LS; and the last one C3 from MOW plus PM and 20% LS. The main process physico-chemical parameters (temperature, pH, humidity and C/N) and microbiological populations (mesophilic and thermophilic flora, total coliform, fecal coliform, Streptococci, Staphylococcus aureus and mesophilic fungi) were monitored over three months to ascertain the compost maturity and to ensure the compost hygienic aspect. The final products were characterized by their relatively high organic matter content, and low C/N ratio of 10.6-10.9. The organic matter degradation was reached approximately 59% for C2 and C3. In addition, the monitoring of the microbial population showed that the produced composts are mature and hygienic. The agronomic valorization of the final composts was tested on radish plant with tree level of composts and poultry manure without composting. The primary results of field trial showed a growth of radish plant biomass and root development without any phytotoxicity detected which reflects the quality of the composts produced. As for poultry manure it allowed to have a better results than other composts because of its readily available nitrogen.

Keywords : compost, municipal organic wastes, poultry manure, radish crop, sugar beet lime sludge

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