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Valorization of Beer Brewing Wastes by Composting

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Abstract : The aim of this work was to study the viability of recycling the residual yeast and diatomaceous earth (RYDE) slurry generated by the beer brewing industry by composting with animal manures, as well as to evaluate the quality of the composts obtained. Two pilot composting trials were carried out with different mixes: cow manure/RYDE slurry (Pile CM) and sheep manure/RYDE slurry (Pile SM). For all piles, wood chips were applied as bulking agent. The process was monitored by evaluating standard physical and chemical parameters. The compost quality was assessed by the heavy metals content and phytotoxicity. Both piles reached a thermophilic phase in the first day, however having different trends. The pH showed a slight alkaline character. The C/N reached values lower than 19 at the end of composting process. Generally, all the piles exhibited absence of heavy metals. However, the pile SM exhibited phytotoxicity. This study showed that RYDE slurry can be valorized by composting with cow manure.

Keywords : beer brewing wastes, compost, valorization, quality
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