



Assessment of respiration of some saprophytic fungi and their ability in mass loss of rapeseed residue

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Rapeseed is one of the most important oil seed. The rapeseed production among oil seeds (except soybean) is the highest in the world. However its residue is not suitable for animal feeding because of its tannin and fiber contents. Mass loss and respiration rate are important parameters in biodegradation and composting of plant residues. The objective of this study is to compare the ability of some saprophytic fungi in biodegradation of rapeseed residue. Fungal treatments (*Tricoderma reesie*, *Tricoderma harzianum*, *Phanerochaet chrysosporium* and *Penicillium notatum*) and a blank in 3 replicates were applied on rapeseed residue in a completely randomized design. Statistical analysis showed that there were significant differences ($P < 0.05$) between mass losses of rapeseed residue by fungi. Mass loss of rapeseed residue was the highest in *Phanerochaet chrysosporium* treatment. It decreased to 39.42 percent in 45 days of incubation. Biodegradation of rapeseed residue was the lowest in *Tricoderma harzianum* treatment. *Phanerochaet chrysosporium* released the highest CO_2 . Among fungi it had the highest respiration rate. This study showed that the ability of *Phanerochaet chrysosporium* in biodegradation and compost production from rapeseed residue was considerably high.

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