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Effect of pig manure on the chemical composition and microbial diversity during co-composting with spent mushroom substrate and rice husks

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1 **Effect of pig manure on the chemical composition and**
2 **microbial diversity during co-composting with spent**
3 **mushroom substrate and rice husks**

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13
14 **Abstract**

15 In this study, the impact of pig manure on the maturity of compost consisting of spent
16 mushroom substrate and rice husks was assessed. The results showed that the addition
17 of pig manure (SMS-PM) reached 50°C 5 days earlier and lasted 15 days longer than
18 without pig manure (SMS). Furthermore, the addition of pig manure improved
19 nutrition and germination index. High-throughput 16S rRNA pyrosequencing was
20 used to evaluate the bacterial and fungal composition during the composting process
21 of SMS-PM compared to SMS alone. The SMS treatment showed a relatively higher
22 abundance of carbon-degrading microbes (*Bacillaceae* and *Thermomyces*) and plant

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