

Category	: International Rice Research Conference
Select Theme	: Sustainable and equitable farming systems
Endorsement email	:
Keyword 1	: Mechanization
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Title of Entry	: Development of rice straw based composting technology and compost turner in Vietnam
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Select only one type of presentation	: 15 minute oral presentation
Abstract	<p>: Around 24.2 million tons (2016) of rice are produced in the Mekong Delta of Vietnam each year, with almost the same amount of rice straw generated. Current rice straw management practices in this area include burning (89.7% and 54.1% for Summer-Autumn and Winter-Spring seasons, respectively), incorporation (26.1%), collection for mushroom production (8.1%), compacting, and using as cattle feed. After the wet season harvest, there is a huge amount of wet straw left which cannot be used for food and feed production. In addition, spent straw from rice straw mushroom production is also used as compost but this still has very low value. This wet, low quality straw as well as the byproducts from mushroom and cattle feed production could be used to produce better quality compost to return nutrients back to the field. This study investigated a composting technology using rice straw, mushroom production byproducts, and cattle manure. A compost turner was adopted and developed based on an initial design from Hohenheim University and was built and tested at the International Rice Research Institute. For this study, a smaller compost turner suited to local conditions was designed and fabricated, and then tested in Tien Giang Province using three treatments for compost with different ratios of cow manure and rice straw. Results showed that the designed turner could be operated using a 32-HP, four-wheel drive tractor with a capacity of 21.5 ton/h. The application of composting technology and compost turner can contribute to reducing labor costs in turning, creating alternative uses for rice straw, and increasing farmers' income by adding value to mushroom production by further utilizing its byproducts.</p>

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