

## **The Effect of Parameter Controls for Manure Composting in Waste Recycling Process**

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**Abstract :** This study shows the effect of parameter controls for livestock manure composting in waste recycling process for the development of a new design of a microorganism-oriented- composting system. Based on the preliminary studies, only the temperature control by changing mechanical mixing can reduce microorganisms' biodegradability from 3 to 6 months to 15 days, saving the consumption of energy and manual labor. The final degree of fermentation in just 5 days of composting increased to '3' comparing the compost standard level '4' in Korea, others standards were all satisfied. This result shows that the controlling the optimum microorganism parameter using an ICT device connected to mixing condition can increase the effectiveness of fermentation system and reduce odor to nearly zero, and lead to upgrade the composting method than the conventional

**Keywords :** manure composting, odor removal, parameter control, waste recycling

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