

Nuntaporn Wisedsombut 2006: TCE–Degradation Using Compost
Technique: Cadmium as Co-Contaminant. Master of Science
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To study the degradation of TCE in soil with Cd as co-contaminant using compost technique. Aerobic composting process was conducted for 10 weeks. TCE and Cd were added to the composted soil in different ratio. Experimental unit was comprised of soil sample from AIT Campus field and chicken manure from Department of animal Science at Kasetsart University. TCE and Cd were added to experiment unit with the ratios of 0:0(ER1), 50:0(ER2), 1000:0(ER3), 0:3(ER4), 0:30(ER5), 50:3(ER6), 50:30(ER7), 1000:3(ER8) and 1000:30(ER9). Soil sample in the 10th experimental unit was from mesocosm unit experiment which was contaminated with TCE.

The decreasing of TCE in 10 experiments has no different in significance (ANOVA at the significance 0.05 and 0.01). The experiment with 1000 ppm TCE had more increasing ratio of VC than experiment with 50 ppm TCE. The statistic calculation at the significance 0.05 and 0.01 shown the different in significance. The experiments with 3 ppm Cd (ER6 and ER7) had more decreasing percentage of Cd than the one of 30 ppm Cd (ER8 and ER9). The result of soil sample from mesocosm unit experiment was similar to others. During compost process, TCE was decreased with slowly increasing of VC. Cd which was co-contaminants in the TCE contaminated soil had no effect to the biodegradation of TCE in aerobic composting process.

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Thesis Advisor's signature

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