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### An Evaluation Method for Various Recycled Organic Materials Using a Self-Organizing Map

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#### Abstract

Recently there has been promotion of the recycling of various kinds of organic wastes after their recovery. Excess amounts of recycled organic materials are often applied to fields because the decomposition and mineralization go on very slowly and little effect appears in terms of nutrients for crops. In this paper, for various recycled organic materials, an evaluation and representation method are described to show comprehensively, through crop cultivation tests and the analysis of components, the features and properties obtained. As recycled organic material test fertilizers, cattle excrement compost, sludge compost and sludge pyrolysate were compared with ordinary chemical fertilizer. In terms of nutrient rate of application in the cultivation test plots, 1 times to 4 times the rate of nitrogen were set for each test fertilizer, on the standard basis of chemical fertilizers of Kanto district, considering the degradation rate and the fertilizer effect. The nutrient components of harvested crops and remaining growth soil were analyzed with a standard chemical method. The map of principal component scores by principal component analysis shows the effect of the trial fertilizer. Utilization of the self-organizing map presented more visually the similarities and tendencies of the recycled organic materials on crop cultivation and environmental loading.

#### Key words

[organic waste](#), [crop cultivation test](#), [recovery treatment](#), [self-organizing map](#)

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