**Microbial Methane Oxidation at Cover Soil Layer of Waste Landfill**

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**INTRODUCTION**

It has been well recognized that a waste landfill is major emission source (IPCC 2000)....... .......................

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**MATERIALS AND METHODS**

**Subjected landfill site**

A waste landfill site where municipal solid waste had been disposed of for 25 years was selected for investigation. The details of the landfill was shown in Table 1. .........................................................................

**Table 1 Details of landfill subjected in this study**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Waste type | duration | Capacity | Others |
| Landfill AM | MSW | 1980-1995 | 750,000m3 | Mountain |
| Landfill AN | MSW | 1988-2000 | 900,000m3 | Plain |
| ---------- |  |  |  |  |

**Microbial DNA extraction**

Fifty grams of soil sample was suspended in 450 ml of distilled water for 30 minutes. Supernatant was applied to gene extraction kit ..............................................................................................................................

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**RESULTS AND DISCUSSION**

**Distribution of methane emission and oxidation in the landfill surface**

Figure 1 shows the relationship between the methane emission from the surface of landfills and the methane oxidation ………………………………………………………………………………………………

**Figure 1 Relationship of methane emission and oxidation**



**Population of methane-oxidizing bacteria in the landfill cover soil**

Population of methane-oxidizing bacteria in the landfill surface is shown in Table 2. Relationship between the population and methane emission was also shown in ..................................................................................

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**CONCLUSION**

This study aimed to propose a practical methodology for estimating the methane oxidation behavior of waste landfills. ................................. In this sense, we should continue to establish area-, region-, or at least country-specific activity and kinetic parameters on methane oxidation in landfills beyond the case study.

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