摘　要

台灣地區垃圾的處理方式漸漸地由任意傾棄至衛生掩埋而垃圾焚化又是未來必走的趨勢，所以在不久的將來籌畫中的焚化爐陸續完成後，目前完全掩埋生垃圾的掩埋場中，將有部分的焚化灰渣與生垃圾共同掩埋。

研究共分為二個階段，(1).適當人工垃圾組成之探討；(2).都市垃圾與焚化灰渣以厭氧方式共同掩埋之特性研究。第一階段是以台北市垃圾組成分類為依據，依各類組成百分比，用不同的垃圾樣品組合而成六組模擬管進行實驗，期能找出一代表性人工垃圾組成配比，以利第二階段之研究。第二階段則以第一階段研究找出之代表性人工垃圾組成為都市垃圾樣品與焚化灰渣共同掩埋，實驗共裝填四組模型槽：第一組模型槽完全掩埋生垃圾，第二組模型槽底部先掩埋三分之一垃圾焚化後之灰渣，再掩埋生垃圾，第三組模型槽底部先掩埋三分之二垃圾焚化後之灰渣，再掩埋生垃圾，第四組模型槽完全掩埋焚化灰渣。當四組模型槽經過污染物滲出高峰後，再填入第二層掩埋單體，以探求其間的變化。

經過研究，第一階段以第五組模擬管之垃圾組成為最佳人工垃圾組成。第二階段之結果顯示焚化灰渣對於通過的滲出水是溶出作用；焚化灰渣若掩埋在生垃圾底部，對於初期的滲出水之污染物有過濾的作用，但過濾達飽和後，被截留的污染物會再次溶出；生垃圾掩埋中揮發酸與總鹼度比值的變化趨勢和pH的變化趨勢相反，當焚化灰渣掩埋在生垃圾底部且灰渣量較多時，則揮發酸與總鹼度之比與pH的變化關係要再考慮灰渣的影響；第二層單體的埋入，有滲出水循環處理的效果，而與一般滲出水循環處理之不同點在於滲出水開始循環的時間及濃度的不同；焚化灰渣掩埋在生垃圾之底部，當第二層單體埋入後，滲出水之COD污染量則減少許多。

Abstract

In Taiwan , the way of disposing rubbish has changed from open-dumping to landfill, and incineration will be adopted as a necessary disposal. In the near future, after incinerators have been constructed according to projects , landfill sites which have been treating only raw refuse up to now will carry out the landfill of raw refusetogether with part of the incinerating ashes.

There are two stages in this study : First , the exploration of the proper composition of artificial refuse ; second,the study of featuresin the landfill of urban wastes together with incinerating ashes by means of anaerobic treatment . At the first stage , the experiment is performed upon diverse refuse samples which are divided into siximitation columns , pursuant to the classification of the refuse composition of Taipea City and at the proportion of the composition in each group . That is aimed to find out the representative composite ration of artificial refuse available for the study of the second stage.At the second stage , the representative artificial refuse composition found at the first stage is used as samples of the urbanwastes tobe landed together with the incinerating ashes . There are four model tanks for the experiment . The first model tank is used exclusively for the landfill of raw refuse.At the bottom of the second model tank is one third of the incinerating ashes and the raw refuse is landed afterwards . At the bottom ofthe third model tank is two third of the incinerating ashes and the raw refuse is landed afterwards . The fourth model tank is used completely for the landfill of incinerating ashes. But, afterthe fourth model tank has undergone the leaching peak of pollutants , the second layer of landfill monomer is landed in it, in order to examine the change.

The result of the study is that at the first stage, the best artificial refuse composition is that of the fifth imitation columns. At the second stage, the incinerating ashes have the leaching effect on the passing leachate. If the incinerating ashes are landed beneath the raw refuse , it can filter the initial leachate pollutants . However, after the filtration is saturated , the pollutants which have been cut off will extract . As for the landfill of raw refuse, the ratio of the volatile acid to the total alkalinity changes contrary to the change of pH.When a great number of incinerating ashes are landed beneath the raw refuse,the relationship between the ratio of the volatile acid to the total alkalinity and the change of pH should take the influence of incinerating ashes into consideration. On the other hand , the landfill of the second layer of monomer has the effect of cycle treatment on the leachate , which is different from the usual leachate cycle treatment in the concentration and the time when the leachate begins to circulate . When the second layer of monomer is landed after the landfill of incinerating ashes beneath the raw refuse, the quantity of COD in the leachate is greatly decreased.