

生物策略表

類別	生物策略 (Strategy)
生物策略 STRATEGY	家庭廢棄食物分解器 (Home Food Garbage Decomposer)
生物系統 LIVING SYSTEM	蟑螂、白蟻、蜜蜂 (Cockroaches, termites, honey bees)
功能類別 FUNCTIONS	#物理性分解非活體物質 #Physically break down non-living materials
作用機制標題	廢棄食物透過生態系統分解返回土壤 (The process that food garbage returns to the soil nutrients through the decomposition of eco-system)
生物系統/作用機制 示意圖	 <p>Source: https://newatlas.com/biomimicry-challenge-2016/44094/</p>
作用機制摘要說明 (SUMMARY OF FUNCTIONING MECHANISMS)	
<p>全世界每年產生大量的廚餘，這些食物廢棄物佔每年食物供應總量的 10% 以上。在台中市，大部分食物廢棄物都是藉由焚燒、填埋、堆肥和變成豬飼料來進行處理。在運輸和加工的過程中，污染和食品安全問題備受爭議。如何處理為數不少的食物廢棄物成為一個相當棘手的問題。在食物系統的循環基礎上，我們的設計重點主要著重於食物廢棄物藉由生態系統分解後返回土壤養分的過程，對氣候變遷、環境污染和土地利用的影響。為了解決問題並從源頭上阻止污染，出現了家用分解器的概念。透過生物的功能和過濾，我們的設計選擇結合蟑螂的呼吸系統、白蟻巢的空氣循環系統、隔離蘭的二氧化碳分離結構，和蜂窩的高效空間使用的設計。因此，該設計是一個完全有氧、並結合城市日曆農場的概念，實現高效率、乾淨、用途廣泛和美化環境的分解器。如此一來，食品循環系統中的食物廢棄物回收的持續性將可獲得提升。</p> <p>A great deal of global food garbage is generated every year, which accounts for over 10% of the total food supply per year. In Taichung City, most of food waste is dealt with by incineration, landfill, compost, and pig feed. During the transporting and processing, a lot of pollution and food safety issues are highly debated. How to deal with the numerous food garbage comes to be a considerably thorny problem. Based on the cycle of food system, our design is focusing on the impacts to climate change, environment pollution and land use</p>	

influenced by the process that food garbage returns to the soil nutrients through the decomposition of eco-system. To solve the problems and stop pollution from the source, the concept of home decomposer comes out. Through the biological functions and strategies filtering, those are chosen to be imitated in our design that the breath system of cockroaches, the air circulation system of termites' nest, the structure to isolate carbon dioxide of cocoon and the high-efficiency space-use of honeycomb. Therefore, the design is a completely aerobic decomposer, combined with the concept of urban calendar farm, which is really high-efficiency, clean, widely available and beautifying the environment. In this way, the sustainability of food garbage recycle in the food cycle system is substantial promoted.

文獻引用 (REFERENCES)

參考文獻清單與連結 (REFERENCE LIST)

Tan, J. Q., E. Yang, Y. C. Chen, and W. T. Zhang. (2016). Home Food Garbage Decomposer. *Biomimicry Institute*. Retrieved from:

<https://challenge.biomimicry.org/en/custom/gallery/view/8150>

Biomimicry Institute announces winners of second food systems Challenge. *New Atlas*.

Retrieved July 4, 2016 from: <https://newatlas.com/biomimicry-challenge-2016/44094/>

延伸閱讀

生物系統延伸資訊連結 (LEARN MORE ABOUT THE LIVING SYSTEM/S)

撰寫/翻譯/編修者與日期

劉茲妤翻譯 (2019/04/28); 吳奕慶翻譯 (2019/05/12); 譚國鎔編修 (2020/04/20); 許秋容編修 (2020/11/25)

AskNature 原文連結