The Truth About Composting

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For sustainability, composting household waste is more important than changing food choices

- Facts about Composting
  - Composting is the use of decaying organic material as plant fertilizer (Pergola *et. al.* 2018)
  - It can be considered a carbon-based system, similar to reforestation, agricultural management practices, or other waste management industries and is one of the most frequently alternatives to landfill
  - Although composting enhances sustainability from an agricultural aspect, it can also be viewed in a more general aspect, such as economically and socially
  - High-nutrient urban composts, such as MC, often also exhibit high levels of contaminants and heavy metals, which accumulate along the food chain (Ulm et. al. 2019)
- Benefits of composting
  - Environmental Benefits
    - Reduces Chemical fertilizers, as well as, methane emissions from landfills and lowers the carbon footprint (Sequi 1996)
    - After composting, the macro- and micro- nutrients far exceeded the mean values taken prior to compost (Ulm *et. al.* 2019)
    - The compost can be successfully applied to the soil to recover degraded soils or maintain/increase soil fertility, while helping retain moisture and suppress plant diseases and pests (Pergola *Et. Al.* 2019)
    - Experimental example: In all experimental plots treated with compost the growth of maize plants and the accumulation of biomass were significantly higher than they were in the control sites, irrespective of the variety used. This shows that compost promotes more energy through nutrient cycling and throughout the plants , which results in an increase of the energy in a food web as you move up trophic levels (Ulm *et. al.* 2019)
    - This benefits the entire ecosystem as opposed to strict dieting which influences ecosystem structures/population (Chen and Wu 2005)
  - Economic and Social Benefits
    - Used as an alternative to natural topsoil in new construction, landscape renovations, and container gardens. Using composts in these types of applications is not only less expensive than purchasing topsoil, but it can also often produce better results when establishing a healthy vegetative cover. (Montgomery 2014)
    - The composition industry can creates new jobs for citizens
    - Produces marketable products and a less-cost alternative to standard landfill cover, artificial soil amendments, and conventional bio-remediation techniques.
    - Increases the longevity of landfills, which saves money from expensive replacements, as well as avoiding the cost of landfill and combustion fees

Whether you are eating a meat based diet or plant based diet, agriculture has some sort of involvement. Modern agriculture uses the input of machinery, fuels, pesticides, and fertilizers that causes farming to depend heavily on energy, with both direct and indirect consumption. Composting not only reduces the production costs of agriculture, but limits these inputs with the help of energy recovery. Refer to the figure for data on energy recovery in relation to composed food. (Pergola *et. al.* 2019)

This data is from 1960 to 2015, relating to the total number of tons of food generated, recycled, composted, combusted with energy recovery and landfilled.

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