



# Organic Waste

*Organic waste is the biodegradable leftover material, which comes from plant or animal origins. It includes fruit and vegetable scraps and vegetation cuttings.*

*With a little effort organic waste can be removed from the waste stream and composted to produce an effective environmentally friendly fertiliser.*

## Did you know?

- Home composting can divert an average of 300kg of material per household per year from the waste stream in developed countries.
- Compost produced from organic waste and added to soils can save up to 73% of water evaporation.
- France has over 100 large composting plants and produces 800,000 tonnes of compost each year.
- One landfill in Australia produces nearly 8000 tonnes of methane per year. This is enough to generate electricity for 5000 homes for an entire year.
- 94% of gas from landfill is methane (54%) and carbon dioxide (40%) from organic decomposition.

*\*In this document the term "landfill" refers to the method of solid waste disposal in which waste is buried in the ground.*

## The Issues

### Landfill\* Space

In many countries the areas allocated to waste disposal are rapidly filling up or are non-existent. In addition, land used for waste disposal cannot be reused in the future for alternative purposes, due to contamination.

A large proportion of household waste that goes to landfill is made up of organic waste.

Alternative use of organic waste assists in extending the life of existing landfills and reduces waste disposal costs.

### Greenhouse Gases

The decay of organic waste generates greenhouse gases including carbon dioxide and methane.

These greenhouse gases contribute to worldwide climate change.

### Water Pollution

Bacteria in landfill break down organic waste using aerobic (with oxygen) and anaerobic (without oxygen) respiration processes. The resultant liquid mixes with rainwater and other liquid wastes to produce a substance known as leachate. Leachate accumulates at the bottom of landfills and can then seep into ground water and contaminate waterways.

### A Valuable Resource

Managed wisely, organic waste can be re-used in many valuable ways:

- To produce compost (see over)
- Generation of electricity in methane generators
- Processing into bio-diesel and soap (cooking oil and animal fats)

# Recycling Organic Material

*Organic waste can easily be turned into compost in the home or as a community project through composting or worm farming.*

*Composting takes organic waste out of the waste stream and has many benefits for soils and food production.*



## Composting

Composting is the transformation of organic material, through a decomposition process, into soil-like material called compost.

Composting is a form of recycling, which continually occurs in nature.

A composting system can confine organic material and control the conditions so that breakdown is accelerated.

Composting can be started simply in an open bottom bin or wooden box, out of bricks blocks or timber, or as an open heap.

The efficiency of decomposition in a compost heap depends on a variety of factors including; nutrients, aeration, water, microbes, time and temperature.

Invertebrates (insects and earthworms) and micro-organisms (bacteria and fungi) transform the material into compost.

Items that can be composted include: coffee grounds, egg shells, fruit and vegetable scraps, grass clippings, leaves, manure, paper, sawdust, seaweed, straw, tea leaves, weeds and wood ash.

## Vermiculture (Worm Farming)

Vermiculture is the composting of organic waste by worms. Compost worms can eat up to 30% of their bodyweight in food per day.

The organic scraps are turned into worm castings, the leftover soil-like nutrient-rich material, which makes good fertiliser.

A dark-brown liquid, which drains out, is also produced and can be diluted for use as a liquid fertiliser.

Worm farms usually consist of shallow stackable containers of simple material such as plastic or wood, with holes in between the layers. The worms move between the layers to where the scraps are placed.

These systems thrive with dark, moist conditions and an adequate supply of suitable organic scraps.

Worms can eat most fruit and vegetable scraps, tea leaves, coffee grounds and egg shells. Do not add meat, bread, pasta, rice, onion or citrus fruit scraps to a worm farm.

Excess worms can be added to a compost heap where they speed up the composting process.

## Compost in Soils

- Increases soil nutrients
- Assists plant growth and disease resistance
- Inhibits weed growth
- Avoids unnecessary use of inorganic chemical fertilisers
- Maintains water retention in sandy soil and improves drainage in clay soils to prevent waterlogging
- Regulates soil temperature, keeping soils cooler in summer and warmer in winter
- Reduces water evaporation, keeping soils moist during dry periods
- Reduces watering costs

### Further Information

Clean Up the World

[www.cleanuptheworld.org](http://www.cleanuptheworld.org)

Clean Up Australia

[www.cleanup.com.au](http://www.cleanup.com.au)

Compost Guide

[www.compostguide.com](http://www.compostguide.com)

European Compost Network

[www.compostnetwork.info](http://www.compostnetwork.info)

The Compost Resource Page

[www.howtocompost.org](http://www.howtocompost.org)

Urban Agriculture Notes

<http://www.urbanagricultureworldwide.com/>

WormWoman

[www.wormwoman.com](http://www.wormwoman.com)

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