



# Lincoln Envirotown Community Gardens

## Household composting

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### What is composting?

The natural decomposition (breakdown) of organic matter to produce a rich material (humus), that is full of valuable nutrients for the garden.

### Why is composting a great idea?

- Enables the disposal of household and garden waste responsibly and efficiently.
- The humus produced is used to improve soil quality, hence garden productivity.

### Who does the work?

Bacteria, fungi, microorganisms, worms, insects,.... (in a moist, aerated environment)

### What are the alternatives for disposing of household waste?

- **Compost heap**
- Compost bin
- Tumbler bin
- Bokashi process
- Worm farm
- **Compost trench**



A compost heap is the simplest and most common method. Five wooden pallets can be fixed together to form a pair of adjoining wooden boxes that can be used in rotation. A set of boards form the front of the boxes and can be lifted out to mix the compost or remove it. A single wooden kitset box, comprising interlocking boards, can be purchased from local retailers (find products using Google).

Alternatively, six strong stakes and chicken netting can be used to form the boxes. For insulation, line the inside of the boxes with cardboard, gib-board or plywood.

Choose a sunny, sheltered, easily accessible location for your compost heap.



Compost heap



Compost bin



Tumbler bin



Bokashi kit



Worm farm



Compost trench

## What is the difference between brown and green waste?

### “Browns” (high in carbon)

straw  
dead leaves  
cardboard and shredded paper  
egg cartons, egg shells  
twigs and plant stems  
sawdust (from untreated wood)  
vacuum cleaner dust

### “Greens” (high in nitrogen)

grass clippings  
uncooked fruit, vegetables  
loose tea leaves  
coffee grounds  
manure  
urine  
weeds and fresh plants

## How do we combine the “ingredients”?

Nurturing the soil with compost is rather like baking a cake. It determines how your fruit and vegetables “rise”. Successful composting requires getting the mixture just right, looking a bit like a “crumbly chocolate cake”.

- Using the right ingredients
- Mixing the ingredients in the right proportions
- Ensuring the mixture is not too dry or too wet

## What are the right and wrong ingredients?

There is a huge range of right ingredients (see above), but some wastes should be avoided:

- Cereal scraps, baking or bread; cooked vegetables or anything that has touched oil; animal excrement (eg, cat or dog litter); glossy magazine paper; sticks or larger woody material; nasty perennial weeds.

## What is the right proportion of brown and green waste?

- To achieve the best carbon-to-nitrogen ratio in your compost, a rough rule of thumb is to put in two parts brown materials for every one-part green materials.
- Too much green material (eg, excess lawn clippings) can cause the compost to become smelly and slimy. Add more brown material to fix this problem.
- Placing a criss-crossed layer of sticks or hedge clippings at the bottom of your compost heap traps air. This enables aerobic, or ‘with air’, composting to take place, and also assists excess water to drain away.
- Build the compost heap by alternating the layers of brown and green materials, like a sandwich. No layer should be thicker than 10 cm. A thin layer of soil or manure can be spread over each layer.
- Add no green or brown waste that is bigger than your little finger, so cut up or shred large pieces into smaller pieces. These will break down more quickly. A good suggestion it to use a rotary mower to shred hedge trimmings, or to combine leaves and lawn clippings.

## What is the difference between hot and cool composting?

### Hot composting

Materials are added to the heap over a short period of time (hours to a day)  
The temperature within the heap rises and is maintained over an extended period  
Seeds and plant diseases can be destroyed  
No worms survive  
Compost may be ready to use in a week or two

### Cool composting

Materials added over an extended period (weeks or months) as they become available  
No significant rise in temperature occurs  
Not hot enough to destroy seeds or diseases  
Encourages a worm population  
Six months or longer before compost ready

## How do we maintain optimum conditions?

Inside a compost heap we need (1) good aeration (oxygen), and (2) the right amount of moisture.

To ensure good aeration (which enables the bacteria etc. to thrive, and keep the temperature up) turn over the heap from time to time. Use a fork to shift the outside to the inside and vice versa. To help retain the heat, covering the heap with a layer of straw, sheets of cardboard or a piece of old carpet.

The ideal moisture content for your compost pile is in the range 40 to 60 % by weight. An easy method to judge the moisture content is to squeeze a few handfuls of materials from different areas of the pile. Everything should feel damp, like a wrung-out sponge. If it doesn't, it's time to add water.

If the moisture level is too low or too high the composting process will slow considerably:

- Spray on some water as the heap is formed to moisten the ingredients;
- If the heap appears too wet (or too smelly), add "browns" such as dry leaves or shredded paper;
- If the heap appears too dry and fibrous, add more "greens", or apply some water.
- If your area has frequent/heavy rain, it may be advisable to cover your heap with a tarpaulin.

## What is an activator?

Compost just happens, but you can add an activator to the composting mixture to accelerate the decomposition process. While commercial products are available, natural compost activators can include:

- comfrey leaves, seaweed, manure, nettles, topsoil, compost from an old heap, seaweed (collected fresh from below the tide line), urine (evidently men's works better than women's – it's the hormones they say)

## Should you apply lime to your compost heap?

This is not always necessary. The main reason for adding lime (ie, dolomite, not slaked lime) to a compost heap is to reduce its acidity (ie, increase the pH). Compost that has a low level of acidity will rot faster. The benefit of adding lime to compost will continue through to the soil that the compost is applied to. Lime in the compost will help to reduce soil-acidity but may harm the microorganisms. Mature compost will usually have a pH of around 6.5 which is ideal for most plants. Unless you are sure that the compost is too acidic, don't use lime.

If liming is warranted (eg, to counteract the acidic nature of pine needles):

*Sprinkle 1/2 cup of powdered lime over the surface of your compost heap. Use a spade or shovel to stir the compost until the lime is fully incorporated into the mixture.*

Adding lime helps convert ammonium nitrogen to ammonia gas, which can create an odour problem as it escapes from the pile, and this can reduce the nutrient content of the finished compost. Also, adding lime may also cause the pH of the finished compost to be higher than is optimal for plant growth. Some plants prefer acidic conditions, so don't apply lime to the compost for these plants.

Gypsum is a good alternative to lime to add calcium to the compost, and it does not change the pH as much.

## How do we produce leaf mould?

To make leaf mould, collect fallen leaves and shred them before adding grass clippings (or collect them using a rotary lawn mower which mixes the leaves and clippings well). Then put them in old sacks, bags or a spare compost bin and leave them for about a year before using them for potting up seedlings or as a soil conditioner which improves both drainage and water retention. For production on a larger scale, set up a cube-shaped cage using wooden posts and chicken wire.

## Check out this YouTube video clip:

**"Composting for Beginners"** <https://www.youtube.com/watch?v=nxTzuasQLFo>

Search: Composting For Beginners – The Dirt