

Quick guide: Estimating food waste volume to improve food waste management

Introduction

Food and other organic wastes disposed of in landfill generate greenhouse gas emissions. Businesses are demanding practical options for improve food waste management, both to reduce odours and pests, to improve workplace efficiency, and to improve environmental performance.

A range of technologies can be used on-site to manage food waste. These technologies may offer operational efficiencies, improve workplace conditions by increasing safety or reducing odours and flies, and reduce greenhouse emissions by diverting food wastes from landfill – but only if you choose the right technology for your situation.

The starting point is to work out how much food waste your business produces, only then can you identify opportunities for your business to benefit from improved on-site management of food waste, and begin to consider technologies that may meet your specific needs.

Types of collection bins

The picture shows bins of different sizes. From the left: a 660L skip bin, a green 240L mobile garbage bin (MGB), a maroon 120L MGB, a red 80L MGB, a black 60L bin, a 20L bucket.



Food waste can be very heavy, with a range of cooked foods weighing almost a kilogram per litre. This would make a full black bin far too heavy to safely carry, or to lift into the high skip. Different types and sizes of bins can make work easier and more efficient, and can reduce risk of manual handling injury.

Step 1: How do you currently manage your waste?

Have a look at how your waste is currently managed, and talk to relevant operational staff to find out what works, and what does not:

- Where is the food waste coming from?
- How is food waste collected?
- What size are your collection bins?
- How does it get from bin to skip?
- How often is it collected?

- Are there any issues with current arrangements (flies, pests, obnoxious odours, safety issues)?
- What do staff like/dislike about existing system?
- How frequently is waste collected?
- What would make this work more efficiently?

Have a look at your invoices to work out how much waste disposal currently costs you per week. Once you know what your current situation and costs are, this provides a starting point to consider improvements.

Step 3: How much food waste

Follow the steps below to estimate the weekly quantity of food waste your business produces. Also consider if the time frame over which you make these estimates represents a slow period for the business, a busy period, or a really busy period!

- Provide operational staff with extra bins, stick “food waste only” labels onto the bins, and ask staff to put all food waste into these bins for a couple of weeks so you can work out how much food waste is generated.
- Check for any food in the general rubbish bins, and talk to staff about making sure this goes into the “food waste only” bins.
- Check for any rubbish or recyclables in the “food waste only” collection bins, and talk to staff about making sure these materials are put into the correct bins.
- Work out the volume of your “food waste only” bins
- Inspect the “food waste only” bins on a daily basis before they are emptied.
- Remove any big contaminants such as cardboard boxes, polystyrene crates, plastic drink containers etc.
- Use a bucket to (or rather the bottom of a bucket) to firmly press the food waste down into each bin so that the contents are packed without air pockets.
- Estimate the volume of food waste in each bin on the basis of known bin volume (you can use a cheap bathroom scale to weigh bins instead, this is more accurate – but make sure you remember to subtract the weight of the bin!).
- Describe the types of food waste collected and approximate proportion of each type as a percentage (eg. cooked/uncooked, fruit and vegetables, meat...).
- Record quantities and description** on the data recording sheet (**see next page**).
- Then empty the food wastes into your garbage skip or bins for collection.
- Wash out “food organics only” bins and return to kitchen staff. Use of bin liners can significantly reduce cleaning effort required).
- At the end of each week, calculate the total quantity of the food waste material collected, and the average proportion of each type of organic material type.
- Review relevant business records to estimate seasonal variations, and to calculate peak volumes of material that would be expected during busy periods.

Where to from here?

Now that you have documented to volume and type of food waste your business produces, you can identify and choose the technologies that best meet your business needs.

The following worksheet is available on-line to help you answer these questions:

ROU (2009) **Quick guide to improving food waste management: Selecting technology for use on-site**. Recycled Organics Unit, Internet publication
www.recycledorganics.com/reducefoodwaste.htm

Food waste quantity: data recording sheet

Day	Food waste volume (litres)	Food waste description (what type of food waste is it?)	Notes (anything out of the ordinary?)
Week __ beginning:			
Mon			
Tues			
Wed			
Thurs			
Fri			
Sat			
Sun			
Total			
Week __ beginning:			
Mon			
Tues			
Wed			
Thurs			
Fri			
Sat			
Sun			
Total			

References

ROU (2002) *Best Practice Guideline to Managing On-Site Vermiculture Technologies*. Recycled Organics Unit, Internet publication www.recycledorganics.com

ROU (2005) *Information Sheet No. 5 How much compostable material is produced?* Recycled Organics Unit, Internet publication www.recycledorganics.com/reducefoodwaste.htm

ROU (2007) 3rd Edn.. *On-site Composting Technology Options and Process Control Strategies*. Recycled Organics Unit, Internet publication www.recycledorganics.com

ROU (2009) *Establishing an on-site organics management system*. Recycled Organics Unit, Internet publication www.recycledorganics.com/reducefoodwaste.htm

ROU (2009) *Quick guide: Selectong Technologies for Use On-Site to Improve Food Waste Management*. Recycled Organics Unit, Internet publication www.recycledorganics.com/reducefoodwaste.htm