May 2010

# AD v IVC

**Sounding like an Italian Football derby the two methods of organic waste treatment methods are at the forefront of the waste management industry at present. But while the processes are being championed does the consumer know the difference?**

## Anaerobic Digestion

**Anaerobic digestion (AD) involves the break down of biodegradable material in the absence of oxygen by micro-organisms called methanogens.**

AD processing systems operate in different ways. For example, material may be fed into a reactor in distinct batches, or in a continuous flow.

The process of anaerobic digestion provides a source of renewable energy, since the food waste is broken down to produce biogas (a mixture of methane and carbon dioxide), which is suitable for energy production. The biogas can be used to generate electricity and heat to power on-site equipment and the excess electricity can be exported to the National Grid. Other possible uses for the biogas currently being explored in the UK include injection to the gas grid and using it as a vehicle fuel.

A further by-product of the process is biofertiliser, which is rich in nutrients such as nitrogen, phosphorus and other elements required for healthy plant growth and fertile soil.

The digestate produced is stored until required, and can be separated into liquid and solid fractions. Solid fractions can be processed further on site by being put into a composting operation for further processing or used directly on land. The liquid may also be used on the land as a biofertiliser.

## In Vessel Composting

**IVCs can be used to treat food and garden waste mixtures. These systems ensure that composting takes place in an enclosed environment, with accurate temperature control and monitoring.**

Under the UK treatment standards for in-vessel composting 'catering waste' can be either meat included or meat excluded. 'Meat-excluded' requires a one stage barrier system to treat, plus 18 days storage. 'Meat-included' requires a two stage system.

The composting process is kick-started by naturally occurring micro-organisms already in the waste. They break down the material, releasing the nutrients and in doing so increase the temperature to the 60-70°C needed to kill pathogens and weed seeds, and meet the regulations for processing ABP material.

Once the sanitisation process is complete the compost is left to mature in an open window or an enclosed area for approximately 10-14 weeks to ensure stabilisation.

Screening usually takes place pre or post maturation, to produce a range of product grades suitable for various end uses such as soil conditioning. Often the oversize is fed back into the processing system to break down fully.

LondonWaste currently operate a 45,000 tonne in-vessel composting facility.

To enquire how please contact us on
**020 8884 5664**

LondonWaste EcoPark