

## **Food waste recycling Bunbury**

The Bunbury-Harvey Regional council have led the way in WA in recycling food waste from householders through their third bin initiative. After three months of operation results are now flowing through and it's possible to get a clear picture of the operation and its success. Food waste is such a pressing issue that the eyes of every local government authority are watching with great interest. While a small number of WA councils have set up an additional bin for garden organics the Bunbury initiative is the first in WA to tackle food.

The council decided to adopt the third bin for food and green organics after an extensive survey of households and industry conducted in 2009 on the subject of waste recycling. The results showed a real appetite for improved organics recycling particularly in the vexed area of food waste.

An additional bin with a green lid was delivered to households in the Bunbury and Capel areas. Two dedicated pick up trucks have been added to the service and each bin is emptied on a weekly basis. Both the general rubbish and the recycled bins are collected once a fortnight in rotation so there are only two bins out by the road at any time.

These trucks deliver the collected material to the Dardanup Banksia Road facility where this is received onto a limestone hard stand area dedicated to the composting operation. One of the distinct advantages of rural composting operations is the lack of residential neighbours, as food wastes can be pretty odorous when they first arrive.

Bunbury have invested in what's called a MAF system to carry out their composting. The installation of the system and education around its use was carried out by C-Wise a Nambeelup (inland from Mandurah) based compost technology company.

MAF stands for Mobile Aerated Floor - a system where air is pulsed through a pile of organic material at a controlled rate that delivers oxygen from ground level to the top of the heap. This, not only makes for more efficient composting, but it also is able to quickly knock out the offensive smell of the food waste.

Education is very much the core of the successful operation. Two council officers have been employed to lead the community to understand all the how, where and why-fore's of food recycling. Apart from guiding householders to bring out the right bins each week, the major push has been about contamination.

After the first three months of operation the results have been excellent on a number of fronts. Firstly the volume of material received was up nearly 50% on estimates. This resulted in a greater diversion of waste to landfill which is an important measure in the system. With only two MAF units on the ground the increased volumes would have easily overwhelmed these. The composting system was modified by the operators in the field, so that the waste was placed on the MAF units early in the process to get the breakdown working quickly. After 4 weeks on MAF the pasteurised material is laid out in windrows and regularly turned with a front end loader.

Contamination rates are coming down. One of the methods used to reduce contamination is compliance checking. In this instance a council officer looks in the organics bins when out beside the road awaiting collection; checking for plastic, glass and other non organic items. Should a contaminated bin be found it is marked appropriately and pulled aside then a general rubbish truck is called up to empty it. A note is left for the householder explaining what is required. Over 80% of note recipients have heeded the message as revealed in post infringement bin testing - a remarkable result.

The improvement has been chartered at the Banksia Street facility where further evaluation takes place. Over the past two months contamination rates have dropped from 10% to 8%. A New South Wales council that operates a similar third bin for three years now, has not been able to get below 20% contamination. So this too is an excellent result.

The versatility and manoeuvrability of the MAF system makes these units ideal for regional waste handling. Setting up a new waste recycling facility today, like the Mindarie Regional Council's Neerabup facility, would cost somewhere between 80 to 100 million dollars. The MAF based solution employed by Bunbury-Harvey Regional Council has a price tag of less than half a million dollars. This is far more affordable for regional councils, both for installation and ongoing maintenance.

Perhaps the most important measure of success is the quality of output. One batch of final product has been screened to separate different particle size fractions. This equipment also removed most of the soft plastic contamination. Testing against the Australian Standard for Compost Soil Conditioners and Mulches resulted in a pass. Some of this first batch was used at the facility to grow a range of vegetables. These look bright green and very healthy.

Where to from here? The day before my visit the remaining 8 MAF units arrived and these will go into service immediately which will enable all four moves of the composting process, prior to final maturation, to be undertaken on forced air. This will shorten the composting cycle and reduce the footprint of operations which will be timely as more of the regions councils start to feed waste into the plant.