

HotRot case study: Australian National University, Canberra, Australia

Overview

Australian National University (ANU) is located in Canberra, the capital city of Australia. Renowned for its strong focus on research, the university's more than 200 buildings occupy a 145 hectare campus and provide a learning base for more than 14,000 students. ANU upholds a reputation as a 'green' campus, with more than 10,000 trees around the grounds.

Canberra was the first community in the world to set a Zero Waste target when it established its 'No Waste by 2010' strategy in 1996.

The choice of an appropriate organic waste management technology for the university was strongly influenced by the built up nature of the campus environment where space is limited. The location selected for the composting facility is in close proximity to the prestigious John Curtin School of Medical Research, making odour control imperative.

Leachate control is also a high priority as a number of sensitive waterways run through the campus. These flow directly into Lake Burley Griffin, a large artificial lake in the centre of the city which has heavy recreational use.



Research identified in-vessel composting as the only feasible solution to these requirements. In addition, the system needed to have the ability to process more than 1 tonne of organic waste per day. HotRot composting systems were identified as the optimum way to accommodate these requirements.

Waste description

Organic waste comes from various sources around the ANU campus. The main component of the waste stream is food waste from the halls of residence, campus restaurants, office kitchens and zero waste events. This averages around 3 tonnes per week, with no waste collected during the December/January break. The food waste stream is generally the same throughout the year although some seasonal changes may be apparent in pre/post consumer food waste quantities collected.

The second major component is animal bedding from research departments, at a consistent 1.2 tonnes per week throughout the year. Garden waste makes a lesser contribution at 180 kg per week and a trial is underway to compost hand towels from the halls of residence at 25 kg per week.

Processing performance

The university has recently completed an 18 month organic recycling trial using the HotRot 1512 composting system. This trial period has highlighted a number of regulatory targets and OH&S design issues which are being taken into consideration in future upgrading of the facility. The client is confident that with the upgrading of the HotRot installation to include an integrated feed hopper and enhanced control system (standard on all new model HotRot units) all of these regulatory targets will be met.

Currently the product is mixed with green waste compost and used:

- For building garden beds at the ANU Acton campus.
- As a soil amendment at Acton campus and at Mt Stromlo (the latter required extensive garden rebuilding following the Canberra bush fires).
- In the Sustainable Learning Community (SLC) organic vegetable gardens.
- For student-run gardening projects on campus.

Financial performance

Because improving environmental standards can be costly it is worth investing in a well designed high quality in-vessel composting system. It is also worthwhile spending time selecting and training staff who have a passion for the composting process. Existing knowledge is beneficial but not essential. In order to maximise the efficiency and benefit of a high quality continuous feed system such as HotRot, it is essential that campus staff design time effective and efficient organic waste collection and cartage systems.

Client comment

“ANU has achieved a great deal from developing an organic waste facility using HotRot technology. Organic waste is the single biggest waste stream now diverted from landfill on campus. This is not only diverted but is used to produce a nutrient rich soil amendment with many flow-on effects for campus sustainability. With this in mind, we are excited about working further with HotRot staff to develop a permanent recycling facility which is a model for many communities and local governments in Australia.”

*Barry Hughes
ANU Green Office, Australian National University*

