

Composting Green Garden Waste in Christchurch City using EM

Mike Daly¹ and Gill Pontin²

NZNFS 146 Halswell Road, Christchurch, NZ¹

Garden City Compost Box 237 Christchurch, NZ²

Abstract : *The Christchurch City Council operate a green waste scheme in Christchurch city which allows the public discounted rates for dumping their green garden waste to the refuse stations. A large scale outdoor mechanised composting operation handling 35,000 tonnes of green material per year converts the waste into a saleable compost and garden products which are sold back to the public. A trial was conducted in August 1999 to test whether EM could address the following concerns: 1) To reduce the time involved in the composting process (currently 16 weeks). 2) To reduce the smell associated with composting. 3) To improve the quality of the end product, and 4) To develop a method of introducing EM into the compost .*

The application rate was 10 litres of EM1 extended to 200 litres then applied with between 5000 and 10,000 litres of water to 160 cu metres of Green waste. EM was applied on a weekly basis, by adding the expanded EM to the water and incorporated into the row during the turning process. The control treatment received untreated water at the same volume. The volume of water applied varied according to compost requirements, however the amount of EM applied remained constant at each application. The results indicated that by incorporating EM into the composting process an improvement in the quality of the compost was achieved. This was a greater proportion of compost in the soil conditioner and premium grades and less 40mm grades..

The growth trial, which compared the growth of test plants was replicated 4 times for each treatment. The EM compost gave a higher growth rate in 3 out of 4 reps and overall gave a small but consistent increased growth (statistically significant at 90% confidence). There was not a significant time reduction in the composting process, and a proposed smell evaluation was not able to be tested because of the background smell from the large volumes of compost already in process at the plant. This method of introducing EM into the compost was simple and usefully provided a compost inoculated with EM for commercial sale to farmers wanting this specification. In addition the EM compost was higher quality than compost not using EM.
