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**DEVELOPMENT AND TRIAL OF A METHODOLOGY FOR THE QUANTIFICATION AND
EVALUATION OF HOME COMPOSTING IN PALMERSTON NORTH, NEW ZEALAND**



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of Environmental Management (without major) at Massey University, Palmerston
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Abstract

Home composting and commercial composting can be regarded as part of the Municipal Solid Waste Management system. Currently, in Palmerston North and more broadly in New Zealand, home composting plays an important, but an unquantified role in waste diversion. In Palmerston North, the quantity of organic waste diverted from landfill via home composting is not captured in the City's official 'waste assessment' or recorded in the 'waste management and minimisation plan'. Additionally, there appears to be little local social and technical data on why, who, when, what and how well home composting is practised. The aim of this study was to develop and implement a methodology for a mixed-method quantitative-qualitative study for the quantification and evaluation of home composting practices in Palmerston North. The development process for the research methodology drew upon an international literature review of scientific research, a range of municipal best practice guidelines for home composting and referenced elements of the New Zealand composting standard. The data collection for this study involved a combined telephone and door-to-door survey of 300 households (that is, approximately 1% of occupied dwellings, randomly selected from across all 15 suburbs in the City). To support the physical data collection, a novel home composting evaluation tool was also developed and trialled for empirical and quality assurance evaluation. The overall participation rate recorded in the present study (64%) was high and both data collection methods proved to be viable, yielding positive results. 36% of the households who participated in the present study were home composters which could mean that about 10,761 households in the occupied dwellings of the City practise home composting. At the time of the survey, it appears that nearly 4005 tonnes of organic waste was being treated via home composting processes. The results also indicated positive quality assurance of the home composting process and the resulting compost in the City. Whilst most of the study participants have a positive experience towards home composting, nuisance insects, rodents and odour problems were reported as issues. In terms of motivation around current and future home composting practices, a range of support options appears to be available for Councils to encourage and enhance this positive environmental practice.

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Abbreviations and Acronyms

ACC	Auckland City Council
CCA	Chromated copper arsenate
CCC	Christchurch City Council
CO ₂ -e	CO ₂ -equivalent
C/N ratio.....	Carbon-nitrogen ratio
DCC.....	Dundee City Council
DSEWPC.....	Department of Sustainability Environment Water Population and Communities
DOS	Department of Sanitation
GHG	Greenhouse gases
HCET.....	Home composting evaluation tool
IGES.....	Institute for Global Environmental Strategies
LCA.....	Life cycle assessment
MfE.....	Ministry for the Environment
MSW.....	Municipal Solid Waste
MSWM.....	Municipal Solid Waste Management
Mt.....	Metric tonnes
NZS4454:2005	New Zealand Standard 4454:2005 - Composts, Soil Conditioners and Mulches
NZWS.....	New Zealand Waste Strategy
PCC.....	Pembrokeshire County Council

PNCC Palmerston North City Council
QA Quality Assurance
RMA..... Resource Management Act
SES..... Socio-economic status
tpa..... tonnes per annum
UNDP..... United Nations Development Programme
UNEP United Nations Environment Programme
WA Waste Assessment
WMA..... Waste Minimisation Act
WMMP Waste Management and Minimisation Plan
ZWNZT..... Zero Waste New Zealand Trust