

# **The State of Composting and Biological Waste Treatment in the UK**

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2006/07



Association for  
**Organics Recycling**

# The State of Composting and Biological Waste Treatment in the UK 2006/07

Detailed survey investigation of the UK composting and biological treatment industry in 2006/07 showing growing quantities of waste being composted and market development for the resultant compost products.

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## Acknowledgements

The project team would like to thank all survey respondents for their time and efforts.

The project team is also grateful to Liz Dixon-Smith, Market Knowledge Programme Manager at WRAP for help in estimating the financial turnover of the UK composting industry.

Finally the authors would like to dedicate this report in memory of Dr Chloe Nikitas, for many years associate consultant to M·E·L Research, who sadly passed away before the completion of this work. Chloe was the principal analyst who pioneered the development of the methodology for this survey and applied her rigorous analytical mind to the quality assurance of the data. Chloe helped take forward the scientific rigour of the annual survey and her contribution in this field will be most sadly missed.

We would like to see the contribution this work has made to the understanding of market trends in composting and biological treatment, as one of many tributes that should be paid to Chloe's varied, tragically short, yet gifted and immensely rewarding life.

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This survey was carried out by M-E-L Research on behalf of the Association for Organics Recycling and WRAP



ISBN: 0-9547797-9-7

© Association for Organics Recycling 2008  
Published by Association for Organics Recycling  
3 Burystead Place, Wellingborough, Northamptonshire NN8 1AH  
Tel: + 44 (0) 870 160 3270 Fax: + 44 (0) 870 160 3280  
E-mail: [enquiries@organics-recycling.org.uk](mailto:enquiries@organics-recycling.org.uk) [www.organics-recycling.org.uk](http://www.organics-recycling.org.uk)

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# Executive summary

## Key findings

- In total, 3.6 million tonnes of source segregated waste was composted in the UK in 2006/07, an increase of 5% on the previous year.
- Of this total, 82% was municipal waste, with the majority of this collected at civic amenity sites (48%) and kerbside collections (46%).
- Less than one per cent of the municipal waste was kitchen waste collected at the kerbside.
- Annual turnover of the composting and biological treatment industry was estimated at almost £100 million, up 10% on the figures for 2005/06.
- Employment was estimated at 1,218 full time equivalents, up 2% on 2005/06.
- Nearly half (45%) of the companies are specialist compost/biological treatment operators, an increase of 5% since 2005/06. Similarly, about half the sites in operation are dedicated composting sites.
- Overall, 86% of the total quantity of waste input was composted at 54% of sites. These were the sites with throughputs in excess of 10,000 tonnes a year.
- Most input waste (58%) was composted at dedicated composting/biological treatment sites, 11% was composted on farms and 19% at landfill sites.
- The majority of waste (79%) was composted using open air mechanically turned windrows, with only 11% composted in-vessel.
- Through anaerobic digestion (AD) 86,700 tonnes of digestate was produced from source segregated feedstock; more than half of this was used as soil conditioner.
- The total quantity of compost products produced in the UK has increased by 5% on the previous year rising from 2.07 million tonnes in 2005/06 to 2.17 million tonnes in 2006/07.
- Approximately 25% of the total quantity of compost produced in the UK from source segregated feedstock was fully certified to BSI PAS 100. This equates to almost 542,000 tonnes.
- Agriculture remains the largest market sector for compost use with 1.1 million tonnes supplied, 53% of the total. The majority was used on arable and cereal crops. Agriculture is the biggest source of recent outlet market growth for the industry, having more than doubled over the past four years.
- Landscaping and landfill restoration/daily cover accounted for over a quarter of a million tonnes each.
- Almost 140,000 tonnes of mixed organic waste were processed via mechanical biological treatment (MBT). The majority of outputs from this treatment process were either distributed with no charge, used on the site of production or other sites of the same producer, or disposed of directly to landfill.
- Based on producers' own assessment of their capacity to handle more waste during 2006/07 it is estimated that there could have been up to 1.5 million tonnes of unused capacity available (both source segregated and mixed waste). However, this figure may include some capacity that is unavailable during peak times of the year. Current annualised capacity for the industry is therefore estimated at 5.3 million tonnes, 71% of which is currently utilised.
- An estimated 600,000 tonnes of new capacity is expected to come on-line over the next five years. This is capacity for which the required permits and investment have already been secured.

## General summary of the survey

This annual market survey of the UK composting and biological treatment industry for 2006/07 was carried out on behalf of the Association for Organics Recycling (AFOR), previously The Composting Association (TCA), and the Waste & Resources Action Programme (WRAP) by M·E·L Research. It followed on from previous surveys implemented by or on behalf of the Association for Organics Recycling.

Information was gathered on composting and mechanical biological treatment (MBT) of municipal and non municipal waste in the UK, as well as anaerobic digestion (AD). The survey had another excellent response rate this year from composting companies with survey information obtained from 122 companies who, between them ran 222 composting or biological treatment sites in 2006/07. Comparison with UK municipal waste data (obtained via WasteDataFlow) showed that the survey had captured detailed information on nearly three quarters of all UK municipal waste composting.

The high survey response rate has allowed for robust estimates for the financial turnover of the UK composting industry in 2006/07 to be made, covering the production (not including blending), distribution and sales of compost. The 2006/07 industry turnover is estimated to be about £100 million, up 10% on the figure for 2005/06.

It has also been possible to make reliable estimates of employment in the UK composting industry. The employment in the composting industry in 2006/07 is estimated as 1,218 full time equivalent employees, an increase of 2% on 2005/06.

The quantity of source segregated waste composted in 2006/07 was 3.6 million tonnes. This is an increase of 5% on the 3.4 million tonnes of waste composted in 2005/06, a smaller increase than in previous years but consistent with other findings in the survey. In total 82% of this was municipal waste with just under half of the municipal waste coming from materials deposited at civic amenity sites, and just under half from household kerbside collections.

Compost products have increased by 5% on the previous year rising from 2.07 million tonnes in 2005/06 to 2.17 million tonnes in 2006/07. Nearly half of this compost was sold, the majority direct to end users. About a third of all compost products were used on the site of production and about a fifth of the compost products were distributed with no charge. This is very similar to the situation in 2005/06.

The market sector using by far the greatest quantity of composted products manufactured from source segregated waste was agriculture, with a 1.1 million tonnes of compost products being supplied in 2006/07 (53% of the total). Most of

the compost going to agriculture went to arable and cereal crops. The next largest quantities of compost went to landfill restoration/daily cover which took 325,000 tonnes of compost in 2006/07, followed by landscaping which took 260,000 tonnes. Nearly half of compost produced from source segregated was sold and about a third was used on the site of production.

The survey asked for the first time for information about the total quantity of compost that was certified to BSI PAS 100. The results showed that around 25% of the total quantity of compost produced in the UK from source segregated feedstock was fully certified to BSI PAS 100. It should be noted that this reflects the results for 2006/07 and does not therefore represent the impact of those registered more recently. The survey also asked for the first time about tonnes of digestate products produced from anaerobic digestion (before blending). It was found that 86,680 tonnes of digestate was produced from source segregated feedstock, the majority (58%) of which was used as soil conditioner.

Composting companies using source segregated feedstock saw agriculture, horticulture and landscaping as the market sectors offering the greatest potential for growth for their composting businesses in the year ahead.

There was also a small amount of mixed organic waste, an estimated 138,300 tonnes, processed via mechanical biological treatment (MBT). The majority of the outputs from this treatment process were either distributed with no charge, used on the site of production or other sites of the producer, or disposed of directly to landfill.

Existing capacity (both source segregated and mixed waste) in the industry is estimated at 5.3 million tonnes, of which 71% is currently in annualised utilisation. This figure is based on 3.75 million tonnes utilised in 2006/07 and an additional 1.5 million tonnes identified by producers as unused throughout the year. Many compost companies have definite plans to expand their composting capacities at existing and/or new sites ie, they have the required permits and investment in place. The vast majority of this expansion is for source segregated waste rather than mixed waste composting. An estimated 600,000 tonnes new capacity for source segregated waste inputs is due to come on line over the next five years while only around 30,000 tonnes of new capacity for mixed waste inputs was identified. This additional capacity would take the total UK capacity to over 5.9 million tonnes.

## 1.0 Introduction

The 2006/07 market survey of the UK composting and biological treatment industry was undertaken in the later part of 2007 and early 2008 by M·E·L Research on behalf of the Association for Organics Recycling (AFOR), previously The Composting Association (TCA), and the Waste & Resources Action Programme (WRAP). It followed on from surveys carried out in preceding years by or on behalf of AFOR. Many of the topics covered by this 2006/07 survey were similar to those covered in previous years by AFOR surveys of the compost producing sector. Such areas included quantities and types of waste materials which are being composted, the amounts of compost that are produced, and the markets that the composted products are going into. Direct comparison of this 2006/07 survey with previous years could thus be carried out and trends over recent years investigated. Other topics covered in the 2006/07 survey, for example questions on the location of new sites and certification to the PAS 100 scheme, were new to the 2006/07 survey.

## 2.0 Survey methodology

### 2.1 Design of survey forms

The survey questionnaire was developed by WRAP, AFOR and M·E·L Research. It was based on that used in the 2005/06 survey which focussed primarily on compost producers. The period covered was the financial year 2006/07 or the time period best approximating to this, for which data were available. Two questionnaire formats were produced with the same content. One was suitable for printing and completing by hand, and the other format was a version suitable for completing electronically. Those compost producers who operated more than one composting/biological treatment site were asked to complete separate survey forms for each site. Copies of the survey questionnaire and covering letters are shown in Appendix 1.

### 2.2 Organisations surveyed

UK members of the Association for Organics Recycling were surveyed. Nearly all of the larger composting companies in the UK, and a great many of the smaller ones are known to be members of AFOR. There were just over 300 companies on AFOR's database. Details of some additional compost companies in England were also provided through an Environment Agency database of licensed and exempt composting sites in England and Wales. Details of additional compost companies in Scotland were also provided through a Scottish Environmental Protection Agency database; and for Northern Ireland through an Environment & Heritage Service database. The aim was to gather information on composting operations from as many compost companies in the UK as possible.

This survey did not target the community sector specifically. However, there has been a separate Defra funded project (WR0211) undertaken in 2006 called "Unlocking the potential of community composting". The project was carried out by the Integrated Waste Systems group at the Open University in association with the Community Composting Network (CCN), London Community Recycling Network (LCRN) and the New Economics Foundation. It is expected that community composting in 2007 would have been broadly the same as in 2006 and therefore the 2006 survey results have been used as a proxy for 2007. To avoid duplication of effort, the community sector was therefore not specifically targeted in the current survey. Further information about the Defra funded project can be found in Appendix 2.

### 2.3 Administration of survey

Survey forms were sent out by email, where email addresses were available, or by post in November 2007 to those companies which had responded to last year's composting survey. These companies were also telephoned in January 2008/March 2008 and given the further opportunity to complete the survey by telephone. This option had a good uptake.

AFOR had indicated which of their members were likely to have processed the largest amounts of organic waste in 2006/07. These 20 companies, "the larger throughput sites", were surveyed separately from the other companies on AFOR's list. Most were initially emailed or posted survey forms. These companies were then telephoned and the best contact or contacts for answering the survey were identified. It was then established by telephoning these contacts whether it would be easier for them to fill in forms by hand and post them back, complete the questionnaire electronically or, alternatively, to go through the survey information by phone. The survey was then completed by the company's preferred method.

### 2.4 Checking of returned survey forms

Survey forms returned by post and by email were checked through to ensure that respondents had answered all the questions and that answers were consistent with each other. For example, it was checked that the quantity of compost product was lower than the quantity of waste input and that both totalled correctly. Where there were omissions or inconsistencies, respondents were telephoned or emailed for clarification.

Where respondents did not provide data on the quantities of compost produced, they were asked to provide a factor to convert the tonnes input to their composting processes to tonnes output. This factor was then used to calculate the output quantities. Where respondents could not do this, it was assumed that output was 67% of input. In the small number of cases where output quantities were provided in cubic metres instead of tonnes, density conversion factors provided by the Environment Agency were used to convert volume to tonnes.

### 2.5 Telephone surveying of non respondents

In order to gather survey information from as many UK sites as possible, in February 2008, the process of ringing all non respondents was started. If it proved possible to get through to someone able to deal with the survey, non respondent companies were given the option of completing the survey either there and then by telephone, or an appointment was made in some cases for M·E·L Research to ring back at a more convenient time. Where the telephone numbers provided were incorrect, directory enquiries were used. In some cases where it was not possible on several occasions to get through by telephone, email messages were sent to email contacts on the databases. In the case of organisations that were difficult to contact, repeated attempts were made to contact them before registering them as a survey non respondent.

## 3.0 Survey response rate and allowing for non respondents

### 3.1 Response rate

The overall survey response rate was 46% of the 343 companies surveyed.

Responses to the survey were received from 159 of the 343 companies targeted (Table 1). Of these, 122 respondents composted in 2006/07 and 37 did not. Eleven out of the 20 "larger throughput" companies provided information on all of their sites, and a further two provided information on some, but not all of their sites. Overall, information was gathered on 222 sites at which composting took place in 2006/07 (as some companies operated multiple sites). This gives an overall response rate of 46%. Although this is 13% lower than the response rate for the 2005/06 survey, this lower response rate could be due to the higher number of organisations that were sent the survey in 2006/07 compared to 2005/06. In terms of absolute numbers of respondents, the two years were very similar: 122 companies covering 222 sites in 2006/07 compared to 128 companies and 236 sites in 2005/06.

**Table 1** Summary of survey response, 2006/07 and 2005/06

	Number of organisations 2006/07	Number of organisations 2005/06
Overall number of organisations surveyed	343	328
Respondents which composted	122	128
Respondents not composting	37	65
Non respondents	184	135
Response rate	46%	59%

### 3.2 Estimating for composting by non survey respondents

The non response rate for the survey was 184 organisations which was 54% of those companies surveyed. Nearly a quarter of the survey respondents did not compost in 2006/07 and it is therefore likely that a considerable number of the non respondent companies also did not carry out any composting activities in 2006/07. This was particularly likely where company contact information was out of date and current details could not be found. The picture is further complicated by the existence of some composting companies that were not members of AFOR nor included on the Environment Agency database.

A good validation check on the proportion of composted waste that was captured by the survey can be made by comparing the survey results with official municipal waste data for the quantities of municipal waste collected and sent for composting. This official municipal waste data available via WasteDataFlow is known to be high quality, reliable data. Table 2 shows the percentage of municipal waste composting that was captured by this survey. The percentages were worked out by comparing the survey data from this survey with the official data on the quantities of municipal waste sent for composting in each of the four nations of the UK.

For the UK as a whole, Table 2 shows that 73% of municipal waste composting in 2006/07 was captured by this survey, in other words that 73% of municipal waste composting was

carried out by 2006/07 survey respondents. This is a very good overall proportion to have been achieved by the survey and is 6% higher than for the 2005/06 survey. Looking at the situation in the individual UK nations, it can be seen from Table 2 that the capture rate of municipal waste composting by the survey while excellent for England and Scotland, was good for Northern Ireland at 64% and moderate for Wales at 40%.

In order to allow for composting and mechanical biological treatment (MBT) not captured by this survey, the survey data on inputs of municipal wastes to composting sites for composting were scaled up so that this input data matched the accredited data on municipal wastes input to composting, extracted from WasteDataFlow. The non municipal waste quantities composted by survey respondents were scaled up by the same factor. This assumed that the proportion of municipal and non municipal waste composted by survey respondents was representative of the UK composting industry as a whole. This is an established statistical method for projecting sample data onto a known national total, and is more reliable and robust than the alternative of grossing up the respondent sample by assuming non-respondents match respondents. The effect is to apportion the nationally known quantities (tonnes) to the known characteristics of the respondent sample. We have assumed the same factor applies in estimating national MBT totals and while there is no method for verifying this assumption, this is the best method available for making national estimates of MBT quantities.

**Table 2** Percentage of municipal waste recorded by survey respondents, 2006/07 and 2005/06

Nation	Capture rate of municipal waste collected for composting in the UK	
	2006/07	2005/06
England*	74%	73%
Wales*	40%	61%
Scotland**	77%	41%
Northern Ireland*	64%	14%
<b>UK total</b>	<b>73%</b>	<b>67%</b>

\* Data for England, Wales and Northern Ireland were from WasteDataFlow 2005/06-2006/07 returns.

\*\* Data for Scotland were from SEPA Local Authority Waste Arisings Survey for 2005/06 and WasteDataFlow for 2006/07.



## 4.0 Survey results

### 4.1 Nature of the UK composting industry

#### 4.1.1 Types of organisation carrying out composting

Table 3 shows the main business activities of composting companies responding to the survey. In 2006/07 approximately 45% of composting companies stated that their main business activity was compost producer/biological treatment. This is a small increase of 5% over the previous year. Just over 20% of composting operators considered their main business activity to be agricultural activities and 15% were solid waste treatment/disposal companies.

It should be noted that the survey did not specifically gather information from the community/not for profit sector. This is because a separate Defra funded project has investigated composting in the community sector in the UK (see Appendix 2). As a result of this the proportion of community/not-for-profit businesses represented by this survey in Table 3 is unlikely to be representative.

For comparison, Table 3 also shows the percentages for 2005/06. The distribution of composting companies over different main business activities are similar to those in 2006/07 indicating that there has been no major change in the balance of types of composting companies over this time period, but a small shift in industry structure towards specialised compost producers.

#### 4.1.2 Financial size of the UK composting industry

Composting companies were asked about the financial turnover of the composting and biological treatment aspects of their business including the production, distribution and sales of their compost. Table 4 shows the distribution by turnover bands of the 105 survey respondents who answered this question. Just over a third of responding companies (37%) had turnovers relating to composting of less than £100,000 with 29% of companies in the £100,000 to £500,000 band. There was a sizeable number (20) of survey respondents with turnovers over £1 million per annum. A number of survey respondents (17) chose not to answer the question on turnover, with more smaller composting organisations not wishing to provide this information.

The turnover information provided by respondents was used to calculate the financial size of the UK composting industry. For those composting companies with compost related turnovers of less than £1 million in 2006/07, the midpoints of the turnover bands were used in the calculations. Additional information was provided by WRAP to help estimate the turnover of the companies with turnovers greater than £1 million. The method used was based on their waste input and product output quantities and composting methods. The total turnover for respondents answering the turnover survey question was thus estimated to be £63 million. An additional £9.7 million was estimated for survey respondents who did not provide turnover information. This estimate was obtained by calculating turnover per tonne of source segregated waste input for those answering the turnover question and applying this to respondents not answering the turnover question. In order to allow for survey non respondents, the financial turnover of these operators was scaled up in proportion to their municipal waste inputs as described in Section 3.2. This method gave a turnover for survey non respondents of £27 million.

**The total estimated turnover for the UK composting industry in 2006/07 is thus calculated to be of the order of £100 million, an increase of 10% on the 2005/06 figure.**

#### 4.1.3 Employment in the UK composting industry

Composting companies were asked to provide information on how many full time equivalent (FTE) staff they employed in the composting and biological treatment aspects of their business. This could cover more than one site where a single company operated multiple composting sites. Bands were provided (see Table 5) on the survey form. The most common of which was the 1 to 5 FTE band with over half of companies falling into this category. No companies responding to the survey employed more than 50 FTE staff on composting related activities.

The overall employment in the UK composting industry was estimated from the survey results. The one survey respondent choosing not to answer the question on employment was allowed for by assuming that the staff numbers per quantity of input source segregated waste were the same as the average for those answering the question on employment. Survey non

**Table 3** Types of respondent organisations operating composting sites in the UK in 2006/07 and 2005/06

Main business activity	Number of companies in 2006/07	% of total companies in 2006/07	Number of companies in 2005/06	% of total companies in 2005/06**
Compost producer/biological treatment	55	45%	50	40%
Agricultural activities	27	22%	27	21%
Solid waste treatment/disposal company	18	15%	25	20%
Local authority	12	10%	5	4%
Horticultural/landscaping activities	4	3%	3	2%
Wood recycling	0	0%	2	2%
Water treatment company	1	1%	2	2%
Community group/not-for-profit business*	4	3%	1	<1%
Equipment/plant supplier/hire company	1	1%	1	<1%
Other	0	0%	6	5%
Unspecified	0	0%	4	3%
<b>Total</b>	<b>122</b>	<b>100%</b>	<b>126</b>	<b>100%</b>

\* While this Table reports only four responses from the community sector, we have included later in this report, the figures generated through a separate Defra funded survey of this sector (see Appendix 2 for more detail).

\*\* % values take into account "unspecified" responses and therefore may differ slightly to those previously reported for 2005/06. Actual numbers have not been altered.

**Table 4** Turnover for the UK composting industry, 2006/07 and 2005/06

Turnover band	Number of companies (survey respondents only)		% of total responding companies in each band		Total estimated turnover per band	
	2006/07	2005/06	2006/07	2005/06	2006/07	2005/06
Less than £10,000	11	8	11%	8%	£55,000	£40,000
£10,000-£50,000	17	12	16%	11%	£510,000	£360,000
£50,000-£100,000	10	16	10%	15%	£750,000	£1.2 million
£100,000-£500,000	30	37	29%	35%	£9.0 million	£11.1 million
£500,000-£1 million	17	13	16%	12%	£12.8 million	£9.8 million
More than £1 million	20	19	19%	18%	£40 million	£36 million
<b>Total for respondents providing turnover information</b>	<b>105</b>	<b>105</b>	<b>100%</b>	<b>100%</b>	<b>£63 million</b>	<b>£58 million</b>
Estimate for survey respondents not providing turnover information					£9.7 million	£4.6 million
Estimate for survey non respondents					£27 million	£28 million
<b>Total estimated turnover for UK composting industry</b>					<b>£99.7 million</b>	<b>£91 million</b>

**Table 5** Employment in the UK composting industry, 2006/07 and 2005/06

Band	Number of operators (survey respondents only)		FTE employment	
	2006/07	2005/06	2006/07	2005/06
Less than 1	13	11	7	6
1 to 5	72	73	216	219
6 to 10	13	18	104	144
11 to 20	13	15	202	233
21 to 50	10	6	355	213
More than 50	0	0	0	0
Total for respondents providing employment information	121	123	884	814
Estimate for respondents not answering this question			7	15
Estimate to allow for survey non respondents			327	365
<b>Total FTE employment in UK composting industry</b>			<b>1,218</b>	<b>1,194</b>

respondents were allowed for by assuming the same scaling factor based on their municipal waste inputs as described in Section 3.2.

The overall employment in the UK composting industry in 2006/07 is estimated at approximately 1,200 FTE staff, an increase of 2% on the 2005/06 figure.

In addition to these employment estimates there were also found to be considerable volunteer and trainee opportunities in the community composting sector. This is covered by the Defra funded project looking at community composting activity in the UK in 2006 (see Appendix 2 for further information about this project).

#### 4.1.4 Number of composting sites operated by survey respondents

Survey respondents were asked how many composting/biological treatment sites their company operated in the UK in 2006/07. Approximately 81% of companies surveyed were operating single sites, while 16% of companies operated between two and 10 sites. Three of the companies surveyed operated more than 10 sites.

**Table 6** Number of composting sites operated by survey respondents in the UK, 2006/07

Number of sites operated	Number of companies 2006/07	% of total companies 2006/07
1	99	81%
2	7	6%
3	4	3%
4	3	2%
5	2	2%
6	1	1%
7	2	2%
8	0	0%
9	0	0%
10	0	0%
>10	3	2%
Unspecified	1	1%
<b>Total</b>	<b>122</b>	<b>9100%</b>

#### 4.1.5 Composting survey respondents with plans for new sites after the 31 March 2007

Survey respondents were asked if they had opened, or if they had definite plans (ie the necessary investment and required permits are already in place) to open, any new composting/biological treatment sites after the 31 March 2007 (see Table 7). Approximately 18% of survey respondents said that they did have definite plans to open new composting/biological treatment sites after the 31 March 2007. Location details were provided for 19 of these intended new sites. These are shown in Figure 1.

**Table 7** Survey respondents opening new composting/biological treatment sites after 31 March 2007

Number of sites operated	Number of companies	% of companies
Yes	22	18%
No	98	80%
Unspecified	2	2%
<b>Total</b>	<b>122</b>	<b>100%</b>

#### 4.1.6 Types of composting sites operated by survey respondents

Survey respondents were asked to categorise the nature of their sites using a pre-defined list on the survey form (see Table 8). Just under half (49%) of the composting sites operated by survey respondents were described as dedicated composting/biological treatment sites. Exactly a quarter of the sites (25%) were described as farm sites and 13% were described as landfill sites. The remaining 15% of sites came under a variety of site type classifications. It should be noted that some of the dedicated composting sites were actually located on other types of sites such as farms or landfill sites but were classified by their operators as dedicated composting sites because they operated independently of the farm or landfill business.

#### 4.1.7 Location of composting sites

The location of composting sites operated by survey respondents are summarised in Table 9. Approximately 80% of the sites covered by the 2006/07 survey were in England. This

**Figure 1:** Location of new composting/biological treatment sites opening after 31 March 2007



is 38 sites fewer than were covered by the survey in 2005/06. The number of sites covered in Scotland rose from 11 in 2005/06 to 31 in 2006/07, while site coverage in Wales and Northern Ireland remained similar for the two surveys.

#### 4.1.8 Source of composted waste

The vast majority of sites, 84%, solely composted waste which was brought in from outside the site (imported from off site). This was 8% less than in 2005/06, however, there was a corresponding 8% increase in the number of sites using both feedstock brought in from outside the site and feedstock produced on the site between 2005/06 and 2006/07.

#### 4.1.9 Animal By-Products Regulations

Approximately 12% of composting sites (27 sites) in the survey had full approval under the Animal By-Products Regulations (the same as in 2005/06), with a further 9% (20 sites) being under discussion as regards to the Regulations (Table 11). This is a 3% increase between 2005/06 and 2006/07 in the number of sites being under discussion as regards to the Regulations. There has

**Table 8** Types of composting sites operated by survey respondents in the UK, 2006/07 and 2005/06

Site type	Number of sites 2006/07	% of total sites 2006/07	Number of sites 2005/06	% of total sites 2005/06**
Dedicated composting/biological treatment site	107	49%	115	49%
Farm	56	25%	78	33%
Landfill site	29	13%	15	6%
Materials recycling facility	7	3%	4	2%
Horticultural/landscaping activities	7	3%	4	2%
Civic amenity site	3	<2%	3	1%
Wood recycling*	0	0%	2	1%
Transfer*	0	0%	2	1%
Sewage works*	0	0%	2	1%
Community based project	2	1%	1	<1%
Other*	9	4%	10	4%
<b>Total</b>	<b>222</b>	<b>100%</b>	<b>236</b>	<b>100%</b>

\* Wood recycling, Transfer and Sewage works site types did not appear in the 2006/07 survey forms but there was an increase in sites classified as 'other' in 2006/07 suggesting that these sites were placed into this category.

\*\* % values take into account "unspecified" responses and therefore may differ slightly to those previously reported for 2005/06. Actual numbers have not been altered.

**Table 9** Location of composting sites operated by survey respondents in UK, 2006/07 and 2005/06

Country/region	Number of sites 2006/07	% of total sites 2006/07	Number of sites 2005/06	% of total sites 2005/06
East Midlands	20	9%	18	8%
East of England	24	11%	26	11%
London	4	2%	5	2%
North East	9	4%	14	6%
North West	17	8%	22	9%
South East	30	14%	33	14%
South West*	40	18%	61	26%
West Midlands	18	8%	19	8%
Yorkshire & the Humber	13	6%	15	6%
<b>Total England</b>	<b>175</b>	<b>80%</b>	<b>213</b>	<b>90%</b>
<b>Wales</b>	<b>10</b>	<b>4%</b>	<b>9</b>	<b>4%</b>
North Scotland	14	6%	4	2%
South Scotland	17	8%	7	3%
<b>Total Scotland</b>	<b>31</b>	<b>14%</b>	<b>11</b>	<b>5%</b>
<b>Northern Ireland</b>	<b>4</b>	<b>2%</b>	<b>3</b>	<b>1%</b>
Unspecified	2	<1%	0	0%
<b>UK TOTAL</b>	<b>220</b>	<b>100%</b>	<b>236</b>	<b>100%</b>

\* In the South West one company sent in a single site record in 2006/07 which covered 25 sites. This has been included in the results as 25 sites.

also been a corresponding 5% decrease between 2005/06 and 2006/07 in the number of sites not considering the animal by-products regulation, although at 75% this still remains the substantial majority.

#### 4.1.10 PAS 100 Certification and the Quality Protocol

Approximately 15% of sites covered in the 2006/07 survey were fully certified under the PAS 100 scheme with a further 33% working towards certification (Table 12). This question had been asked in earlier surveys, but was not included in the 2005/06 survey. This survey has captured approximately 61% of all the sites recorded by AFOR PAS 100 as being fully PAS 100 certified in 2008 and a further approximately 50% of all the sites recorded by AFOR PAS 100 as working towards certification in 2008.

Some sites may also be working, or seeking to work to the Quality Protocol. In this survey we have not asked which

**Table 10** Source of composting feedstock at sites operated by survey respondents in the UK, 2006/07 and 2005/06

Composting feedstock	Number of sites 2006/07	% of sites 2006/07	Number of sites 2005/06	% of sites 2005/06*
Produced on site	6	3%	5	2%
Imported from off site	186	84%	216	92%
Both	24	11%	8	3%
Unspecified	6	3%	7	3%
<b>Total</b>	<b>222</b>	<b>100%</b>	<b>236</b>	<b>100%</b>

\* % values take into account "unspecified" responses and therefore may differ slightly to those previously reported for 2005/06. Actual numbers have not been altered.

**Table 11** Sites coming under the Animal By-Products Regulations, 2006/07 and 2005/06

Animal By-Products Regulations	Number of sites 2006/07	% of total sites 2006/07	Number of sites 2005/06	% of total sites 2005/06*
Site has full approval	27	12%	28	12%
Under discussion	20	9%	15	6%
In verification	6	3%	0	0%
Not under consideration	166	75%	188	80%
Unspecified	1	2%	5	2%
<b>Total</b>	<b>222</b>	<b>100%</b>	<b>236</b>	<b>100%</b>

\* % values take into account "unspecified" responses and therefore may differ slightly to those previously reported for 2005/06. Actual numbers have not been altered.

PAS 100 sites are also working to the Quality Protocol but we hope that this sub-group will be identified in the coming year's survey.

## 4.2 Composting of source segregated wastes

### 4.2.1 Quantities and types of source segregated waste composted in 2006/07

The survey asked about the quantities and types of source segregated waste which were composted. Scaling up of the survey results to allow for non respondents was carried out as described in Section 3.2.

The total quantity of source segregated waste composted in the UK in 2006/07 was estimated to have been 3.6 million tonnes. Of this 82% (3.0 million tonnes) was municipal waste and 12% (428,000 tonnes) was non municipal waste. A further 6% was classified as unspecified waste. This equates to an increase of 5% on the 3.4 million tonnes of total waste composted in 2005/06.

Figure 2 shows the trend in the quantity of organic waste composting in the UK from 1994 up to and including the current 2006/07 data. Where data were available, municipal and non municipal wastes input to composting are shown separately. The trend over the previous three years' data has been a sizable year-on-year increase in the overall quantity composted, with municipal waste composting increasing more than non municipal waste composting. The increase in the overall quantity of waste composted has continued between 2005/06 and 2006/07 though to a lesser extent. Whilst municipal waste composting

**Table 12** Sites certified or working towards certification under the PAS 100 scheme, 2006/07

PAS 100 Certification	Number of sites 2006/07	% of total sites 2006/07
Site/processes fully PAS 100 certified	33	15%
Site/processes working towards PAS 100 certification	73	33%
Site/processes not certified or working towards certification	112	50%
Unspecified	4	2%
<b>Total</b>	<b>222</b>	<b>100%</b>

Figure 2 Growth in UK composting based on quantity of input source segregated waste material

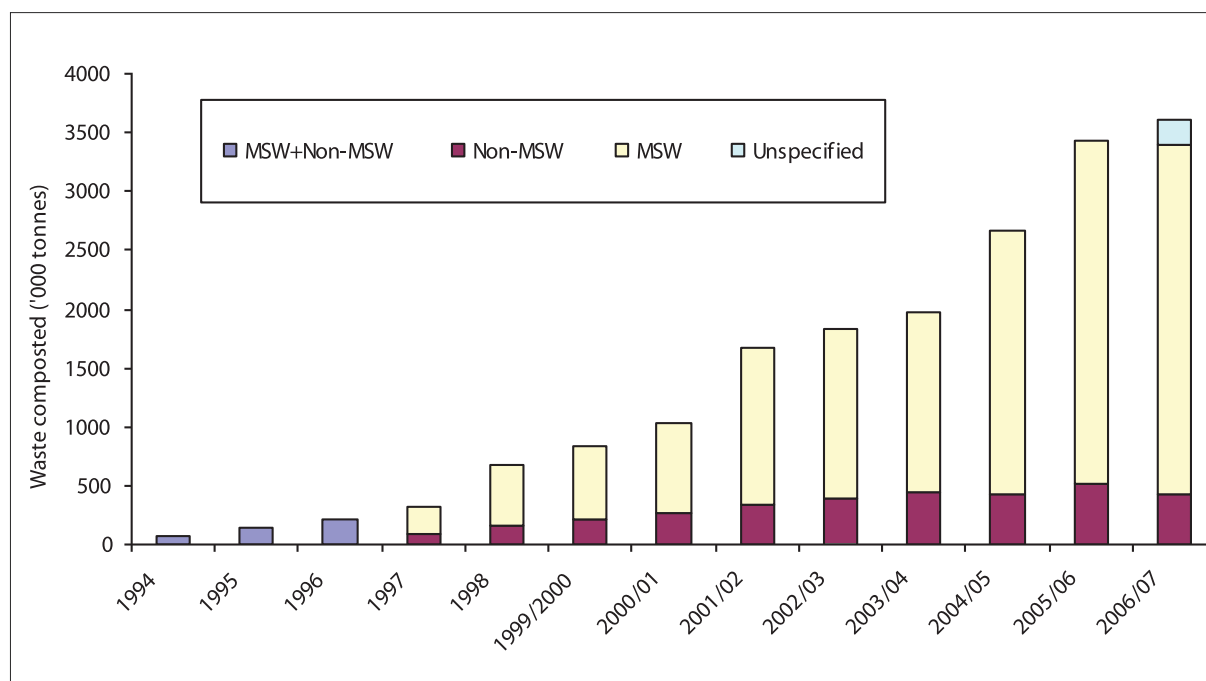


Table 13 Quantity and type of wastes composted in the UK, 2006/07 and 2005/06

	2006/07			2005/06		
	Estimated total collected ('000 tonnes)	% of total collected	% of total collected by waste category	Estimated total collected ('000 tonnes)	% of total collected	% of total collected by waste category
<b>Municipal waste</b>						
Garden waste from civic amenity/bring sites	1,415	39%	48%	1,477	43%	51%
Garden waste only from kerbside collection	1,052	29%	35%	986	29%	34%
Garden and kitchen waste from kerbside collection	298	8%	10%	310	9%	11%
Kitchen waste only from kerbside collection	14	<1%	<1%	12	<1%	<1%
Garden and card waste from kerbside collection	-	-	-	45	1%	2%
Council parks/gardens waste and green waste from educational institutes	58	2%	2%	38	1%	1%
Council-collected food processing by-products and food waste from retailers	38	1%	1%	1	<1%	<1%
Other municipal waste	90	2%	3%	38	1%	1%
<b>Total municipal waste</b>	<b>2,965</b>	<b>82%</b>	<b>100%</b>	<b>2,907</b>	<b>85%</b>	<b>100%</b>
<b>Non municipal waste</b>						
Landscape/grounds maintenance	148	4%	35%	153	4%	30%
Forestry/timber/bark/by-products	21	1%	5%	88	3%	17%
Food processing by-products and food waste from retailers	185	5%	43%	155	5%	30%
Other non municipal waste	75	2%	17%	116	3%	23%
<b>Total non municipal waste</b>	<b>428</b>	<b>12%</b>	<b>100%</b>	<b>517</b>	<b>15%</b>	<b>100%</b>
<b>UNSPECIFIED WASTE INPUT</b>	<b>218</b>	<b>6%</b>	<b>-</b>	<b>5</b>	<b>&lt;1%</b>	<b>-</b>
<b>TOTAL INPUT WASTE</b>	<b>3,612</b>	<b>100%</b>	<b>-</b>	<b>3,424</b>	<b>100%</b>	<b>-</b>

has gone up by 2% since 2005/06, non municipal waste composting has actually decreased by 17%. However, there has been a 5% increase in unspecified waste input since 2005/06 which may account for some of these differences. Overall there has been an increase of 5% in the amount of waste composted in the UK between 2005/06 and 2006/07.

Table 13 shows the type and quantity of waste composted in 2006/07 with data from 2005/06 also shown for comparison. Just under half (48%) of the municipal waste composted in 2006/07 was taken from Civic Amenity (CA) sites with approximately 46% coming from kerbside collections. Compared with 2005/06, there has been a 2% increase in the quantity of municipal waste composted in the UK which corresponds to an additional 58,000 tonnes. The relative proportions of different municipal waste types being composted have stayed very similar with almost identical percentages of CA site and kerbside garden waste only collections in 2005/06 and 2006/07. While the proportion of non municipal waste in 2006/07 has decreased by 3% since 2005/06 there has been a

6% increase in unspecified waste inputs so that overall total waste composted has increased.

The data reported in Figure 2 and Table 13 take some account of the waste composted by the community sector through the few community organisations responding to this survey. However we estimate there may be an additional 15,000 tonnes, composted by community sector organisations that are not captured here. This estimate is based on the results of the separate Defra funded project (WR0211) "Unlocking the potential of community composting". The study estimated that 21,500 tonnes composted by community sector in the calendar year 2006. Whilst a study of the community composting sector in 2007 was not undertaken, it is expected that community composting activity in 2007 is approximately the same as in 2006.

Table 14 shows the quantity of source segregated waste processed by main business activities of composting companies responding to the surveys in 2006/07 and 2005/06. In 2006/07,

**Table 14** Quantity of source segregated waste processed by main business activity, 2006/07 and 2005/06

Main business activity	Quantity composted 2006/07 ('000 tonnes)	% of total composted 2006/07	Quantity composted 2005/06 ('000 tonnes)	% of total composted 2005/06
Compost producer/biological treatment	1,803	50%	1,447	42%
Agricultural activities	351	10%	289	8%
Solid waste treatment/disposal company	1,220	34%	1,332	39%
Local authority	159	4%	51	2%
Horticultural/landscaping activities	51	1%	78	2%
Wood recycling	0	0%	45	1%
Water treatment company	22	1%	46	1%
Community group/not-for-profit business	<1	<1%	1	<1%
Equipment/plant supplier/hire company	7	<1%	27	1%
Other	0	0%	72	2%
Unspecified	0	0%	36	1%
<b>Total</b>	<b>3,612</b>	<b>100%</b>	<b>3,424</b>	<b>100%</b>

**Table 15** Quantity of source segregated waste processed by turnover, 2006/07 and 2005/06

Turnover band	Quantity composted 2006/07 ('000 tonnes)	% of total composted 2006/07	Quantity composted 2005/06 ('000 tonnes)*	% of total composted 2005/06*
Less than £10,000	14	<1%	26	<1%
£10,000-£50,000	224	6%	191	6%
£50,000-£100,000	135	4%	160	5%
£100,000-£500,000	480	13%	810	24%
£500,000-£1 million	579	16%	466	14%
More than £1 million	1,925	53%	1,386	41%
Unspecified	256	7%	385	11%
<b>Total</b>	<b>3,612</b>	<b>100%</b>	<b>3,424</b>	<b>100%</b>

\*The data for 2005/06 have been modified from Table 12 in the published 05/06 Survey report, by applying the grossing up factor that was used in the 05/06 survey. This modification makes it possible to present a valid like-for-like comparison with the results above for 2006/07.

**Table 16** Quantity of source segregated waste processed by type of site, 2006/07 and 2005/06

Site type	Quantity composted 2006/07 ('000 tonnes)	% of total composted 2006/07	Quantity composted 2005/06 ('000 tonnes)	% of total composted 2005/06
Dedicated composting/biological treatment site	2,105	58%	2,240	65%
Farm	409	11%	342	10%
Landfill site	671	19%	360	11%
Materials recycling facility	99	3%	123	4%
Horticultural/landscaping activities	0	0%	98	3%
Civic amenity site	19	<1%	37	1%
Wood recycling	0	0%	63	2%
Transfer station	0	0%	3	<1%
Sewage works	0	0%	19	1%
Community based project	<1	<1%	<1	<1%
Other - please specify	213	6%	81	2%
Unspecified	95	3%	58	2%
<b>Total</b>	<b>3,612</b>	<b>100%</b>	<b>3,424</b>	<b>100%</b>

half of the source segregated waste was processed by companies classifying themselves as compost producer/biological treatment industry (up by 8% on the 2005/06 figure) and nearly a third (34%) was processed by solid waste treatment/disposal companies (down 5% on 2005/06). This shows a small shift from waste management companies to specialist compost producers in the share of the industry volume.

Of the 3,612,000 tonnes of source segregated waste processed in 2006/07 over a half (53%) was processed by the top 19% largest companies with compost related turnovers of over £1 million. This is an increase in business share of 12% compared to 2005/06 and indicates a shift towards larger producers (Table 15). For the smaller companies at the lowest end of the turnover range (ie with compost related turnovers of less than £100,000), the quantity of source segregated waste processed was approximately 10%. This is about the same as in 2005/06 and shows the growth of larger turnover has been at the expense of middle band turnover companies.

The majority (58%) of source segregated waste processed in 2006/07 was from companies that categorised the nature of their sites as dedicated composting/biological treatment sites. A further 19% was from sites described as landfill sites (an increase from 11% in 2005/06) and a further 11% was from sites described as farms (Table 16).

#### 4.2.2 Quantities of waste composted by individual sites

Of the sites surveyed in 2006/07 there were a considerable number of mid range size sites, with 51% of all sites in the survey composting between 10,000 and 50,000 tonnes of waste in 2006/07 (Table 17a). There was also a large number of smaller composting sites with 23% of sites composting fewer than 5,000 tonnes per annum. There were very few sites (only 3%) which composted more than 50,000 tonnes in 2006/07.

The majority of waste composted (73%) in the UK in 2006/07 was found to be from the mid range sized composting sites that were composting between 10,000 and 50,000 tonnes. The 23% smaller sites (composting less than 5,000 tonnes of source segregated waste) were found to be treating only 4% of the

**Table 17a** Number of sites processing source segregated waste in the UK by waste input band, 2006/07 and 2005/06

Source segregated waste input to site (tonnes)	Number of sites 2006/07	% of total sites 2006/07	Number of sites 2005/06	% of total sites 2005/06*
Less than 5,000	51	23%	93	39%
5,000-10,000	36	16%	39	17%
10,000-50,000	114	51%	92	39%
50,000-100,000	6	3%	4	2%
Unspecified	15	7%	8	3%
<b>Total</b>	<b>222</b>	<b>100%</b>	<b>236</b>	<b>100%</b>

\* % values take into account "unspecified" responses and therefore may differ slightly to those previously reported for 2005/06. Actual numbers have not been altered.

**Table 17b** Quantity of source segregated waste processed in the UK by waste input band, 2006/07 and 2005/06

Source segregated waste input to site (tonnes)	Quantity composted 2006/07 ('000 tonnes)	% of total composted 2006/07	Quantity composted 2005/06 ('000 tonnes)	% of total composted 2005/06*
Less than 5,000	141	4%	187	5%
5,000-10,000	377	10%	381	11%
10,000-50,000	2,627	73%	2,550	74%
50,000-100,000	467	13%	305	9%
Unspecified	0	0%	0	0%
<b>Total</b>	<b>3,612</b>	<b>100%</b>	<b>3,424</b>	<b>100%</b>

\* % values take into account "unspecified" responses and therefore may differ slightly to those previously reported for 2005/06. Actual numbers have not been altered.

total amount of waste composted in the UK in 2006/07 (Table 17b). Some of these may have been Exempt Sites but we have not collected the data to test this. An examination of the role of Exempt Sites will be undertaken in more detail in the coming year's survey. At the other end of the spectrum, while only 3% of sites took more than 50,000 tonnes per site, these took 13% of the total waste input, and altogether 54% of sites above 10,000 tonnes account for 86% of the total waste input. These results broadly accord with the Pareto principle in market analysis, where the largest proportion of business volume is accounted for by the small numbers of larger producers.

#### 4.2.3 Composting methods used

The composting methods used at individual composting sites in 2006/07 are summarised in Table 18. More than one composting method was used at some sites. The results are very similar for both 2006/07 and 2005/06. The vast majority of sites 81% in 2006/07 and 90% in 2005/06 used open air mechanically turned windrow composting. Approximately 10% of sites composted in-vessel in both years. There was a slight increase of 2% between 2005/06 and 2006/07 in the occurrence of table composting.

Estimates of the quantities of source segregated waste composted using each method were calculated. These estimates are shown in Table 19. For the small number of sites where

more than one composting method was used, the different methods were assumed to compost equal proportions of the wastes input at those sites.

An estimated 79% of waste was composted by open air mechanically turned windrow (broadly the same as the 81% in 2005/06) and 11% by in-vessel composting. Between them, these two composting methods are therefore estimated to have accounted for 90% of all composting of source segregated waste in 2006/07, again broadly similar to 2005/06.

#### 4.3 Compost products from source segregated waste

##### 4.3.1 Types and quantities of different compost products

The quantity of compost produced from source segregated feedstock has increased from 2.07 million tonnes in 2005/06 to 2.17 million tonnes in 2006/07. This is an increase of approximately 5%.

Overall, 25% (541,750 tonnes) of the total quantity of compost produced in the UK from source segregated feedstock during 2006/07 was certified to BSI PAS 100.

The increase in source segregated compost produced continues the trend shown in recent years (Table 20 and Figure 3). The

**Table 18** Percentage of sites using different composting processes in the UK, 2006/07 and 2005/06

Composting method	Number of sites 2006/07*	% of total sites 2006/07	Number of sites 2005/06*	% of total sites 2005/06
Open air mechanically turned windrow	180	81%	205	90%
In-vessel composting	19	9%	25	11%
Static pile with aeration	2	<1%	5	2%
Table composting	6	3%	3	1%
Covered mechanically turned windrow	1	<1%	2	1%
Thermophillic aerobic digestion	1	<1%	0	0%
Anaerobic digestion	1	<1%	0	0%
Other	0	0%	2	1%
Unspecified	12	5%	0	0%
<b>Total</b>	<b>222</b>	<b>-</b>	<b>236</b>	<b>-</b>

\* Multiple composting methods may be used at a single site therefore numbers will not total exactly to 100%.



**Table 19** Source segregated wastes composted by different processes in the UK, 2006/07 and 2005/06

Method of Composting	Quantity composted 2006/07 ('000 tonnes)	% of total waste composted 2006/07	Quantity composted 2005/06 ('000 tonnes)	% of total waste composted 2005/06
Open air mechanically turned windrow	2,862	79%	2,773	81%
Covered mechanically turned windrow	17	<1%	15	<1%
In-vessel composting	388	11%	481	14%
Static pile with aeration	2	<1%	59	2%
Table	163	5%	46	1%
Anaerobic digestion	3	<1%	0	0%
Thermophillic aerobic digestion	10	<1%	0	0%
Other	0	0%	14	<1%
Not specified	166	5%	36	<1%
<b>Total</b>	<b>3,612</b>	<b>100%</b>	<b>3,424</b>	<b>100%</b>

\* Multiple composting methods may be used at a single site therefore numbers will not total exactly to 100%.

quantity of compost produced in the UK has more than doubled over the five year period between 2001/02 and 2006/07.

The most common product in 2006/07 was soil conditioner which accounted for 73% by weight of all compost products. The proportion of soil conditioner for the 2006/07 survey is very similar to the 71% estimated by the 2005/06 survey and fairly similar to the surveys in 2003/04 and 2001/02 which estimated a proportion of 60%. There is however a marked

difference in the 2004/05 survey which measured the proportion of soil conditioner to be only 37%. In the light of a low response rate in 2004/05, it could be that the respondents to the 2004/05 survey were not representative, in terms of product proportions, of the composting industry as a whole in that year. Therefore since 2001/02, there has been a general increase in the quantities of compost used in topsoil/subsoil manufacture, in growing media, and in soil conditioner if the 2004/05 estimates are discounted. There does however appear to be a decline in the quantity of mulch with the estimated total

**Table 20** Compost products from source segregated feedstock manufactured in the UK, 2001/02 to 2006/07

Product	2006/07	2005/06	2004/05	2003/04	2001/02
	Estimated quantity ('000 tonnes)				
Soil conditioner	1,573	1,463	591	722	562
Mulch	64	127	98	188	117
Topsoil/subsoil manufacture	134	138	198	68	95
Growing medium	162	155	459	102	67
Turf (top) dressing	26	37	94	15	6
Other	208	88	150	94	99
Unspecified	-	67	-	-	-
<b>Total</b>	<b>2,167</b>	<b>2,073</b>	<b>1,603</b>	<b>1,189</b>	<b>946</b>
	Proportion (%)				
Soil conditioner	73%	71%	37%	60%	60%
Mulch	3%	6%	6%	16%	12%
Topsoil/subsoil manufacture	6%	7%	12%	6%	10%
Growing medium	7%	7%	29%	9%	7%
Turf (top) dressing	1%	2%	6%	1%	1%
Other	10%	4%	9%	8%	10%
Unspecified	-	3%	-	-	-
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Figure 3 Compost products from source segregated feedstock manufactured in the UK, 2001/02 to 2006/07

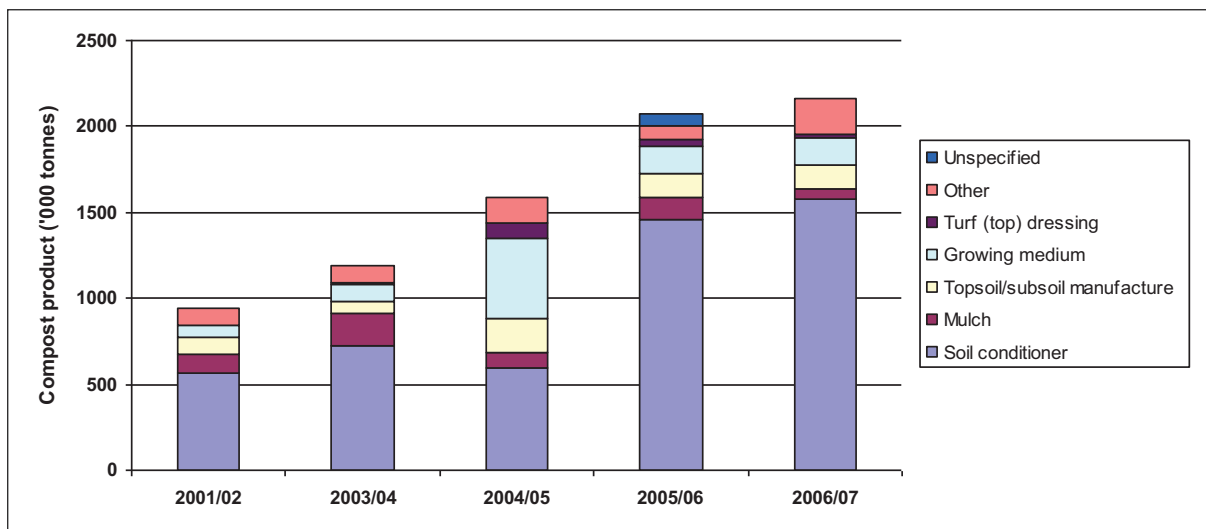


Table 21 Summary of survey results on types and quantities of digestate products in the UK, 2006/07

Total digestate product scaled up to allow for survey non respondents	86,700 tonnes	
Results below relate to the five sites for which digestate products were reported		
Location	Northern Scotland	1 site
	Northern Ireland	2 sites
	East Midlands	2 sites
How outputs distributed	Unspecified	
Output types	Soil conditioner	4 sites
	Unspecified outputs	1 site

Table 22 Compost product distribution by UK companies, 2006/07 and 2005/06

	2006/07		2005/06	
	Estimated quantity ('000 tonnes)	% of total product	Estimated quantity ('000 tonnes)	% of total product
Sold directly to end users	737	34%	581	28%
Sold on to third parties	217	10%	226	11%
Sold (unknown whether direct to end users or to third parties)	0	0%	148	7%
Distributed (no charge)	455	21%	317	15%
Producer paid to distribute	0	0%	84	4%
Used on site	672	31%	630	30%
Used on other sites operated by same producer	0	0%	7	<1%
Other	86	4%	80	4%
Total	2,167	100%	2,073	100%

tonnes of mulch in 2006/07 being the lowest annual total in the five year period between 2001/02 and 2006/07.

#### 4.3.2 Types and quantities of different digestate products

The quantity of digestate produced from source segregated feedstock was 86,700 tonnes of which 58% (50,300 tonnes) was soil conditioner and 42% (36,400 tonnes) was unspecified.

Five sites reported producing digestate from anaerobic digestion of source segregated feedstock (Table 21). This is the first year that the survey has reported digestate products separate from compost products. The most common output type was soil conditioner (four out of the five sites produced soil conditioner).

#### 4.3.3 Product distribution of compost from source segregated waste

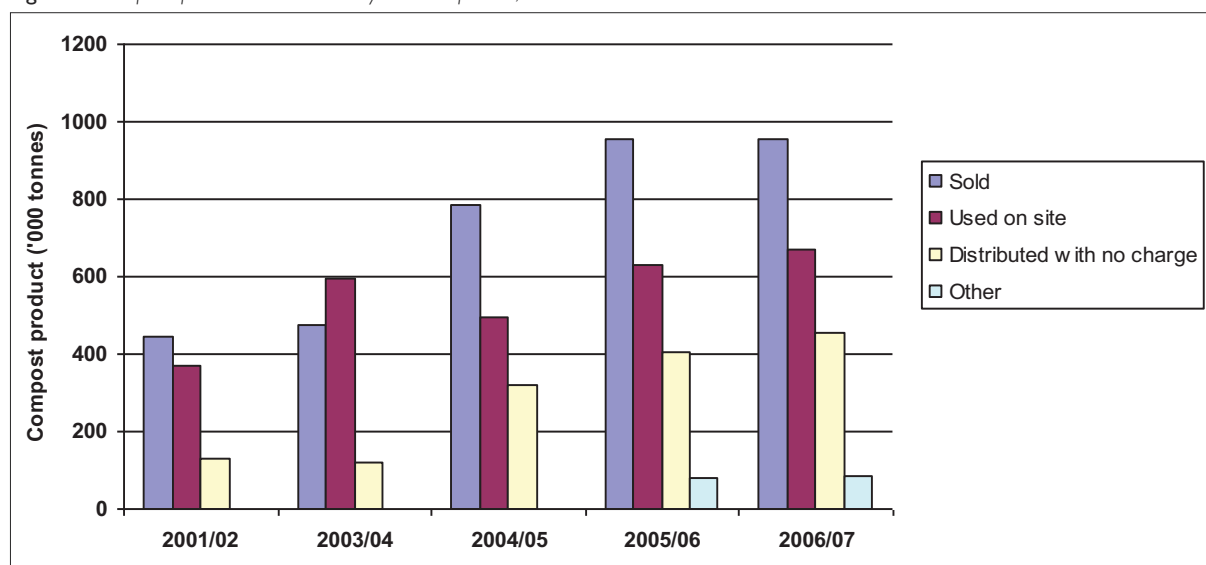
Nearly half (44%) of the compost produced from source segregated feedstock in 2006/07 was sold, with the majority of this fraction being sold directly to end users. About a third of the compost produced was used on the site of production and about a fifth of the compost produced was distributed with no charge. There was very little change in distribution between the 2005/06 and 2006/07.

Figure 4 and Table 22 show compost product distribution in 2006/07 as compared with previous years. It can be seen that the quantity of compost sold more than doubled from 2001/02 to 2006/07. The percentage that was sold has not altered significantly over the five year period, for example 47% was sold in 2001/02 compared with 44% sold in 2006/07. There was a big increase in the quantity of compost that was distributed with no charge which went up by more than four-fold. The quantities used on site have also increased over the five year period, but to a lesser extent. In order to compare the compost distribution in 2006/07 with previous years, some of the categories in Table 22 were amalgamated.

#### 4.3.4 Markets for composted products made from source segregated waste

In 2006/07, the biggest UK market for composted products

Figure 4 Compost product distribution by UK companies, 2001/02 to 2006/07



from source segregated feedstock was agriculture which took 1.1 million tonnes of composted product.

Agriculture used just over half (1.1 million tonnes or 53%) of all compost products in 2006/07 (Table 23). This is an increase of 6%, and in essence the expansion in agriculture outlets accounts for more than the whole growth in the annual outlet market, other outlets declining in absolute as well as percentage terms. Approximately 65% of the sites in the survey provided compost to this market sector. The next biggest market sector was landfill restoration and daily cover which took 325,000 tonnes in

2006/07, however less than a fifth (16%) of all sites in the survey provided compost to this market sector. In 2005/06 40% of sites provided compost to this market sector.

Considering the higher value markets, nearly a quarter of a million tonnes went into horticulture with the quantity going to amateur horticulture almost five times that going to professional horticulture. Landscaping took over a quarter million tonnes corresponding to 12% of the UK market for composted products with over a quarter of all sites producing compost for this market sector.

Table 23 Distribution of composted products in the UK by market type, 2006/07 and 2005/06

	Estimated quantity of compost product going to each market sector ('000 tonnes)		% of compost product going into each market sector		Percentage of sites servicing market sector*	
	2006/07	2005/06	2006/07	2005/06	2006/07	2005/06
Agriculture	1,149	1,001	53%	47%	65%	71%
Horticulture - professional	43	93	2%	4%	15%	14%
Horticulture - amateur	195	187	9%	9%	22%	24%
Landscaping	260	215	12%	10%	28%	26%
Sports turf	65	22	3%	1%	8%	23%
Turf - type not specified	0	24	0%	1%	-	1%
Landfill restoration/daily cover	325	231	15%	11%	16%	40%
Energy recovery	2	7	<1%	<1%	1%	17%
Forestry	1	6	<1%	<1%	<1%	1%
Land restoration	130	139	6%	7%	8%	7%
Other	3	149	<1%	7%	1%	11%
<b>Total</b>	<b>2,167</b>	<b>2,073</b>	<b>100%</b>	<b>100%</b>	-	-

\* Sites may supply more than one market sector so numbers will not total 100%.

**Table 24** Agricultural crops where composted products were used in the UK, 2006/07 and comparison with 2005/06

Crop	Number of sites supplying to crop type 2006/07	% of sites 2006/07*	Number of sites supplying to crop type 2005/06	% of sites 2005/06*
Arable/cereal	114	80%	132	88%
Grassland	25	18%	18	12%
Vegetables/fruit/salad crops	17	12%	17	11%
Other	1	1%	12	8%
Glasshouse protected crops	0	0%	0	0%
Total	142	-	150	-

\* Sites may supply more than one crop type so numbers will not total 100%.

The survey also asked those supplying compost to the agriculture sector; which crops their composted products were used on. By far the most common type of crop was the arable/cereal category. Fewer sites supplied to grassland, and the vegetables/fruit/salad crops category. None of the sites in the survey supplied to glasshouse crops. Whilst the percentage of sites supplying to arable and cereal crops has decreased by 8% between 2005/06 and 2006/07, the percentage of sites supplying to grassland has increased by 6%.

Figure 5 compares the markets for 2006/07 with the previous three years. The quantities of compost going into amateur and professional horticulture and landscaping are shown as being two to four times higher in 2004/05 than in 2006/07. However, as discussed earlier the quantities of compost going into growing

media and topsoil/subsoil manufacture were estimated as unusually high in 2004/05, most likely due to the low response rate leading to unrepresentative market sector results in that year's survey.

Between 2005/06 and 2006/07 there has been an increase in the quantity of compost going into agriculture, amateur horticulture, landscaping, sports turf, and landfill restoration/daily cover. There has been a small decrease in the quantities of compost going into professional horticulture. The quantities of compost going into land restoration have stayed roughly the same over this period. Looking back strategically over the four years summarised in Figure 5, it is evident that agriculture has been the single biggest growth market for the end product. In absolute terms, tonnages used in agriculture have more than doubled (by around 660,000 tonnes) and this broadly equates to the whole of the increase in the overall market over the past four years.

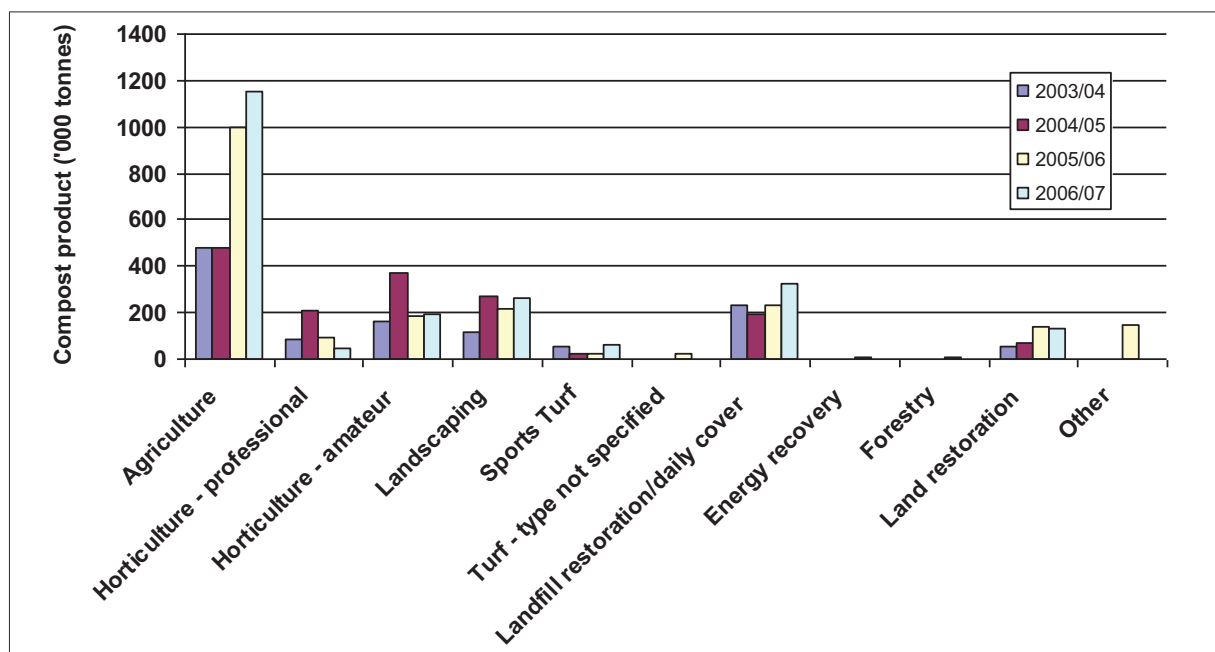
#### 4.3.5 Market sectors offering potential for growth for compost products in the next year

The survey asked compost companies to specify which market sectors they saw as offering the greatest potential for growth for their organisation in the year ahead (Table 25). The results for 2006/07 are similar to those from 2005/06. More than half of the sites composting source segregated feedstock thought that the agriculture sector offered the greatest potential for growth. This is the market sector currently using the greatest quantities of compost. The next most commonly mentioned market sector was landscaping which was cited by over a third of compost companies even though only 12% of compost products went into the landscaping market in 2006/07.

#### 4.4 Mixed waste biological treatment

The survey also asked about mechanical biological treatment (MBT) of mixed waste. MBT of mixed waste tends to produce a lower value output that is harder to market than compost product from source segregated feedstock, and remains subject to regulatory control (Tables 26 and 27). There were only

**Figure 5** Markets for composted products in the UK, 2003/04 to 2006/07



**Table 25** Market sectors viewed by composting companies as offering greatest potential for growth in the UK

Market sector	Number of sites considering market sector offers potential for growth for them 2006/07	% of sites	Number of sites considering market sector offers potential for growth for them 2005/06	% of sites
Agriculture	82	56%	68	57%
Landscaping	51	35%	44	37%
Land restoration	34	23%	35	29%
Horticulture – professional	35	24%	22	18%
Horticulture – amateur	36	25%	20	17%
Sports turf	19	13%	18	15%
Landfill restoration/ daily cover	20	14%	13	11%
Energy recovery	9	6%	8	7%
Forestry	3	2%	4	3%
Other	2	1%	6	5%
<b>Total</b>	<b>146</b>	<b>-</b>	<b>120</b>	<b>-</b>

thirteen responses to the survey from companies undertaking MBT or biological treatment of mixed waste. Because of this small number, care had to be taken in interpreting the data as it may not be fully representative of mixed waste biological treatment in the UK.

Estimates of the quantities of mixed waste treated are shown in Table 26. The estimated quantity of mixed waste processed in the UK in 2006/07, scaled up to allow for survey non respondents using the same factor as described in Section 3.2, was approximately 138,300 tonnes. The biodegradable component of the waste was approximately 122,800 tonnes.

The recorded quantity of mixed waste inputs to biological treatment in the UK has increased since 2005/06; the biodegradable fraction of mixed waste in 2006/07 has also increased slightly since 2005/06. In 2006/07 approximately 56% of the mixed waste undergoing MBT or other biological treatment was municipal waste and approximately 44% was non-municipal waste, compared to 2005/06 where 99% of biologically treated mixed waste was municipal and only 1% was non municipal. The majority of outputs from mixed waste biological treatment processes were either distributed with no charge, used on the site of production or other sites of the producer, or disposed of directly to landfill in 2006/07.

#### 4.5 Additional processing capacity

The survey asked about whether composting and biological treatment companies had any unused capacity in 2006/07, and if that was the case, how much additional waste could have been processed in 2006/07 if this capacity has been used. Capacity obviously varies substantially during the course of the seasonal year, and the question asked here dealt with this issue by requesting operators simply to state how much additional waste

they could have processed over the year as a whole, thus leaving it to producers to determine the practical extent of their unused capacity. The survey also asked about whether there were definite plans (ie with any required permits and necessary investment already in place) to expand the processing capacity of current sites during the next five years. Quantities of additional source segregated and mixed waste capacity that would be generated by such expansion were requested and companies were asked to provide details of any new composting/biological treatment sites they would be opening after the 31 March 2007.

The questions used in the 2006/07 survey to determine unused and additional new capacity are slightly different to those used in 2005/06. The questions were revised based on respondent and surveyor feedback from 2005/06 and have proven very successful at effectively gathering information about additional processing capacity. While some changes have been made, the questions still provide information in a consistent format with the 2005/06 survey and so results are still able to be compared.

The results are shown in Tables 28, 29, 30 and 31 *overleaf*. Half of all the existing composting/biological treatment sites surveyed claimed to have not yet reached full capacity and as many as 83 sites (38%) surveyed said that they had plans to expand the processing capacity of their existing sites during the five year period from April 2007 to March 2012 (Table 29). When asked if these plans were definite with required permits and necessary investment already in place only 39 of these 83 sites (equating to 18% of all sites) said they had definite plans. Just under a fifth (18%) of composting and biological treatment companies had definite plans for opening new composting/biological treatment sites after 31 March 2007 (Table 31).

The results relating to the amount of additional processing capacity in 2006/07 are shown in Table 32 and are compared with 2005/06 figures. These figures are based on survey responses only and have not been scaled up to represent the UK as a whole (see Tables 28 and 30 for number of responses). The unused source segregated capacity in 2006/07 is estimated to be about 1.4 million tonnes (376,000 tonnes more than in 2005/06) and the unused capacity for the biological treatment of mixed waste in 2006/07 is estimated to be about 150,000 tonnes (48,000 tonnes more than in 2005/06). Note that this is

**Table 26** Quantity of mixed waste inputs to biological treatment in the UK, 2006/07 and 2005/06

	Estimated quantity 2006/07 (tonnes)	Estimated quantity 2005/06 (tonnes)
Input municipal mixed waste	77,500	105,100
Input non municipal mixed waste	60,800	1,600
<b>Total input mixed waste</b>	<b>138,300</b>	<b>106,700</b>
Biodegradable fraction of municipal waste	66,900	80,000
Biodegradable fraction of non municipal waste	55,900	1,600
<b>Total biodegradable fraction of the mixed waste</b>	<b>122,800</b>	<b>81,600</b>

**Table 27** Summary of survey results on the mechanical and biological treatment of mixed wastes in the UK, 2006/07

Total mixed waste processed grossed up to allow for survey non respondents	138,300 tonnes	
Results below relate to the 13 sites for which MBT data were reported only		
Technique	Aerobic	8 sites
	Anaerobic	2 sites
How outputs distributed	The majority of outputs were either distributed with no charge, used on the site of production or other sites of the producer, or disposed of directly to landfill.	
Output types	Soil conditioner	5 sites
	Mulch	1 site
	Topsoil/subsoil manufacture	4 sites
	Stabilised biowaste	2 sites
	Waste for direct disposal to landfill	2 sites
	Unspecified outputs	2 sites
End uses	Landfill restoration/daily cover	4 sites
	Landscaping	5 sites
	Unspecified	2 sites
	Agriculture	2 sites
	Land restoration	2 sites

the producers' own assessment of their current annualised capacity to handle more waste. An additional 579,000 tonnes of source segregated capacity is also estimated to be generated at existing sites over the next five years as a result of expansion, with a much smaller additional capacity for biological treatment (30,000 tonnes). This is expansion for which permits and investments have already been secured.

In summary therefore the total annual capacity of the industry is currently calculated as 5.3 million tonnes (3.75 million of which is currently used and approximately 1.5 million additional unused capacity identified by producers – a current available annualised capacity utilisation rate of 71%). If planned expansions are also taken into consideration, the anticipated annual available capacity is estimated to expand to 5.9 million tonnes in the coming five years.

**Table 28** Status of existing processing capacity at existing sites (both source segregated and mixed wastes) in the UK, 2006/07

	Number of composting/biological treatment sites 2006/07	% of composting/biological treatment sites 2006/07
Reached full capacity	69	31%
Not reached full capacity	137	62%
Unspecified	16	7%
<b>Total</b>	<b>222</b>	<b>100%</b>

**Table 29** Nature of plans for expanding processing capacity at existing sites (both source segregated and mixed wastes) in the UK, April 2007 to March 2012

	Number of composting/biological treatment sites 2006/07	% of composting/biological treatment sites 2006/07
Yes – plans for expansion	83	37%
No – no plans for expansion	115	52%
Unspecified	24	11%
<b>Total</b>	<b>222</b>	<b>100%</b>

**Table 30** Status of plans for expanding processing capacity at existing sites (both source segregated and mixed wastes) in the UK, April 2007 to March 2012

	Number of composting/biological treatment sites 2006/07	% of composting/biological treatment sites with plans for expansion 2006/07
Yes – definite plans	39	47%
No – not definite yet	44	53%
<b>Total</b>	<b>83</b>	<b>100%</b>

**Table 31** Nature of plans for opening new composting/biological treatment sites in the UK, April 2007 to March 2012

	Number of composting companies 2006/07	% of composting companies 2006/07
Yes - definite plans	22	18%
No - no plans	98	80%
Unspecified	2	2%
<b>Total</b>	<b>122</b>	<b>100%</b>

**Table 32** Unused composting and biological treatment capacity in the UK in 2006/07 and future expansion to composting and biological treatment capacities in the UK, compared with 2005/06

	Additional capacity 2006/07 ('000 tonnes)	Additional capacity 2005/06 ('000 tonnes)
Unused source segregated capacity	1,357	981
Unused mixed wastes capacity	152	104
<b>Total unused capacity</b>	<b>1,509</b>	<b>1,085</b>
Additional source segregated capacity within five years	579	1,530
Additional mixed wastes capacity within five years	30	120
<b>Total additional capacity</b>	<b>609</b>	<b>1,650</b>
<b>Total unused and additional capacity</b>	<b>2,118</b>	<b>2,735</b>

## 5.0 Summary and conclusions

### 5.1 Source segregated waste treatment

The long term trend of increasing quantities of waste being composted in the UK has continued in 2006/07. The total quantity of source segregated waste which was composted in 2006/07 was around 3.6 million tonnes (up a modest 5% from 2005/06) of which 3.0 million tonnes (82%) were municipal waste. Just under half (48%) of this municipal waste was from Civic Amenity (CA) sites, and a further 46% was from kerbside collections. The non municipal waste component was 428,000 tonnes (12% of the total) of which just over a third was from landscaping/grounds maintenance, and a further 43% from food waste industry wastes.

### 5.2 Mixed waste treatment

The quantity of mixed waste undergoing biological treatment was much lower than for source segregated composting. Approximately 138,300 tonnes of mixed waste was processed and approximately 123,000 tonnes of this was biodegradable waste.

### 5.3 Industry market analysis and process composition

The composting and biological treatment industry has an estimated annual turnover of £100 million (up 10% on 2005/06) with a workforce of around 1,200 full time equivalent employees (up 2% on 2005/06). An estimated 40% of total industry turnover is attributable to the top 19% largest firms with individual company turnovers exceeding £1 million.

The size distribution of composting sites showed that there are large numbers of medium sized sites, with 41% of sites (90 out of the 222 responding sites) taking between 10,000 and 50,000 tonnes of waste input in 2006/07. The proportion of total waste composted is also highest for the medium sized sites with 73% of the total quantity processed being through the mid range sites taking 10,000 to 50,000 tonnes. Only 4% of the total waste is processed through the small sites taking less than 5,000 tonnes per annum. Altogether 86% of waste is composted by the 54% largest sites taking above 10,000 tonnes a year.

The most common main business activity amongst composting facility operators responding to the survey was compost producer/biological treatment operator which applied to 45% of operators, up by 5% on the 2005/06 data. Companies in this sector composted 50% of the total waste input for 2006/07. The next most common main business activity applying to 22% of composting operators was agricultural activities, followed by 15% of operators whose main business activity was solid waste treatment/waste disposal. However, only 10% of the total waste input was processed through businesses defining their principal activity as agricultural, compared to 34% of the total for solid waste treatment/disposal operators.

Approximately 49% of all sites were found to be dedicated composting sites, processing 58% of the total waste composted. A further 25% of sites were classified by their operators as farm sites and 13% were classified as landfill sites. However, only 11% of total waste composted was accounted for by farm sites, compared to 19% of waste composted being composted by landfill sites.

The vast majority of sites (85%) solely composted waste that was imported from outside the composting site and a further

11% composted both wastes that were imported from outside the site and waste that was produced on the site. Only 3% of sites composted solely waste that was produced on the site.

Open air mechanically turned windrow was the most common composting method used in 2006/07 with an estimated 79% of all source segregated waste composting carried out using this method. A further 11% of composting was carried out using in-vessel composting. There was a significant increase in the amount of waste treated by table composting since the 2005/06 survey. Only 15% of sites surveyed were fully certified under the PAS 100 scheme in 2006/07, a further 34% were working towards certification.

### 5.4 Future capacity increases

It is estimated that in 2006/07 there was up to 1.4 million tonnes of unused source segregated waste processing capacity and approximately 150,000 tonnes of unused mixed waste processing capacity available in the UK. These figures are based on producers' estimates of their ability to handle more waste for the 2006/07 year as a whole. This is in addition to the 3.6 million tonnes of source segregated and 138,000 tonnes of mixed waste that was actually processed in 2006/07. Current capacity in the UK is therefore estimated to be up to 5.3 million tonnes, of which current composting accounts for 71% of annualised capacity.

Many composters also indicated that they had definite plans to expand their composting capacities at existing and/or new sites. The vast majority of this expansion would be for source segregated waste rather than mixed waste processing with an estimated 600,000 tonnes of new capacity for source segregated waste inputs, and 30,000 tonnes of mixed waste processing capacity due to come on line over the next five years. Total UK capacity is therefore anticipated to expand to some 5.9 million tonnes over this period. Thus, the survey results clearly indicate that a significant amount of additional processing capacity is planned to become operational in the UK in the near future. However, the figures for this 'currently unused' and 'additional new' capacity should be treated with a degree of caution as there were a small number of inconsistencies with the information provided for this section of the survey. These included potential double counting of unused and new capacity as well as specifying waste management licence capacity limits rather than actual site capacity limits. Every effort was made to clarify the unused and new capacity information provided, however the results should still be interpreted with care.

### 5.5 Markets for compost

The quantity of compost produced from source segregated waste in the UK in 2006/07 was approximately 2.17 million tonnes, an increase of 5% from 2005/06 and more than double the quantity produced five years ago. The main compost product was soil conditioner which accounted for over one and a half million tonnes or 73% of the total products produced. The proportion of soil conditioner produced has increased in recent years from around 60% four years ago and 71% in 2005/06. In terms of absolute quantities, the overall quantity of soil conditioner produced was three times higher in 2006/07 than in 2001/02.

Nearly half (44%) of all composted products produced in the UK in 2006/07 from source segregated feedstock were sold

with a further 31% used on the site of production and 21% distributed with no charge. There has been no change in the proportion of compost product sold over the last five years. The proportion of compost product used on site has remained the same whilst the proportion distributed with no charge has increased by 6% between 2005/06 and 2006/07. Overall, there has been an increase of 5% in the size of the compost market between 2005/06 and 2006/07. Between 2001/02 and 2005/06 there was a two-fold increase in market size from 946,000 tonnes in 2001/02 to 2,073,000 tonnes in 2005/06.

More than half (53%, or 1.15 million tonnes) of all products generated from source segregated composting went to agriculture in 2006/07. The next most common market sectors were landscaping using 12% and landfill restoration/daily cover (15%). Agricultural end-use has more than doubled over the past four years and the growth in this outlet equates to the whole of the growth in end use markets in the past four years. Of those sites that supply compost to agriculture, the most common crop type for compost usage was arable/cereal (80%).

Composting companies operating source segregated composting sites considered the agriculture sector to offer the greatest potential for growth for their business, (56% of respondents). Approximately 49% of respondents felt that horticulture (amateur and professional combined) also offered a lot of potential, together with the landscaping sector (35%). As agriculture was the dominant market sector in 2006/07, it is not unexpected that companies see potential for growth in this sector. Given the significant increase in artificial fertilisers seen this year the benefits of compost are now being realised by the farming community and this is not likely to change in the future.

The majority of outputs from mixed waste biological treatment processes were either distributed with no charge, used on the site of production or other sites of the producer, or disposed of directly to landfill in 2006/07. The output from mixed waste composting tends to be of lower value than that of source segregated waste composting and the market sector distribution reflects this. Around 70% of outputs from mixed waste going either to landfill restoration/daily cover or landscaping. In the future there may be potential for mixed waste output to be used as fertiliser for crops intended for biomass fuel (ie not for entry into the food chain).

## 5.6 Conclusion

Overall, the 2006/07 survey shows that UK composting and biological treatment industry is continuing to grow, though perhaps now not as dramatically as in previous years. Further growth in the industry could come as a result of increased food waste collections over the next few years. This would have implications for the number and type of facilities needed to process this feedstock (eg in-vessel and anaerobic digestion). The survey quality again meant that an in depth picture of the UK composting industry is available for 2006/07 covering its financial size, employment, feedstock used, and products produced including product types, markets the products are used in and how they are distributed. The survey has built on the results of the 2005/06 survey and has shown some important trends such as the continued overall expansion of the sector. It will prove to be a valuable addition to the benchmark set by the 2005/06 survey for future trends in the UK composting and biological treatment industry.



# Appendix I

## Survey form

### The Composting Association's annual survey of: The UK Composting and Biological Treatment Industry 2006/07

The Composting Association is working in association with the Waste and Resources Action Programme (WRAP) to conduct its annual survey of the UK Composting and Biological Treatment Industry. The survey is being administered by M·E·L Research on behalf of the Composting Association and WRAP.

It is important that you take part because the results will be of interest to all **compost producers**. The results will help you:

- Identify industry trends in operating methods and processing technologies
- Plan for diversification and treatment of new feedstocks in the future
- Prepare business plans for investment, based on sound market knowledge
- Formulate long-term strategies based on detailed knowledge of the scale and rate of growth of the sector
- Identify product development and marketing opportunities
- Prepare for impacts from competing products and services

### The survey covers the period 1 April 2006 to 31 March 2007.

*All responses will be treated in strict confidence and will not be accessible to anyone outside of the project team. All published results will be in aggregate form and individual responses will not be identified.*

#### Need help filling in the survey form?

If you have any questions about the survey or if you require help filling in the survey form please:

- Ring the **Composting Survey Helpline** at M·E·L Research on **0121 604 4664** and speak to Rebecca Smith or Ian Stone; or
- E-mail [composting.survey@m-e-l.co.uk](mailto:composting.survey@m-e-l.co.uk) with your query.

#### SURVEY CLOSING DATE: Friday 7 December 2007

Please return the completed survey form to M·E·L Research by:

**Fax to:** 0121 604 6776

**E-mail to:** [composting.survey@m-e-l.co.uk](mailto:composting.survey@m-e-l.co.uk)

**Freepost to:** Composting Survey, M·E·L Research Ltd, FREEPOST, Birmingham, B7 4BR

Thank you for supporting this survey.

## Section A – Contact details

Name
Telephone
E-mail
Company Name
Company Postcode

## Section B – Company information

### B1. What is the main business activity of your company?

*(Please select one option only)*

- Compost producer/biological treatment
- Horticultural/landscaping activities
- Water treatment
- Community group/not-for-profit business
- Solid waste treatment/disposal
- Local authority
- Equipment/plant supplier/hire
- Other – please specify
- Agricultural activities

### B2. What was the turnover of the composting/biological treatment aspects of your business (including production, distribution and sales) in 2006/07?

*(Please select one option only)*

- Less than £10,000
- £50,000 - £100,000
- £100,000 - £500,000
- £500,000 - £1 million
- £10,000 - £50,000
- More than £1 million – please specify

### B3. How many full time equivalent staff were engaged in the composting/biological treatment aspects of your business (including production, distribution and sales) in 2006/07?

*(Please select one option only)*

- Less than 1
- 1 - 5
- 6 - 10
- 11 - 20
- 21 - 50
- More than 50

### Section C – Site information

C1. How many composting/biological treatment sites did your company operate in the UK in 2006/07?

site(s)

C2. Have you opened, or do you have definite plans to open, any new composting/biological treatment sites after 31 March 2007? (Please include only those sites for which the necessary investment and required permits are already in place)

No

Yes – please specify site names and location

If you operated more than one composting/biological treatment site please fill in Sections C to I for each site that was operating in 2006/07.

Additional copies of the survey form can be obtained:

- by photocopying, reprinting or electronically copying this form
- from The Composting Association website [www.compost.org.uk](http://www.compost.org.uk)
- from M·E·L Research (contact details on front of this survey form)

C3. If you operated more than one site please indicate which of your site(s) this specific survey form relates to.

Site  of  (eg Site 1 of 3)

Operating site name .....

Operating site postcode or nearest town/village .....

County or local council area where site located .....

C4. Which of the following best describes the nature of this site? (Please select one option only)

- Dedicated composting/biological treatment site
- Materials recycling facility
- Community based project
- Civic amenity site
- Farm
- Other – please specify
- Landfill site
- Horticultural/landscaping activities

C5. In 2006/07 was the composting feedstock for this site: (Please select one option only)

- Produced on site?
- Brought in from outside site?
- Both?

C6. Is any part of this site approved by the State Veterinary Service (now Animal Health) under the Animal By-Products Regulations?

(Please select one option only)

- Yes – full approval
- Under discussion
- In verification
- No – not under consideration

C7. Was this site or any of the processes on this site PAS 100 certified or working towards certification under the PAS 100 scheme in 2006/07?

(Please select one option only)

- Yes – site or process(es) fully PAS 100 certified
- Yes – site or process(es) working towards PAS 100 certification
- No

### Section D – Source segregated waste treatment processes

D1. Did you compost or digest source segregated waste at this site during 2006/07? (Excluding MBT and mixed wastes treatment which are covered in Section E)

- Yes – Please complete the rest of Section D
- No – Please go to Section E

D2. What was the total input of source segregated waste to composting and/or digestion processes at this site in 2006/07? (Excluding MBT and mixed wastes treatment which are covered in Section E)

tonnes

D3. In the table below, please provide an approximate breakdown of the total input of source segregated waste in 2006/07. (Excluding MBT and mixed wastes treatment which are covered in Section E)

Waste input	Tonnes of source segregated waste input
<b>Municipal waste inputs</b> (ie household waste and any other waste collected by or on behalf of local authorities)	
Garden waste from civic amenity/bring sites	<input type="text"/> tonnes
Garden waste only from kerbside collection	<input type="text"/> tonnes
Garden and food waste from kerbside collection	<input type="text"/> tonnes
Food waste only from kerbside collection	<input type="text"/> tonnes
Council parks/gardens waste and green waste from educational institutes	<input type="text"/> tonnes
Council-collected food waste from retailers/catering establishments	<input type="text"/> tonnes
Other municipal waste – please specify .....	<input type="text"/> tonnes
<b>Non-municipal waste inputs</b> (ie commercial/trade/industrial wastes not collected by or on behalf of local authorities)	
Landscape/grounds maintenance	<input type="text"/> tonnes
Forestry/timber/bark/by-products	<input type="text"/> tonnes
Food waste from retailers/catering establishments	<input type="text"/> tonnes
Food waste from other commercial establishments	<input type="text"/> tonnes
Food waste from industrial establishments	<input type="text"/> tonnes
Other non municipal waste – please specify .....	<input type="text"/> tonnes
<b>TOTAL</b>	= Question D2

D4. In the table below, please provide an **approximate** breakdown of the **initial treatment processes** that were used to treat source segregated waste at this site in 2006/07. (Excluding MBT and mixed wastes treatment which are covered in Section E)

Initial treatment process	Tonnes of source segregated waste input
Open air mechanically turned windrow	[ ] tonnes
Covered mechanically turned windrow	[ ] tonnes
Static pile with aeration	[ ] tonnes
Table composting	[ ] tonnes
In-vessel composting	[ ] tonnes
Anaerobic digestion	[ ] tonnes
Thermophillic aerobic digestion	[ ] tonnes
Other – please specify .....	[ ] tonnes
<b>TOTAL</b>	= Question D2

**Section E – Mixed (unsorted) waste treatment processes**

E1. Did you compost or digest mixed (unsorted) waste at this site during 2006/07? (Excluding source segregated organic waste treatment which is covered in Section D)

Yes – Please complete the rest of Section E

No – Please go to Section F

E2. What was the total input of mixed (unsorted) waste to composting and/or digestion processes at this site in 2006/07? (Excluding source segregated organic waste treatment which is covered in Section D)

[ ] tonnes

E3. In the table below, please provide an **approximate** breakdown of the total input of mixed (unsorted) waste in 2006/07. (Excluding source segregated organic waste treatment which is covered in Section D)

Waste input	Tonnes of mixed (unsorted) waste input
Municipal waste	[ ] tonnes
Non-municipal waste – please specify .....	[ ] tonnes
<b>TOTAL</b>	= Question E2

E4. For each of the waste inputs you specified in Question E3 what percentage was organic (biodegradable)?

Waste input	% that was organic (biodegradable)
Municipal waste	%
Non-municipal waste	%

E5. Was the active phase of treatment of the mixed (unsorted) waste at this site in 2006/07 aerobic or anaerobic? (Please select one option only)

Aerobic       Anaerobic

**Section F – Additional processing capacity**

F1. Was the **total** amount of waste (both source segregated and mixed) processed at this site in 2006/07 the **maximum** that the site and its infrastructure could deal with?

Yes – Please go to Question F3

No – Please go to Question F2

F2. In the table below, please indicate how much **additional** waste **could** have been processed at this site in 2006/07 assuming that any existing restrictions placed on you by site infrastructure, site licences and planning consents remained in place. (Please include existing unused processing capacity only)

Waste input	Additional waste that could have been processed in 2006/07
Source segregated waste	[ ] tonnes
Mixed (unsorted) waste	[ ] tonnes

F3. Do you have plans to expand the processing capacity of this site during the five year period from April 2007 to March 2012?

Yes – Please go to Question F4

No – Please go to Section G

F4. Are these plans for expansion definite with required permits and necessary investment already in place?

Yes – Please go to Question F5

No – Please go to Section G

F5. In the table below, please indicate how much **additional** annual processing capacity will be generated at this site as a result of the expansion. (Please exclude any existing unused processing capacity already entered for Question F2)

Waste input	Additional processing capacity planned
Source segregated waste	[ ] tonnes per annum
Mixed (unsorted) waste	[ ] tonnes per annum

## Section G – Compost & digestate products

G1. In the table below, please provide an approximate breakdown of the compost and/or digestate products you produced at this site in 2006/07. (Please note this question relates to compost/digestate products before blending and excludes MBT outputs which are covered in Section I)

Product type	Quantity of <u>compost</u> products produced (before blending) (Delete units as appropriate)	Quantity of <u>digestate</u> products produced from AD (before blending) (Delete units as appropriate)
<b>Soil conditioner</b> (incorporated by digging or ploughing into soil to improve structure, nutrient and biological properties)	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
<b>Mulch</b> (surface application of large particles used to suppress weeds, retain moisture, prevent soil erosion and for decorative purposes)	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
<b>Topsoil/subsoil manufacture</b> (mixed with soils or other materials to produce topsoil or subsoil for landscape applications)	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
<b>Growing medium constituent</b> (material other than soils used alone or in mixtures to grow plants)	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
<b>Turf (top) dressing</b> (fine composts to improve establishment and growth of turf)	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
<b>Other – please specify</b> (eg landfill cover, biofuel) .....	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
<b>TOTAL PRODUCT PRODUCED</b>	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>

G2. What was the total quantity of compost products produced at this site during 2006/07 that was certified to BSI PAS 100? (Please note this question relates to compost products only and excludes digestate products)  
 ■ tonnes/m<sup>3</sup> (Delete units as appropriate)

G3. In the table below, please provide an approximate breakdown of how the compost and/or digestate products produced at this site were used in 2006/07. (Please note this question relates to compost/digestate products before blending and excludes MBT outputs which are covered in Section I)

Product use	Quantity of <u>compost</u> products (before blending) (Delete units as appropriate)	Quantity of <u>digestate</u> products (before blending) (Delete units as appropriate)
Sold directly to end users	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
Sold on to third parties	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
Distributed to end users or third parties with no charge	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
Used on the site where it was produced	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
Other – please specify .....	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
<b>TOTAL PRODUCT PRODUCED</b>	= Total from Question G1	= Total from Question G1

## Section H – Markets for compost & digestate products

H1. In the table below, please provide an approximate breakdown of the markets to which the compost and/or digestate products produced at this site were distributed in 2006/07. (Please note this question relates to compost/digestate products before blending and excludes MBT outputs which are covered in Section I)

Market sector	Quantity of <u>compost</u> products distributed (before blending) (Delete units as appropriate)	Quantity of <u>digestate</u> products distributed (before blending) (Delete units as appropriate)
Agriculture	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
Horticulture – professional (either via growing media manufacturers or direct to professional growers)	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
Horticulture – amateur (either via growing media manufacturers or direct to retail outlets, civic amenity sites)	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
Landscaping (eg tree/shrub planting, bed establishment)	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
Sports turf (eg golf, cricket, football)	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
Landfill restoration/daily cover	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
Energy recovery (eg burning oversize)	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
Forestry	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
Land restoration	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
Other – please specify .....	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
<b>TOTAL COMPOST PRODUCT PRODUCED</b>	= Total from Question G1	= Total from Question G1

H2. If you indicated in Question H1 that you distributed compost and/or digestate products to the agriculture sector in 2006/07 please provide an approximate breakdown for each of the agricultural crops where your products were used. (Please note this question relates to compost/digestate products before blending and excludes MBT outputs which are covered in Section I)

Main agricultural crop	Quantity of <u>compost</u> products distributed (before blending) (Delete units as appropriate)	Quantity of <u>digestate</u> products distributed (before blending) (Delete units as appropriate)
Arable/cereals/combinable crops	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
Vegetables/fruit/salad crops	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
Grassland	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
Glasshouse protected crops	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>
Other – please specify .....	■ tonnes/m <sup>3</sup>	■ tonnes/m <sup>3</sup>

H3. Which of the following markets for compost and/or digestate products do you think offer the greatest potential for growth for your business in the next year?  
(Please select all that apply)

- Agriculture
- Land restoration
- Landfill restoration/daily cover
- Horticulture – amateur
- Landscaping
- Other – please specify
- Sports turf
- Horticulture – professional
- Energy recovery
- Forestry

### Section I – MBT organic waste derived outputs

(Please note this section relates to MBT *organic waste* derived outputs only. Please do not include dry recyclate such as plastics, glass and metals)

11. In the table below, please provide an **approximate** breakdown of the MBT organic waste derived outputs you produced at this site in 2006/07. (Excluding compost & digestate products which are covered in sections G and H)

Output type	Quantity of MBT outputs (before blending) (Delete units as appropriate)
Soil conditioner (incorporated by digging or ploughing into soil to improve structure, nutrient and biological properties)	<input type="text"/> tonnes/m <sup>3</sup>
Mulch (surface application of large particles used to suppress weeds, retain moisture, prevent soil erosion and for decorative purposes)	<input type="text"/> tonnes/m <sup>3</sup>
Topsoil/subsoil manufacture (mixed with soils or other materials to produce topsoil or subsoil for landscape applications)	<input type="text"/> tonnes/m <sup>3</sup>
Stabilised bio waste for disposal (stabilised material from mixed municipal waste MBT)	<input type="text"/> tonnes/m <sup>3</sup>
Waste for direct disposal to landfill	<input type="text"/> tonnes/m <sup>3</sup>
Solid recovered fuel	<input type="text"/> tonnes/m <sup>3</sup>
Other – please specify (eg landfill cover, bio fuel) .....	<input type="text"/> tonnes/m <sup>3</sup>
<b>TOTAL MBT OUTPUT PRODUCED</b>	<input type="text"/> tonnes/m <sup>3</sup>

12. In the table below, please provide an **approximate** breakdown of how the MBT outputs produced at this site were used in 2006/07. (Excluding compost & digestate products which are covered in sections G and H)

MBT output use	Quantity of MBT outputs (before blending) (Delete units as appropriate)
Sold directly to end users	<input type="text"/> tonnes/m <sup>3</sup>
Sold on to third parties	<input type="text"/> tonnes/m <sup>3</sup>
Distributed to end users or third parties with no charge	<input type="text"/> tonnes/m <sup>3</sup>
Used on the site where it was produced	<input type="text"/> tonnes/m <sup>3</sup>
Disposed of directly to landfill	<input type="text"/> tonnes/m <sup>3</sup>
Other disposal with cost associated	<input type="text"/> tonnes/m <sup>3</sup>
Other – please specify .....	<input type="text"/> tonnes/m <sup>3</sup>
<b>TOTAL MBT OUTPUT PRODUCED</b>	= Total from Question 11

13. In the table below, please provide an **approximate** breakdown of the outlets to which the MBT outputs produced at this site were distributed in 2006/07. (Excluding compost & digestate products which are covered in sections G and H)

Outlet	Quantity of MBT outputs (before blending) (Delete units as appropriate)
Land restoration	<input type="text"/> tonnes/m <sup>3</sup>
Landfill restoration/daily cover	<input type="text"/> tonnes/m <sup>3</sup>
Landscaping	<input type="text"/> tonnes/m <sup>3</sup>
Agriculture	<input type="text"/> tonnes/m <sup>3</sup>
Energy (solid recovered fuel)	<input type="text"/> tonnes/m <sup>3</sup>
Direct disposal to landfill	<input type="text"/> tonnes/m <sup>3</sup>
Other disposal with cost associated	<input type="text"/> tonnes/m <sup>3</sup>
Other – please specify .....	<input type="text"/> tonnes/m <sup>3</sup>
<b>TOTAL MBT OUTPUT PRODUCED</b>	= Total from Question 11

### Section J – Further comments and feedback

The Composting Association and WRAP are continually looking at ways to improve this survey and we would appreciate your feedback.

Please provide any additional comments you may have on this survey or any of the issues it covers.

Thank you for taking the time to complete this survey form.

## Appendix 2

### Community composting activity in the UK – 2006 (Defra funded project WR0211)

#### The Community Composting Sector

It is well known that the community composting sector is made up of a diverse range of groups and organisations. All these companies operate on a not-for-profit basis and while community composting is often a main focus, other environmental, social and educational objectives are also important. Consequently the survey design used for the commercial composting sector was considered to be inappropriate for the community composting sector and the community sector was therefore not specifically included in the main survey.

However, a separate project called 'Unlocking the Potential of Community Composting' profiled and characterised the community composting sector in the UK in 2006. This work was funded by Defra under their Waste and Resources R&D Programme (ref WR0211). The project was carried out by the Integrated Waste Systems group at The Open University in association with the Community Composting Network (CNN), London Community Recycling Network (LCRN) and the New Economics Foundation. While a similar survey has not been undertaken for 2007, CNN assume that composting activity in the community sector in 2007 would have stayed broadly the same as in 2006. Therefore the survey results for the 2006 project are used as a proxy for 2007.

The first part of the project is a survey of the environmental, social and educational activities of organisations involved in promoting or carrying out composting activity in their communities. The survey report "Community composting activity in the UK – 2006" has been published by Integrated Waste Systems, The Open University, Milton Keynes in May 2007. It is available via the following link to the Defra website:

<http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=14759>

The findings presented in the above report represent the first time a comprehensive profiling of the community composting sector has been conducted and results published. The data reported are for the 2006 calendar year. In total 243 organisations were surveyed.

## Appendix 3

### National and regional breakdown of wastes input to composting

#### Regional breakdown of wastes input to composting Comparison of survey data with municipal waste data

Table A3.1 shows the quantity of municipal wastes input to composting in 2006/07 by survey respondents. The table also shows the quantity of municipal waste input to composting that came from Civic Amenity (CA) site collections and from kerbside collections on a regional basis for England, and on a national basis for the other UK countries. These data then have been compared with official municipal waste data on the quantity of waste collected by local authorities in these regions/countries to calculate the percentages of CA and kerbside waste arising in each region/country that has been captured by the 2006/07 survey (ie that has been composted by survey respondents in that region/country in 2006/07). However, while this is a useful measure it should be noted that not all waste collected for composting will be composted in the region where it is collected. Official municipal waste data has been obtained from WasteDataFlow for 2006/07. WasteDataFlow is the web based system for local authority waste data reporting to government.

Overall 65% of CA waste collected for composting has been captured by the survey, and 51% of kerbside waste. It is not clear why there is this difference.

There are some figures over 100%; for CA waste in London and the North West. This is similar to the results found in the 2005/06 survey and could be due to either waste from CA sites from outside these regions being composted within the regions

or that there is an issue of under reporting to WasteDataFlow.

London has quite a high capture rate for CA site waste at 115% yet only 15% of kerbside waste was captured by the current survey. Between the nations, the capture rate for CA site waste was highest for Scotland at 73% and lowest for Northern Ireland at 42%. The capture rate for kerbside waste was highest for Scotland at 70% and lowest for Wales at 33%.

#### Quantities and types of waste composted in individual UK countries and in regions of England

Table A3.2 shows the quantity and type of waste composted by survey respondents in the individual UK nations and Table A3.3 shows this information for the England regions. It should be noted that the waste quantities in these tables have not been scaled up to allow for survey non respondents. They are the combined quantities from survey respondents only.

Table A3.2 shows that in Scotland waste collected for composting via kerbside schemes makes up much higher percentage of the total input of waste to composting than that from CA sites (54% from kerbside compared to 20% from CA sites. All the other UK nations had a greater amount of composting of CA site waste than kerbside collected waste in 2006/07.

Table A3.3 shows that the Yorkshire and Humber region has an atypical waste input pattern. In all regions except Yorkshire and the Humber municipal waste composting is dominant with at least 79% of input waste being municipal. For the Yorkshire and Humber region only 58% of the waste composted by survey respondents was municipal in 2006/07 with the remaining 42% being a range of non municipal waste types. This is a similar pattern to what was found in the 2005/06 survey results.

**Table A3.1** Regional and national comparison of wastes input to composting by survey respondents with municipal waste data, 2006/07

	Total municipal waste input from survey respondents (tonnes)	Total CA site waste input for survey respondents (tonnes)	Survey capture rate of CA waste	Total kerbside waste input for survey respondents (tonnes)	Survey capture rate of kerbside waste
<b>England</b>					
East Midlands	257,447	102,306	95%	153,691	70%
East of England	221,480	62,708	47%	112,497	59%
London	107,000	89,310	115%	17,690	15%
North East	88,200	31,550	85%	53,650	93%
North West	214,750	141,380	132%	70,370	23%
South East	439,689	277,442	52%	160,768	84%
South West	149,500	95,318	55%	49,936	26%
West Midlands	252,864	97,600	91%	139,946	62%
Yorkshire & the Humber	86,641	26,606	22%	55,420	44%
<b>England total</b>	<b>1,817,571</b>	<b>924,220</b>	<b>66%</b>	<b>813,968</b>	<b>50%</b>
Wales	63,893	29,571	50%	20,743	33%
Scotland	194,634	46,799	73%	129,687	70%
Northern Ireland	66,373	24,233	42%	18,991	39%
<b>UK TOTAL</b>	<b>2,142,471</b>	<b>1,024,823</b>	<b>65%</b>	<b>983,389</b>	<b>51%</b>



**Table A3.2** Quantity and type of waste composted by survey respondents in UK countries, 2006/07

	England		Northern Ireland		Scotland		Wales	
	Waste input (tonnes)	% of total	Waste input (tonnes)	% of total	Waste input (tonnes)	% of total	Waste input (tonnes)	% of total
<b>Municipal waste</b>								
Garden waste from civic amenity/bring sites	924,220	44%	24,233	36%	46,799	20%	29,571	43%
Garden waste only from kerbside collection	600,816	29%	17,491	26%	128,687	54%	8,493	12%
Garden and food waste from kerbside collection	202,637	10%	1,500	2%	1,000	<1%	12,250	18%
Food waste only from kerbside collection	10,515	<1%	-	-	-	-	-	-
Council parks/gardens waste and green waste from educational institutes	23,365	1%	-	-	12,621	5%	4,579	7%
Council-collected food processing by-products and food waste from retailers	-	-	23,149	34%	4,840	2%	-	-
Other municipal waste	56,018	3%	-	-	687	<1%	9,000	13%
<b>Total municipal waste</b>	<b>1,817,571</b>	<b>87%</b>	<b>66,373</b>	<b>98%</b>	<b>194,634</b>	<b>81%</b>	<b>63,893</b>	<b>94%</b>
<b>Non municipal waste</b>								
Landscape/grounds maintenance	94,010	5%	1,500	2%	7,889	3%	4,353	6%
Forestry/timber/bark/by-products	13,843	<1%	-	-	1,350	<1%	-	-
Food waste from retailers/catering establishments	33,936	2%	-	-	21,888	9%	-	-
Food waste from other commercial establishments	33,880	2%	-	-	1,800	<1%	-	-
Food waste from industrial establishments	38,236	2%	-	-	5,100	2%	-	-
Other non municipal waste	47,216	2%	-	-	7,285	3%	-	-
<b>Total non municipal waste</b>	<b>261,121</b>	<b>13%</b>	<b>1,500</b>	<b>2%</b>	<b>45,312</b>	<b>19%</b>	<b>4,353</b>	<b>6%</b>
<b>Total</b>	<b>2,078,692</b>	<b>100%</b>	<b>67,873</b>	<b>100%</b>	<b>239,946</b>	<b>100%</b>	<b>68,246</b>	<b>100%</b>

**Table A3.3** Quantity and type of waste composted by survey respondents in the England regions, 2006/07 – part 1

	East Midlands		East of England		London		North East	
	Waste input (tonnes)	% of total	Waste input (tonnes)	% of total	Waste input (tonnes)	% of total	Waste input (tonnes)	% of total
<b>Municipal waste</b>								
Garden waste from civic amenity/bring sites	102,306	38%	62,708	22%	89,310	80%	31,550	30%
Garden waste only from kerbside collection	129,246	47%	26,997	10%	12,069	11%	53,650	52%
Garden and food waste from kerbside collection	24,445	9%	82,500	30%	3,897	4%	-	-
Food waste only from kerbside collection	-	-	3,000	1%	1,724	2%	-	-
Council parks/gardens waste and green waste from educational institutes	1,450	<1%	1,275	<1%	-	-	3,000	3%
Council-collected food processing by-products and food waste from retailers	-	-	-	-	-	-	-	-
Other municipal waste	-	-	45,000	16%	-	-	-	-
<b>Total</b>	<b>257,447</b>	<b>94%</b>	<b>221,480</b>	<b>79%</b>	<b>107,000</b>	<b>97%</b>	<b>88,200</b>	<b>85%</b>
<b>Non municipal waste</b>								
Landscape/grounds maintenance	4,975	2%	19,585	7%	3,000	3%	3,950	4%
Forestry/timber/bark/by-products	300	<1%	10	<1%	-	-	1,050	1%
Food waste from retailers/catering establishments	10,000	4%	7,700	3%	-	-	1,300	1%
Food waste from other commercial establishments	-	-	11,000	4%	-	-	-	-
Food waste from industrial establishments	-	-	13,036	5%	-	-	9,500	9%
Other non municipal waste	-	-	6,504	2%	-	-	-	-
<b>Total non municipal waste</b>	<b>15,275</b>	<b>6%</b>	<b>57,835</b>	<b>21%</b>	<b>3,000</b>	<b>3%</b>	<b>15,800</b>	<b>15%</b>
<b>Total</b>	<b>272,722</b>	<b>100%</b>	<b>279,315</b>	<b>100%</b>	<b>110,000</b>	<b>100%</b>	<b>104,000</b>	<b>100%</b>

Table A3.3 Quantity and type of waste composted by survey respondents in the England regions, 2006/07 – part 2

	North West		South East		South West		West Midlands		Yorkshire & The Humber	
	Waste input (tonnes)	% of total	Waste input (tonnes)	% of total	Waste input (tonnes)	% of total	Waste input (tonnes)	% of total	Waste input (tonnes)	% of total
<b>Municipal waste</b>										
Garden waste from civic amenity/bring sites	141,380	63%	277,442	53%	95,318	62%	97,600	36%	26,606	18%
Garden waste only from kerbside collection	66,870	30%	89,977	17%	49,936	32%	124,651	45%	47,420	32%
Garden and food waste from kerbside collection	3,500	2%	65,500	13%	-	-	15,295	6%	8,000	5%
Food waste only from kerbside collection	-	-	5,291	1%	-	-	-	-	-	-
Council parks/gardens waste and green waste from educational institutes	3,000	1%	1,479	<1%	1,346	<1%	7,200	3%	4,615	3%
Council-collected food processing by-products and food waste from retailers	-	-	-	-	0	-	-	-	-	-
<b>Other municipal waste</b>	-	-	-	-	2,900	2%	8,118	3%	-	-
<b>Total municipal waste</b>	<b>214,750</b>	<b>96%</b>	<b>439,689</b>	<b>85%</b>	<b>149,500</b>	<b>97%</b>	<b>252,864</b>	<b>93%</b>	<b>86,641</b>	<b>58%</b>
<b>Non municipal waste</b>										
Landscape/grounds maintenance	2,160	1%	46,873	9%	5,025	3%	3,854	1%	4,588	3%
Forestry/timber/bark/by-products	2,100	1%	6,000	1%	95	<1%	4,000	1%	288	<1%
Food waste from retailers/catering establishments	-	-	5,811	1%	-	-	-	-	9,125	6%
Food waste from other commercial establishments	2,200	1%	9,430	2%	-	-	6,000	2%	5,250	4%
Food waste from industrial establishments	1,200	<1%	6,600	1%	-	-	-	-	7,900	5%
Other non municipal waste	350	<1%	4,520	<1%	-	-	8,118	3%	34,842	23%
<b>Total non municipal waste</b>	<b>8,010</b>	<b>4%</b>	<b>79,234</b>	<b>15%</b>	<b>5,120</b>	<b>3%</b>	<b>21,972</b>	<b>7%</b>	<b>61,993</b>	<b>42%</b>
<b>Total</b>	<b>222,760</b>	<b>100%</b>	<b>518,923</b>	<b>100%</b>	<b>154,620</b>	<b>100%</b>	<b>274,836</b>	<b>100%</b>	<b>148,634</b>	<b>100%</b>

## Appendix 4

### National and regional manufacture of compost products

The quantity of compost products manufactured from source segregated wastes by survey respondents in each of the countries of the UK in 2006/07 by survey respondents is shown in Table A4.1. The proportion that each product makes up of the total produced is also shown. The quantities have not been scaled up to allow for survey non respondents.

Table A4.2 shows the quantity of different compost products manufactured in the English regions by survey respondents and the proportion that each product type made up of the total produced in 2006/07.

Table A4.1 Compost products manufactured by survey respondents in UK countries, 2006/07

	England	Northern Ireland	Scotland	Wales
	<b>Product output (tonnes)</b>			
Soil conditioner	900,204	31,473	93,622	26,054
Mulch	35,713	-	4,132	3,000
Topsoil/subsoil	65,301	-	19,396	5,000
Growing medium	108,166	-	2	-
Turf (top) dressing	13,894	-	100	3,200
Other	138,100	1,100	67	-
Unspecified	-	-	-	-
<b>Total</b>	<b>1,261,378</b>	<b>32,573</b>	<b>117,319</b>	<b>37,254</b>
	<b>% of total</b>			
Soil conditioner	71%	97%	80%	70%
Mulch	3%	-	3%	8%
Topsoil/subsoil	5%	-	17%	13%
Growing medium	9%	-	-	-
Turf (top) dressing	1%	-	<1%	9%
Other	11%	3%	<1%	-
Unspecified	-	-	-	-
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Table A4.2 Compost products manufactured by survey respondent in the England regions, 2006/07

	East Midlands	East of England	London	North East	North West	South East	South West	West Midlands	Yorkshire & The Humber
	<b>Product output (tonnes)</b>								
Soil conditioner	90,614	98,393	22,120	54,375	113,351	224,862	82,492	149,561	64,436
Mulch	0	900	0	700	2,867	17,000	4,800	8,446	1,000
Topsoil/subsoil	6,000	2,335	19,000	3,500	5,136	21,000	0	1,530	6,800
Growing medium	32,450	5,250	3,500	6,200	33,726	14,080	0	7,910	5,050
Turf (top) dressing	6,000	1,250	0	0	434	4,580	0	1,030	600
Other	25,532	13,778	4310	0	0	33,926	0	20,304	40,251
Unspecified	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>160,596</b>	<b>121,906</b>	<b>48,930</b>	<b>64,775</b>	<b>155,514</b>	<b>315,448</b>	<b>87,292</b>	<b>188,781</b>	<b>118,137</b>
	<b>% of total</b>								
Soil conditioner	56%	81%	45%	84%	73%	71%	95%	79%	55%
Mulch	0%	1%	0%	1%	2%	5%	5%	4%	<1%
Topsoil/subsoil	4%	2%	39%	5%	3%	7%	0%	1%	6%
Growing medium	20%	4%	7%	10%	22%	4%	0%	4%	4%
Turf (top) dressing	4%	1%	0%	0%	<1%	1%	0%	1%	<1%
Other	16%	11%	9%	0%	0%	11%	0%	11%	34%
Unspecified	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

## Appendix 5

### Compost product distribution – the national and regional picture

#### Compost product distribution in the countries of the UK and the English regions

Table A5.1 shows how compost products were distributed in the UK countries in 2006/07. The quantities are not scaled up to allow for survey non respondents.

In Scotland a slightly higher proportion of compost was sold directly to end users (45%) compared to England (34%) and Wales (41%). More compost was sold to third parties in England and Wales. This indicates less blending to make compost products in Scotland than in England. All the compost produced by survey respondents in Northern Ireland in 2006/07 was used on the site of production (100%).

Table A5.2 shows how compost products produced by survey respondents in the different regions of England were distributed in 2006/07. Again, there has been no scaling up of the quantities to allow for survey non respondents.

**Table A5.1** Compost product distribution for survey respondents in UK countries, 2006/07

	England	Northern Ireland	Scotland	Wales
	<b>Product output (tonnes)</b>			
Sold directly to end users	401,267	0	52,850	15,300
Sold on to third parties	131,001	0	5,422	5,000
Distributed (no charge)	249,287	0	33,332	7,279
Used on site	349,693	57,573	20,335	9,478
Other	46,813	0	5,004	0
<b>Total</b>	<b>1,178,062</b>	<b>57,573</b>	<b>116,943</b>	<b>37,056</b>
	<b>% of total</b>			
Sold directly to end users	34%	0%	45%	41%
Sold on to third parties	11%	0%	5%	13%
Distributed (no charge)	21%	0%	29%	20%
Used on site	30%	100%	17%	26%
Other	4%	0%	4%	0%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Table A5.2** Compost product distribution for survey respondents for compost produced in the England regions, 2006/07

	East Midlands	East of England	London	North East	North West	South East	South West	West Midlands	Yorkshire & The Humber
	<b>Product output (tonnes)</b>								
Sold directly to end users	75,600	31,659	17,190	30,400	90,397	105,809	10,815	30,447	8,950
Sold on to third parties	19,000	2,576	18,810	22,000	16,176	42,760	201	6,261	3,217
Distributed (no charge)	15,779	60,991	8,620	0	4,000	32,700	9,922	83,500	33,775
Used on site	48,217	26,680	4,310	12,375	14,750	98,179	55,915	53,573	35,695
Other	0	0	0	0	20,813	0	10,000	11,000	5,000
<b>Total</b>	<b>158,596</b>	<b>121,906</b>	<b>48,930</b>	<b>64,775</b>	<b>146,136</b>	<b>279,448</b>	<b>86,854</b>	<b>184,781</b>	<b>86,637</b>
	<b>% of total</b>								
Sold directly to end users	48%	26%	35%	47%	62%	38%	12%	16%	10%
Sold on to third parties	12%	2%	38%	34%	11%	15%	<1%	3%	4%
Distributed (no charge)	10%	50%	18%	0%	3%	12%	11%	45%	39%
Used on site	30%	22%	9%	19%	10%	35%	64%	29%	41%
Other	0%	0%	0%	0%	14%	0%	12%	6%	6%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

## Appendix 6

### Markets for composted products – the national and regional picture

#### Markets for composted products in 2006/07 in UK countries and English regions

Scotland and Wales each had much lower percentages of composted products going to agriculture (34% and 19%

respectively) than England (56%). Scotland and Wales had a much higher proportion of compost product going to land restoration uses than England.

Table A6.2 shows the quantities of compost product going into the different markets from survey respondents in the English regions.

**Table A6.1** Markets for composted products from survey respondents in UK countries, 2006/07

	England		Northern Ireland		Scotland		Wales	
	Product output (tonnes)	% of total	Product output (tonnes)	% of total	Product output (tonnes)	% of total	Product output (tonnes)	% of total
Agriculture	617,141	56%	25,100	44%	40,492	34%	5,750	19%
Horticulture - professional	26,684	2%	-	-	4,470	4%	-	-
Horticulture - amateur	106,440	10%	-	-	5,195	4%	180	<1%
Landscaping	124,561	11%	1,000	2%	19,143	16%	8,830	29%
Sports turf	32,134	3%	-	-	1,529	1%	-	-
Landfill restoration/ daily cover	151,467	14%	31,473	54%	16,195	14%	1,726	6%
Energy recovery	4,810	<1%	-	-	322	<1%	-	-
Forestry	500	<1%	-	-	-	-	-	-
Land restoration	38,331	3%	-	-	26,903	23%	13,969	46%
Other - please specify	2,000	<1%	-	-	4,000	3%	-	-
<b>Total</b>	<b>1,104,068</b>	<b>100%</b>	<b>57,573</b>	<b>100%</b>	<b>118,249</b>	<b>100%</b>	<b>30,455</b>	<b>100%</b>

**Table A6.2** Markets for composted products from survey respondents in the England regions, 2006/07

	East Midlands		East of England		London		North East	
	Product output (tonnes)	% of total	Product output (tonnes)	% of total	Product output (tonnes)	% of total	Product output (tonnes)	% of total
Agriculture	66,431	45%	89,991	74%	19,230	65%	15,675	24%
Horticulture - professional	1,000	<1%	5,067	4%	431	1%	7,100	11%
Horticulture - amateur	31,267	21%	3,211	3%	2,333	8%	6,600	10%
Landscaping	29,366	20%	3,371	3%	3,196	11%	18,600	29%
Sports turf	7,000	5%	100	<1%	-	-	300	<1%
Landfill restoration/daily cover	13,532	9%	12,630	11%	-	-	16,500	25%
Energy recovery	-	-	500	<1%	4,310	14%	-	-
Forestry	-	-	-	-	-	-	-	-
Land restoration	-	-	3,000	3%	431	1%	-	-
Other - please specify	-	-	2,000	2%	-	-	-	-
<b>Total</b>	<b>148,596</b>	<b>100%</b>	<b>119,870</b>	<b>100%</b>	<b>29,931</b>	<b>100%</b>	<b>64,775</b>	<b>100%</b>

	North West		South East		South West		West Midlands		Yorkshire & The Humber	
	Product output (tonnes)	% of total	Product output (tonnes)	% of total	Product output (tonnes)	% of total	Product output (tonnes)	% of total	Product output (tonnes)	% of total
Agriculture	42,618	32%	133,665	48%	72,437	86%	120,300	73%	56,794	67%
Horticulture - professional	1,000	<1%	8,129	3%	1,002	1%	200	<1%	2,756	3%
Horticulture - amateur	33,229	25%	14,800	5%	1,000	1%	8,900	5%	5,100	6%
Landscaping	21,093	16%	36,200	13%	4,715	6%	3,800	2%	4,220	5%
Sports turf	15,434	12%	7,300	3%	900	1%	500	<1%	600	<1%
Landfill restoration/daily cover	7,500	6%	55,382	20%	3,900	5%	30,473	19%	11,551	14%
Energy recovery	-	-	-	-	-	-	-	-	-	-
Forestry	-	-	500	<1%	-	-	-	-	-	-
Land restoration	10,950	8%	20,700	7%	-	-	-	-	3,250	4%
Other - please specify	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>131,824</b>	<b>100%</b>	<b>276,676</b>	<b>100%</b>	<b>83,954</b>	<b>100%</b>	<b>164,173</b>	<b>100%</b>	<b>84,271</b>	<b>100%</b>

## Appendix 7

### Unused composting capacity in 2006/07 and additional composting capacity becoming available regionally and nationally

Table A7.1 shows unused composting capacity in 2006/07, and definite new capacity becoming available during the next five years for the UK countries, and for the English regions. The capacities have not been scaled up to allow for survey non respondents.

**Table A7.1** Unused composting capacity in the UK, 2006/07 and definite new capacity becoming available in the UK during the next five years

	Unused source segregated capacity 2006/07 ('000 tonnes)	Unused mixed waste capacity 2006/07 ('000 tonnes)	Definite new capacity during next 5 years		Total ('000 tonnes)
			Source segregated capacity at existing sites ('000 tonnes)	Mixed waste capacity at existing sites ('000 tonnes)	
<b>England</b>					
East Midlands	45	-	133	-	178
East of England	75	37	41	-	153
London	5	-	9	-	14
North East	25	-	5	-	30
North West	172	-	78	-	250
South East	131	-	50	5	186
South West	356	-	16	-	372
West Midlands	82	-	77	-	159
Yorkshire & the Humber	137	-	13	-	150
<b>England total</b>	<b>1,028</b>	<b>37</b>	<b>422</b>	<b>5</b>	<b>1,492</b>
Wales	69	115	68	-	252
Scotland	200	-	70	25	295
Northern Ireland	61	-	20	-	81
<b>Total</b>	<b>1,358</b>	<b>152</b>	<b>580</b>	<b>30</b>	<b>2,120</b>

**Note:** Percentage values may not add to 100% due to rounding

Published by Association for Organics Recycling

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ISBN: 0-9547797-9-7

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