

Article

EnviroStats

Composting by households in Canada

by Iman Mustapha

Environment Accounts and Statistics Division

July 2013



Statistics
Canada

Statistique
Canada

Canada

How to obtain more information

For information about this product or the wide range of services and data available from Statistics Canada, visit our website, www.statcan.gc.ca.

You can also contact us by

email at infostats@statcan.gc.ca,

telephone, from Monday to Friday, 8:30 a.m. to 4:30 p.m., at the following toll-free numbers:

- | | |
|---|----------------|
| • Statistical Information Service | 1-800-263-1136 |
| • National telecommunications device for the hearing impaired | 1-800-363-7629 |
| • Fax line | 1-877-287-4369 |

Depository Services Program

- | | |
|------------------|----------------|
| • Inquiries line | 1-800-635-7943 |
| • Fax line | 1-800-565-7757 |

To access this product

This product, Catalogue no. 16-002-X, is available free in electronic format. To obtain a single issue, visit our website, www.statcan.gc.ca, and browse by “Key resource” > “Publications.”

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner. To this end, Statistics Canada has developed standards of service that its employees observe. To obtain a copy of these service standards, please contact Statistics Canada toll-free at 1-800-263-1136. The service standards are also published on www.statcan.gc.ca under “About us” > “The agency” > “Providing services to Canadians.”

Published by authority of the Minister responsible for
Statistics Canada

© Minister of Industry, 2013

All rights reserved. Use of this publication is governed by the
Statistics Canada Open Licence Agreement ([http://www.
statcan.gc.ca/reference/copyright-droit-auteur-eng.htm](http://www.statcan.gc.ca/reference/copyright-droit-auteur-eng.htm)).

Cette publication est aussi disponible en français.

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued co-operation and goodwill.

Standard symbols

The following symbols are used in Statistics Canada publications:

- | | |
|----------------|--|
| . | not available for any reference period |
| .. | not available for a specific reference period |
| ... | not applicable |
| 0 | true zero or a value rounded to zero |
| 0 ^s | value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded |
| P | preliminary |
| r | revised |
| X | suppressed to meet the confidentiality requirements of the <i>Statistics Act</i> |
| E | use with caution |
| F | too unreliable to be published |
| * | significantly different from reference category ($p < 0.05$) |

Composting by households in Canada

by Iman Mustapha, Environment Accounts and Statistics Division

Composting behaviours by Canadian households have increased over the years. Some municipalities have introduced composting programs to increase participation and reduce the amount of waste shipped to landfills.

- In 2011, over half of Canadian households (61%) had participated in some form of composting; this is up 38 percentage points from 1994. Forty-five percent of all households reported composting kitchen waste and 68% of households with a lawn or garden reported composting yard waste.
- In 2011, 63% of Canadian households that had composted their yard waste and 60% that composted their kitchen waste used a curbside collection system. The rest used a compost bin or pile or some other method to compost.
- The type of dwelling a household occupied was directly related to the rate of composting. Over 50% of households in detached or single dwellings reported composting their kitchen waste, compared to 22% of households living in apartments. This reflects the fact that many apartment dwellers can find it difficult to compost.

In 2008, Canadian households produced 12.9 million tonnes of waste. Of this total, 8.5 million tonnes were sent to public and private waste disposal facilities while 4.4 million tonnes were sent for recycling or composting through waste diversion programs. Residential waste disposal decreased by 4.0% from 2006 to 2008, reflecting in part the impact of these diversion programs introduced by municipalities.¹

Residential composting can reduce the amount of waste shipped to landfill, and reduce the amount of greenhouse gas emissions formed from organic material decomposing in these landfills. A number of municipalities have introduced composting programs to turn organic waste into compost. Some municipal programs include set curbside collection schedules allowing households convenient access to the program to encourage participation (Table 1).

Composting rates for Canada, provinces and various census metropolitan areas in 2011

In 2011, over half of Canadian households (61%) had participated in some form of composting. Forty-five percent of all households reported composting kitchen waste and 68% of households with a lawn or garden reported composting yard waste (Table 2).

Households in Prince Edward Island (96%) and Nova Scotia (94%) were most likely to have composted. These rates reflect the presence of strict waste management regulations in both provinces.² Households were least likely to compost in Quebec (42%) and Newfoundland and Labrador (43%).

Participation in some type of composting activity varied widely between census metropolitan areas (CMAs). Nevertheless, composting was widely practiced. With the exception of six CMAs, more than half of the households in the remaining CMAs reported composting in 2011.

Composting by households in Canada

What you should know about this study

This study is based on data from the 2011 Households and the Environment Survey (HES), which was conducted as part of the Canadian Environmental Sustainability Indicators initiative. Respondents were asked to report if they had participated in any type of composting and the methods that were used to compost either kitchen or yard waste.

Census metropolitan areas (CMAs) consist of one or more municipalities situated around a major urban core. A CMA must have a total population of at least 100,000 of which 50,000 or more live in the urban core. (See: Statistics Canada, 2007, *2006 Census Dictionary*, Catalogue no. 92-566-X for more information).

Not all CMAs are represented in the analysis of all variables in this study as some results were suppressed for data quality reasons. There were various criteria for reporting results of a given CMA, including that the statistics had to have a coefficient of variation (CV) no higher than 33.3 and at least 20 records had to have contributed to the result. Values noted as F in the data tables indicate cases where fewer than 20 records contributed to a result, and that the value was deemed “too unreliable to be published,” regardless of the CV. Values that had a CV between 16.5 and 33.3 (and at least 20 records contributing) are to be used with caution, which is indicated with an ^E in the data table.

Table 1 Selected municipal composting programs

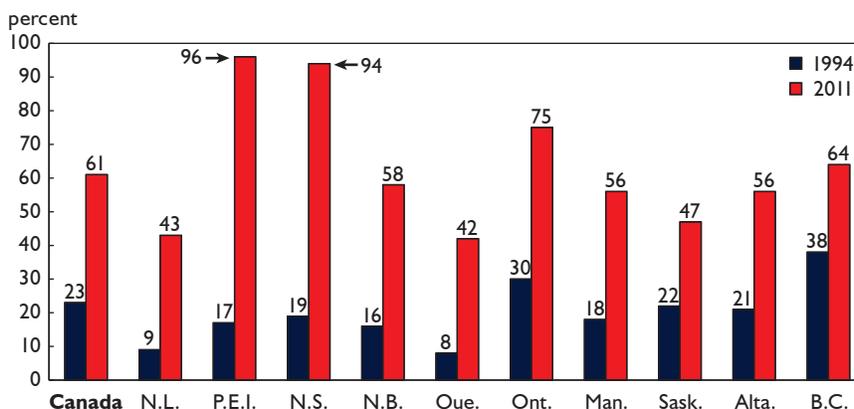
	Composting program	Introduced	Collection
Ottawa	Green Bin Program	2010	Weekly
Moncton	Wet/Dry Waste Separation Program	1999	Weekly
Hamilton	Green Cart Program	2006	Weekly
Edmonton	Edmonton Waste Management Centre	2000	Weekly
Vancouver	Food Scraps Recycling Program	2010	Bi-weekly or weekly

Source: City of Ottawa, 2013, *Green bin pickup to begin on schedule*, <http://app06.ottawa.ca/cgi-bin/pressco.pl?&Elist=15742&lang=en> (accessed March 27, 2013). City of Ottawa, 2013, *Green bin collection goes weekly*, <http://app06.ottawa.ca/cgi-bin/pressco.pl?&Elist=17570&lang=en> (accessed March 27, 2013). City of Moncton, 2013, *Wet/Dry Waste Separation*, www.moncton.ca/Residents/Garbage_and_Recycling/Wet_and_Dry_Waste_Separation.htm (accessed March 27, 2013). City of Hamilton, 2013, *Green Carts are here*, www.hamilton.ca/NewsandPublications/NewsReleases/2006News/April/06-04-03ph.htm (accessed March 27, 2013). City of Edmonton, 2013, *Edmonton Composting Facility*, www.edmonton.ca/for_residents/garbage_recycling/edmonton-composting-facility.aspx (accessed March 27, 2013). City of Vancouver, 2013, *Food scraps recycling program*, <http://vancouver.ca/green-vancouver/food-scraps-program.aspx> (accessed March 27, 2013).

Chart 1 Composting, Canada and provinces, 1994 and 2011

Ninety-three percent of households in Halifax reported composting either kitchen and/or yard waste. This was followed by households in Guelph (87%), Saint John (83%) and Kingston (83%).

The two CMAs with households least likely to compost were both in the province of Quebec, with 30% of households in Saguenay reporting they composted, followed by Trois-Rivières (33%).



Note: As a percentage of all households.
Source: Statistics Canada, Environment Accounts and Statistics Division, Households and the Environment Survey (survey number 3881), 1994 and 2011.

Composting by households in Canada

Table 2 Composting, by province and selected census metropolitan areas, 2011

	Composted kitchen and/or yard waste ¹	Composted kitchen waste ¹	Composted yard waste ²
	percent		
Canada	61	45	68
Newfoundland and Labrador	43	27	41
Prince Edward Island	96	95	69
Nova Scotia	94	92	76
New Brunswick	58	43	53
Quebec	42	25	51
Ontario	75	62	82
Manitoba	56	27	67
Saskatchewan	47	28	53
Alberta	56	30	59
British Columbia	64	41	77
All census metropolitan area (CMA) households	61	45	72
St. John's	53	32	52
Halifax	93	92	86
Moncton	57	47	67
Saint John	83	77	75
Saguenay	30	23 ^E	26 ^E
Québec	42	23 ^E	56
Sherbrooke	64	55	81
Trois-Rivières	33	F	37 ^E
Montréal	40	18	53
Ottawa–Gatineau	76	65	85
Ottawa–Gatineau (Quebec part)	79	72	85
Ottawa–Gatineau (Ontario part)	76	63	85
Kingston	83	70	83
Oshawa	80	72	86
Toronto	76	71	89
Hamilton	72	68	78
St. Catharines–Niagara	82	69	77
Kitchener–Cambridge–Waterloo	70	54	85
Brantford	65	32	82
Guelph	87	79	93
London	68	33	83
Windsor	77	31 ^E	81
Barrie	74	59	76
Greater Sudbury	69	59	76
Thunder Bay	68	35	72
Winnipeg	53	24	68
Regina	45	31 ^E	41
Saskatoon	F	F	37 ^E
Calgary	52	27	56
Edmonton ³	49	34	55
Kelowna	73	36 ^E	85
Abbotsford–Mission	51 ^E	31 ^E	64
Vancouver	56	34	77
Victoria	78	58	86
Non-CMA	63	43	60

1. As a percentage of all households.

2. As a percentage of households that had a lawn or garden.

3. Households in Edmonton are not required to separate organics from residential waste for collection.

At the Edmonton Waste Management Centre, following collection, organics are separated from residential waste, to be converted into compost.

Source: Statistics Canada, Environment Accounts and Statistics Division, Households and the Environment Survey (survey number 3881), 2011.

Seventy-six percent of households in the largest CMA, Toronto, composted in 2011. Forty percent of households in Montréal and 56% of households in Vancouver, the second and third largest CMAs, reported composting.

Changes in composting rates over time

The proportion of Canadian households composting has increased over the years (Chart 1). In 2011, 61% of Canadian households reported composting kitchen and/or yard waste; this is up 38 percentage points from 1994.

Provincially, the largest increases between 1994 and 2011 were in Prince Edward Island, Quebec and Nova Scotia respectively. The smallest increase was observed in British Columbia, up to 64% from 38%.

Composting methods for yard and kitchen waste

In 2011, 63% of Canadian households that had composted their yard waste used a curbside collection system. However, almost one-third of households (32%) had made use of a compost bin or pile for their yard waste. Another 12% reported using a depot or other means to compost their yard waste.

More than half (60%) of households composting kitchen waste did so using a curbside collection program, while 41% of households did so by using a compost bin or pile. A small percentage had disposed of their kitchen waste by taking it to a depot or using an alternative composting practice (5%).³

Composting by curbside collection by selected census metropolitan areas

In almost all of the selected CMAs, households were most likely to have used curbside collection for their kitchen and/or yard waste. This likely reflects the availability of collection services in these metropolitan areas.

Between 2007 and 2011, there was a significant shift in household composting activities (Table 3). The largest change can be seen in the Quebec region of the Ottawa–Gatineau CMA, with the proportion of households using curbside collection rising to 61% in 2011 from 16% in 2007. This increase is due to the introduction of a weekly curbside kitchen waste composting program in 2010 to supplement the municipality's existing yard waste composting program.⁴

The introduction of similar municipal kitchen waste composting programs also contributed to increases in the use of curbside collection in Kingston (up 33 percentage points from 2007), Sherbrooke and the overall Ottawa–Gatineau region (both up 27 percentage points from 2007) and Greater Sudbury (up 23 percentage points from 2007).

Why not compost?

In general, some of the reasons that Canadians cited for not composting included not having a compost bin, or access to a municipal composting program. Other reasons offered by households included the possibility that wildlife or vermin might be attracted to the compost bin, that composting was time consuming, that composting took up too much space or residents were unsure of what could be composted.

Table 3 Composting by curbside collection, by selected census metropolitan areas, 2007, 2009 and 2011

	2007	2009	2011	Change 2007 to 2011
	percent			
Canada	33	40	41	8
St. John's	F	F	17 ^E	...
Halifax	83	85	90	7
Moncton	57	70	44	-13
Saint John	55	70	63	8
Saguenay	F	F	F	...
Québec	25	27	30	5
Sherbrooke	30	57	57	27
Trois-Rivières	F	F	23 ^E	...
Montréal	17	25	30	13
Ottawa–Gatineau	40	53	67	27
Ottawa–Gatineau (Quebec part)	16 ^E	33	61	45 ^E
Ottawa–Gatineau (Ontario part)	48	61	69	21
Kingston	26 ^E	59	59	33 ^E
Oshawa	74	73	75	1
Toronto	65	73	71	6
Hamilton	58	80	67	9
St. Catharines–Niagara	60	72	68	8
Kitchener–Cambridge–Waterloo	45	63	58	13
Brantford	41	49	47	6
Guelph	68	66	73	5
London	40	47	42	2
Windsor	53	50	58	5
Barrie	65	74	62	-3
Greater Sudbury	30	66	53	23
Thunder Bay	26	42	32	6
Winnipeg	17 ^E	F	16 ^E	-1 ^E
Regina	F	F	F	...
Saskatoon	F	F	F	...
Calgary	11	13	20	9
Edmonton	30	38	35	5
Kelowna	F	58	58 ^E	...
Abbotsford–Mission	F	41	35 ^E	...
Vancouver	35	38	39	4
Victoria	14 ^E	24	27	13 ^E

Note: As a percentage of all households.

Source: Statistics Canada, Environment Accounts and Statistics Division, Households and the Environment Survey (survey number 3881), 2007, 2009 and 2011.

Also, some reasons provided were that composting was not convenient or that materials were not collected often enough. However, 10% of Canadian households reported having access to a municipal composting or organics collection program for kitchen and/or yard waste but did not use it.

Factors that may have influenced composting behaviours

Dwelling type

The type of dwelling a household occupied was directly related to the rate of composting. Over 50% of households in detached or single dwellings reported composting their kitchen waste, compared to 22% of households living in apartments

Composting by households in Canada

Table 4 Composting by selected household characteristics, 2011

	Composted kitchen and/or yard waste ¹	Composted kitchen waste ¹	Composted kitchen waste		Composted yard waste ³	Composted yard waste	
			Curbside collection ²	Depot or compost pile ²		Curbside collection ⁴	Depot or compost pile ⁴
percent							
Canada	61	45	60	44	68	63	41
Dwelling Type							
Single detached	76	53	56	50	71	61	44
Double	77	54	76	29 ^E	74	85	22 ^E
Row or terrace	54	41	80	26 ^E	50	87	17 ^E
Duplex	56	37	64	40	53	76	27
Low-rise apartment	22	22	73	25 ^E	F	F	F
High-rise apartment	22	22	70	18 ^E	F	F	F
Tenure							
Owned	72	51	59	47	71	63	42
Not owned	34	28	65	31	47	63	40
Education							
0 to 8 years or some secondary	48	36	60	40	55	58	45
Grade 11 to 13, graduate	56	38	62	41	63	65	39
Some post-secondary, or post-secondary certificate or diploma	58	40	55	46	64	59	46
University	67	50	62	44	74	65	40
Income							
Less than \$20,000	46	37	64	37	54	64	40
\$20,000 to less than \$40,000	49	36	53	49	59	56	45
\$40,000 to less than \$60,000	56	41	59	43	67	58	47
\$60,000 to less than \$80,000	64	46	56	49	69	63	43
\$80,000 to less than \$100,000	68	47	58	49	70	62	45
\$100,000 to less than \$150,000	74	50	61	46	75	64	41
\$150,000 and more	76	56	66	39	77	64	42

1. As a percentage of all households.

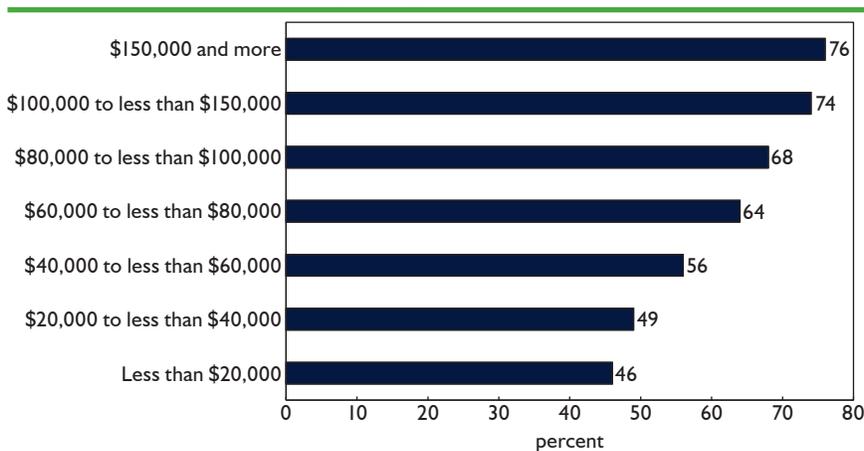
2. As a percentage of households that composted kitchen waste.

3. As a percentage of households that had a lawn or garden.

4. As a percentage of households that had a lawn or garden and that composted yard waste.

Source: Statistics Canada, Environment Accounts and Statistics Division, Households and the Environment Survey (survey number 3881), 2011.

Chart 2 Income and composting rates, 2011



Note: As a percentage of all households.

Source: Statistics Canada, Environment Accounts and Statistics Division, Households and the Environment Survey (survey number 3881), 2011.

(Table 4). This reflects the fact that many apartment dwellers can find it difficult to compost.

Income

When examining household incomes and composting behaviours, it was found that the greater the income, the greater likelihood that the household composted (Chart 2). This applied to composting both yard and kitchen waste.

Composting rates were found to be the highest where Canadians' household incomes were greater

than \$150,000, and at their lowest where household incomes were less than \$20,000.

Seventy-six percent of households with incomes greater than \$150,000 composted either kitchen and/or yard waste. Fifty-six percent of these households composted kitchen waste, while 77% composted yard waste. For both kitchen and yard waste composting, these higher-income households mostly used a curbside collection system provided by the municipality while the remainder used a depot or compost pile (Table 4).

Education

A similar pattern was found with education and composting. Households where the highest level of education achieved was at the university level were those with the highest overall composting rates, while households having achieved primary education yielded the lowest composting rates.

Notes

1. Statistics Canada, 2010, *Waste Management Industry Survey: Business and Government Sectors*, Catalogue no. 16F0023X.
2. P. Van der Werf and M. Cant, 2007, "Composting trends in Canada show varied progress," *BioCycle*, Vol. 48, no. 4, page 29.
3. Households could report more than one response to the method of composting yard or kitchen waste; therefore totals are greater than 100%.
4. Ville de Gatineau, 2013, *The collection of compostable materials in Gatineau is about to start*, www.gatineau.ca/upload/newsreleases/c-10-125.tpee.pdf (accessed April 2, 2013).