

COMPOSTING MATTERS

by Paul van der Werf & Michael Cant

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State of Composting in Canada – Part 2

In Part 1 (October/November 2006 edition) we discussed how composting fits in relative to the United States and Europe; we estimated tonnages of municipally-generated organic wastes as well as provided an overview of the types of municipal composting programs in Canada.

In Part 2 we seek to elaborate upon composting programs across Canada. We've undertaken some additional analysis to determine composting programs by region (both leaf-and-yard waste and source-separated organics [SSO]). Figure 1 shows access to curbside programs by province. Figure 2 shows access to curbside programs by region.

An additional survey was undertaken to estimate the total number of composting facilities per province. (See Table 1.) These composting facilities include those who accept from municipal curbside programs but also those that accept manures, biosolids and other wastes. (This is not a perfect process.)

Now, by the regions

The West

Both British Columbia and Alberta have relatively streamlined regulatory processes akin to Permit-by-Rule, in that a formal Certificate of Approval is not required but rather a composting facility must be designed and operated against a set of requirements. Supporting information must be produced and be available for inspection.

British Columbia adopted the Organic Matter Recycling Regulation (OMRR) in 2002. Under the OMRR, composting facilities must submit land application plans and specifications for composting facilities, and/or environmental impact study reports to the Regional Manager at least 90 days before construction begins on a new facility or an expansion of an existing composting facility. The OMRR is probably the most comprehensive guidance document in the country.

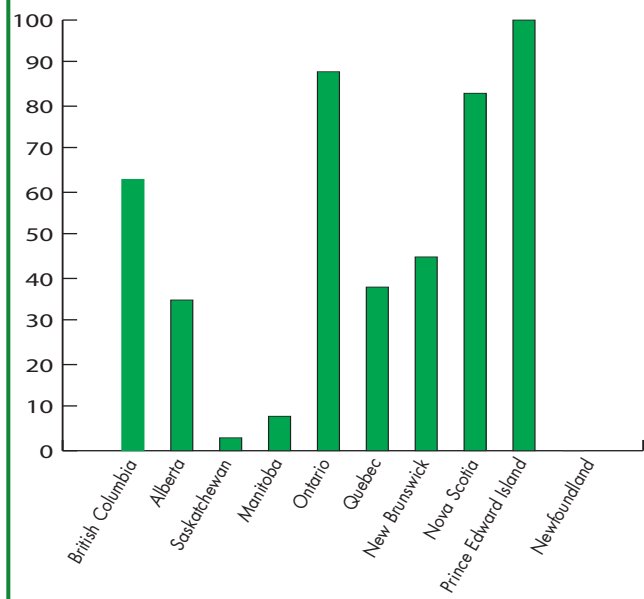
There is an expectation that more SSO-type diversion will occur before 2010, although what it will look like remains uncertain. Communities in the lower mainland are being inundated with all kinds

of waste management proposals, from composting to energy recovery.

In the Province of Alberta, the Code of Practice for Compost Facilities, established in 1996, regulates all composting facilities accepting up to 20,000 tonnes of waste per year (Class I compost facilities). The Code outlines the design, construction, operation and reclamation of Class I compost facilities. Larger facilities must go through a Certificate of Approval type process.

In Alberta waste disposal fees are relatively low and this makes it difficult for composting as a viable alternative. In Alberta it has taken

Figure 1: Percentage of Population with Access to Curbside Composting



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low disposal capacity (Edmonton) and political will (e.g., Calgary, Spruce Grove) to move composting along.

The Prairies

The trifecta of relatively low populations, abundant landfill space and the low cost of disposal have resulted in modest municipal composting activity in both Saskatchewan and Manitoba.

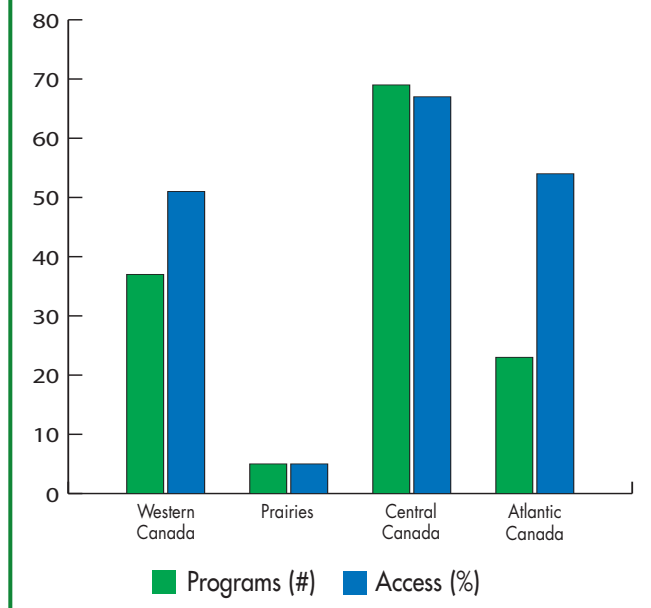
It's estimated that there are about 40 composting facilities in Manitoba. Most of these are small static pile facilities, some of which receive municipal wastes. In general, 90 per cent accept leaf-and-yard wastes while about 25 per cent accept food wastes.

In Saskatchewan it's estimated that there are about 30 composting facilities, most of them leaf-and-yard waste piles. There are some commercial composting facilities. The City of Regina is undertaking a three year trial composting biosolids at the landfill and using the resultant product as daily cover.

Central Canada

In Ontario there are an estimated 75 composting facilities, many of which are small municipal facilities designed only to handle leaf-and-yard wastes. There has been a drive to divert more SSO type wastes in Ontario. This is partly due to provincial waste diversion initiatives that spell out a goal of 60 per cent waste diversion by 2008, but has also been a function of a lack of available landfill space in Ontario. Many

Figure 2: Number of Composting Programs and Percentage Access by Region



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people are critical of the apparent inability of the province to get its act together in terms of disposal capacity. The reverse silver lining to all of this is that it has forced communities such as the City of Toronto, and the Regions of Peel, York and Durham to add SSO composting programs. Communities such as the Region of Niagara have for many years been committed to diverting organic wastes and SSO that is quite frankly a function of foresight and political will. It will be interesting to see what the impact on these diversion programs will be when the City of Toronto's new Ontario landfill (near St. Thomas, Ontario) comes into operation.

Quebec is seeing some growth in SSO composting programs in anticipation of its Waste Management Policy (1998-2008) and its 60 per cent diversion goal. There is some move by larger municipalities to implement composting plans. The reason for this is two-fold: (a)

Table 1: Composting Facilities Across Canada

Province	Estimated Number of Facilities
British Columbia	30
Alberta	70
Saskatchewan	30
Manitoba	40
Ontario	75
Quebec	40
New Brunswick	34
Nova Scotia	19
Prince Edward Island	2
Newfoundland & Labrador	6
Total	346

there isn't sufficient composting capacity to accommodate new organic wastes and (b) funding from landfill taxes and stewardship sources is delayed. Quebec is presently home for much of Ontario's SSO and some of its biosolids.

The Atlantic Provinces

The Atlantic provinces have simultaneously led and lagged the country in composting activities.

Banning organic waste disposal from landfill stimulated the development of composting programs province-wide in Nova Scotia. It's the province that other Canadian jurisdictions look to and is internationally recognized in this regard. With a new program slated to come online in Cape Breton, Nova Scotia will soon have 100 per cent access to curbside composting.

Prince Edward Island has developed comprehensive composting program that is island-wide. The Waste Watch

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program is mandatory for all residents and businesses.

New Brunswick has programs in larger centres such as Saint John and Moncton and aggressive IC&I composting through companies like Envirem.

Newfoundland and Labrador have little or no municipal composting at this time, although it's being looked at. It is estimated that they have about six composting facilities with some composting of leaves, mink and fish.

The future

It's estimated there are currently about 370 composting facilities in Canada. It was clear from our research that not all provinces keep comprehensive lists of composting facilities. Most facilities continue to be small leaf-and-yard waste facilities. There is continued growth in SSO composting, particularly in Ontario and Alberta. In addition, mid-sized and smaller municipalities are looking at com-


posting feedstocks (SSO, leaf-and-yard, biosolids, manures, etc.) to obtain the economies of scale to establish programs.

There are changes afoot that could change the face of composting and how we manage these wastes. The management of organic waste is starting to be viewed as carbon management and a much closer look is being given as to how to efficiently use the energy represented by this carbon.

The future presents us with the opportunity to integrate various technologies that will allow us to capture this energy and produce beneficial composts that we can add to soils. The potential for a more integrated approach (i.e., including other methods of managing organic wastes - anaerobic digestion, biomass burning) is a possibility.

The Kyoto Protocol's omnipresent shadow is cast on composting through its potential in yielding carbon credits. Carbon credits will become an additional driver, although perhaps

not a key one, that could tip the balance sheet favourably. To allow carbon credit trading to occur, provinces need to be careful not to make these programs mandatory.

Composting has made strong inroads and has become an established method of organic waste management. Its future should be focussed on the continued improvement of the process to manage odour and the continued effort to ensure markets realize the potential of the final product. Finally, there's the recognition that composting is a tool that can be integrated with other forms of carbon management. 

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