

COMPOSTING MATTERS

by Paul van der Werf

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The Purposefully Hip

The City of Kingston's new organics diversion program

Kingston holds a special place in my memories. It was the city in which I grew up and knew well before I left for university in the mid eighties. My father played saxophone in the Vimy Band so my fondest memories included going to their practice hall and every once in a while to hear them play at the Grand Theatre. It was also the city where I went on my first date.

All these memories came back to me as I prepared to write this column on the city's introduction to the green bin program.

When I left Kingston no one had even considered the blue box. Now just 25 years later many communities are moving beyond that first plateau towards the next. It's exciting when something that has been done many times before is still exciting. The launch of the first phase of Kingston's green bin program in April has released a palpable energy — on the same level as for the blue box — and an underlying pride that residents are now able to do more to reduce their impact on the environment. Source-separated organics (SSO) diversion will soon move the city towards its goal of 65 per cent waste diversion by 2012 and also avoid the generation of landfill methane.

Green bins and kitchen containers were distributed to 37,000 households.

Program details

"Presenting the residents of Kingston with clear information is key," says Derek Ochej, the City's public education and promotion coordinator. "Our new Trim Your Waste publication helps residents know what to put where; this helps minimize contaminants in the various waste streams including the green bin."

Allowable SSO wastes include fruit and vegetable peelings, bread, meat bones and dairy products. Over and above these standard items the city also accepts soiled paper products like pizza boxes, tissues and paper towels and other items such as dryer lint and hair. (Apparently some novelty items like toe clippings are okay too.) Continuing the current municipal trend, the city eschews the inclusion of diapers and any type of plastic in its green bins.

SSO wastes are directed to the Norterra Organics facility near Kingston, which is owned by the Scott Environmental Group.

Wastes are directed to a receiving building where they're blended with other wastes. They're then conveyed to Phase 1 windrows with a wheeled loader. Compost is screened using a trommel screen prior to marketing.

The SSO is composted at a 20,000 tonne/year GORE™ Cover





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System. The site which has a relatively small footprint consists of eight 50m x 8m x 3m aerated windrows, six of which are covered. All windrows have in-floor aeration, controlled by oxygen content in the compost windrow. The wastes are composted for a total of eight weeks.

The incoming SSO is first mechanically prepared and homogenized before being laid on the aeration floor using a wheel loader. After the GORE™ Cover is pulled over the windrow an oxygen/temperature probe is inserted into the material and an automated aeration system is switched on.

Initially the SSO is placed in Phase 1 windrows, covered, and composted for four weeks. The partially composted wastes are then directed to a Phase 2 windrow, covered and composted for a further two weeks. Finally, these uncured composts are directed to an uncovered Phase 3 windrow for a further two weeks of composting and curing.

The waste receives aeration for the full eight weeks. The aerators are controlled by means of oxygen and temperature parameters, for which the necessary data is obtained directly from the main body of the windrow using stainless steel probes. The data is fed into the computer and stored there, documenting the course of the operation.

Given the sometimes harsh Canadian winters, Norterra Organics made some winter design modifications to conventional Cover System standard windrow design by constructing one-metre side walls along the lengths of the windrow. This design feature has two functions:

1. It keeps the cover elevated and away from the surface to prevent ice and snow building up on the cover, and
2. It provides additional containment of any leachate.

In addition to accepting SSO from Kingston, the facility is set up to accept a variety of other wastes including leaf-and-yard wastes, commercial food wastes and sludges.

So far the program seems to be rolling out smoothly.


"I've been pleasantly surprised by the take-up by residents of our green bin program," says Ochej. "This positive start is encouraging and gives us confidence that we will be able to build this program."

Al Hamilton, manager of Norterra says, "I'm amazed at the negligible contamination rate in the material we're receiving. I expected more but this is helping us to manufacture high quality compost."

While the positive start is exciting green bin programs are being looked at differently by the province. As Minister of the Environment John Gerretsen recently pointed out, "Kingston's composting program is an excellent example of looking at waste in an entirely new light."

That new light is a green light.

Ochej points out, "Residents are marveling at how little garbage they're now producing. In the first month alone residents diverted almost 300 tonnes, a 17 per cent diversion from what would have gone to disposal last year."

And this is high quality waste diversion. As Hamilton points out, "The compost we're producing is high quality and we're working on getting our Compost Quality Alliance certification to demonstrate that." 

Paul van der Werf is president of 2cg Inc. in London, Ontario. Contact Paul at www.2cg.ca