

Urban waste management

by Chantal Foulds

By the year 2000, the governments of Canada would like to reduce by 50% the amount of waste being dumped at the landfills. To achieve this goal, the "3 Rs" have been heavily promoted in the last few years: reduce, reuse and recycle. Many municipalities do have recycling programs in place; yet when the types of waste materials being generated are examined, it would become apparent that the bull has not yet been tackled by the horns.

It is estimated that 30-60% (depending on how the material is collected) of urban waste is organic and hence compostable at home or through municipal programs. Compare this to the figure of 30% for materials that are recyclable (plastics, aluminum, etc.). Some municipalities carry out recycling for organic waste but composting still remains, in the majority of the cases, in the pilot phase of most waste management programs. For this reason, several experts gathered in Drummondville, Quebec on April 3rd and 4th to share their experiences in both urban and agricultural composting.

Working elsewhere

In Europe, municipalities have been composting for several years as the lack of dump sites has made it more pressing to find alternatives. According to a recent inventory, there are at least 160 composting facilities operating in Europe, of which 90 are in France and 30 in Italy. In comparison, a survey of municipal composting projects in North America revealed that only two dozen projects were set for 1992, and these only as "feasibility" studies. In Canada only one facility exists for the purpose of composting municipal wastes. It is located in the region of Chertsey, Quebec, and collects organic wastes from several municipalities. Pilot projects have been set up in a half a dozen municipalities in Ontario. In addition, the government of Ontario plans to make composting of leaves and yard waste mandatory for those municipalities in which recycling was in operation as of January 1991.

Feasible solution

Composting, if one takes into consideration that 30-60% of urban waste is biodegradable, would offer a real solution to the volume of material being dumped in landfills.

"Composting only reduces the volume of the organic waste by 15%, but the end product is one that can be used in agriculture and by the home owner" says Dr. Peter Meyboom of the newly formed Canadian Composting Council. "It doesn't have to end up in a landfill".

In many cases, composting can also be done at home, reducing the municipalities' financial responsibility in handling the material. However there are several cases in which composting at home is not feasible: food related businesses, people who live in

apartments, people who are not mobile enough to maintain a compost bin, etc. In these cases, a municipal composting program would be necessary.

Paul Taylor of Compost Management in Elora, Ontario, presented some of his company's experiences in urban waste management. For the city of Mississauga they have evaluated different ways of collecting the 3 types of household waste: organic materials (kitchen scraps, lawn clippings, etc.), recyclables (plastics, aluminum, etc.) and garbage (materials that can't be composted or recycled).

The materials were collected in 4 different ways, each method being evaluated on 1,000 homes. Three of the collection systems separated the 3 types of wastes, the major variant being that the organic waste was either collected in plastic or paper bags, and the recyclables in different types of containers. The systems were tested on separate collection routes and the materials collected composted in separate windrows to be able to monitor the quality.

More user-friendly

"Approximately 30% of households participated in the project. Collection in apartments was abysmally low. A lot more thought has to go into finding user-friendly systems for apartment dwellers," Taylor says.

In their study, collection systems that used plastic bags resulted in compost containing more contaminants due not only to the bags themselves but, Taylor says that people seemed to put more junk in them. In contrast, paper bags somehow conferred a "psychological" reminder to people not to put non-organic wastes in the bags.

Some of the organic wastes, such as the disposal diapers that are biodegradable, could not be broken down properly. In this case, it was because people wrapped the diaper in a tight little ball, which made it more difficult for microbes to get through the material. Compost Management's experiences highlighted how important complete sorting at the home and consumer education to prepare materials correctly can greatly increase the efficiency of the process.

One of Compost Management's latest projects is to implement a home composting program in Pickering. Their studies have indicated that with a "hand holding" approach, they can get 85% of households to participate. Compost bins were distributed 18 months ago free to home owners. Home composting "experts" will be visiting homes to offer hands-on information on which household wastes can be composted and how to set up a system for the home.

Taylor estimates that the program will cost \$25 per tonne, far less than what it costs to dump the material (anywhere from \$110 - 200/t for collection and dumping fees).

Taking Responsibility

Although the conference focused on composting, many discussions touched upon recycling. In some cases, participation in recycling programs has been overwhelming but the materials just sits in heaps at the waste management plants.

Why? First and foremost, markets for recycled materials have not been fully developed. Secondly, according to Carol Edmond of the Quebec Ministry of the Environment, " Our whole waste management system needs to be rethought: everything from the materials that are used for packaging, to how materials are collected, to the quality criteria of the products made from recycled products". The entire system is connected. If environmental problems are to be addressed properly, products can not be offered to the consumer without taking into consideration what will happen to it after it has been used.

Thirdly, polluters must be made to pay, domestic as well as industrial. People and industries should be made to pay for their share of the waste problem. All experts agree that this would be the most effective way to get people to reduce the amount of non-recyclables they consume. In some municipalities in the U.S., each household is allowed to put one garbage bag out per week. If they want to put more out, they have to pay for each additional bag.

Canadians have begun to adopt new strategies in waste management, but compared to Europeans are still lagging far behind. What is most striking is that recycling programs did not start by trying to reduce the major component of domestic wastes: organic materials. Rather, recycling of non-biodegradable, post-consumption items was a major focus from the beginning. Hopefully the pilot composting projects planned for 1992 across Canada will be very successful and set the foundation for full-fledged programs.

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