

New York City Department of Sanitation
John J. Doherty, Commissioner



New York City MSW Composting Report

Summary of Research Project and Conceptual Pilot Facility Design



Prepared by
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Director's Note

The *New York City MSW Composting Report: Summary of Research Project and Conceptual Pilot Facility Design* follows a series of research reports, issued by the NYC Department of Sanitation's Bureau of Waste Prevention, Reuse and Recycling (BWPRR), whose collective goal is to enhance and inform the public dialogue surrounding the management of New York City's waste stream.

Because of the varying and frequently disparate viewpoints concerning the best way for New York City to manage its waste, it is important that all those involved in the debate—from policy makers to concerned citizens—have access to well-researched and documented information on the subject. Presenting such information represents one of the primary goals behind BWPRR's research efforts over the last few years (see Table 1).

Outside of recycling and composting operations, New York City is now entirely reliant on landfills and waste-to-energy facilities beyond its borders to dispose of solid waste. Because of the high cost of export, the City needs to examine cost-effective, yet proven, alternative methods for waste disposal. BWPRR's latest report, *New York City MSW Composting Report*, builds upon the *Mixed Waste Processing* report (see Table 1) by exploring how mixed-waste processing and composting together—using technology specifically geared towards the recovery of recyclable and degradable material—can potentially be incorporated into existing City waste-management and recycling strategies. The report is based upon extensive research that explores the state of municipal solid waste (MSW) composting technology, examines the quality of compost produced from this technology, and presents a theoretical proposal for how such technology can be further tested within New York City.

As the following pages will describe, the technology presents some promising opportunities because it can exist alongside existing recycling operations, take advantage of certain collection efficiencies, and recover recyclables discarded with trash. But most importantly, this technology can recover nearly all of the degradable material, which composes over 50 percent of the residential waste stream, and turn it into a usable end product.

Of course, key questions remain regarding the feasibility of employing such technology within the context of New York City. Will it be possible to site such an MSW-composting facility (even a pilot test facility) within the City's borders, given the public's concerns about living near solid-waste operations? If the facility is located outside of the City, will it still be possible to keep transportation costs to and from such a facility low? What is the long-term marketability of the final compost produced from this process, and most important of all, what will the actual real-world costs per ton be to operate this waste-management system?

While it does not provide all the answers, I hope that this report will further the public discussion regarding waste-management alternatives for New York City by presenting BWPRR's latest research efforts.

Robert Lange, Director
DSNY Bureau of Waste Prevention, Reuse and Recycling

Table 1

Summary of Previously Issued Reports by the DSNY Bureau of Waste Prevention, Reuse and Recycling

All of BWPRR's reports are available on the DSNY website at the following location:
<http://www.nyc.gov/html/dos/html/recywprpts.html>.

Backyard Composting in New York City: A Pilot Test Evaluation (issued in June 1999) presents the results of a yearlong Backyard Composting Pilot Program. This program involved working extensively with New York City's Botanical Gardens to implement backyard composting in four test neighborhoods and evaluating the resulting receptivity, participation rates, and waste-composition impacts. The report showed that while backyard composting contributes to greater environmental and recycling awareness, it could not be counted on as a major waste-minimization strategy for the City.

Mixed Waste Processing in New York City: A Pilot Test Evaluation (released in October 1999) describes BWPRR's pilot program to measure the effectiveness of mixed-waste processing in recovering recyclables from collection districts with low recycling diversion rates. Using an economic model with a range of scenarios, the report concludes that under certain co-collection scenarios (recyclables collected with trash), mixed-waste processing can lead to cost savings because it reduces the number of overall collections.

Collectively, **Recycling: What Do New Yorkers Think? Five Years of Market Research** and **NYC Recycles: More Than a Decade of Outreach Activities by the NYC Department of Sanitation** (both issued in the fall of 1999) summarize the extensive survey and focus group research conducted to measure New Yorkers receptivity towards, and the effectiveness of, BWPRR's public education efforts in the areas of recycling, waste prevention, and composting.

New York City Recycling in Context: A Comprehensive Analysis of Recycling in Major U.S. Cities (issued in August 2001) explains how various cities calculate recycling diversion rates in order to better understand and situate NYC's achievement of a twenty percent residential recycling rate (in the year 2000) within a national context.

Composting in New York City: A Complete Program History (issued in August 2001) summarizes BWPRR's efforts through a number of pilot and ongoing programs to recover the degradable fraction of the residential and institutional waste stream.

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