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New York State Department of Correctional Services (DOCS), New York

90% Recovery of Food Discards



In 1997, 47 of 70 correctional facilities in the New York State Department of Correctional Services (DOCS) composted at 30 sites, which accept from 1/2 to 4 tons of food discards a day. Participating facilities recover 90% of their food and other organic discards. Through composting, DOCS facilities realize a net savings of \$564,200 per year in avoided disposal costs.

Program Description

In 1989, a survey found that food scraps comprised 30 percent by weight of DOCS' waste stream. A desire to reduce disposal costs as well as comply with state waste reduction legislation led DOCS to begin its **composting** program. Participating facilities prepare approximately 125,000 meals daily for an average of 1,000 inmates per facility. Kitchen workers put food preparation discards in unlined plastic containers; inmates put leftovers in a container in the dining hall. Full containers are refrigerated until inmates take them to the composting sites three or four times a week.

By refrigerating the discards, DOCS avoids odor problems. At the composting sites, discards are mixed with bulking material and windrow composted. Wood chips made from scrap wood produced on the premises comprise most of the bulking agent. Some programs also use yard debris from neighboring communities.

Sites accept chicken bones and food containing meat, such as chili. Some covered windrows accept paper towels and other soiled paper; some of the bigger sites can handle waxed cardboard. Facilities with open windrows do

not accept paper, as it often blows away, creating a litter problem.

Other than attracting a few birds now and then, the facilities have no vector problems. To keep vectors to a minimum, DOCS keeps the temperature of the windrow piles at 145°F and mixes new food discards with a bulking agent immediately upon bringing them to the compost site.

DOCS central office resource management staff prepared a training manual addressing issues such as bulking ratios, turning frequency, and legal aspects of composting programs. In addition, central office staff are on-site for the first few days of each composting program to train staff and trouble shoot. They also train new staff. Composting responsibilities are integrated into existing job descriptions. Staff at each site train inmates in composting procedures. Well-trained staff and inmates who are invested in the program keep contamination to a minimum.

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DOCS kitchen staff collect large bones and liquid fat in 30- to 50-gallon barrels provided by a rendering company. The company retrieves them every two weeks free of charge and processes these materials for manufacture into cosmetics and soaps.

Costs/Benefits

Despite increased hauling and tipping rates, the Department's trash disposal expenditures decreased 10.3% in the first seven years of its food discard recovery program. In FY89, DOCS spent \$2.3 million on trash disposal. In FY97, DOCS spent \$2,062,477 on trash disposal, avoiding \$2,350,957 in disposal costs through the Department's recycling (including composting) programs. In 1997, handling material for composting costs approximately \$34 per ton. This covers expenditures on capital equipment, supplies, and civilian labor, including the position of Resource Management



Director, which was created to oversee the program. The average landfill tipping fee is \$125 per ton. Net savings through composting are approximately \$91 per ton. Lowered fertilizer costs at DOCS farms avoids additional costs.

Inmates feel positive about the program. Able to see waste becoming an end product, inmates feel part of a productive process that makes sense. Before the program began, inmates watched a closed-circuit video on why composting works, and how it saves money and resources. Recycling, including composting, has become just another way of doing business at DOCS.

Three facilities offer inmates technical training in composting. Inmates learn the basics of recycling, such as what to do and where recyclables (including compostables)

go once they are collected. Inmates also learn technical aspects of the processes. Guest speakers explain what inmates can expect on the job. When they leave prison, inmates who have gone through this training will have skills and some of the language that qualify them for jobs in recycling, including composting, facilities.

DOCS provides communities with free compost as a community service.

DOCS uses some finished compost on its farms, but most is used in inmate horticulture programs and prison landscaping. Eighty percent is used in-house, providing large avoided costs from not buying green house soil mixes, peat moss, or mulches. Twenty percent is used in inmate public service programs.

Tips for Replication

- Present a technically sound and feasible plan before start-up to ensure success.
- Involve everyone, from the superintendent to the commissioner to the maintenance workers, from the start. Educate people so they understand why composting makes sense both environmentally and economically. If people understand why you are offering a good program, they will buy into it.

Program Summary, FY97

Sector	Correctional Facilities
Meals per day	125,000
Start date	1990 at 2 sites; 47 facilities in 1997
Dedicated Employees*	1
Method	On-site and off-site windrow composting
Materials collected	Food preparation discards, leftovers, chicken bones, soiled paper, waxed cardboard
Part of comprehensive waste reduction program?	Yes
Total waste generated (TPY)	20,875 tons
Food and other organic discards generated (TPY)	6,889 tons

RESULTS:

Food discards recovered (TPY)	6,200 tons
Food and other organic discards recovered (%)	90% from participating facilities
Total waste recovered (%)	80% from facilities participating in composting program; 50% total solid waste stream from all prisons

COSTS:

Average composting costs	\$34 per ton
Average avoided landfill hauling and tipping fees	\$125 per ton
Net savings	\$91 per ton

* A dedicated employee is one whose primary responsibility is working with the food discard program. TPY = tons per year