

US EPA ARCHIVE DOCUMENT



# Middlebury College Middlebury, Vermont

## 75% Recovery of Food Discards



*Students and employees at Middlebury College collected approximately 288 tons of food discards for on-campus composting in 1996. This represented approximately 75% of the college's total food discards. As a result of its composting program, Middlebury avoids approximately \$137 per ton in landfill hauling and tipping fees. In 1996, this led to a net savings of over \$27,000.*

## Program Description

**A**fter a waste assessment found food to be the heaviest component of the waste stream, Facilities Management staff at Middlebury College (student population 2,000) decided to implement a pilot composting program to divert food discards. The pilot was successful and the composting program now involves all five dining halls, three kitchens, and three snack bars. Although Middlebury began its program by sending material off-site for composting, in 1996, due to price changes in both trash and composting fees, the College began **composting on-site** instead.

The kitchens prepare between 3,400 and 3,600 meals per day year-round. In each dining hall, dish room staff put food preparation discards as well as post-consumer leftovers into small "food only" trash cans on wheels. College Dining Services and General Services staff empty these, along with waxed cardboard and pre- and post-consumer discards collected from the snack bars into a compactor outside one of the kitchens. Staff empty the compactor twice a month and take discards to on-site aerated

static piles for composting. The College is seeking funding for an in-vessel composter.

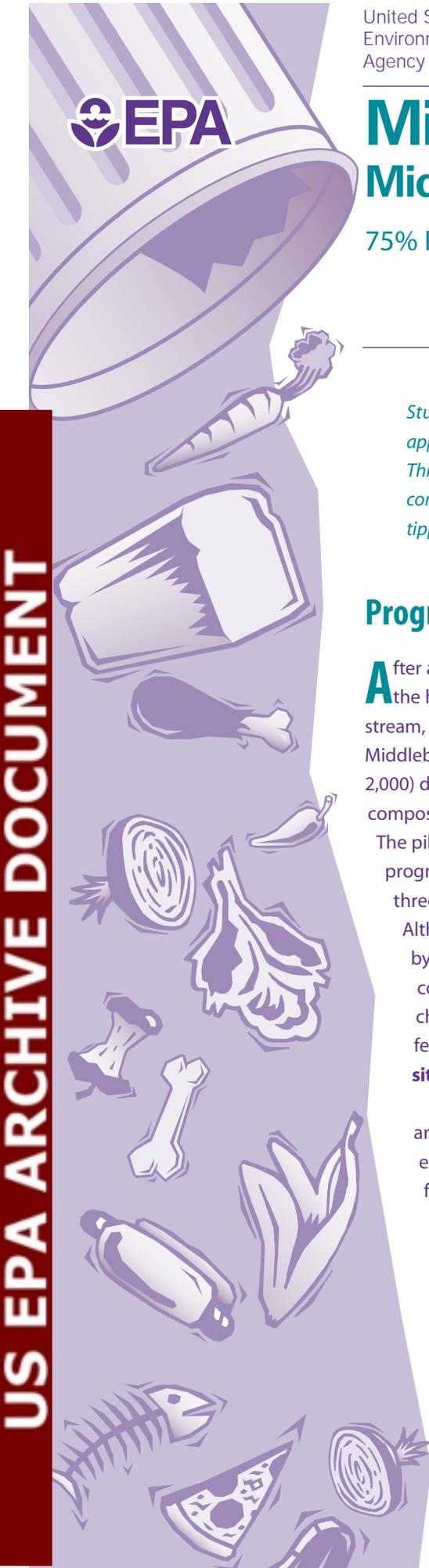
Middlebury has also had success collecting food discards at special events. In the spring of 1997, about 4,000 people attended a graduation picnic at which food discards were collected and later composted. Picnickers brought all their discards to tables where Facilities Management staff sorted it into "recycle," "compost," and "trash" barrels.

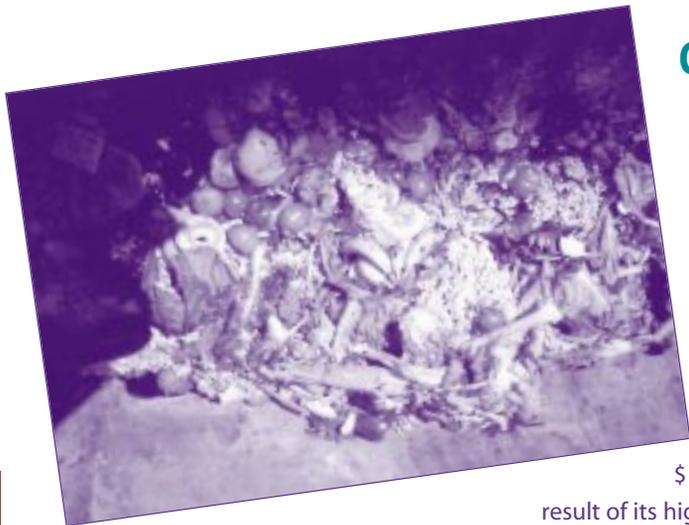
The recovery rate at the dining halls and kitchens is very high. It is lower at snack bars where customers bus and separate their own discards, and where many customers buy food to go.

To help avoid contamination of compostable organics, Facilities Management staff notify dining services managers when contaminants such as plastic wrappings, metal wire from wooden crates, and metal rings from ice cream containers are found among the food discards. Managers are responsible for keeping food discard containers relatively

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## Costs/Benefits

Middlebury College composts an average of 24 tons of food discards per month. In 1996, the cost per ton for composting, including tipping fees, trucking, labor, fuel, and supplies was \$42. For recycling it was \$145; for trash, \$137. As a result of its high food recovery rate, Middlebury realized net savings of \$27,000.

contaminant free. The program does accept a bit of contamination, as compost is screened at the end. When staff screen compost, they rent a machine with a rotating mesh barrel. The mesh lets small soil particles through and captures larger contaminants.

The College used to have two compactor containers. Due to odor problems, however, one compactor was removed and one of the satellite sites stopped separating out compostables. To mitigate odor from the remaining compactor container, the College installed a filter. In summer 1997 staff painted it white so that it would not absorb as much heat, thereby cutting down on organic processes until the material is transported to the compost site.

This reduced odor. In a continuing effort to lessen the odor problem, Facilities Management staff are working to develop a system for daily collection from the compactor container. This, they believe, will completely eliminate odor problems.



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## Tips for Replication

- Educate staff on how to compost and why.
- Keep people involved in the program with an ongoing dialogue between the Environmental Coordinator and food service employees.
- Commit to solving problems rather than saying "forget it" when problems arise. Keep trying, even if the program is not perfect at first. Let problems serve as catalysts for improvement.

### Program Summary, 1996

<b>Sector</b>	College
<b>Average number of meals prepared</b>	3,400-3,600 meals per year total in three kitchens
<b>Start date</b>	1993 off-site composting; 1996 on-site
<b>Dedicated Employees*</b>	0
<b>Method</b>	On-site windrow composting
<b>Materials collected</b>	Kitchen scraps, pre- and post-consumer food discards
<b>Part of comprehensive waste reduction program?</b>	Yes
<b>Total waste generated (TPY)</b>	1,133 tons
<b>Food discards generated</b>	384 tons (estimated)

#### RESULTS:

<b>Food discards recovered (TPY)</b>	288 tons
<b>Food discards recovered (%)</b>	75% (estimated,)
<b>Total waste recovered (TPY)</b>	725 tons
<b>Total waste recovered (%)</b>	64%

#### COSTS:

<b>Average composting costs</b>	\$42 per ton
<b>Average avoided landfill hauling and tipping fees</b>	\$137 per ton
<b>Net savings</b>	\$95 per ton

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