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Food Recovery Across the EPA Hierarchy UMass Amherst Dining Amherst, MA

Summary: UMass Amherst operates the largest independent foodservice program in the nation, serving over six million meals per year. As such, the impact of how the university handles its food waste is tremendous. Over the last decade, UMass Dining has become a leader in its commitment to food waste reduction and diversion. While UMass Dining has had an active composting program in its dining halls for ten years, it has also made a concerted effort to reduce waste at its source. This case study details UMass Dining's food waste programs through the lens of the EPA Food Recovery Hierarchy: Source Reduction, Food Donation, and Composting.

At-A-Glance:

- UMass Dining has saved \$750,000 over the past three years by reducing wasted food
- UMass follows the EPA Food Recovery Hierarchy when prioritizing food recovery efforts
- The rate of food waste at UMass is down to 9%, which is well below the 15% national average

Source Reduction

With a food purchasing budget of over \$30 million annually, wasting even a fraction of the food at UMass Amherst can be extremely costly. For a university committed to increasing its procurement of local and regional food, which tends to be more expensive, minimizing costs due to food waste is essential. For five years UMass has been using LeanPath, a system that helps commercial kitchens track and analyze their wasted food. As a result, they have determined that their pre-consumer waste is roughly equal parts trim waste and overproduction. Using a tracking system like this allows UMass to alter purchasing immediately in the event that the food being wasted is due to overproduction.

Trim Waste: UMass Dining recently upgraded its LeanPath system so that it takes pictures of each food item that is being wasted. This visual representation allows staff to analyze what food is being wasted and question how they can make use of the trim in creative ways.

For example, the dining halls now use pineapple cores for infused water, bones for stock, and cucumber cores leftover from sushi for cucumber lemonade. In addition, seeing the trim waste allows chefs to determine whether their staff is cutting vegetables properly and whether they can do so more efficiently. For example, for some uses, the nutrient-rich skins can be left on vegetables rather than peeling them.

Reducing Post-Consumer Waste: UMass Dining has also adopted strategies to reduce post-consumer food waste. A UMass student, Rachel Dutton-Harb, created a proposal to implement trayless dining. The switch to plates rather than large trays catalyzed a thirty percent reduction in waste. Furthermore, Director of Residential Dining and Sustainability, Garrett DiStefano, outlined four steps that UMass Dining has taken to reduce post-consumer waste:



LeanPath system weighs and photographs wasted items for analysis.

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1. **Small plates:** UMass serves smaller quantities so students don't receive more food than they will eat.
2. **Big flavor:** Food has to taste good so that students want to eat the food on their plate.
3. **Shorter lines:** UMass countered the problem of students taking more food than they want in order to avoid lines by redesigning one of their dining halls to cut down wait times.
4. **Just-in-time cooking:** UMass dining halls added just-in-time cooking stations so that they do not prepare more food than is needed.

According to Brittany Florio, Senior Sustainability Coordinator, UMass Dining's efforts to reduce food waste have saved them approximately \$750,000 over the last three years. The rate of food waste at UMass is down to 9%, which is well below the 15% national average.



Just-in-time cooking stations help the dining halls prepare food only as it is needed.

Food Donation

When UMass does overproduce food, they prioritize donating the surplus to feed hungry people over composting it. They partner with the Food Recovery Network (FRN), a national nonprofit organization with student-run chapters that collect and transport surplus food to local food banks and pantries. Students in the UMass Amherst FRN chapter go to Worcester Dining Commons at the end of the night, collect surplus food, and transport it to a local homeless shelter. They initially picked up food two days per week, but have expanded their efforts to five days per week. Eventually, they hope to expand the partnership to recover food across campus.

Composting

UMass Dining has had a composting program for 10 years. While they continue to work higher up on the Food Recovery Hierarchy, reducing more wasted food and donating surplus, UMass still has about 1,200 tons of food waste per year. This is enough food scraps to fill 25 city buses. UMass collects food scraps both in the back-of-the-house (in kitchen prep areas and dish clean up areas) and in the front-of-the-house (at sorting stations in dining areas). The food waste is sent to Martin's Compost Farm, a commercial composting operation, in Greenfield.

UMass employs a variety of strategies to help reduce contamination in compost bins, including signage, employee training, student education, and effective communication. In its retail dining locations, UMass Dining has compostable to-go containers, color-coded signage at sorting stations, and student education programs. In its main four dining halls, trained staff in the dish room are responsible for emptying each plate to ensure that all of the waste goes into the proper receptacle. John Pepi, General Manager for the Office of Waste Management, notes that food waste in bins from dining halls is usually comprised of less than five percent contaminants.



Sorting stations use clear signage to reduce compost/recycling contamination.

To learn more about setting up a program to collect food scraps and other wasted food for composting, animal feed, or anaerobic digestion, watch the [RecyclingWorks Instructional Video on Kitchen Source Separation](#), which features UMass Amherst Dining, or visit the RecyclingWorks page on [best management practices for kitchen source separation](#).

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