

Food choices in schools: Tastes great, less waste!

Waste prevention
à la carte!



by David Allaway

Food waste is a large component of the solid waste stream. While the list of food waste composting and vermiculture programs continues to grow, expansion is limited by permitting issues and the costs of processing and collection. On-site food waste composting has also been tried successfully at some homes, schools, grocery stores and hospitals. But although centralized and on-site composting are both effective, the best strategy to manage this problem waste may be preventing it at the source.

With the intention of reducing food waste, three elementary schools in the Portland, Oregon area recently began a program, called "Offer Versus Serve" by the U.S. Department of Agriculture, which oversees the nation's school meal programs. Simply put, the schools stopped serving the same food to every student and began offering a selection of foods. Although Offer Versus Serve is used by hundreds of schools around the nation, this project was unique in that it involved baseline and post-intervention measurement of waste.

Not surprisingly, the amount of food waste decreased as a result of offering food choices. At the same time, participation in the meal programs (and thus revenues) increased, without significantly affecting costs. Students learned about waste, and ate more nutritious meals. The change was a win-win situation

for everyone involved: students, parents, teachers, cooks and administrators.

Making less waste

Demonstrating methods to reduce waste at schools was one of several goals of a project funded with a grant from the "1 Percent for Recycling" program of Metro, the elected regional government of the Portland, Oregon metropolitan area.

Harding Lawson Associates, a consulting environmental engineering firm, was awarded the grant in 1993 to work with three elementary schools, a high school, a hospital and the headquarters campus of a large software engineering company to implement waste prevention projects; monitor the resulting costs, cost savings and waste reduction impact; and promote the results to other schools and businesses.

Because Metro and local governments had already identified numerous model business and school recycling efforts, the focus of this project was on waste prevention (source reduction). This article summarizes the efforts of the three elementary schools to reduce food waste.

Three schools were selected to participate: North Plains Elementary, a one-school rural

district west of Portland, and two schools in the Portland suburb of Tigard — Charles F. Tigard and Metzger Elementary. A program consultant from the Oregon Department of Education's Child Nutrition Programs and the Washington County Cooperative Recycling Program's school outreach specialist helped to implement and monitor the one-year pilot programs.

Out of the cafeteria, into the garbage

All three schools were given a choice of several waste prevention projects to work on; they each chose food waste reduction. At North Plains, teachers identified the school lunch program as an area generating high volumes of waste, despite the fact that it already used reusable trays and cutlery and recovered milk cartons for recycling. The first day that garbage was weighed in the cafeteria, program staff watched as the majority of students dumped their USDA-commodity of salmon noodle casserole and green peas in the garbage.

At the two Tigard schools, the district's food service director already supported the concept of food choices, but had simply not found the time to implement them in the elementary cafeterias.

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The benefits of choice

- ✓ Under the Offer Versus Serve program, North Plains students reduced food waste by 47 percent per school lunch.
- ✓ Popular fresh fruit and salad bars with an "eat what you take" policy reduced waste while offering kids more of the foods they like.
- ✓ Students bringing their lunch from home were inspired to cut waste by 13 percent at one school and 10 percent at another.

But in many school cafeterias, food choices are not the norm. The school lunch program, which is administered by USDA, has been lambasted by critics for requiring excessive paperwork by cooks and for adhering to outmoded nutritional standards not changed since 1946.

To receive reimbursement from the federal government for their meal program, elementary schools with traditional meal programs must serve each participating student at least one portion each of meat or meat al-

ternate, bread and dairy product, and two portions of fruits and/or vegetables, regardless of whether the student intends to eat it.

Current regulations give no consideration to reducing the consumption of fat, salt and sugar (although proposed regulations may change this.) Cooks are thus forced to balance the often competing goals of regulatory attainment, cost containment and nutrition while simultaneously offering meals that are sufficiently popular to ensure high participation and thus revenues. In this world of tight budgets, conflicting goals and picky eaters, reducing waste ends up low on the list of priorities for many school cooks.

Feeding students, not landfills

Federal regulations do, however, provide some latitude in the serving of food. In the Offer Versus Serve program, cafeterias offer students the complete meal pattern, but allow them to turn down any one or two items. (In fact, Offer Versus Serve is mandatory for high schools, but can only be implemented at lower levels with approval from the district school board.)

Rather than simply allowing students to reject food they didn't want, the three schools let the students choose from a variety of food. All three schools purchased child-size service bars, and stocked them with a variety of fresh vegetables and uncooked fruits.

well as an occasional carbohydrate, like bread sticks.

Under the change, students selected (or rejected) their cooked foods and dessert from the cook, and moved on to the cold food bar for self-service. Students were allowed to take as small or as large portion of the cold foods (except milk) as they wanted, as long as they followed the rule: "Take what you eat, and eat what you take." North Plains Elementary went even further, each day providing students three or four entrees from which to choose.

At the end of the process, meal-ticket takers checked student lunch trays to make sure that students had a meal for which USDA would reimburse, i.e., full servings of at least three items from the standard meal pattern.

To help the program run smoothly, each class received a short presentation that introduced the change and gave them an opportunity to talk about waste and nutrition. Much to the surprise of many, even kindergarten students had little problem negotiating their trays through this new system. Comments ranged from, "It's like a restaurant," to "Gnarly, dude!"

Less waste, more broccoli

Total cafeteria waste dropped at all three schools: 28 percent at North Plains, 15 percent at Metzger and 4 percent at Charles F. Tigard.

Waste prevention pays off

In addition to the elementary schools, three other sites participated in the Demonstration Waste Prevention Program.

Legacy Health Systems, a not-for-profit health care system, documented 14 specific activities that save more than \$279,000 and eliminate 67,000 pounds of waste each year. Highlights included replacing disposable foam mattress pads with reusable mattress pads, eliminating all but the most regularly used items from custom surgical packs, and a number of paper-saving techniques, including keeping originals on file rather than making extra copies, customizing the distribution of computer-generated reports, consolidating multiple forms and eliminating the unused back pages of triplicate forms.

Mentor Graphics Corporation's Recycling Committee sorted garbage and orga-

nized an employee suggestion contest to identify ways to prevent waste. The 1,000 employees of this software design firm reduced their use of copy paper more than 30 percent through an aggressive campaign promoting double-sided copying, eliminated 12,000 incorrect records from a catalog mailing list, regularly salvaged office supplies for reuse and eliminated 43 different printed forms. Annual savings: \$116,800 and 41,500 pounds of waste.

Tualatin High School's student environmental group, the EcoWarriors, along with food service, custodial, teaching and office staff found nine different ways to reduce waste, including grasscycling, reducing print overruns of the school newspaper, purchasing cleaning solutions in concentrate and adopting a policy to discourage excess posters. Preventing 38,800 pounds of waste saves the school \$13,600 each year.

At North Plains, food waste alone (which was weighed separately from other garbage) dropped 36 percent, or 1.5 tons per school year. And the amount of food waste per school lunch served fell nearly 50 percent.

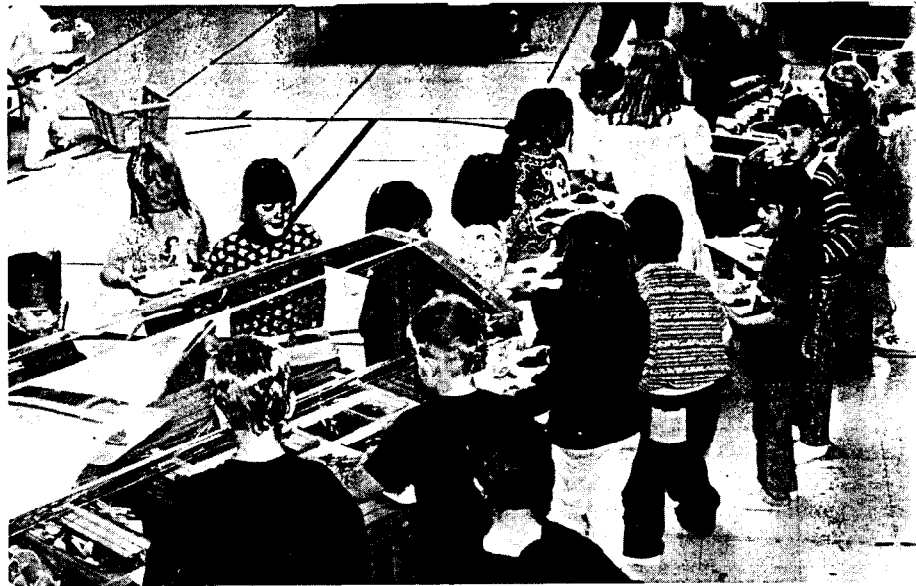
Why did North Plains outpace the two Tigard schools? A number of possible reasons exist. North Plains offered students choices of entrees; the Tigard schools stayed with one entree per day, thus limiting choic-

es. Similarly, North Plains saw fit to provide students with tongs to serve themselves fruits and vegetables from bins, not unlike a typical restaurant salad bar, while the Tigard schools, worried about communicable diseases, pre-portioned green salad, apple halves and other items in small paper serving cups, many of which ended up in the garbage. One other possible explanation for North Plains' higher results was that the school's food started out with lower acceptance than the Tigard schools, and thus there was simply more room for improvement.

Although these changes targeted food waste from school lunches, the concept of waste prevention spread to other areas of the schools as well. With no specific direction or education from the school other than the classroom presentation, per-person cafeteria waste from "brown bag" lunch eaters dropped 13 percent at Charles F. Tigard and 10 percent at Metzger, indicating that these students — and their parents — had also found their own ways to make less waste.

One sixth-grade class at North Plains started a worm box to compost cafeteria food scraps. This year, the school added "zero waste lunch day" once a month to the list of the school's spirit events.

One of the biggest surprises of this whole program was the enthusiasm students displayed for fresh fruits and vegetables, which runs counter to popular wisdom. For exam-



North Plains Elementary School students serve themselves as part of the Offer Versus Serve program.

ple, North Plains went from serving 40 pounds to 100 pounds of fruits and vegetables weekly, including raw broccoli and cauliflower (served with a dip), tomatillos and locally grown fruit, in season.

Offering this wide variety of fruits and vegetables, along with different breads and grains, is consistent with the nutritional guidelines established in the new USDA

Food Guide Pyramid. One principal suggests the self-serve atmosphere creates an environment safe for students to try new foods without pressure from adults or ridicule from their peers.

The bottom line

Although waste prevention and good nutrition are important goals, many school

ministrators are increasingly pressuring cooks to make their kitchens more cost-efficient. A change of this magnitude to a cafeteria program has the potential to affect three parts of the financial equation: labor costs, food costs and revenues.

With the exception of the first few days, when teachers had to step in and help manage the excitement of the change (and all of the schools ran out of fresh fruits and vegetables), none of the kitchens needed more staff. Once the cooks learned how to arrange the entrees and cold foods, students moved through the line faster than before. And all of the schools adjusted by moving an employee or student helper from the serving line into the cafeteria to keep the self-serve bars well stocked (and, at North Plains, to replace any soiled serving utensils).

Food costs were a little more difficult to track. At the Tigard schools, some food is prepared in central kitchens, so accounting for food costs at one specific school can be difficult. Janet Beer, food service director for the school district, states that the change has had no net financial impact on her operations.

Although some students may be eating less than the USDA's five-item meal pattern, many are eating more, particularly in fruits and vegetables. This has undoubtedly raised costs. But preliminary estimates from North Plains suggested that the cost of food per meal actually dropped under the new program, perhaps because the school's cook began watching the garbage can, and thus was able to more closely tailor her meal forecasts to student choices and consequently reduce food overbuying.

But the real bright spot in program finances is revenues. At two of the schools, student participation in the meal program increased, demonstrating student and parent pleasure with the change. While Charles F. Tigard saw participation in the school lunch program remain steady, North Plains' average daily participation jumped from 61 percent of students in attendance to 73 percent, and Metzger saw participation rise from 52 percent to 59 percent. Because labor and equipment costs remained constant, all of the added revenue brought by increased ticket sales could be spent on improving the selection and quality of food.

Summary

In the end, teachers, administrators, cooks and especially students all expressed enthusiasm for the new program. And by combining the visual and relevant topics of food, schools and the environment, the project succeeded in attracting the attention of local television and print media. Additionally, the Oregon Department of Education is using the results of this project to promote food choices to schools throughout the state, and has received inquiries about the program from at least 10 other states.

Schools interested in implementing food choices should work with their state school meal regulators or a nutrition consultant (USDA funds such consultants for schools through a program called "NetPro") to insure that the changes comply with current and proposed regulations. Knowing the language of the often complex world of school meals is essential for program success, as is top-down support from the school's administration.

Additionally, although some schools may claim that they already have Offer Versus Serve and food choices in place, a look at a school's garbage can and talking with students is important to gauge the program's effectiveness and to determine potential areas for improvement.

Offer Versus Serve and food choices will not eliminate food waste from schools, and the need for vermiculture and composting will continue. Also, because restaurants and other institutions offer a much less controlled environment than school cafeterias, offering food choices may not similarly reduce waste in other settings. At best, this program can make a small dent in a city or state's solid waste. But the change can be very rewarding for everyone involved. **RR**

David Allaway may be contacted at (503) 227-1326. Readers interested in reports from the six demonstration sites should send a 9" x 12" self-addressed envelope with \$2.00 postage to HLA, 227 S.W. Pine, 3rd Floor, Portland, OR 97204.

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