



Waste Not, Want Not

Up to 40 percent of food in the United States today goes uneaten. Yet approximately 49 million Americans lack sufficient food. That's just wrong.

by Jenni Laidman '77 and Jan Senn | Illustrations by Melissa Olson

Thirty-two million pounds of food. As Kent State nutrition graduate Chris Vogliano, M.S. '12, thought about the mountain of food donated to the Greater Cleveland Food Bank every year, he realized how much more was out there—and what all that surplus food could mean to those who struggle to get enough to eat.

The Food Bank, where Vogliano worked as the regional nutrition manager, received only a fraction of the groceries that supermarkets, restaurants and other professional kitchens couldn't use. The rest went straight to the landfill.

In the United States, 133 billion tons of food—or 31 percent of the available food supply at the retail and consumer levels in 2010—went in the trash, according to the U.S. Department of Agriculture (USDA). And that's just the food consumers, retailers and restaurateurs throw away. (See chart on page 20.) It doesn't include losses at the front of the food supply chain, which occur during production, postharvest and processing.

Today as a nation, we waste up to 40 percent of the food we produce, says the Natural Resources Defense Council (NRDC) in a 2012 landmark study on food waste in the United States. "That's almost like eating a pizza and, every time, throwing a second one away," Vogliano says.

The study notes that if we wasted just 15 percent less food, it would be enough to feed 25 million Americans. Meanwhile, the USDA reports that 14 percent of American households, approximately one in seven, did not have sufficient food in 2014.

Squandered resources

Besides the lost opportunity to feed hungry people, this waste of our food resources causes other harm. "It's economically taxing," Vogliano says. "We're throwing away money—and it's contributing to climate change."

The amount of economic loss is difficult to get your arms around. According to the NRDC, every year American consumers and retailers discard \$165 billion worth of food—more than \$40 billion from households. The average American family of four loses roughly \$2,225 a year on food they don't eat.

Not factored into the \$165 billion in discarded food are the lost resources that went into its creation. It requires 38 times more water to grow the food we throw away than is used by every American household combined. Also lost: chemicals, fertilizer, labor, and the energy it took to grow, transport, and store the crops before their disposal. Then, we spend another \$750 million just throwing it away.

As all this trashed food rots in landfills, it creates methane, a greenhouse gas roughly 25 times more damaging to the climate than carbon dioxide, says Vogliano. Food is the single largest contributor to methane emissions.

Recovered food, renewed lives

As a graduate student at Kent State, Vogliano learned firsthand about the implications of food waste at a second-floor kitchen in Beall Hall. There, at the Campus Kitchen at Kent State University, student volunteers turn donated food

into weekly meals for more than 300 people who receive assistance from local service agencies, including Kent Social Services, Center of Hope, Upper Room Ministries and Springtime of Hope. (Ohio ranks third in the nation for families who are food insecure, reports the USDA.)

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—NATURAL RESOURCES DEFENSE COUNCIL



Vogliano was one of a group of students who traveled to Washington, D.C. on an Alternative Spring Break trip in 2010 with Ann Gosky, now director of Kent State's Office of Experiential Education and Civic Engagement. During the visit, they volunteered at DC Central Kitchen, a community kitchen engaged in food recycling and distribution programs.

There they met Robert Egger, the man who founded DC Central Kitchen in 1989 and the Campus Kitchens Project in 2001, which now includes some 50 universities and high schools across the country.

Egger's newest venture, L.A. Kitchen, launched in 2013. All his projects work on the same model: donated food transformed into meals for the hungry. While Campus Kitchens use student volunteers to make the system work, DC Central Kitchen and L.A. Kitchen operate as culinary training programs. In D.C., the program trains homeless shelter residents and has helped some 1,500 people find jobs. In California, the organization focuses on training young people aging out of the foster care system and older people coming out of prison.

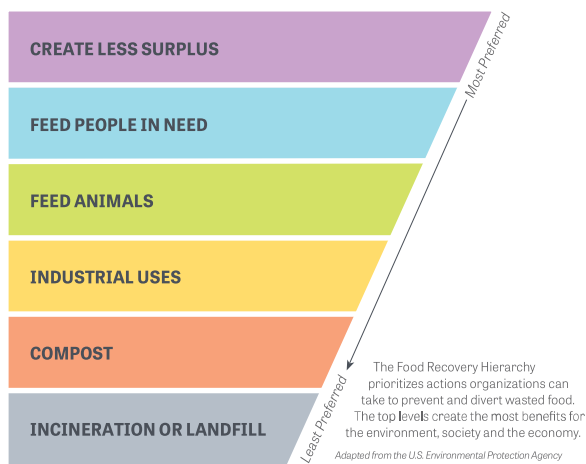
The inspiration for all this, Egger says, was a conversation he had one day in 1989 when he volunteered to help hand out food to the homeless. "I asked where the food came from and found it was being purchased from one of the most expensive stores in D.C." At the time, Egger was the manager of a nightclub and a veteran of the restaurant industry. "That really struck me. I knew how much food we threw away, and not just food, but really good food."

Getting to "yes"

Vogliano and the other students in Gosky's group were eager to start a Campus Kitchen at Kent State. Edward Hoegler, chef instructor for the hospitality management program, agreed to allow the student volunteers into his kitchen at Beall Hall, where he teaches classes in food production.

But concerns about liability issues stalled their progress until they went to see Greg Jarvie, then vice president for Enrollment Management and Student Affairs. "Greg cut through the red tape for us," Gosky recalls. "He said it was the right thing to do, and we did it. Greg and Chef Ed were

Food Recovery Hierarchy



the two significant yeses we needed to make this happen.”

As student managers with the Campus Kitchen, nutrition major Vogliano and hospitality management major Christine Sweeney '12 approached specialty grocery store Trader Joe's in Beachwood, Ohio, and asked if they would donate their surplus food to Kent State's Campus Kitchen. They said yes.

Encouraging businesses to donate food isn't simple, however. Although Kent State's Campus Kitchen receives 500–700 pounds of food from Trader Joe's every week, another 100 pounds weekly from the Kent Panera and occasional donations from Kent Campus dining halls, many business owners fret about their liability if food goes bad. But most states have long limited donor liability, Egger says.

In 1996, President Clinton signed the Bill Emerson Good Samaritan Food Donation Act, which encourages food donations to nonprofits nationwide by protecting donors from liability. If products donated to a nonprofit should later cause harm, the only liability occurs in cases of gross negligence or intentional misconduct.

It hasn't made the problem disappear, says Gosky. “We make businesses aware of the Emerson Food Act, but their response is, ‘That doesn't stop someone from trying to sue us.’”

In September 2015, the Obama administration, along with the USDA and the EPA, set a goal to cut United States food waste in half by 2030, and the United Nations extended that timeline to countries across the globe.

Federal legislation might provide greater support for food recovery via a bill proposed in December by Maine Congresswoman Chellie Pingree. The Food Recovery Act would strengthen the food donation act, expand tax credits for farmers, retailers and restaurants that donate food, invest in storage and distribution programs to help food banks take advantage of donations, and clarify some of the confusing label dates that land food in the garbage while it's still edible.

Several states are also taking measures to keep food out of the landfill. Gosky is watching what happens as California institutes a new law in April that prohibits restaurants and groceries from simply throwing food away.

WastED

Like Robert Egger, Vogliano came to the issue of food waste through a concern about people who didn't have enough to eat. Natalie Caine-Bish, associate professor in the College of Education, Health and Human Services, was Vogliano's academic adviser at Kent State. “Hunger wasn't one of my initial interests,” says Caine-Bish, who has a Ph.D. in exercise physiology. “That stemmed from my students.”

Vogliano and the cohort of students who went through the graduate nutrition program with him told her they were interested in food insecurity and environmental nutrition.

“My teaching philosophy is that students should be allowed to explore their interests,” Caine-Bish says. “One of the first things we realized was that you can't just hand out food. You have to teach people what to do with it and give them the tools they need to prepare it. Otherwise, the donated food is just wasted in a different place.”

Caine-Bish is a faculty coordinator for Kent State's Center of Nutrition Outreach, which partnered with the Campus Kitchen to provide the education piece that was missing from the project. Nutrition graduate student, Erin Powell, M.S. '13, focused her master's project on creating the Mighty Pack Program, an ongoing food backpack program that provides weekend food for children K–12 who

are enrolled in Portage County's National School Lunch Program.

Kent State nutrition and dietetic students volunteer weekly to pick up donated food from the Campus Kitchen food pantry and take it back to Nixon Hall, where they prepare backpacks for the children to take home over the weekend. Each Mighty Pack includes enough food for six meals for each child, as well as educational handouts and kitchen tools like cutting boards, measuring cups and spoons that the children use to prepare the food, with help from their parents when needed.

Funding for the cooking supplies and handout materials comes from the Ohio Department of Health, says Caine-Bish, who runs the pediatric nutrition programming that's available for Portage County through the grant. “It's a win-win,” she says. “The students get the experience and can put it on their résumés, and we can run more programs and reach more kids because we don't have to pay for personnel.”

Other students volunteer at the Haymaker Farmers' Market in Kent every Saturday from 10 a.m. to 1 p.m., where they give cooking demonstrations using donated food with free samples, recipe cards and nutrition information. “It's been a nice connection with the community

Ways Kent State reduces food waste

We asked Jackie Parsons, Kent State's executive director of Dining Services, to walk us through some of Dining Service's strategies to prevent and divert wasted food from the landfill, using categories from the EPA's Food Recovery Hierarchy (see chart on opposite page).

CREATE LESS SURPLUS “Since Kent State's board plan is à la carte, the university doesn't have as much waste as institutions with traditional buffet plans,” says Parsons. However, last summer Kent State started a LeanPath pilot program at one of its 24 food units across the Kent Campus. LeanPath, a Portland, Oregon, company with a system to monitor food waste, turns waste monitoring into a science.

Using a scale and a monitor with a touch screen, staff weigh anything that isn't used, enter information about what it is and why they're throwing it out, and the LeanPath program creates reports analyzing the waste, including a dollar amount for the trashed food.

“We will continue the program until the end of spring semester, then decide where else we will roll it out,” Parsons says. “With this program, we prepare food differently and think about what else we can do with the waste.”

To increase the efficiency of food production, last summer all the full-time Dining Services staff went through knife skills training so they can use as much of the food as possible.

FEED PEOPLE IN NEED Kent State's Dining Services sends some of its overflow to Campus Kitchen, as well as to Kent Social Services and the Center of Hope. “If we have sandwiches left over, we give them directly to the agencies,” Parsons says. “Campus Kitchen isn't going to take them apart for ingredients.”

FEED ANIMALS The university has begun a pilot program with a local farm and a smaller food unit on campus to make sure both parties can handle the volume. “Right now it's fruit and vegetable scraps going to feed pigs,” Parsons says. “We're running it until the end of spring semester, and then my hope is that we can expand to other farms.”

INDUSTRIAL USES The university sells its frying oil to Griffin Industries, a company that buys oil and repurposes it.

Recently Parsons met with Kelvin Berry, director of Economic Development and Community Relations at Kent State, who is working with the City of Kent and Rui Liu, Ph.D., an assistant professor in the College of Architecture and Environmental Design, to investigate the possibility of converting food waste to energy through anaerobic digestion, using one of the two anaerobic digesters at the Kent Water Treatment Plant.

“It's still very early in the process,” Parsons says. “But we are happy to begin this conversation.”

Berry, who came to Kent State in 2013, has been researching this concept for some time. “The manager of Kent's water treatment plant agreed to partner with us during this preliminary phase,” Berry says. “Dr. Liu's graduate students will do a feasibility study of food waste generated by the university and try to gain the support of restaurants and grocery stores. We want to see if we could collect that food waste and add it to the anaerobic digester, which studies show allows it to function more efficiently.”

Food waste generates more methane gas than solid waste does, says Berry. “If we could capture enough methane gas from the anaerobic digestion process, it could be directed into power turbines that create electricity—which could be used to power the water treatment plant and perhaps other buildings. We already have a strong partnership with the City of Kent, and this just expands our efforts to help each other accomplish great things.”

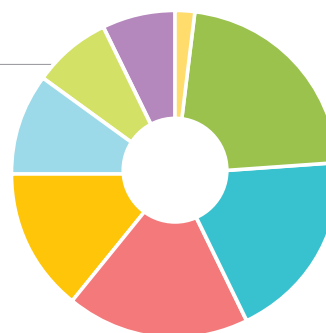
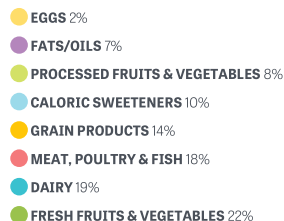
COMPOST When it comes to post-consumer waste, “We don't have control over all the food on campus,” Parsons says. “People bring in their own food, so what do they do with their pizza crusts or orange peels? That's a bigger issue.”

Parsons is looking for a resource for composting, but says that would also require changes in the kitchen. “When we finish trimming that pineapple, what do we do with the rind? We have to separate it from things that can't be recycled.

“If we're going to do all that sorting, there needs to be a place for it to go. Right now, we don't have an end user.”

Total Food Loss from Retail, Food Service and Households

(Breakdown as a percentage of total food loss)



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and also with the local growers,” Gosky says. “After the farmers’ market ends, we recover food that they might have thrown away.”

Fuel for change

Today, Alex Drungil, a senior nutrition major from Cuyahoga Falls, is one of the student managers at Kent State’s Campus Kitchen, along with Mike Brown, a junior hospitality management major from Kent. “It’s a lot of fun,” Drungil says. “A majority of the volunteers are fellow students.”

But talking to the people who need the food has changed his plans for the future. “Hearing their stories gave me a very different perspective,” Drungil says. “At first I just wanted to be a dietician. As of right now, I’ll probably go to graduate school in public health, and I’d like to be the director of a social service agency some day.”

One of his predecessors at Campus Kitchen, Chris Vogliano, has taken the issue of food waste as his mission. In 2014, he was awarded a fellowship from the Academy of Nutrition and Dietetics Foundation, and he focused on food waste, developing the framework for a program in which dietician interns will assess food waste at operations all over the country. After receiving the fellowship, he moved to Seattle, and he continues to work for the foundation, speaking to dietitians on food waste.

For Vogliano, the Campus Kitchen experience was the place where all the pieces came together: food insecurity, wasted food, nutrition.

“That’s when it started linking up for me,” he says. “I remember going to Kent Social Services and seeing people from a wide spectrum of life who didn’t have enough to eat. These were people who lived in my community, right next to me, and they were struggling to put food on the table.”

That changed everything. ⚡

Waste Wise

You won’t be able to stop all your food waste tomorrow, but try some of these ideas today to help preserve natural resources, reduce greenhouse gases and put more money in your pocket at the end of the month.



PLANNING

Study your trash: For a week, inventory what you’re putting into the trash and what you’re sending down the garbage disposal. What could you do differently to prevent these disposals?

Make a plan: Decide what your family will eat during the next few days, and use your plan to create your shopping list. Note how many meals you’ll make with each item to avoid overbuying. Include at least one Plan B meal you can whip up with the same ingredients if you get too busy to execute the more elaborate dish.

Shop your refrigerator: Cook or eat what you already have before buying more. Check your fridge, cupboards and pantry to see what’s in them and to avoid buying duplicates. Note what needs to be used and plan upcoming meals around it.

SHOPPING

Buy with blinders: Eat before you go to the store, and stick to your list to avoid impulse buys.

Shop more often: Buying in volume only saves money if you can use the food before it spoils. Make a couple small trips each week to restock produce.

Go large to get small: Hit the bulk food bins to buy smaller amounts. Do you need a big box of sunflower seeds? Or would you be better off bagging a half-scoop full?

Look for local: In-season and local produce will last longer than something that’s been shipped a long distance.

Don’t demand perfection: Many fruits and vegetables are thrown out by retailers because they aren’t the “right” size, shape or color. Buying imperfect produce at a farmers’ market or elsewhere helps keep it from going to waste.

STORING

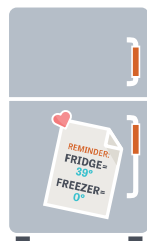
Cool it: Keep your fridge at 39 degrees and the freezer at zero to maximize food life.

Organize your fridge: Clean your refrigerator weekly, organize food so it faces front, and keep the most perishable ingredients in sight so you’ll remember to use them.

Watch your settings: Set your fridge drawers’ humidity controls at high for things that wilt (leafy greens, lettuces, herbs, etc.) and low for things that rot (apples, pears, figs, etc.).

Know how to stow: Separate apples, bananas, citrus and tomatoes from the rest of your food—they emit ethylene gas that makes nearby produce ripen faster. Stick fresh basil into a jar of water on your counter, but chill most other herbs. Rinse berries just before you’re ready to eat them to avoid mold. For more food storage advice, download the A-Z Food Storage Guide from www.makedirtnotwaste.org.

Check the shelves: Where you place food in the fridge can lengthen freshness: Top shelf (most consistent temperature) for cheese, yogurt, butter; middle shelf for cooked meat and leftovers; bottom shelf (coldest) for milk, eggs, raw meats; doors (warmest) for condiments and preserves. Don’t keep wine or bread on top of the refrigerator; heat from running the fridge will spoil it.



PREPPING

Take some time: When you get home from the store, chop, slice and place fresh food items in clear containers so they’re ready for snacks and cooking.



Sharpen your knife and skills: Keep your knife sharpened to make food prep easier and safer. Learn how to slice and chop to get the most out of your ingredients.

Befriend your freezer: Prepare and freeze meals or ingredients ahead of time, then use throughout the month. Pour leftover broth or wine into ice cube trays, freeze, transfer to freezer bags and use in sauces, soups and stews.

Relearn basic food skills: Take a lesson from your elders and can, freeze, pickle or dehydrate foods from the garden or grocery so you can enjoy home-grown produce and in-season specials all year long.

CONSUMING

Practice portion control: Putting less on the plate means less in the trash. Or try using a smaller plate. You can go back for seconds. At restaurants, ask about portion sizes and sides included with entrees, and order only what you can finish. Take home leftovers, and use in or for your next meal.

Eat your leftovers: Plan an “eat the leftovers” night each week. Freeze leftovers as individual servings if you won’t eat them soon. The website www.loveofhatewaste.com provides plenty of tips for what to do with leftovers.

Repurpose your produce: Even if it’s past its prime, safe produce can still be satisfying in baked goods, casseroles, fritattas, sauces, smoothies, soups and stir-fries.

Crack the codes: “Sell by,” “use by” and “best by” do not equal “pitch by.” Generally, a “sell by” date tells the store how long to display a product. A “best if used by (or before)” date is a recommendation

Food Recovery Hierarchy for Home Kitchens



The same principles that apply to organizations (see chart on page 20) can help us establish a waste-less mindset for our homes.

Adapted from the Waste-Free Kitchen Handbook by Dana Gundlers (Chronicle Books, 2015)

for best flavor or quality—not for safety. A “use by” date indicates peak quality as determined by the product manufacturer. Such dates aren’t federally regulated and the meanings are not standardized. Only infant formula has federal law behind it—and should not be used or sold after the “use by” date.

Use your senses: Canned, packaged and boxed goods will last well past their sell-by dates if not opened. For most items, take a sniff or taste to see if it’s good. Still uncertain? Check out www.stilltasty.com, billed as, “Your ultimate shelf life guide.” The site also provides information on food storage.

DISPOSING

Remember your neighbors: Putting on an event, moving across country or cleaning out a pantry? Donate nutritious, safe and untouched food to your local food pantry, food bank or food rescue program.

Treat your pets: Check with your vet and be discerning; only 5 percent of a dog or cat’s diet should be food scraps. Avoid giving them anything too oily, saucy or spicy and be aware of allergies, but many pets can occasionally enjoy cooked meat and eggs, fruits and vegetables (except avocados, grapes, raisins, macadamia nuts and large amounts of onions and garlic), oatmeal, peanut butter, rice, and salmon.

Start a compost pile: Even if you turn your broccoli stems into tasty broccoli slaw, you probably still won’t find a use for all your kitchen scraps. Compost food scraps rather than throwing them away. Visit www.epa.gov/recycle/composting-home to find out what you can and cannot compost. Your garden will thank you for it. ⚡

For a comprehensive guide to reduce food waste in your home, download helpful charts and order a copy of the *Waste-Free Kitchen Handbook* (Chronicle Books, 2015) at www.nrdo.org/food/wastefreekitchen/.

