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CAROLINA COMPOSTING KEEPS FOOD FROM LANDFILLS

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Public sector incentives, private sector infrastructure and guidance from a statewide task force are creating a positive momentum for food residuals composting in North Carolina. - Jonathan Bloom

WHEN it comes to diverting food from municipal solid waste landfills, North Carolina is leading the charge in the Southeast. North Carolina diverts six percent of its food waste (primarily nonresidential), double the national average. In a variety of locations and manners, the Old North State is taking significant steps to prevent the methane emissions that occur when organics decompose in landfills. "Within the region, North Carolina is in the forefront of food waste source reduction and recycling, which includes composting," says Mary Beth Van Pelt, a U.S. Environmental Protection Agency scientist based in Atlanta.

For starters, volunteers formed a task force to keep food from landfills. The North Carolina (NC) Food Diversion Task Force first convened in January and meets every other month. The task force grew out of a November food waste conference hosted by the NC Division of Pollution Prevention and Environmental Assistance (DPPEA), a part of the state Department of Environment and Natural Resources (DENR). With members from the composting, food and waste industries, the group draws on a variety of experiences to achieve its goals. "In my estimation, food waste is the next best diversion target," says Brian Rosa, the organics recycling specialist at DPPEA. "I just felt this would be a good way to get all the players in the same room to try to work out all the issues and come up with a plan to make it happen. Six months later we're seeing it start to pay off."

The task force is exploring policy initiatives that could make composting more economically competitive, through tax credits or other incentives. The task force, supported by DPPEA and the Carolinas Composting Council, brings attention to food diversion by publishing articles on the topic and hosting a website (http://www.cra-recycle.org/food_diversion_task_force.htm). In addition, it seeks to connect food recyclers with sources of waste. The task force is surveying organic waste generators to determine key barriers to diversion. Meanwhile, its long-term vision is to build a robust diversion

infrastructure that makes it possible to consider banning food waste from the landfill, just as the state did with yard trimmings in 1993.

COMPOSTING INFRASTRUCTURE

Six of the state's 36 composting facilities are now permitted to process food waste. North Carolina has a four-tiered permit structure. All but one of the sites are in the top tier, meaning they can take all organic materials. Two more sites, in Greensboro and Hickory, should be operational by 2008. The Raleigh-Durham-Chapel Hill area has adequate composting infrastructure. There are three operators in "The Triangle" that convert food waste to compost. "We've always had the composting facilities in the Triangle," says Rosa. "The missing link had been waste haulers, but they're starting to come on line."

Brooks Contractor of Goldston is the only Triangle operator that collects food waste at the retail level. (See "Growing A Commercial Organics Composting Company," January 2006.) It services restaurants, grocers and cafeterias on two crowded collection routes. "I absolutely have to turn people down because there's no room," says Dean Brooks, owner of Brooks Contractor. "Our trucks are basically full. There are lots of people who'd like to get on the program, but we just don't have capacity to do it."

Novozymes and McGill Composting both have on-site compost operations. Novozymes takes deliveries of food waste at its Franklinton facility (see "Enzyme Producer Grows Greener With Composting," December 2006), while McGill both accepts and collects food processing waste from a variety of sources. McGill has facilities in Sampson and Chatham counties, where they compost sludge from packing plants, scraps and culls from canneries. In 2006, they processed 12,950 tons of food waste, a number the company expects to surpass this year.

Farther west, Wallace Farm processes 28,000 tons of food waste annually, most of it food processing sludge. Located in Huntersville, close to Charlotte and some residential neighbors, the farm can't accept all food items. Eric Wallace, Vice President of the farm, says they avoid meat or fish products due to their smell. Wallace Farm composts ice cream sludge from nearby Hunter Farms. "It looks like a strawberry milkshake when they unload it," says Wallace. "We get about 10,000 gallons per week."

Piedmont Biofuels, the state's newest permittee, will begin composting food waste in August. Due to a grant from the DPPEA, the Chatham County biodiesel cooperative will use worms to process as much as 700 pounds of food and paper waste each week from a nearby grocery store and produce wholesaler. The worm castings will be sold in local stores. "When this project is successful, we definitely plan on contacting other local grocery stores and restaurants in hopes to reduce the amount of landfilled food waste," says Amanda Egdorf, a vermicompost specialist at Piedmont Biofuels.

RETAIL FOOD DIVERSION

Much of North Carolina's retail food diversion can be found in the progressive towns of Chapel Hill and Carrboro. The reason: they're in Orange County, which provides free organics collection service for generators of more than 23 tons/month of food waste. While other municipalities have composting facilities, none fund food waste collection. "A lot of people think 'Only in Chapel Hill,' but we started this program because we have an ambitious goal of 61 percent diversion from landfill," says Rob Taylor, Orange County's recycling programs manager. "You're not going to get to 61 percent by just taking cans and bottles."

Yet the county's motivation isn't just environmental. "It's cheaper to compost than it is to pick it up and throw it away," adds Taylor. "It's roughly \$80/ton including transport and tip fee - that's the whole shebang. We think it's one of our most cost-effective recycling programs." Brooks Contractor services the program. Participants receive 65-gallon wheeled carts with lids that say "food waste only."

Participating stores have the same motivation. Having food waste collected for free means ongoing disposal savings. "To be honest, the reason we're composting in Orange County is because it's a subsidized program," says Dawn Reeves, Corporate Environmental Manager for Harris Teeter's parent company, the Ruddick Corporation. "Although we can be as good of a corporate citizen as we can to the environment, it really does come down to a business decision." Two Harris Teeter supermarkets have participated in the Orange County program since 2003, each composting two to three tons per week.

Wake County is home to a Whole Foods in Cary that has its food waste collected by Brooks Contractor. The county recently gave a \$10,000 grant to a Whole Foods in Raleigh to help it start composting by November. Harris Teeter has similar plans with one of its Wake County stores.

Chatham Marketplace, a small co-op grocery store in Chatham County, will soon send its culled produce, coffee grounds and prep kitchen food waste to Piedmont Biofuels. Because it has found a local compost partner, food diversion will cost Chatham Marketplace much less than its regular tipping fee. This is partly because transportation costs will be minimal for Piedmont Biofuels, says Egdorf. "Many of our employees eat at Chatham Marketplace on a daily basis so their lunch hour will also be coupled with a food waste pick-up - how convenient!"

DEMONSTRATING ENVIRONMENTAL STEWARDSHIP

The state capitol in Raleigh is becoming the literal and figurative capital of North Carolina food diversion. Inter-Faith Food Shuttle, a local food recovery group, began recovering edible food excess from the State Legislative Building's cafeteria in February. The nonprofit gathers food every Friday afternoon, with the kitchen often freezing and storing leftovers from earlier in the week. The amounts vary depending on whether the legislature is in session and the popularity of menu items. Throughout the state, the Food Shuttle recovered 5.2 million pounds of edible food this past year, feeding the hungry with what would otherwise fill landfills.

As for the Legislative Building's inedible food waste, Brooks Contractor began collecting and composting it in June. Tony Goldman, Director of Administration for the General Assembly, says that the early estimates are that they generate about 200 lbs/day. The legislators are keen to divert food because "both the House and Senate are looking at how to be good environmental stewards," adds Goldman.

Beginning this fall, the Legislative Building administrators plan to divert some of that compostable food waste to an on-site worm bin. The project would feed about 50 lbs/day to worms and be mostly for demonstration purposes. The vermicomposting display, which will be visible from the building's balcony, would be part of the legislative complex tour. "We'd have our tour guides bring groups to the containers and talk to them about environmental stewardship and composting," says Goldman.

SCHOOLS AND UNIVERSITIES

North Carolina students are now exposed to the idea of composting as part of the state's Standard Course of Study. Third and sixth graders learn about food diversion across the state. Outside of the classroom, Wake County recently held Compost Carnivals at five different schools to promote the activity among youth. And it's not all talk. Hundreds of the state's elementary schools - the exact number isn't known - have worm bin projects. Where food diversion is really making educational inroads, however, is at the state's institutions of higher learning. Within the University of North Carolina (UNC) system, the Chapel Hill and Charlotte campuses began composting in 2000. UNC Charlotte uses two Earth Tubs to compost, while UNC Chapel Hill has Brooks Contractor collect its food waste. In Chapel Hill, what began with one cafeteria seven years ago now includes five sites that composted 428 tons of food in fiscal year 2006-2007.

Raleigh's Meredith College has been composting for more than five years. The women's college composts about 75 tons/year from its main cafeteria, with Brooks Contractor collecting the kitchen scraps and postconsumer waste three times per week. "It's not something we would have a real strong argument to do just on a cost savings basis because the fee for hauling regular trash is fairly comparable to the fee to have it recycled," says Aaron Schettler, Grounds Manager.

"But it's nice to know that this waste isn't going to the landfill. It's being recycled into a useful product."

Duke University in Durham has composted kitchen scraps from its East Campus cafeteria for more than three years and its West Campus for a year. Brooks Contractor also collects their organics. The school hopes to have all dining locations participating in the program by the start of the school year, says Tammy Hope, a Quality Assurance Specialist at Duke.

In western Carolina, Warren Wilson College began composting in 2005. The college uses a BW Organics Greendrum to convert all food residuals and paper products into usable soil. For fiscal year 2005-06, 56 tons were composted. Appalachian State University has composted food scraps for more than three years.

In the near future, more schools will divert food. Peace College, Brevard College and Catawba College all plan to compost their food waste. The latter two projects will be running by September.

Another kind of campus, the U.S. Army's Fort Bragg, is also considering diversion options. The Directorate of Public Works at Fort Bragg is in the process of studying how food waste is managed there. Brian Rosa is performing a waste audit, and Fort Bragg will act upon the results when they become available, says Luci Fernandez, a sustainability planner for Engineering & Environment, Inc. with Fort Bragg's Environmental Management Branch.

OUTLOOK

North Carolina food waste diversion is booming, but certainly has room to grow. While six percent of the state's food waste is diverted, 94 percent is not. "It does seem like there are definitely more and more materials becoming available," says Wallace, of Wallace Farm. "We're only taking a fraction of what's out there."

Looking ahead, NCDENR and the Georgia Department of Natural Resources are holding the EPA Region 4 Organics Summit in February 2008. The event, tentatively set for Charlotte, will focus on food waste. The host, Carolinas Composting Council, will spread the word about food diversion to the rest of the Southeast, which the EPA's Van Pelt says has been slow to divert food from landfills. "It's a building process and it takes time," she notes. "It's always about the triple bottom line: financial, social and environmental factors."

On the public policy front, the state's General Assembly passed solid waste management legislation in early August that increases landfill regulations. The bill, which the Governor was expected to sign, imposes a \$2/ton statewide disposal tax to pay for cleanup of old landfills. Composting advocates are hoping that's enough to help tip the economic balance away from landfills and toward diversion. If it does, they envision a bright future. "Increased tipping fees would help us promote composting," says Harris

Teeter's Reeves. "North Carolina has some of the cheapest tipping fees in the region. A landfill tipping fee of \$40/ton would make composting a very easy sell for me to the board because that's what we're paying now."

Large-scale diversion in North Carolina could be just around the corner. "Once we see tipping fees reach a certain price, we'll start to see food waste disappear from landfills because it will be cheaper for large-scale companies to compost," says Lynn Lucas, Marketing Specialist at McGill Composting. "I think in this state we're real close to that." Jonathan Bloom founded the blog and website, www.wastedfood.com, which examines why and how America squanders half of its food.

Sidebar:

FOOD AND RESCUE BLOG

IIN 2005 and 2006, BioCycle ran an article series on food loss, authored by Timothy Jones, an adjunct professor at the Bureau of Applied Research in Anthropology at the University of Arizona. The articles painted a picture of how much food is wasted in the United States, starting at the production level, and then all the way through to the kitchen table. In his March 2006 column, Jones noted that food loss is a massive \$100 billion drain on the American economy, with households contributing nearly \$43 billion.

Jonathan Bloom, founder of www.wastedfood.com, a website and blog on "food squandering," read the Jones' article series as part of his Master's research on wasted food in America. He was attending the University of North Carolina's School of Journalism and Mass Communications. Bloom gravitated towards the topic after two experiences made him aware of just how much food is wasted. "I have always been someone who enjoys food and had been writing about it for a number of years. When I came across the idea of food waste, it just grabbed me."

While interning in Washington, D.C. during the summer between the two years of his journalism program, Bloom volunteered one day at D.C. Central Kitchen, a homeless shelter that rescues unwanted food from restaurants and supermarkets. "In the first five minutes of volunteering, I knew that I would write my Master's thesis on this topic," he says.

Back at U.N.C., Bloom attended gleaning events, where volunteers pick crops that would otherwise be plowed under but are instead given to the hungry. His thesis included both rural and urban food recovery, addressing food waste in farm, retail and household settings. "After graduating, I kept on going with the subject of food squandering," Bloom says. "I've just expanded it to more facets of the food chain."

In January 2007, Bloom launched wastedfood.com, which he describes as “part blog, part call to action.” He has worked at part-time jobs related to food to gain direct experience with various aspects of food supply and consumption. These include working in the produce department of a supermarket, at a local organic farm, and currently at a catering company. “I'm doing jobs that inform my research, and they also help support the website,” he says.

One of the biggest challenges to tracking and reporting on wasted food is the paucity of hard data. “There are so many stages of the food chain where there are opportunities for loss, and so many reasons for it, which makes it very hard to quantify the amount of food that doesn't get eaten,” explains Bloom. “Plus, it's easier to count something that can be measured, like the number of bushels of corn produced in a certain year than how much was lost and isn't around anymore. My approach to research in general, because there aren't many hard numbers, is to highlight situations where people are recovering food, but then pose the question - if this much is being rescued at certain places, how much isn't being rescued elsewhere?”

He tells the story of attending at New York Mets baseball game at Shea Stadium. The game was rained out, so the food service contractor, ARAMARK, had much more food to donate. “They gave a local church shelter all the chicken fingers, hot dogs and burgers they normally donate, but because of the rain, there was literally twice as much. They could barely fit all the food in the minivan making the pick up,” he recalls. “I look at a situation like that and applaud teams that donate, but can't help wondering why other teams don't. What happens to the excess food at those other stadiums after regular games or even rainouts? I hope that www.wastedfood.com moves more companies, organizations and individuals to action.” - N.G.

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