

BioCORTEC®

NEWSLETTER

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Compostable plastics may help boost cities' food-waste programs

Composting food waste is the next step for cities hungry to reach recycling goals and reroute organic matter back to the soil instead of landfills and incinerators.

Compostable plastics are making the job easier but there are challenges to overcome from manufacturers "greenwashing" products labels to composters determining what will breakdown in an appropriate time frame given the temperature and moisture of their facility.

As more cities start up food-waste programs, Michele Young, organics manager of the San Jose Environmental Services Department, says the time is ripe for an online clearinghouse of what works, or as she calls it, a compostable plastics tool kit.

Young wrote and received a \$50,000 grant from the Urban Sustainability Directors Network to pull together the best resources for city recycling coordinators and others wanting to successfully compost plastic bags, plates, bowls, utensils, coffee stirrers and other food-service items.

"There is tremendous opportunity to capture more food waste with compostable plastics but the solid waste industry is working to bring end-of-life issues to light," Young said. "If the compostable plastics don't get to a large-scale composting facility, they can cause greater problems than conventional plastics."

For example, compostable plastic that ends up at a material-recovery facility will only degrade the quality of the plastic commodity coming out of the recycling process. "If you're making plastic straps to secure bricks on the back of a truck, you really don't want a disintegratable plastic in the recycled plastics mix," Young said. "That's a contaminant."

Young is working with colleagues in Asheville, N.C., and Gaithersburg, Md., to determine what the compostable plastics tool kit should have to support food-waste diversion programs. The goal is to post the information on the US Composting Council (USCC) website in February and then update it frequently.

"A lot of resources are floating in the ether," Young said. "We'll make them into a package so a municipal staff person with no background at all can see tools that are peer-reviewed or refer residents, businesses and compost operators to the toolbox."

Continued on Page 2...



Cortec EcoWorks® Bags, 100% Compostable

Fueling the need

The number of compostable plastics making their way to consumers is outpacing development of the infrastructure to handle the products and that's causing problems for composting facilities and well-intentioned consumers.

Young says many compostable plastics end up in landfills because the buyers don't live in places with collection and processing programs. "People want to do the right thing. They want to do the next green thing but we need to build all the pieces," Young said. "We can't say it's on the shelf; buy it and consider that green. We also have to ask what do the collection systems look like. Are there available composting facilities? How can consumers be sure they bought something that is truly compostable?"

While San Jose is a leader in solid waste management, the city is moving ahead cautiously with compostable plastics. The city spent five years creating a collection and processing system that diverts 300 tons of commercial food waste to two composting facilities every day. However, it isn't requiring use of compostable plastic bags or serveware yet.

"We're in the process of doing disintegration testing to identify materials that will disintegrate in our composting facilities," Young said. Portland, Ore., is further along with residential and commercial programs. New York City is adding high-rises and neighborhoods to its food-waste pickup program every few months. The state of Massachusetts plans to require all restaurants, universities, hospitals and hotels that generate at least a ton of organic materials every week to repurpose the food; composting is one of the options.

Food waste and organics make up 20-25 percent of the waste stream going to Massachusetts landfills and incinerators, state officials announced recently. They project the proposed ban on food-waste disposal will help the state reach its goals to reduce the waste stream by 30 percent by 2020 and 80 percent by 2050.

The need to offer cities more resources came out of a meeting of the Compostable Plastics Task Force, which is an initiative started by the USCC. Cary Oshins, USCC spokesman, said the tool kit will be handy for decades as municipal leaders with a lot of questions and limited staff and budgets hammer away at issues.

"There's no reason to recreate the wheel," Oshins said. "It may be 50 years before Bismarck is composting, but many cities, especially major ones, are banning food waste and taking on the huge effort now. This tool kit will have fact sheets, planning guides, white papers and camera-ready material."

Oshins points to Cedar Grove in Washington, which recycles food and yard waste into compost for the Seattle area, as a model for a robust program. "They say if you're going to do a food-waste program and bring it to our facility, it needs to be approved by us," Oshins said. "So when the Seattle Mariners wanted to convert their stadium, they worked with Cedar Grove and their product suppliers to meet the end user's — the composter's — specifications. That's a great example of working through the value chain of resin manufacturers, product producers, distributors, the facility, and there's a hauler in there some place, to coordinate all the pieces for the system to work."

Getting it right

Cedar Grove composts 400,000 tons of organic matter annually from households, businesses, offices schools and prisons. "The reason we take compostable products is to get more food waste because it's a good feedstock for our process. It brings in a higher nitrogen, which we need a lot of in the fall and winter and it really helps us maintain a consistent product year round," said Michele Riggs, biodegradable technical specialist and environmental technician for Cedar Grove.

Continued on Page 3...



* EcoFilm®, EcoWrap®, and EcoWorks® are Certified compostable per ASTM D6400 and EN 13432

She and other staff test everything for disintegration rates in their composting process. Riggs says not all of the compostable materials certified by the Biodegradable Product Institute (BPI), which reviews products that meet standards of the American Society for Testing and Materials, make the Cedar Grove list.

“The parameters in which we operate to create and manufacture our compost are extremely different than the parameters used in the methods to test these products for disintegration,” she explains. The Cedar Grove process takes 49-60 days, depending on the season and tonnage coming in. Part of the process entails pulling out materials that consumers thought were compostable, and even more so, traditional plastic.

“People don’t realize the little tag you got with the plant for your garden doesn’t go in your yard waste bin and we have more than a million customers so it really does add up over time,” Riggs said. People also don’t realize labels can be deceiving with descriptions touting products or packaging as bio-based, biodegradable, degradable, compostable, starch-based, plant-based, and made from “renewable” materials. For consumers, Riggs suggests watching for the BPI certification logo, even though it doesn’t mean a product will turn to humus in 60 days or less at Cedar Grove. “People need to know about identification so they aren’t green-washed,” she said.

Look for the logo

The BPI compostable logo, which shows an evergreen and leaf, indicates a product is certified to biodegrade completely, quickly and safely in a well-run or commercial compost facility as opposed to a backyard compost bin. To carry the logo, products that meet ASTM D6400 standards for compostable plastic films and bags and D6868 standards for compostable fibers and plastic-coated paper and board must pass an independent BPI review.

Biodegradable doesn’t equate to compostable. Biodegradable is a vague term without a time frame. A tree is biodegradable but it can take centuries while composting is a managed process with definitive temperatures and times to create humus, said Steve Mojo, BPI executive director. “There are also requirements of how much has to biodegrade,” he added. “The person who put starch in the polypropylene can say its 50 percent starch so it’s biodegradable but the other 50 percent will remain there forever” so it isn’t compostable. Mojo lauds California’s progressive labeling law, which prohibits the use of the term biodegradable on all plastic products and mandates the term compostable only be used for products that meet the ASTM D6400 and 6868 standards. BPI has licensed products from 140 companies since 2002 and recently went online with the largest public database of 3,300-plus compostable products for consumers and composters.

“It’s something we have been working on for close to two years now,” Mojo said. “The industry has grown dramatically. The material properties and the products have gotten remarkably better. I’ve been in the business for 20 years and I can say compostable materials are every bit as good as the traditional plastics and applications they are used in.” Still, Riggs has one lament amidst all the innovations: those little stickers on pieces of fruit. “You don’t pull off the fruit sticker and it ends up in our product and in the gardens of our customers,” she said. “Most of them are okay with it compared to seeing forks and piece of plates. Even so, that’s one of our big things. I’m really trying to find a compostable sticker. That’s just another thing to tackle.”

Source: Plastics News, September 23, 2013



Featured Cortec® Environmentally Friendly Product:

Bacto-Control

Bionetix International a wholly owned subsidiary of Cortec® Corporation, in the business of manufacturing microbial based bio-products presents a newest addition to its line of products - Bacto-Control, an environmentally safe, biodegradable alternative to the use of chemical pesticides for crop protection.

This water dispersible powder is a proprietary blend of bacteria cultures with high production of bio-active molecules. The bacteria cultures included in this product superiorly protect crops from a broad range of diseases by direct inhibition of pathogens and stimulation of the plant's immune system.

Using beneficial microorganisms, Bacto-Control is the most promising method for more rational and safe crop management practices. Bacto-Control contains a variety of bacteria cultures that produce a broad spectrum of bioactive molecules belonging to the family of lipopeptides, also called biosurfactants.

The bacteria also promote plant growth by acting as a root colonizer that will protect it from pathogens and then facilitate nutrient absorption. The lipopeptides act on plant pathogens via two major mechanisms: inhibition of the synthesis of their cell wall components and the breakdown of fungi cell walls through the surface-active properties.

In addition, the biosurfactants can also act as spreaders, by facilitating root colonization and as immuno-stimulators, by reinforcing host resistance potential. Bacto-Control is compatible with conventional spray equipment, irrigation delivery systems and aerial application methods.

Application of BactoControl will:

- Protect the crop from a broad range of pathogens
- Suppress plant diseases by activating internal immune system
- Enhance plant root development by root colonisation and protection from pathogens
- Facilitate nutrient absorption
- Promote green agriculture by eliminating the use of chemical pesticides
- Maintain overall health of rivers, soil and air by improving the quality of agricultural residues and eliminating the dependence on chemical pesticides

Capability of microorganisms to transform pollutants and synthetic chemicals into sources of energy and raw materials for their own growth, proves that expensive chemicals can be replaced with biological processes that are safer, lower in cost, and far more efficient.



Since the bio-active bacteria and the bio-actives produced are entirely natural and biodegradable, Bacto-Control can be spread on plants without any risk to the environment or humans.



The product is completely safe and can be spread on plant leaves, stems, fruit, flowers and all other organs without any risk of synthetic pollution



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