

GOING GREEN WITH WHEEL LOADERS

All over the United States, going “green” is gaining momentum. So perhaps it’s not surprising that one of the fastest-growing applications for wheel loaders is recycling.



Bates Trucking delivers food waste to Chesterfield Farm's receiving area.



A Backhus turns the windrows. In 60-75 days the compost is ready for screening.



Compost and other materials are screened and blended.

CAPITOL IDEA

Chesterfield Farms Organic Recycling Facility is located in Crofton, Maryland, which is situated between Washington, D.C., Baltimore, and Annapolis. As a company that makes compost, topsoils, and other blended media, they rely heavily on their Kawasaki 70ZV-2 loader. Its tasks include feeding incoming materials into a horizontal grinder, blending and then building the compost windrows, tidying the windrows area, feeding the decomposed compost through a screener, creating special blends of media, and loading out trucks. Servicing the bulk commercial market, Chesterfield Farms' clientele includes landscapers, developers, contractors, architects, nurseries, municipalities, and farms.

"We're the only facility in Maryland that takes in food waste," explains Alan Boehm, Owner. "We don't have our own trucks but Bates Trucking has really stepped up to the plate. They have invested in special trucks just for food waste recycling and they are picking up from places like Whole Foods, hospitals, florist shops, assisted living facilities, schools, hotels, and the U.S. House of Representative's cafeteria."

Fittingly enough, some of Boehm's organic recycled material from D.C. has headed back there; it is being used on the grounds of the Pentagon's new 9/11 Memorial for the trees and other plantings.

FINDING THE RIGHT BLEND

The compost Chesterfield Farms makes is a mixture of food waste and yard waste. The yard waste comes from small contractors and counties.

"When we opened the doors in 2004, we were strictly yard-waste based," says Boehm. "But in reading various publications, I realized there was a trend toward food-based compost for use on farms. That really peaked my interest as I was born and raised on a farm on Chesterfield Road. So we decided what kind of products we would sell, then we figured out the way we needed to do the actual composting process."

ENTERING THE MARKET

Boehm has been interested in recycling for years. He was in excavation back in the late 1980s and saw the need to handle wood waste. But because of zoning issues, the business climate, the lack of market demand, and the state of technology back then, he opted not to pursue it into the 1990s. But over the next decade or so, all those negatives started turning around. Then he found and purchased an old wood-waste facility, and spent a year and a half cleaning it up and refurbishing it to meet his needs.



Alan Boehm, owner, holding a handful of compost made from food and yard wastes.

"We bought a used Kawasaki 90 from Elliott & Frantz when we started cleanup," says Boehm. "We needed the big size to shift material back and forth all over the grounds. In two years, we put about 5000 hours on it. We basically had no problems with it — it was a great machine. We bought our 70ZV-2 because we realized the 90 was way too big for the screener plants and was a better fit for our long-term goals."

Although composting itself has been around for millennia, doing it as a for-profit business in the U.S. is relatively new. Even though Boehm waited to make the plunge, he still has had to adapt on the fly. "When we started, I didn't want to be in the soils business. I wanted to do just compost. But I discovered the way to keep moving the compost was by blending it with other materials and selling it as soil." Today the company sells two grades of soil — high-end horticultural and a more ordinary topsoil. They also market growing media for green-roof applications and bio-retention purposes.

In addition to watching market trends, Boehm is keeping track of the rapidly changing and maturing technologies, hoping to shorten his typical composting turnaround of 60-75 days to 45-60 days. He's also hoping by year's end to produce all of his soils from 100 percent recycled products. Another goal is to reach zero waste at his current facility. At the moment, certain plastics, soiled cardboard, and oversized wood pieces cannot be used and must go into the landfill.

THE COMPOST PROCESS

When waste product is delivered, their Kawasaki wheel loader scoops it up and feeds it into a huge grinder. All the day's ground product is then blended by the loader to create the proper 30-to-1 carbon-to-nitrogen ratio. Additives such as bits of new sheet rock may be used to achieve the ideal PH level. Next, the blended materials are piled up by the loader into large windrows that are about seven feet tall by 15 feet wide. The composting process itself occurs naturally over time, with fungus and microorganisms inherent in the organic material doing the work. Temperature and moisture content are monitored daily. Straw or water is added to balance the water content and when a windrow exceeds an internal temperature of 150 degrees, a large rotor in their Backhus turns the piles, which also helps regulate oxygen. Materials are routinely tested to ensure there are no contaminants and they meet the company's standards for quality and consistency. Once the compost process is complete, the loader or an excavator feeds the material through a screener. Then it can be blended into a variety of products for bulk sale.

LOOKING AHEAD

"If two more grocery chains came on board, even another composting facility couldn't keep up with the demand," says Boehm. As a result, he is making plans to expand his current facility as well as looking for one or two additional sites.

Chesterfield Farms Organic Recycling Facility is serviced by Elliott & Frantz, Jessup, Maryland.