RECIPE FOR SUCCESS

COMPOSTING INTEGRATED INTO FAMILY BUSINESS

Composting operation started by a Texas meatpacking company, initially to process its own waste, has expanded into biosolids, yard trimmings and food processing residuals.

Craig Coker

NEW EARTH Soils & Compost is a 15-year-old family owned company working to make Texas greener. New Earth has two composting facilities, the original one in San Antonio and a new one north of Houston in Conroe. The facilities are run by Clayton Leonard, scion of L&H Packing Corporation, a 46-year old family meatpacking company founded by his grandfather and a partner that is now the largest processor of lean beef in the southwestern U.S.

“Composting? What is composting? I remember asking my dad,” says Leonard. “That was how my introduction into this business began back in 1997, when I was appointed by my family to head up the composting of our paunch manure that was generated from our meat packing plant in San Antonio.” The company became involved with composting 20 years earlier, when L&H Packing Corporation began looking for a cost-effective, environmentally sound way to dispose of its cattle manure. The Leonards contacted Malcolm Beck, a pioneering composter and owner of natural gardening supplier Garden-Ville, to find a solution to their waste problem (see “No Tipping Fees at this Compost Site,” December 1993, and “Garden-Ville Celebrates 50 Years of Composting and Recycling,” November 2007).

L&H Packing began selling its manure to Garden-Ville in 1977. In 1995, L&H Packing and Malcolm Beck became partners in Garden-Ville Research Recycling Park, which converted its waste products into soil, compost and mulch, for sale to landscapers. To expand the operation, the partners purchased 100 acres in eastern Bexar County next to a BFI-operated landfill, on what was then the outskirts of San Antonio. Beck later sold his interest in Garden-Ville Research Recycling Park to L&H Packing, which took over and changed the name of the business to New Earth Soils & Compost, placing the younger Clayton in charge. The company received its first permit from the Texas Commission on Environmental Quality (TCEQ) in 1997.

“Thus began New Earth, our business model which included selling compost, soils and mulches,” says Leonard. “We initially composted using large static piles that we flipped with front-end loaders every couple of months.” Finished product required composting times of up to 12 months, in which the piles would be turned 5 or 6 times. New Earth composted paunch, turkey and horse manure; wood shavings; green waste; ground lumber; liquid food processing wastes; and vegetable wastes. “Using the static pile method we would process about 40,000 cubic yards per year (cy/yr) on a cement stabilized soil pad,” he continues. “Significant wear and tear was put on this pad due to the turning of the piles with the loaders, often in wet conditions. Over time, this led to failure of the pad.” Markets for the compost produced using this system were soil yards, landscapers, homeowners and nurseries.

SWITCH TO TURNED WINDROWS

“With a growing demand for our products over the next few years, we needed to find a way to create more compost without sacrificing our quality,” recalls Leonard. “We began looking into windrow composting. Initially, a pull behind turner was purchased to fully evaluate this method of composting
An 18-foot Scarab turner was purchased in 2005 when the facility began processing biosolids.

Today, the San Antonio facility receives about 85,000 tons per year of anaerobically digested dewatered Class B biosolids from several entities in the City of San Antonio, along with the same feedstocks it has been handling since 1997.

that was so new to us. It shortened the time we needed to make finished high quality compost to 8 weeks from the 52 weeks needed using the static pile method. There was only one problem with the pull-type turner — it required us to space windrows far enough apart to allow the tractor to travel between the rows.”

Upgrading to a pull-behind turner allowed New Earth to increase material processed to 55,000 cy/yr from 2001 to 2004. Ingredients were bucket-blended and formed into windrows, which were turned periodically. With increased production, New Earth was able to expand into soil blends markets for new and existing landscaping projects; these soils all contained some compost. The blends increased plant survival and vigor, as well as increased water holding capacity. A composted mulch also was available.

In 2002, New Earth began composting biosolids from the City of San Antonio in addition to the paunch manure. “For product marketing reasons, we decided to make two different composts,” Leonard notes. “With the need to keep them segregated while on the same 10 acre composting pad, we needed yet another equipment solution.”

He began looking into self-propelled compost turners, and after an exhaustive search, in 2005 chose an 18-ft Scarab. “I could decrease spacing between the windrows while increasing the overall windrow height,” says Leonard. “This allowed us to take our production to over 100,000 cy/yr on the same size pad.”

THE NEXT ERA

By 2007, New Earth was outgrowing its pad. Leonard decided to capitalize on 10 years of growing sales in the Houston area by expanding the company with a second facility. “We decided that Conroe was the logical place to open a new facility, and found a site that housed a mulch yard, with bagging capabilities, which we purchased and opened in November 2007,” he says. The Conroe facility processes horse and poultry manure, mixed with green waste in static piles, turned by front-end loader. In many ways the Conroe facility is similar to the early days in San Antonio, and Leonard has plans to grow the facility as his first facility has grown.

Around this time, Leonard looked for another self-propelled windrow turner to maximize the space of the composting pad. “Newer turners allowed windrow pile heights to be pushed up to almost 11 feet successfully,” he says. “Also, some didn’t require spacing between windrows for the tires, frame, etc. of the turner, instead allowing windrows to be built toe-to-toe without spacing.” Leonard settled on a Backhus 6.75, capable of turning a windrow 10.8 ft high by 24.6 ft wide.

Today, the San Antonio facility handles about 85,000 tons per year of anaerobically digested dewatered Class B biosolids from several entities in the City of San Antonio, along with the same feedstocks it has been handling since 1997. Its contract with San Antonio Water System (SAWS) saves ratepayers $360,000/year in landfill disposal fees. “Two years ago, we selected New Earth to be our outsourced composting contractor in a best value procurement,” says Steve Clouse, Chief Operating Officer for SAWS, which owns and operates three Water Reclamation Facilities in the San Antonio area. “They convinced the selection team that they had a good knowledge of the composting business, a clear understanding of the public issues that exist regarding sludge management, and they had a solid marketing plan that proved they could handle the compost.”

Clouse added that SAWS began composting biosolids themselves 15 years ago, but has outsourced composting contracts with merchant composters since the late 1990s. “We prefer using merchant composters now,” he says. “They are better at marketing the material than we were and they can be less expensive because of more refined operations.”

At New Earth, biosolids are mixed with ground up wood waste (pallets, kiln-dried lumber, green waste, etc.) in a 3:1 volumetric ratio. Grinding is performed with a stationary electric system from West Salem Machinery as well as a mobile Peterson Pacific 7600 horizontal grinder. The New Earth facility at Conroe uses a Diamond Z 1460 tub grinder. Some grinding is contracted out as needed. Recycled “overs” from the screening operation are mixed in
as well to inoculate the piles. Pouch manure and the other animal-based feedstocks are mixed with sawdust from a local sawmill. All feedstocks are thoroughly bucket-blended together and formed into 450-foot long windrows. Each windrow holds almost 3,000 cy of materials when initially formed.

The windrows at the San Antonio facility are turned in accordance with the requirements for biosolids (U.S. EPA’s 40 CFR Part 503). New Earth uses Compostex windrow covers to help manage windrow moisture and reduce the potential for odors. The windrow covers were initially moved manually, but a windup reel was ordered from Backhus and installed on the 6.75 turner.

Finished compost is screened to three sizes, three-eighth, half and one-quarter inch, for various products and markets. New Earth uses two stationary homemade 20 foot electric trommel screens, a McCloskey 621 trommel and a Wildcat 626 trommel. “I prefer the stationary electric screen as the initial capital as well as operating costs are much lower,” observes Leonard, “however you sacrifice portability.”

New Earth’s compost products have been used in some of San Antonio’s most beautiful landscaping projects, many of which are public properties. These include the San Antonio River Walk, San Antonio International Airport, San Antonio Botanical Gardens, The University of Texas at San Antonio, La Cantera Mall and several local golf courses.

FUTURE FORWARD

The company processes over 500,000 cy/year of material between both facilities. The vast majority of revenues come from tipping fees; a minor amount comes from retail sales. Company growth has been on the order of 20 to 30 percent per year since New Earth’s founding in 1997.

Previous community projects that New Earth has initiated included: Project Re-Directory, where New Earth recycled phone books and lottery tickets by using them as feedstock; donation of finished product to Habitat for Humanity; and discount and product donation programs for many local non-profit organizations, churches, schools and other groups.

Concludes Leonard: “It’s most important to know your business and to stay informed of changing markets and demands. Much of our success has been a result of our proactive philosophy of searching for ways to make our operation more efficient and to ensure we are providing products and services that are needed. By reinvesting in our business to employ the latest available technology and methods, we have been able to keep up with the demand for our services. In the commercial composting business, our customers are looking for solutions. As long as you’re solving a problem, you will be successful.”

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