J. SCOTT CHRISTIANSON

New composting process reduces waste by 75 percent

Sevier County, Tenn., is one of several places in the country using an Ewenson digester to compost municipal waste. The process is so efficient that it reduces landfill waste by 70 to 75 percent with minimal recycling. With more extensive recycling, it's estimated it could eliminate 85 to 90 percent of the solid waste stream.

The Ewenson process begins with customer separation of items that require special disposal — tires, batteries and hazardous waste. Garbage is collected as usual and transported to the processing facility, where wood and cardboard are pulled out and recycled immediately.

The trash is then fed into one of three Ewenson digesters — slowly rotating concrete tubes about 12 feet in diameter and 200 feet long. Sewage sludge is added to increase the nitrogen and water content of the mixture. About 100 tons of trash and 70 tons of sludge can be fed into the digesters daily.

In the digesters, microbes break down paper, food and other organic materials. After three days, the material emerges as a rich humus. A series of wire screens removes inorganic material, including cans and plastics. Steel can be separated with a magnet for recycling, while plastics and aluminum can be landfilled or recycled — at the Sevier plant, they are landfilled. Because the organic material has been removed, groundwater pollution problems at the landfill are greatly reduced or eliminated.

The digesters convert 70 percent of the trash into humus. Rebecca Roe of Bedminster Bioconversion — the company that manages the Sevier facility — said the humus is further composted for several weeks inside the facility before being sold. She said the plant continually tests its compost, which passes all EPA tests for disease, bacteria and heavy metals.

Heat generated by the microbes in the digestion tubes not only kills disease causing bacteria and viruses, but also weed seeds in the mixture, making the compost ideal for agricultural applications. The Sevier facility sells its compost to farmers, landscaping companies, nurseries and orchards.

One of the benefits of this process over systems that grind trash and then compost it is that the compost is free of metal, plastics and large pieces of glass and is therefore more marketable. Also, because all the composting is done indoors, odors can be removed from the air with a biofilter to prevent bothering neighbors.

The cost-effectiveness of the process varies but will no doubt increase as landfills continue to become scarce. Monroe County, Fla., which had to haul its waste a great distance for landfill disposal, estimates the county will save $57 million during the next 20 years by using the Ewenson digesters.

The Izaak Walton League of America is on the main proponents of the Ewenson digesters. League members see the Ewenson process as a way to renew depleted topsoil.

The Ewenson digester is one of the most promising means of solving the municipal waste problem. It turns a liability into an asset by creating high-grade compost that can be used in agriculture. Coupled with a vigorous recycling program, it could nearly eliminate the need for landfills.

If you have a suggestion for a column, a gripe, a success story or whatever, write it down and send it to me, care of the Columbia Daily Tribune, PO Box 798, Columbia, Mo., 65205.