

## **COMPOSTING OPERATIONS AT CHEROKEE TRIBAL FACILITIES**

John D. Long  
Sanitation/Recycling Manager  
Cherokee Tribal Utilities  
P.O. Box 547 Cherokee, NC 28719

### **INTRODUCTION**

The Eastern Band of the Cherokee Indians (EBCI) live on the Qualla Boundary in North Carolina, a land area comprised of 56,572 acres directly adjacent to the Great Smoky Mountains National Park. The 12,000 members of the Eastern Band are descendants of those Cherokee who, in the late 1830s, remained in the mountains of North Carolina rather than be forced to march along the infamous "Trail of Tears" to Oklahoma.

Today, the Eastern Band of the Cherokee is the only tribe of North Carolina's six recognized tribes which possesses both state and federal recognition, lives on a reservation and is served by the Bureau of Indian Affairs in the US Department of the Interior, the Indian Health Service and the federal departments of Labor, Commerce, and Health and Human Services. The North Carolina Commission of Indian Affairs subcontracts Community Action Partnership Program (CAPP) funding to the Eastern Band of the Cherokee each year.

The EBCI have developed several composting operations at their facilities in Cherokee, including biosolids composting, food waste composting and backyard home composting programs.

### **BIOSOLIDS COMPOSTING**

Composting biosolids at Tribal Utilities evolved because the sludge was formerly classified as a "special waste" which required the EBCI to send the sludge to a special landfill at a great cost. Composting was determined to be a way to save significant money.

Biosolids from the EBCI wastewater treatment plant are dewatered with belt filter presses and trucked to the composting site adjacent to the solid waste transfer station. There, biosolids are amended with ground wood produced by the EBCI's yard trimmings tub grinder. Mixing is accomplished by a Volvo L50C Front End Loader working against a reinforced concrete push wall. The facility handles about 30 tons per day of biosolids.

The biosolids-yard trimmings mixed is composted in a roofed, partially-walled building using the Aerated Static Pile method of composting (see Figure 1). The mix is composted

for approximately 21 days in the building and then moved to curing for at least 30 days. Following curing, the compost is screened with a vibrating deck screen (1/2" screen size) and sold to area landscapers and a lily farm.



Figure 1  
Aerated Static Pile Biosolids Composting

## **FOOD WASTE COMPOSTING**

In 1997, the EBCI were successful in obtaining funding from EPA's Office of Solid Waste to undertake a pilot project involving the composting of food wastes. This was a first of its kind project to be implemented upon Indian Country within the whole United States. As with biosolids, the special food wastes from the in-house restaurants of the Tribal Casino operations required a means of proper disposal. The primary objective of this project is to develop an operation designed to demonstrate the effectiveness of a windrow composting process and particle screening process.

Primary feed stock for this project is source-separated food waste generated at the three restaurants located at the Harrah's Cherokee Casino. To date, the project has been very successful. On average, nearly 30 tons per month of food waste from the casino restaurants are being processed into the Food Waste Composting Project, with the amounts steadily increasing.

Incoming food waste is mixed with ground yard trimmings and shredded office paper using the front end loader (using a different bucket than is used with biosolids, to prevent cross-contamination of the food waste compost). The compost mix is then taken to a graded area on the other side of the solid waste transfer station and formed into windrows (see Figure 2). The material is composted in windrows for about four weeks and then moved to curing for another four-to-six weeks.

The finished compost is in great demand by area landscapers and farmers. The EBCI are also considering developing an organic herb farm using the food waste compost generated by the Tribe.



Figure 2  
Food Waste Composting Windrows

## **BACKYARD COMPOSTING**

The EBCI have a very active Tribal Recycling Program that has been expanded to include backyard composting programs. This project has met with huge participation and has accomplished a large success rate within this project. This program consists of giving backyard composting demonstrations and techniques to individual homeowners, school classrooms, civic organizations, and area businesses. This program will also supply these individuals with a personal backyard composter unit at no charge to them.