

## **Overview - Food Waste Composting**

Beginning in October 2005 source separated food waste has been collected from select commercial sources to be composted on a 1 acre site at the Buena Vista Landfill located adjacent to the existing yard waste and wood waste processing operation on top of the closed landfill.

This project is intended as a pilot research project with the objective to identify, using a small scale operation, cost parameters and operational issues (and their solutions) as a precursor to a subsequent decision to expand the program countywide for both commercial and residential food waste. Food waste represents about 33% of the residential waste stream and 27% of the commercial waste stream. In total, about 30,000 tons of food waste are disposed in the Buena Vista Landfill annually.

Food scraps, waxed cardboard and food soiled paper products are collected from about 40 participating businesses and delivered to the compost site three days a week (Monday, Thursday and Saturday) by a dedicated rear-load collection vehicle operated by the County's franchise refuse hauler, Green Waste Recovery. The monthly input of food waste is approximately 80-90 tons. Material is deposited on a pre-arranged bed of ground yard waste and immediately covered up to 12" with ground yard waste to prevent bird scavenging and control odors. This yard waste material comes from the County's curbside collection program and has been ground up. It serves as the bulking agent for the compost feedstock.

Once a month this food scrap-yard waste mix is processed through a shredding machine and then loaded into elongated composting bags. The purpose of this shredding step is to establish a consistent small (2" minus) particle size for all of the feedstock and to thoroughly mix all feedstock ingredients. The food waste-yard waste ratio is about 50:50. If necessary, water is be added through sprayers to achieve the appropriate feedstock moisture content. As the material is loaded into the shredder, spotters remove contaminants such as plastic, bottles and metal.

The main contaminant control takes places by the generators who are educated by County staff on acceptable and non-acceptable materials. In addition to bilingual training, large laminated posters are left for display in the kitchen and food prep areas with pictures of acceptable and non-acceptable materials. In addition, the collection vehicle crew scans the food scrap containers before loading into the truck and will either remove contaminants or not collect the material if there is substantial contamination. A log is kept of all contamination incidents with follow-up to the business by County staff.

The shredded feedstock is loaded into 10x100' plastic compost bags where it decomposes over a period of 12-14 weeks with daily temperature monitoring and adjustment of the forced air flow. A temperature/air flow log is kept and used to achieve the proper levels of air and moisture that result in temperatures to guarantee state mandated pathogen reduction levels and to produce a mature compost product. After this period the material is removed from the bags to an adjacent pile for a curing period of about 3 months.

During this time, the compost is turned weekly with a front-load tractor. Following the curing period, the product is screened with a 3/8-inch screen to further remove any non-compostable material and larger pieces of the bulking agent.

After screening and before release for sale, the product is sampled for testing by Soil Control Lab of Watsonville. The United States Composting Council STA compost quality analysis for chemical, physical and biological properties is performed, along with testing for fecal coliform, salmonella and E. Coli O157:H7.

The compost method is an "Aerated Static Pile" meaning a composting process that uses an air distribution system to blow air through the pile with no pile agitation or turning performed. The use of the enclosed bag with no turning coupled with the forced air results in no odor emissions during the compost process.

The day-to-day operation is conducted by staff from Vision Recycling (the County's yard waste processing contractor) and with oversight from a Public Works composting consultant. The public will not have access to the composting operation, although guided tours will be offered as part of the County's waste reduction outreach program.

The compost site is graded to provide controlled drainage. Water and power are provided by the County. The food waste compost operation is permitted by the state as a Research Compost Operation and is anticipated to have about 5000 cy of material on site at any one time. The site design and compost operations are regulated by the state under California Code of Regulations Section 17850 et. seq. For additional information, contact Dan deGrassi at 831-454-3102 or [dan.degrassi@co.santa-cruz.ca.us](mailto:dan.degrassi@co.santa-cruz.ca.us).