

Food Waste Composting: Department of Correction

Connecticut Recyclers Coalition No-Frills Tour:
Enfield, Connecticut, November 20, 2004



In concert with KC Alexander of the Connecticut Department of Environmental Protection (DEP), the Department of Correction (DOC) began a food waste composting program in 1997. In November 2004 members of the Connecticut Recyclers Coalition visited the facility to observe its very successful operation first-hand.

Operations

Inmates staff the composting facility. Six inmates each work 3-5 hours per day, five days per week. The program could operate with as few as 2 workers but extra inmates are brought in to work intentionally to become certified to operate the forklift and skid-steer loader.

Food scraps generated by approximately 1,600 inmates is source separated by inmates and brought from the scullery to the compost site in 55 gallon drums daily Monday through Friday. Food scraps generated over the weekend is stored in refrigerated lockers in the prison until the following Monday.

Using a barrel lifter and Reel-Augie “Scrapper” (a mechanical mixer-on-wheels designed specifically for institutional food scrap composting facilities) inmates mix the food waste with wood chips. Wood chips are provided by DOT in exchange for using adjacent DOC property as a staging area for wood cleared during highway maintenance.

The mixture is deposited in windrows on a concrete pad under an open-sided 60' x 80' pole barn. The frame is wood with 5' high oak push-walls. The roof is constructed of fiberglass on the south side to take advantage of light and heat, and metal sheeting on the north side. Water, electricity and sanitary sewer are provided to the building. An equipment wash-out basin adjoins the building and waste water is directed to a settling tank with an overflow outlet to the sanitary sewer.

Windrows are turned with a Bobcat skid-steer loader. Once the temperature of the piles drops to ambient air temperature, inmates screen out large items including the wood chips. The wood chips are re-used for several batches of compost.



A worker tips food waste from drums into a batch mixer.



The Scraper mixes food waste with wood chips.

Permitting

Because the facility processes less than 1 ton per hour it has not needed a waste volume reduction permit. Permitting has also be eased because composting is done on-site using only food scraps generated at the prison. Because it is done under the cover of a roof no discharge permit was needed, but permission needed to be sought from the local sewer authority to discharge wash water to the sanitary sewer.

Successes and Benefits

- The program composts approximately 2,000 +/- lbs per day, or 130 tons per year.
- The dumpster costs for the facility have been reduced by 50% due to composting.
- Reduced taxpayer burden by reducing disposal costs.
- Increased DOC District I recycling rate.
- Reduced water usage by not using garbage disposals.
- Reduced organic loading (nitrogen, BOD) at the Enfield Wastewater Treatment Facility.
- Improved public perception of the correctional system.
- Generates quality compost product for use in landscaping prison grounds.
- Created inmate employment and training opportunity.
- Reduced greenhouse gases.



The compost-wood chip mix is turned in windrows.



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Once the compost-wood chip mixture reaches ambient temperature, the wood chips are screened out for reuse.