

CASE STUDY: THE INTERVALE COMPOST PROJECT

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PROJECT OVERVIEW

The Intervale Compost Project (ICP) is a partnership between the Intervale Foundation and the Chittenden Solid Waste District. Food waste is hauled from dozens of area businesses to the facility located in Burlington's Intervale. Businesses save on waste disposal cost while diverting waste streams away from overused landfills. The food waste is composted with municipal yard waste and agricultural manures. The resultant high quality compost is used for the Intervale farm programs and sold to contractors and the general public.



SITE INFORMATION

The site is located in the Intervale, a flood plain of the Winooski on the northern side of Burlington. This area was farm land which escaped development because of its flood plain status. It is managed by the Intervale Foundation to be maintained as farm land and a community agricultural center. The Intervale has community gardens, a couple of businesses, a farm stand and hiking trails.

The composting site consists of seven acres. It is generally flat which has resulted in drainage problems and ponding in the past. To correct these problems the facility has done some site grading and changed the direction of the windrows to maintain drainage.

An asphalt pad was constructed in its mixing area for accepting liquid food wastes in preformed windrows of yard waste and manures. This pad was designed to divert leachate from these piles to a collection tank where it can be recycled back onto the older windrows. So far, the operators are pleased with its operation, although pumping out the leachate has increased labor time.

MATERIALS COLLECTION

Feedstocks for the project consist of food waste including dairy waste, animal manures, and yard waste. Food wastes from grocery stores and

restaurants are brought to the site by area waste haulers. The Fletcher Allen Hospital carts food waste from their kitchen. Yard waste is provided by four landscapers and the Chittenden Solid Waste District from their drop-offs. Drop-off for these materials is also provided at the ICP facility. Ben & Jerry's ice cream rinse water is transported to the site in tanker trucks by private haulers. Bedded dairy manure is hauled to the site from the University of Vermont dairy herd two times a week. Horse manure is hauled from several farms in the area in 30 yard roll-off containers. The horse manure is heavily bedded with sawdust. The manures, along with the yard waste provide a great source of drier, carbonaceous material to offset the wetter food wastes. In four months, the site receives approximately 321,000 gallons of ice cream washwater, 500 tons of food waste and 1,100 yards of manure. The Intervale Compost Project charges a tipping fee of \$25/ton for food waste. Because the manure and yard waste are necessary to obtain the correct consistency for composting, tipping fees are not charged for these materials.



OPERATION OF FACILITY

An outdoor windrow system is used to compost the waste. A large front end loader with a four cubic yard bucket is used to mix incoming materials. Windrows with an open trough on top are formed with yard waste and the animal manure/bedding mixture on the asphalt pad. The Ben and Jerry's ice cream waste is then pumped into this trough from a tanker truck.



This encourages absorption of the ice creams' liquid, fats and sugars into the rest of the materials. This blend of bulking materials is used to create a base in a three sided cement block structure where food waste is added. As the food waste is discharged,

more bulking material is mixed in. When mixing is complete active windrows are formed. The windrows are typically 12 feet wide by 5 feet high by 500 feet long.

The windrows are routinely aerated with a Sittler tractor-towed compost turner. This provides more uniform mixing and reestablishes a porous pile structure providing the oxygen needed for the decomposition. Maintaining an aerobic state within the windrow also keeps odors to a minimum. Another odor management technique is to time turnings with a southerly wind flow in order to transport unavoidable odors to a less populated area north of Burlington. This active phase of composting generally takes 25 weeks. Windrows are then reformed into large piles so the compost can be cured for 12 weeks. Finished product is sold in bulk or bagged for wholesale and retail.

PROBLEM AREAS

Although the operators of the facility try to turn piles on days with favorable winds, odors drifting into the city of Winooski are an occasional problem. The area can also be disturbed by odors from a nearby wood fired electrical generating plant and a wastewater treatment plant. Winooski residents issued informal complaints and the issue was given some publicity in the Burlington Free Press last summer. The facility has not received any complaints from Burlington in over a year. The types of wastes composted at ICP make it difficult to eliminate odors. The proximity of residential areas to the ICP site increases the chance that drifting odors will cause a nuisance.

COSTS AND REVENUES

Total cost for producing compost in 1996 was estimated at \$185,200 or \$29.00/ton while total revenues were \$225,100. These revenues included the tipping fees they received for the food waste of \$25/ton as well as the compost they sell at \$17.00 - \$27.00 per cubic yard. When their tipping fees are compared to landfilling prices of \$65 - \$87/ton, it is clear that businesses have an economic incentive to source separate their organics. Development of the

facility was funded by the Intervale Foundation, the Chittenden Solid Waste District, and through competitive grants from the State of Vermont. The project now generates enough revenue to support itself.

MARKETING

In order to sell the finished compost, ICP uses a variety of marketing and advertising strategies. The goal is to educate people about the advantages of using compost as well as to associate the Intervale name with quality compost. ICP mails a brochure to inform potential customers about their product. Flyers are used as an informational tool. They describe what measures are taken by the ICP to assure a quality compost and list the bulk pricing of the compost. Posters depict similar information and are displayed primarily at the Chittenden Solid Waste District's twelve waste material drop-offs.

ICP also provides compost samples in zip lock bags to potential buyers in order to have them see what the product is like. ICP distributes samples at large conferences such as the Northern Organic Farming Associations conference and the Burlington Flower Show. They are also mailed to target recipients such as landscapers. On Earth Day, ICP sells their customers' first bag of compost at 50% off.

EDUCATION AND OUTREACH

School kids get to learn first-hand about the composting process as they tour the facility. The facility is a frequent stop on tours for recycling or composting conferences. The operators of the facility have frequently shared their expertise with others starting up facilities. For those wanting more substantial guidance, ICP provides consulting on a per hour basis.

