
TO: Elizabeth Rogers,
Eastern Connecticut Resource
Conservation and Development
Area, Inc.

DATE: January 31, 2008

FROM: Melissa Hamkins, Wright-Pierce;
Jennifer Muir, Wright-Pierce;
Colleen Dougherty, Wright-Pierce

PROJECT NO.: 10934B

SUBJECT: Woodstock Nutrient Management Feasibility Study
Food Waste Survey Summary of Results

Introduction

Eastern Connecticut Resource Conservation and Development Area, Inc. and the Connecticut Department of Environmental Protection have been working with the farming community to meet the concentrated animal feeding operation (CAFO) rules. Statewide, livestock farms generate a surplus of manure beyond what is needed for crop production on the farms that generate the manure.

A previous study evaluated feasible nutrient management alternatives, focusing on dairy farms in Woodstock, CT. It assessed the feasibility of regional composting and anaerobic digestion facilities and considered incorporating food and yard waste disposal into the facilities as a potential option to improve the financial viability of a regional facility. Tipping fees associated with food and yard waste disposal could offset the operational cost of the proposed facilities.

A food waste survey has been conducted to identify local food waste producers who could benefit from alternative disposal options. The purpose of the survey was to obtain information on the availability of food waste and other organic wastes, quantities of waste, costs to dispose of waste, willingness of facilities to participate, and potential restrictions or obstacles. The findings of the food waste survey are summarized in this memorandum.

Background

Northeast Connecticut has an active dairy farming community. Manure nutrients must be agronomically and economically managed to maintain sustainable farming operations and protect local water resources. The manure management alternatives must also maintain the economic viability of farming in the region, while also being environmentally sustainable. Manure composting and anaerobic digestion are two methods that have the potential to produce an additional source of income. Manure composting has the potential to benefit the local watershed

by reducing the nutrient load, while anaerobic digestion may contribute improved air quality and odor control.

In the recent manure management feasibility study, conceptual designs and associated costs were developed for the following alternatives:

- Anaerobic digestion at a regional facility
- Composting at a regional facility
- Composting of digested manure at a regional facility

The revenue generating ability of the proposed facilities was evaluated through market analysis of composting products and energy costs. It was determined that incorporating locally produced food waste into a regional composting or anaerobic digestion facility would increase the financial viability of the project while also supporting the CT DEP's initiative to reduce landfill waste. The food waste survey was conducted to identify what food waste might be available to incorporate into these projects.

Survey Approach and Method

Utilizing data from a previous CT DEP study entitled *Identifying, Quantifying, and Mapping Food Residuals from Connecticut Businesses and Institutions* (Draper/Lennon Inc., Atlantic Geoscience Corp., 2001), an initial fifty food waste facilities were identified as potential contributors. Criteria for selecting the facilities to contact included:

- reasonable hauling distance (within a 20 and 50 mile radius of Woodstock)
- significant food waste production (greater than 45 tons/year)
- potential interest in alternatives for waste disposal (no known participation in an established recycling/composting program)

A variety of food waste producers were selected for participation in the survey, including:

- Nursing homes and personal care facilities
- Grocery stores and wholesale food distributors
- Hospitals
- Bakeries and snack food producers
- Universities
- Hotels, casinos, and conference centers

A number of the towns surrounding Woodstock were also identified as potential contributors of yard waste, brush and grass clippings.

Food/organic waste producers were contacted over the phone and asked a series of questions about their waste quantities, content, costs and disposal methods, as well as potential interest in future participation in an alternative waste disposal method.

Survey Results

A brief summary of the status of the facilities contacted is as follows:

Number of facilities/towns contacted:	76
Number of completed surveys:	18
Number of partially completed surveys:	4
Number of facilities choosing not to participate:	4
Number of facilities no longer in business:	10
Number of large grocery stores unable to disclose information at this time:	17
Number of other facilities determined to be unresponsive:	23

Large chain grocery stores appear to have a policy not to disclose information without first obtaining approval at the corporate level. Several approaches have been taken with these larger facilities, however, it seems that employees/managers at the grocery stores are unable or unwilling to answer the survey questions and have repeatedly directed us to the corporate level. Obtaining information from the corporate offices has not been successful.

The head of the Food Safety Dept. at the Big Y main office was not able to answer the survey questions, nor could he say who would know the answers. Further follow-up was conducted but the requested information could not be obtained.

Kristina Stefanski at the Stop and Shop corporate office (contact given by Joe Wettemann, CT DEP) said she requires approval from the Consumer Group (within the Stop and Shop organization) before she can begin answering the survey questions. She has confirmed that she is the correct person with whom to speak, noting that even though the Stop and Shop facilities handle their own wastes, it is all reported to the corporate office through her. A meeting of the Consumer Group took place on January 7, 2008, but as of January 17, 2008, Ms. Stefanski had not yet received word whether approval could be given or not.

For the hotels, conference centers and casino it was difficult to identify and contact the appropriate person and obtain the necessary information, despite persistent follow-up. In some cases, partial information was obtained.

Table 1 below shows the survey results. Both the completed and partially completed survey forms are provided as an attachment.

Table 1. Survey Results

Name of Facility	Type of Facility	Location	Distance	Type of Waste	Quantity	Current Disposal Costs	Expressed Interest in Participation
University of Connecticut, Storrs	university	Storrs	within 20 miles	leftovers from meals	not available	not available	possibly
Roncalli Care Center	nursing home	Danielson	within 20 miles	leftovers from meals	not available	electricity & maintenance	no
Westview Nursing CARCI	nursing home	Dayville	within 20 miles	leftovers from meals	~42 gallons/week	electricity & maintenance	no
Village Manor Health Care	nursing home	Plainfield	within 20 miles	leftovers from meals	minimal	not disclosed	no
Villa Maria Convalescent Home Inc	nursing home	Plainfield	within 20 miles	leftovers from meals	~70-105 lbs/week	not disclosed	possibly
Matulaitis Nursing Home Inc	nursing home	Putnam	within 20 miles	leftovers from meals	~105 gallons/week	electricity & maintenance	possibly
Mansfield Center For Nursing	nursing home	Storrs Mansfield	within 20 miles	leftovers from meals	~60 gallons/week	~\$14/week	yes
Better Val-U Supermarkets Inc.	grocery store	Canterbury	within 20 miles	produce, bread/rolls	~60 gallons/week	not disclosed	possibly
Beit Brothers Super Markets Inc	grocery store	Dayville	within 20 miles	produce & other	~20 cubic yards/week	~\$200/week	possibly
Dunkin Donuts	bakery	Brooklyn North	within 20 miles	donuts, bagels, etc.	none	not disclosed	no
Superior Bakery	bakery	Grosvenordale	within 50 miles	bread, rolls, bakery waste	~4000 lbs/week	none	no
Country Kitchen Bakers	bakery	Putnam	within 50 miles	bread, rolls	~42-56 trays/week	none - source of income, \$1/tray	no
DiFiore Pasta Company	dry pasta producer	Hartford	within 50 miles	dry pasta	none	none	no
Pan De Oro Brand	snack food producer	Hartford	within 50 miles	tortilla chips	minimal	not disclosed	no
Sardilli Produce & Dairy Company	distribution warehouse	Hartford	within 50 miles	raw fruit & vegetables	~280 lbs/week	~\$490/week	possibly
Town of Woodstock	-	-	within 20 miles	brush & leaves	not available	no charge to leave at transfer station	possibly
Town of Union	-	-	within 20 miles	brush	~25 cubic yards/year	no charge to leave at transfer station	possibly
Town of Putnam	-	-	within 20 miles	yard waste	not currently collected	none	no

Findings and Conclusions

The following is a summary of the survey findings:

- Bakeries are not likely to be interested in participating because they dispose of their food waste as "farm bread" (animal feed) to local farmers. They have no disposal fees and in some cases this "waste" is a source of income for the facility.
- Nursing homes generate lower, but consistent amounts of food waste and mainly dispose of it through the kitchen garbage disposal with no associated fee. Many expressed interest in participation, provided the issues of storage, transportation and employee training could be addressed, but it is unlikely that a tipping fee could be charged.
- Smaller, independent grocery stores, as well as produce distributors, are more willing to disclose some of their information and though the amount of waste generated at each seem to vary, they expressed possible interest in an alternative to their current method of waste disposal.
- Various other food manufacturers (eg. dry pasta, tortilla chips) said that they produce little to no waste at their facilities, and therefore are not viable sources of food waste.
- At least one of the towns contacted does not have any system in place for collection of yard waste. Those that do handle yard waste, do not charge for this service. They allow residents to bring their yard waste to the local transfer station, provided they have a valid permit from the town clerk. It seems unlikely that a tipping fee could be applied in this case, though it appears that moderate amounts of yard waste would be available from these sources.
- Large producers such as hotels, conference centers, and casinos should still be considered a potential source of food waste. Development of relationships and networking with senior personnel at these facilities will be needed to determine both the availability of this waste and how to establish a mutually beneficial arrangement. It may also be necessary to conduct a series of individual meetings and site visits with each facility to provide information on the goals of the project and the potential benefits, financial and otherwise.
- Establishing food waste as a revenue source for a regional digester or composting facility would require a dedicated marketing effort to educate and establish relationships with local producers.