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Title: Source-Separated Organics Program

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Attachments: 1. Depackager Test.pdf, 2. 2019 Food Scraps Recycling Guide for Trial, 3. The "Oh No!" Letter for the 2019 Food Scraps Recycling Trial, 4. Food Scraps Recycling September 2019 Update, 5. SWAC Food Scraps Update October 2019.pdf

Date	Ver.	Action By	Action	Result
10/3/2019	1	SOLID WASTE ADVISORY COMMITTEE (ended 3/2020)		
9/5/2019	1	SOLID WASTE ADVISORY COMMITTEE (ended 3/2020)		
7/11/2019	1	SOLID WASTE ADVISORY COMMITTEE (ended 3/2020)		
6/6/2019	1	SOLID WASTE ADVISORY COMMITTEE (ended 3/2020)		
5/2/2019	1	SOLID WASTE ADVISORY COMMITTEE (ended 3/2020)		
1/3/2019	1	SOLID WASTE ADVISORY COMMITTEE (ended 3/2020)	Discuss and continue	
4/5/2018	1	SOLID WASTE ADVISORY COMMITTEE (ended 3/2020)		
11/2/2017	1	SOLID WASTE ADVISORY COMMITTEE (ended 3/2020)		
7/6/2017	1	SOLID WASTE ADVISORY COMMITTEE (ended 3/2020)	Discuss and continue	
6/1/2017	1	SOLID WASTE ADVISORY COMMITTEE (ended 3/2020)	Discuss and continue	
4/6/2017	1	SOLID WASTE ADVISORY COMMITTEE (ended 3/2020)		
11/3/2016	1	SOLID WASTE ADVISORY COMMITTEE (ended 3/2020)		
9/1/2016	1	SOLID WASTE ADVISORY COMMITTEE (ended 3/2020)		
3/3/2016	1	SOLID WASTE ADVISORY COMMITTEE (ended 3/2020)	Discuss and continue	
11/5/2015	1	SOLID WASTE ADVISORY COMMITTEE (ended 3/2020)		
7/2/2015	1	SOLID WASTE ADVISORY		

COMMITTEE (ended 3/2020)

Title
Source-Separated Organics Program

Body
2011:

The Streets Division is planning a pilot collection program for collecting household organics from a select group of households. The number of households will be determined by the funding available in the 2011 Operating Budget. The funding will also determine the start date.

The goal is to have at least 500 households in two different refuse collection district, one east and one west.

Material collected will include food waste, pet waste, contaminated paper, waxed cardboard and possibly diapers.

In addition to the collection pilot, the program will also include a mail survey of 1000 Madison households and a later internet survey.

The 2012 City Operating Budget includes funding for a feasibility study on an anaerobic digester. The intent is to hire an experienced consultant to conduct the study.;

The Engineering Division conducted a wetlands mapping survey of potential digester sites located near the Dane County Landfill. Other City owned parcels may also be considered for a digester. Those sites are yet to be determined.

City staff is also looking at the various technologies that could be employed for a digester.

2012:

For the first six months of the pilot program we collected 13.8 pounds per household per week. That would translate into 21-25,000 tons of material per year, which is more than our waste sort indicated was in the waste stream. Staff believes that the volunteers are very committed to the program which accounts for the higher than anticipated diversion.

Data was collected from our volunteers for Mater B, the plastic resin producer that provided us with bags for the first six months of the program. They were quite pleased with the response and the information will be presented at a Bio Cycle conference in Portland, OR in April

March, 2012:

City staff has determined that the best location for a digester will be near the Rodefild landfill. Staff will begin discussions with Dane County on how best to locate the facility and develop a plan for facility sharing where feasible.

Staff has narrowed down possible consultants to four and will be conducting interviews. We hope to be able to report on a selection at the April 5th Solid Waste Advisory Committee meeting.

The plan is to expand the pilot program by adding 100 households on the west side in late spring. We currently have 300 households plus the Madison Children's Museum on the east side routes and 185

households on the west side.

2014

The Streets Division has received funds in the budget to expand the pilot project by adding 1,600 households and 25 to 30 commercial establishments to the budget. The plan is to do the expansion in July. Recruitment will begin in May.

May, 2014

The pilot expansion program has been put on hold. The digester at UW Oshkosh has been informed by the composter Zilgas, that there is too much non compostable plastic material in the digestate when it comes from the digester. The Wisconsin DNR also has issues with the presence of pet waste in the material coming from Madison. The pet waste issue can be overcome easily. The contamination requires the Streets Division to screen the material. We will be testing several screens to see what might work.

August, 2014

It was determined that a screen adequate for our purposes would cost \$120,000. At this time there is no funding in the budget for the screen. A decision was made as part of the capital budget process to postpone the digester construction by one year to 2017. Based upon this decision and the lack of funds for the screen, the Streets Division has determined that the pilot will come to an end in September.

September, 2014

The Council has voted to allow the Streets Division to use \$120,000 from the Sustainability Fund for the purchase of a screen. The Streets Division will continue the pilot program while conducting more screen testing. The expansion of the pilot to commercial facilities will go forward ASAP. The expansion to the 1,600 households has been put on hold because it will not be possible to get the households recruited and carts distributed before the start of leaf collection. At that time, the Division will not have staff to take on the distribution of carts for the start up of the expansion. The household expansion will be put on hold until spring, 2015.

March 2015

After discussing options with the staff at the Oshkosh digester it was determined that screening would not address the concerns of the composter so a screen was not purchased.

July, 2015

Staff has received approval to take the material to the digester in Middleton. This digester was built in cooperation with Dane County and is owned by the Gunderson Clinic in LaCrosse and operated by Dynamic Systems Management. A decision was made to stop calling the program a pilot. It is now the Madison Organics Program.

October, 2015

Staff is proceeding with adding the first 500 HH's to the program. The new HH's will be on the near west side and will be what we are referring to as the "mandatory" group. Residents on the route will not volunteer. We are including all households on the route unless they opt out.

November, 2015

The expansion is proceeding. The HH's in the new area have been notified and public meetings will be held 11/14 and 11/16 to discuss the expansion with the affected residents. The Committee will be taking a tour of the Middleton facility in lieu of it's regular December meeting.

2016

February: Collection in expansion area is ongoing. Area includes 500 HHs, and 11 businesses. Soon will include West High School and the Preschool for the Arts. On February 29 there will be a community meeting at Sequoya Library to update neighborhood in the first expansion area how program has worked. A second presentation held on Saturday, March 12 will be viewable online at <http://tinyurl.com/organicscheckup> (edit: 2/28/16) <http://www.cityofmadison.com/streets/organicscheckup>. Further expansion plans are continuing.

September: Household organics are now being taken to Blue Ribbon Organics in Caledonia, WI. Dynamic Systems notified the city at the end of May that there was a contamination issue with the food waste material brought to them from the City and we could no longer take material to them. The source of the contamination was found, and staff is currently working to correct this issue. Starting in July, the city began taking the food waste on a test basis to Blue Ribbon Organics in Caledonia, WI until a local option becomes viable, or an opportunity with a local digester presents itself. Also, another area of the city has been added to the organics collection program. A refuse route south of Lake Monona received letters to invite them on a volunteer basis to join the program.

November: Household organics program expanded to include 90 new volunteer homes in the Thursday refuse collection area. The section of Madison included is the area south of Lake Monona between Broadway and the lake. It also includes the mobile home community off Moorland Rd. Also, restaurants presently being collected on Tuesday that lie within the Thursday refuse collection area, they were switched to a Thursday collection day. Contamination issues are being addressed now by the operator watching the contents of the carts dump into the truck via the camera system in the vehicle. When contaminants are noticed, the resident is contacted and informed that if contamination issues continue, they will be removed from the program.

2017

April: Collection expansion ongoing. Area on east side of Madison between Cottage Grove Rd. and Buckeye Rd selected for the next volunteer section. Invitation letters will be mailed out by end of April and people receiving them have until May 5 to sign up. They will have receive carts shortly thereafter and the first collection will be May 22. Future expansion areas are also planned. Contamination issues persist, and one home has been removed from the program due to their persistent use of plastic bags instead of compostable ones.

June: Monday collection expansion added nearly 150 new volunteers (around 20% of those that received invitations). Next invitation round ongoing to a smaller section of Madison that represents a minor addition to the existing Thursday collection route.

July: Thursday collection area expansion occurred adding 54 new homes, which represents around a 20% volunteerism rate for those who received invitations. Also in July, notice came from Blue Ribbon that we were asked to no longer include compostable bags. The composter was having difficulty with some bags breaking down, and it was unclear if it was due to a problematic bag brand that was not, in fact,

compostable or another issue, such as plastic bags being hidden within compostable bags. The pause on compostable bags will likely be temporary until the composter can determine a cause of this problem, or can a recommendation for a specific bag brand. Blue Ribbon also processes the food waste for Milwaukee and this issue was noticed with their material as well. Milwaukee's program is collected with rear-loaders who inspect each cart before dumping into the truck, and those who enroll must pay an additional fee. The expansion of the Friday collection area will begin at the end of the month.

August - December

In late July, Blue Ribbon organics denied further use of their site due to ongoing contamination issues and wanting to save space at their facility for Milwaukee's composting program. (Milwaukee also takes their food waste to Blue Ribbon, which is one of the factors that lead to pursuing them as a partner). A decision to keep the bag ban in place was made in order to help identify the homes that were contributing the persistent contamination while simultaneously trying to find a new composting partner. Due to limited available options, no composter was located that allowed for an immediate partnership to form. However, potential developments at local anaerobic digesters resulted in deciding to keep the program going. The Clean Fuel Partners digester located outside Waunakee expressed an interest in accepting the material if they were able to find an acceptable end-market for the post-digestion solids. And, more promising, was the potential installing of depackaging equipment at the Gundersen-Lutheran digester located outside Middleton. Depackaging equipment has the potential to remove or at least mitigate contamination down to acceptable levels. The depackager was delayed in its installation, which meant a delay in testing this equipment's viability. In related news, discussion with Madison Metropolitan Sewer District regarding a potential collaboration on a digester program have been ongoing and will continue throughout 2018.

2018

January:

A test load of organics was delivered to the Gundersen-Lutheran digester located outside Middleton to try their depackaging equipment. The depackager removed contaminants, though there were challenges. First, a significant amount of debris was noted - many plastic bags and other non-compostable items. Some of this debris, such as dirt clods and sticks, caused clogging concerns in the digester. Plus, the depackager worked very slowly, and required a lot of water. Future testing is in order.

April:

A second test load was delivered to the Gundersen-Lutheran digester at the end of March. In order for Gundersen-Lutheran to agree to a second test load, the tipping fee needed to increase from \$50 a ton to \$100 a ton. Initially, Gundersen asked for \$200 a ton, but in order to facilitate a second test, the fee was settled at \$100 a ton. The increase in tipping fee is related to covering the costs of labor, water, and disposal of non-compostables.

The second test had less contamination than the first trial, but still very labor intensive and used a substantial amount of water. At the time of the April meeting, it was unclear what the opinion of Gundersen-Lutheran was regarding the second test. It is unclear if Gundersen will need increase the tipping fee from \$100 a ton to \$200 a ton in order to cover costs related to this material, or if they would like to continue the relationship at all.

In Wisconsin, there are three potential locations for post-consumer food scraps. They are Blue Ribbon Organics, where the city was recently denied use due to contamination and in an effort to save capacity for Milwaukee's program; the UW-Oshkosh biodigester, which is also struggling with a contamination problem from those who bring material to them; and the Gundersen-Lutheran biodigester.

If the response from Gundersen-Lutheran to the second test is negative or insistent upon a \$200/ton

tipping fee, which is 4 times what is paid for the landfill tipping fee, and considering that the pilot began with the intention of the material going to an anaerobic digester built by the city, and with no such facility on the horizon, and coupled with the limited options available to process this material, it may become time to conclude the pilot.

June

The organics pilot program, as presently designed, ended due to contamination issues and related costs.

2019

January

The City of Madison has applied to an EPA grant for funds to do another feasibility study for an anaerobic biodigester to process food scraps. Assuming the funds are awarded, the study would seek to learn if the new biogas facility at the Dane County Landfill campus changes the economics of a digester. Also, discussions for a second, limited-term pilot of the food scraps recycling program starts.

May

In April, the City of Madison was selected to receive an EPA grant for the feasibility study as described in the January update.

Also planning underway for a late summer short-term trial for a food scraps collection program to test the lessons learned from the previous pilot. The acceptable material will be very narrow. The carts will be inspected prior to emptying into the truck. Carts with contamination will not be collected.

June/July

At the end of June, invitation letters for the short-term food scraps collection trial have been mailed out to a neighborhood on the west side of Madison. The neighborhood is the homes behind Memorial High School. Along with the invitation letters, a guide of the acceptable items and a Q&A sheet were included to help the volunteer residents understand the program.

The trial will last eight weeks. Food scraps will be collected from August 2 until September 20. Scraps will be collected weekly by a two-person crew (one person to drive the truck and another person to peek into the cart to check for contaminants).

If/when contaminants are found, an "Oh No!" letter will be left by the field supervisor on the collection cart and an email will be sent to the home where contamination is located as well to ensure that the message has been received. The Oh No! letter will also explain what contaminant was found in the cart and inform the resident that the waste was sent to the landfill.

Volunteers will receive a "wasted food" cart that utilizes the black cart bodies from the old organics programs, and orange lids also from the organics program. The wording "Organics Only" appears on the cart lid, but that will be covered by a vinyl sticker.

The collected scraps will go to the Gundersen-Lutheran anaerobic biodigester in Middleton, WI.

September

An update to SWAC about how the pilot has gone was given. In short, contamination problems have been non-existent thus far.