

**Organics Subcommittee Meeting Summary
December 5, 2018, 1:00 PM – 3:00 PM
MassDEP, One Winter Street, Boston, MA**

All presentations are posted on the MassDEP website at:
<https://www.mass.gov/service-details/massdep-organics-subcommittee>.

Compostable Product Certifications

Rhodes Yepsen, Executive Director of the Biodegradable Products Institute, gave a presentation on the certification programs of the Biodegradable Products Institute.

Q: How do you define industrial composting facilities? And why do you use the word industrial?

A: Industrial, commercial, and municipal are used relatively interchangeably to differentiate a large scale, professionally managed compost system vs. a small backyard system. Generally speaking, the facility must be large enough to reach thermophilic temperatures sufficient to ensure complete composting.

Q: Anecdotes suggest that some products labeled as biodegradable do not fully break down in a compost operation. How does this work in an anaerobic digestion facility?

A: Since there is no standardized composting process, some products do not break down equally in all facilities. Some composting systems that are designed to have short compost processes may not be long enough for some products to fully compost and break down. Also some products may be marketed as biodegradable but may not fully meet the ASTM standards. BPI is working on creating a definition of mature compost and how that gets achieved for large scale operations to follow. Anaerobic digesters function differently and are not covered by the BPI certification.

Q: Is there a certain time period that a product takes to break down that could be included to meet the standard?

A: The ASTM standard specifies a 12 week period for products to break down completely. However, the tests for this are laboratory tests, which are conservative compared to the more aggressive field conditions, meaning commercial composters typically see things break down much faster.

Q: When companies switch to anaerobic digestion, do they no longer take biodegradable products? Also since the Northeast is a cold climate, is it harder to reach the high temperatures necessary for the materials to break down?

A: Anaerobic digesters are often not designed to handle compostable products, especially wet or low solids systems that have a pre-treatment stage to screen out non-pumpable materials. Dry or high solids anaerobic digesters sometimes accept compostable products, but they typically do not

break down completely during the anaerobic phase, due to the short timeframes and mesophilic temperatures (lower temperatures than compost processes). AD facilities composting the digestate aerobically often are able to completely break down compostable products at that phase.

BPI does not see major differences in composting process based on geography or colder climates. However, arid environments without ready access to water have challenges.

Q: Has BPI been working with composters to see if they actually want the materials in their facilities?

A: BPI does conduct outreach to composting groups, and we welcome feedback. We hear the positive and negative experiences and try to resolve them. For example, one problem arose at San Francisco Airport where vendors were using non-compostable plastics and sending those to composters along with the food waste and compostable products. Ultimately, the product certification does not ensure that all compost operations will accept those materials, but simply that they will compost effectively in a typical industrial/commercial compost operation.

C: Black Earth Composting has had success with composting certified compostable products. They have found that it is important to allow for slightly longer composting timeframes as well as to turn piles more times. If they end up on the outside of a pile with less than ideal temperature and moisture conditions, they will not break down as quickly.

Anaerobic Digestion in Massachusetts

John Hanselman, CEO, Vanguard Renewables, gave a presentation on Vanguard Renewables development of anaerobic digestion facilities in Massachusetts.

Q: Are you working on any municipal level leaf waste or curbside organics collection?

A: Vanguard Renewables facilities are not designed to accept yard waste, but Vanguard is very interested in sourcing food materials from curbside collections.

Q: What is the status of your de-packaging facilities?

A: Vanguard is moving forward with developing three de-packaging facilities and hopes to have the first of these operating in western Massachusetts by summer 2019.

Q: How do you work with your systems to process solid food materials?

A: Vanguard has been able to handle solid food materials so long as they are not packaged and do not have significant contamination. For example, in some cases, they will accept back of the house collection material from large businesses, but not material collected through front of the

house (consumer facing) programs. Vanguard could accept more material with these levels of contamination once it has de-packaging facilities operating.

Q: Are there still significant amounts of food material available to be sourced?

A: Vanguard estimates that there is 2500-3000 tons of food waste generated every day in Massachusetts. Most of the cleaner, homogeneous streams are going to existing facilities. Now, we are working to get into the next layer. Most potential clients are interested in diverting food waste from disposal but need information on how to do so. Meaningful enforcement of the waste ban is also helpful to drive action by some entities.

Q: Do you try to separate the edible food material for donation?

A: Vanguard does not collect food for donation or rescue but does encourage food recovery. We believe there is plenty of food to support both food donation and anaerobic digestion. If we have a business that is sending us a lot of high quality food, we try to help connect them to a donation or food rescue option.

Q: Do you prefer a particular type of food waste?

A: Fats, sugars, oils, and greases, things like ice cream and beer, work really well for the bacteria. But it's also important to have a mix of food products, so the stream is more balanced.

Q: Do you process paper towels?

A: We do receive them, but do not ask for them, nor want them. Materials like that are better managed in a compost operation.

Q: What is the overall tonnage per year?

A: Vanguard's current Massachusetts AD facilities can accept up to 163,000 tons per year.

Q: Do you process wax cardboard?

A: If it is size reduced or mechanically shredded then we can. It can be beneficial in the right volume. Typically this means 1 inch or smaller.

Massachusetts Organics Status Update and Discussion of Waste Reduction Strategies for the 2030 Solid Waste Master Plan

John Fischer of MassDEP provided updates on organics diversion in Massachusetts in 2017, and solicited comments and suggestions relative to organics management strategies for the Draft 2030 Solid Waste Master Plan.

Q: How did DEP select the 50 businesses to send requests for information?

A: We selected them based on MassDEP and US EPA's food waste estimates. They fall across a variety of sectors. Most are processors or manufacturers, but the list also includes businesses from other sectors. We focused on geographic areas where there are opportunities to grow collection routes, so the list is not statewide. The requests for information are meant to supplement the information we gather from waste ban inspections, without having to do inspections at generator locations.

Q: Has there been much activity from generators to reduce the amount of food waste they produce in order to get under the threshold of the waste ban?

A: It is hard to quantify that. Source reduction of food waste is definitely happening, but we are not aware of any generators that are complying with the ban solely through up front source reduction. Most generators set up a food waste collection program to comply with the ban, and then they move towards food waste reduction. Once generators see what they are throwing out, they tend to look into food donation or reducing their orders from suppliers.

Q: Is source reductions accounted for in DEP's data?

A: No it is not, though this is something we could look into in the future. We could survey food processing facilities like schools, hospitals, hotels.

Q: Can the 1 ton/week threshold be brought down to 0.5 ton/week? Are you thinking about creating a food waste transfer facility for urban food waste? While it is good to start talking about the 2030 Solid Waste Master Plan, it is also important to continue to work towards the 2020 goals over the next several years.

A: MassDEP agrees that it is important to continue to focus on the current Master Plan goals at the same time as we work on a new Master Plan. MassDEP has heard many stakeholder advocate for lowering the threshold and we are considering this in the course of developing the new Master Plan. It is more challenging to enforce the ban for smaller generators, so we would need to be able to develop an effective compliance and enforcement strategy to effectively enforce the ban down to a lower threshold. Relative to the concept of an organics transfer station, there is definitely a need and place for intermediate processing equipment at some stage of the process, but a food waste transfer station may not be a cost-effective approach. Handling the material an extra time adds cost as well as creates more potential for nuisance and odor concerns.

C: Front of the house, contaminated material is more difficult and expensive to manage. Some composters envision having two streams: one for "clean" back of the house material and another that needs to be mechanically cleaned. Education is important for people to understand that it is entirely possible and economically feasible to compost more than just food scraps as long as these programs align with the receiving facilities.

C: One approach to reducing some of this contamination is to phase out the use of single –use disposable products that contribute to contamination (e.g., straws and plastic bags).

C: There may be opportunities for larger food waste generators to share containers and collection programs with smaller adjacent businesses to make this collection more cost effective. For example, if there is a cluster of businesses in a mall or shopping center.

C: Front of the house collection programs can work well when all of the material in the food service establishment is compostable. Otherwise, there is too much contamination.

Q: The facilities need to have a higher tolerance for accepting contamination. However, this will also diminish the value of the product. Perhaps MassDEP could look into creating a market for slightly contaminated compost. This is not marketable to a retail establishment, but it could be mandated to be used on roadside construction etc.

A: This could be possible, but these markets would have to be lower value markets. There would be a tradeoff between price and quality.

C: Many products look very similar, so it can be very difficult to tell the difference between a certified compostable product and a similar product that looks virtually the same. An attendee provided an example of two bags that look almost identical, but where one is compostable and one is not.

C: It is important that MassDEP conducts sufficient inspections and enforcement at composting facilities to ensure that these facilities are operating effectively and not creating odor or other nuisance concerns.