

# Compostable Products Advisory Council – Meeting 7 Agenda April 2, 2024

## Meeting Goals

- Review research about OMM facilities in WA and the Composting Consortium
- Continue challenge identification
- Generate recommendations to the legislature

## Date & Time

April 2<sup>nd</sup>, 2024 10:00 AM – 12:00 PM, [Zoom](#)

## Meeting Packet

- Agenda
- Research memo: Organic Materials Management Facility Interviews Summary

## Agenda Overview

Total duration = 120 minutes

Duration	Agenda Item
10 min	Welcome, agenda, & objectives
5 min	Where we've been and where we're headed <ul style="list-style-type: none"><li>• Timeline</li><li>• Research update</li></ul>
50 min	Research presentation <ul style="list-style-type: none"><li>• OMM facility results</li><li>• Discuss:<ul style="list-style-type: none"><li>○ What's working? What isn't working?</li><li>○ Barriers and opportunities to compostable products management?</li></ul></li></ul>

Duration	Agenda Item
45 min	Solutions Discussion <ul style="list-style-type: none"><li>• Present challenges identified</li><li>• Begin generating solutions</li></ul>
5 min	Public comment
5 min	Closing remarks and preview next steps

# Memorandum

To: Compostable Products Advisory Committee  
From: Cascadia Consulting Group  
Date: April 2, 2024  
Subj: Organic Materials Management Facility Interviews Summary

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## Purpose & Methodology

The research topics detailed in [HB 1033](#) that are addressed in this memo include:

- (c) Consumer confusion caused by non-compostable products that can lead to contamination issues;**
- (d) Compostable standards related to the breakdown of products in facilities and home composting;**
- (e) The status of acceptance of compostable products by organic materials management facilities in Washington, including consideration of organic certifications;**
- (g) Financial incentives for organic materials management facilities accepting compostable products;**

The intent of this memo is to provide the Advisory Committee with information about the presence and impact of compostable products in the organics stream from the perspective and experience of organic materials management facilities throughout the state.

## Discussion Questions for Consideration

- What does this research tell us about what is working to achieve *“the state’s goal of managing organic materials, including food waste, in an environmentally sustainable way that increases food waste diversion and ensure that finished compost is clean and marketable?”*
- What does the research tell us about what is not working to achieve the state’s goal?

- Where do we see opportunities and barriers to improve compostable products management in Washington state?

## Methodology

### Overview of Research Methods

To gather information about compostable product management, specifically facility operations, production capacity, feedstocks, contamination challenges, and end markets in Washington, Department of Ecology staff provided the Cascadia team with a list of 56 organic materials management facilities operating in the state that are permitted under WAC 173-350-220, WAC 173-308, both, or are exempt but are still required to report annual tonnages to Ecology.

With Ecology’s input, Cascadia then selected 27 of these facilities to contact for interviews. The selected facilities span all four regions of the state (Northwest, Southwest, Eastern, and Central), accept a range of materials as feedstock, and use different composting methods. Anaerobic digesters and biosolids-only management facilities were excluded.

Fourteen out of the 27 facilities responded to information requests either through written responses or interviews (52% response rate), shown in Table 1 below. Interview questions are included in Appendix A: Organic Materials Management Facility Interview Guide, and responses are summarized in the following sections. Note that not all facilities responded to all questions, and responses to some questions varied significantly in specificity and consistency between facilities. Where possible, the team has aggregated quantitative responses to protect confidentiality. While composting processes and operations varied widely across facilities interviewed, there were several common considerations and concerns shared, which are summarized in the overarching findings section below.

**Table 1. Organic materials management facilities interviewed**

Facility	Location	Region
Barr-Tech Composting Facility	Sprague	Eastern
Cedar Grove Composting Co. Maple Valley	Maple Valley	Northwest
Cedar Grove Composting, Inc.	Everett	Northwest

Facility	Location	Region
City of Richland Horn Rapids Composting Operation	Richland	Central
Dirt Hugger LLC	Dallesport	Central
Green Earth Technology	Lynden	Northwest
Kittitas County Compost Facility	Ellensburg	Central
Lenz Enterprises, Inc.	Stanwood	Northwest
LRI Compost Factory (Hidden Valley Compost Factory)	Puyallup	Southwest
Natural Selection Farms Composting Facility	Sunnyside	Central
Pierce County (Purdy) Composting Facility	Gig Harbor	Southwest
Port Townsend Biosolids Compost Facility	Port Townsend	Southwest
Silver Springs Organics Composting LLC	Rainier	Southwest
Sudbury Landfill Compost Facility	Walla Walla	Eastern

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# Findings

## Summary

### Overarching Findings

While organics materials management facilities are located throughout the state, most of the available existing processing capacity is located in western Washington. All facilities interviewed accept yard waste and some also accept food waste (generally pre-consumer). The five interviewed facilities that accept post-consumer food waste and compostable products are located near larger population centers. All facilities that accept compostable products require them to be certified by either the Biodegradable Products Institute (BPI) or the Compost Manufacturing Alliance (CMA).

While all facilities noted **multiple key barriers and challenges** associated with accepting compostable products (below), facilities did not indicate any clear incentives, financial or otherwise, for accepting compostable products.

- **Increased contamination:** at facilities that accept compostable products, the products themselves do not appear to cause major problems in the composting process. **The main concern with compostable products reported by facilities (from both facilities that accept them and those that do not) was that they are accompanied by an increase in overall levels and variety of contamination.** At least one facility interviewed noted that they had begun accepting compostable products in the past but reverted back to excluding them due to the associated contamination challenges they caused. Several interviewees noted that expanding accepted materials to include compostable products causes confusion among residents and businesses, partially due to lookalike products and partially due to misunderstandings about what material is acceptable. A few facilities noted that most of the obvious contamination comes from the residential sector.
- **Disproportionately higher labor, equipment, and disposal costs:** organic materials management facilities (both facilities that accept compostable products and those that do not) reported that compostable products do not add any nutrient value to finished compost. **While the compostable products themselves comprise a tiny proportion of feedstock by weight and volume, the associated contamination that comes with these products disproportionately increases the cost of processing material due to additional equipment and staff needed to manage contamination,** greater wear and tear on existing equipment, and increased disposal fees for contaminant materials.

- **Processing capacity:** while most facilities reported processing fewer tons of feedstock than their permitted production capacity annually, some noted that production fluctuates significantly over the course of the year. Their production may fall below their capacity for much of the year (and they may even need to occasionally buy material to maintain necessary input ratios), but during peak season they reach or exceed full capacity. Some facilities also noted concerns about space constraints if they were required to begin accepting additional feedstock from new sources or generators (e.g., adding food waste to yard waste-only facilities).
- **Feedstock ratios:** some facilities noted that while compostable products currently make up a very small percentage of feedstock, substantially higher levels relative to other feedstocks could cause problems in their composting process, requiring them to amend their recipes with higher nitrogen feedstocks or distribute compostable products across loads.
- **Potential future mandates:** several facilities who currently do not accept food waste and/or compostable products expressed concerns about being required to accept this material and potential changes it would necessitate in their operations and business model. A few facilities specifically noted that they are first and foremost compost manufacturers focused on producing a quality end product, not waste management facilities.

## Composting Methods

The composting methods and processing times used by organic materials management facilities vary across the state. **Aerated static pile** composting was the most common technology used, with six facilities only using this method and another three using a combination of aerated static pile, aerated windrow, and in-vessel composting. Three facilities reported using only aerated windrow composting, and two reported using in-vessel technology only. Composting process length varied by type of composting method and even between facilities using the same type of composting process. Facilities reported processing times of as little as 35 days to as long as six months depending on the time of year and curing needs.

## Capacity

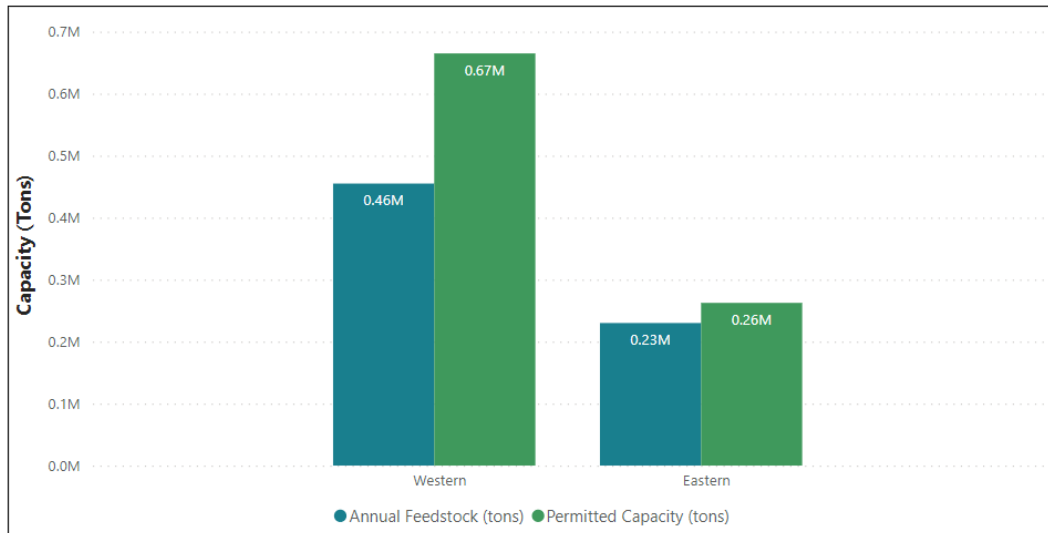
Facilities' permitted capacity and tons of feedstock processed annually are shown in Figure 1 (grouped by region to preserve confidentiality).<sup>1</sup> Note that this figure only

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<sup>1</sup> *Western Washington includes facilities located in Ecology's Northwest and Southwest regions and Eastern Washington includes facilities located in the Central and Eastern regions.*

includes facilities who responded to this question and does not present a full picture of actual capacity or production in the state. While there appears to be additional processing capacity in western Washington, several facilities noted that production fluctuates significantly over the course of the year, and they can reach or exceed their full production capacity during peak season.

**Figure 1. Organic materials management facility capacity (tons)**

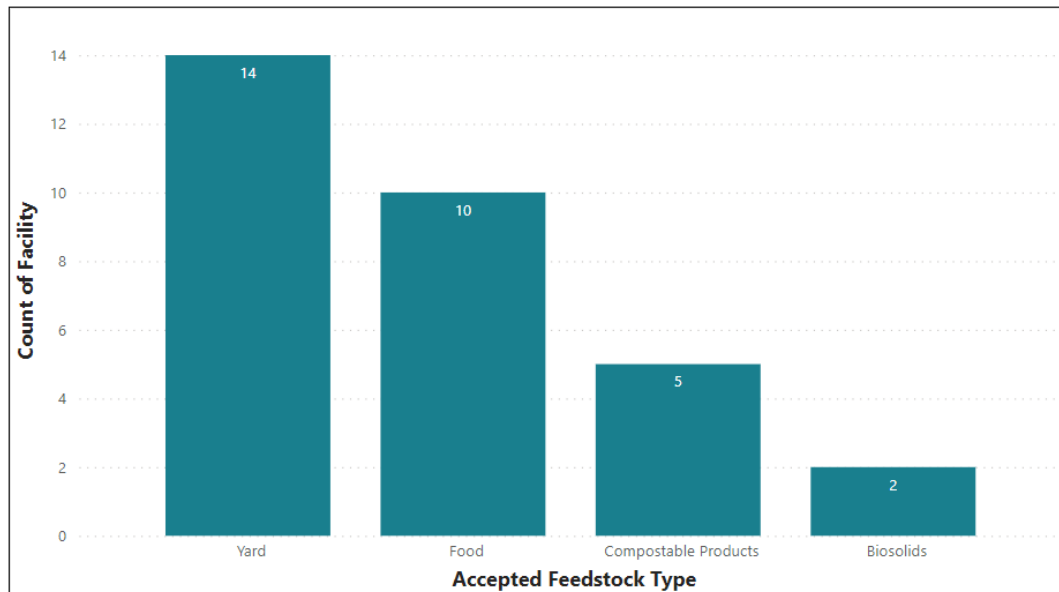


## Accepted Feedstocks

All organic materials management facilities interviewed reported that they accept organics from commercial and residential generators, and most facilities reported accepting organics from agricultural generators. Facilities in eastern Washington closer to agricultural production areas of the state reported higher proportions of agricultural waste as a feedstock. All facilities interviewed accept yard waste, ten facilities accept food waste, five accept compostable products, and two accept biosolids.



**Figure 2. Accepted feedstocks by number of facilities**



## **FACILITIES THAT DO NOT ACCEPT COMPOSTABLE PRODUCTS**

Nine out of the 14 facilities reported that they do not accept compostable products citing the following reasons:

- Accepting compostable products leads to **increased contamination levels and types**, which increase the time, labor, equipment, and associated costs required for quality control and processing. One facility noted that they used to accept compostable materials but had to stop due to the contamination and other issues they were causing in their process.
- A few facilities reported that they do not accept compostable products because they produce organic compost and need to **maintain their Washington State Department of Agriculture (WSDA) or Organic Materials Review Institute (OMRI) certification**. If compostable products were approved as feedstock for organic compost, these facilities noted that they would be more inclined to accept them, as organic certification improves the marketability of their compost. Facilities would also not need additional space or processing equipment to separate piles of compost with compostable products from those without (which is currently the practice for any facilities who produce both an organic and a conventional compost product).

To accept compostable products in the future, these facilities stated that significant infrastructure changes would be required, specifically citing:

- Updated equipment
- More staff

- Increased space
- Additional screening equipment

According to the facilities interviewed, high contamination levels demand more labor and time spent removing contaminants before and after processing feedstock. Given that accepting compostable products can lead to contamination via non-compostable lookalike products, additional staff and screening equipment are needed to distinguish between the two. Due to these necessary changes, most of facilities (six out of nine) that do not accept compostable products are not planning to change the types of feedstocks they currently accept.

## **FACILITIES THAT ACCEPT COMPOSTABLE PRODUCTS**

All facilities that accept compostable products require them to be certified by either the Biodegradable Products Institute (BPI) or the Compost Manufacturing Alliance (CMA). Only two of the five facilities reported the specific types of compostables products accepted, and those two facilities accept both compostable paper and plastic products and packaging.

None of these facilities reported that they screen out or remove compostable products before the feedstock is processed, nor did they report that there were any issues with the disintegration of compostable products themselves. While the compostable products themselves comprise a tiny proportion of feedstock by weight and volume, the associated contamination that comes with these products disproportionately increases the cost of processing material due to additional equipment and staff needed to manage contamination, greater wear and tear on existing equipment, and increased disposal fees for contaminant materials. Additionally, all of these facilities noted that—despite anecdotally increasing feedstock volume—compostable products do not add any nutrient value to their finished compost.

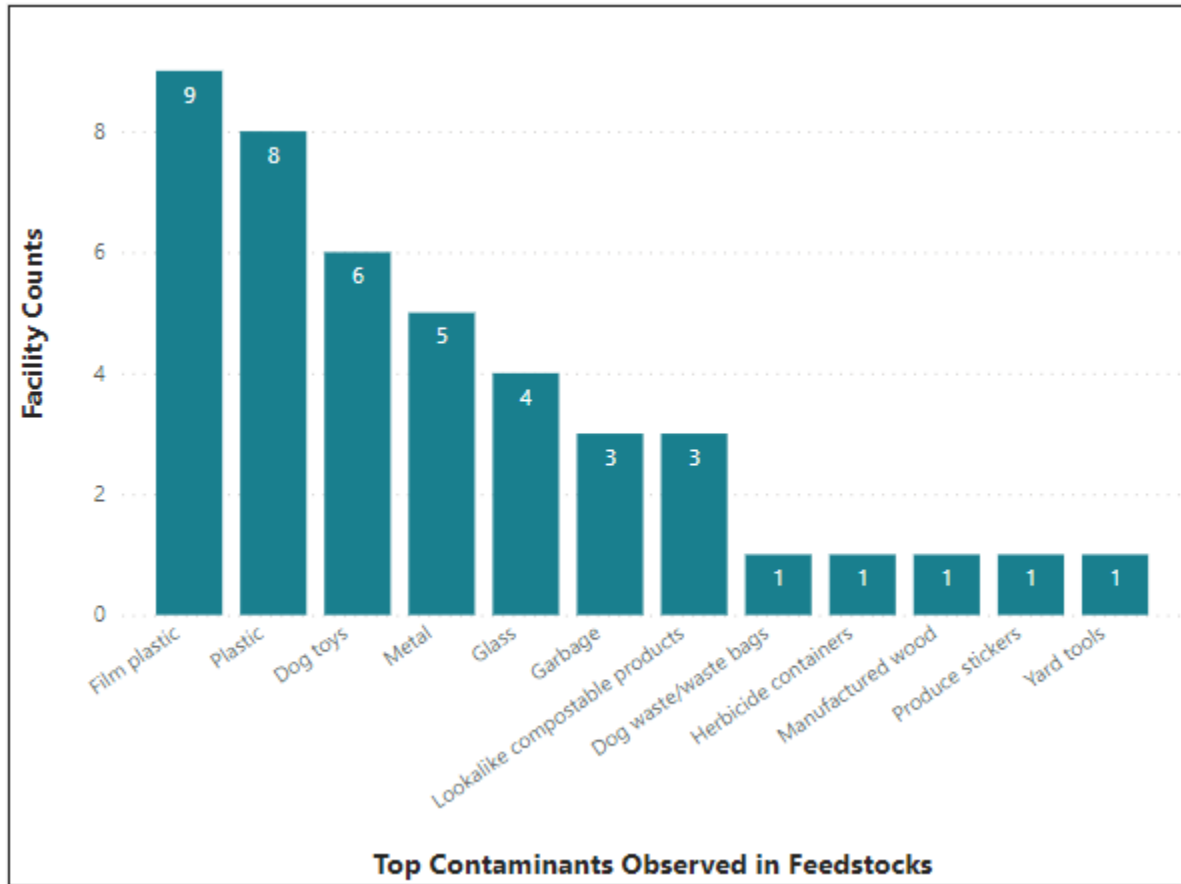
According to four out of the five facilities that accept them, compostable products do not directly impact the marketability of their finished compost. One facility noted that accepting compostable products has led to hesitancy among food growers to use their compost. Overall, compostable products comprise a very small amount of incoming feedstock (by weight and volume) and do not pose visible issues in finished compost. Several facilities, however, expressed concerns about heightened levels of incoming compostable products in the future and the contamination issues that they may bring.

## **Consumer Confusion and Contamination**

Contamination is a major issue reported across all facilities interviewed. The top five most commonly reported contaminants include film plastic (including garbage bags, non-compostable plastic bags, and other types of plastic film), other plastic (including

beverage containers, condiment packets, single-use food serviceware, etc.), dog toys, metal (including utensils), and glass. Other specific contaminants mentioned include garbage (including “malicious contamination,” or bags of residential garbage deliberately put into the organics stream), compostable product lookalikes, herbicide containers (from landscaping operations), manufactured wood, produce stickers, and yard tools. Over half the facilities that accept compostable products named compostable product lookalikes as a common contaminant.

**Figure 3. Contamination by number of facilities**



To address contamination, most facilities reported having a sorting process including both manual sorting and multiple screening processes. Contamination issues have resulted in some facilities needing to use smaller screens or screen compost multiple times. Some facilities also use specialized equipment like vacuum airlift separation units and specialized screens. Despite the extra time and equipment needed to address these contaminants, remnants of contamination can still be visible in finished compost. For example, some facilities noted that stickers and plastic film shreds can be visible in finished compost which can deter customers, despite the contamination levels still being below legally allowable thresholds.

In addition to needing staff to inspect incoming loads and remove obvious contamination, some facilities who do their own hauling also noted higher labor costs required for training drivers to evaluate contamination levels as well as customer service representatives to engage with and educate customers to try and keep their feedstock streams as clean as possible. Facilities also noted higher costs for existing equipment and machinery due to additional wear and tear from contaminant materials, as well as increased disposal fees for non-compostable residual material.

## Financial Incentives

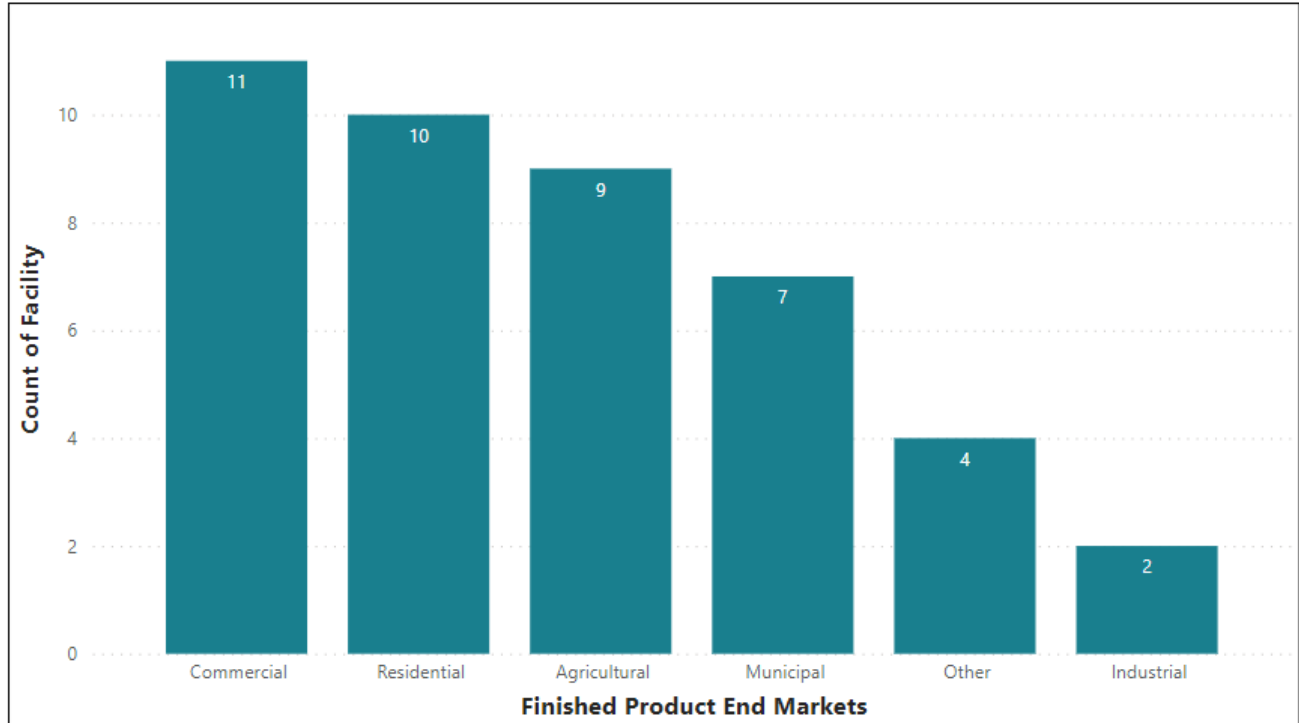
Nearly half the facilities interviewed reported having contracts with municipalities to accept feedstocks from various sectors. Several facilities reported having contracts directly with haulers, and some facilities are publicly owned operations affiliated with a city or county. Several of the facilities with municipal contracts accept compostable products. No facilities interviewed reported receiving any type of financial or other incentive to accept compostable products, though they would be interested in incentives to help offset the additional costs associated with accepting them.

Accepting compostable products as feedstock typically requires adjustments to the composting process used by facilities. When asked what equipment and facility upgrades would be needed to accept compostable products, facilities indicated they would need more space, new/updated equipment, and more staff to handle them. Facilities did not provide cost estimates for necessary facilities upgrades, however one facility shared that they would need to build an entirely new facility to accommodate compostable products, with a cost estimate of around \$4 million.

## End Markets for Compost

Facilities sell their finished compost to a variety of end markets. The majority sell to a mix of end markets mostly focused on the commercial and residential sectors, and a few have a direct relationship with a wholesaler who purchases 100% of their compost product. Several facilities sell to agricultural users, especially those that accept large amounts of agricultural feedstock. Several facilities also sell their compost to municipal or other public sector users, for example, erosion control or biofiltration projects as part of new development or transportation projects.

Figure 4. Finished compost end markets by number of facilities



## Composting Consortium Contamination Report

In March of this year, the Composting Consortium published a new [report](#) on contamination at compost facilities. The report found that:

- Facilities spend about a fifth of their operating costs on addressing contamination.
- 85% of the contamination detected at composting facilities was conventional plastic.
- Accepting compostable packaging did not necessarily lead to greater levels of contamination, and that “most composters had contamination irrespective of whether or not they accept compostable packaging.”
- Every facility implemented hand-sorting for contamination at some point in their process, but that facilities with sort lines and other mechanical processes spent half as much time decontaminating feedstock as those without machinery
- Compostable packaging was largely performing as advertised, as eight out of nine participating facilities had no detectable amounts of the material in their finished compost.
- Composters surveyed spent an average of 21% of their operating costs on contamination removal and in some cases tip fees did not cover these costs. Even still, 40% of the composters surveyed still had some plastic in their finished product.

Based on the findings from the study, the Composting Consortium encourages advocating for legislation that makes compostable packaging more uniform and chastises lookalikes. They also noted that growing extended producer responsibility programs could provide an opportunity for composters, such as allocating available revenue for educational campaigns and other efforts to reduce contamination.

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# Next Research Steps

The Cascadia research team will address the remaining research questions below in the final research summary to the Advisory Committee:

- (h) Current laws related to compostable products and the enforcement of these laws;
- (i) Any work product from other contemporaneous stakeholder advisory committees currently discussing similar topics in other jurisdictions or nationwide; and
- (j) Policy options addressing contamination of organic waste streams and to increase the use of reusable and refillable items.

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# Appendix A: Organic Materials Management Facility Interview Guide

## Interview Questions

### GENERAL OPERATIONS

- 1) What composting method(s) does your facility currently use? Please describe your operations in more detail.
  - a) Aerated windrow composting
  - b) Aerated static pile composting
  - c) In-vessel composting
  - d) Vermicomposting
  - e) Other methods
- 2) How long does your composting process take?
- 3) How many tons of compost do you produce annually? What is your annual production capacity?
- 4) What are your total annual operating costs?

### FEEDSTOCK

- 5) From which sources/generators do you currently accept feedstock?
  - a) Residential
  - b) Commercial
  - c) Industrial
  - d) Agricultural
    - i) What percentage are located in Washington?
- 6) Which types of feedstock do you currently accept? Are they pre- or post-consumer or both?
  - a) Agricultural waste (edible and inedible crop waste)
  - b) Yard waste only



- c) Food and yard waste only
- d) Food, yard waste, and compostable products
  - i) Do you accept both compostable fiber and compostable plastic products, or just fiber?
- 7) Do you have contracts with any municipalities to accept feedstock? From which sectors? Are there any incentives built into those contracts to accept compostable products?
- 8) Do you have a USDA/WSDA organic certification?  
*[If yard or yard/food waste only]*
- 9) Why don't you currently accept compostable products as feedstock?
- 10) What equipment upgrades or other infrastructure would you need to accept food waste or compostable products? Have you looked into how much this would cost?  
*[if facility has an organic certification and therefore doesn't currently accept compostable products]*
- 11) How much would you need to be compensated for the loss of your organic certification to begin accepting compostable products in your feedstock?  
*[If compostable products are accepted]*
- 12) Do you have any standards or requirements for compostable products (i.e., required certifications, etc.)?
- 13) Do you remove compostable products prior to composting (i.e., are they actually composted or are they screened out)?
- 14) Have you observed any issues with these products in your process (e.g., do they fully break down in your facility, do you have thresholds above which you cannot accept more compostable products, etc.)?
- 15) Do compostable products add any benefits to the resulting finished compost product? Please describe.
- 16) How has expanding operations to accept compostable products affected your operations (e.g., has it increased feedstock volume and led to more production and revenue, has it increased contamination levels, has it resulted in higher costs for labor, time, and equipment required to remove contaminants, etc.)?
- 17) Would you be willing to share photos of your finished compost product?

## CONTAMINATION

- 18) What are the top contaminants you observe in feedstocks? How do they differ by generator/sector?
- 19) What processes or equipment do you use to address contamination? What issues do these contaminants cause in processing or marketing your finished product? Have you quantified the financial impacts of these issues?
- 20) Do you conduct any quality testing or testing related to amounts or types of contamination in your feedstock and/or finished compost product? Any testing related specifically to compostable products (e.g, microplastics, PFAS or other chemicals of concern, etc.)?
- 21) How do compostable products impact the marketability of your final product?
- 22) Do you have any plans to change which types of feedstock you will accept in the future?

## INCENTIVES AND END MARKETS

- 23) Do you receive any financial or other incentives to accept compostable products as feedstock? Do you know of any other models or programs that incentivize accepting compostable products?
- 24) What end markets do you sell your finished product to? Please be as specific as possible.
  - a) Residential
  - b) Commercial
  - c) Municipal
  - d) Agricultural
  - e) Industrial
  - f) Other

## OTHER

- 25) Is there anything else you'd like us to know?
- 26) Do you know of any other large organics management facilities in the state we should be talking to? If so, can you share contact information for relevant facilities?

# Appendix B: Full List of Permitted Organic Materials Management Facilities in Washington Contacted for Interviews

#	Facility	City	County
1	Bailand Farms Yardwaste (Bailey) Compost	Snohomish	Snohomish
2	Barr-Tech Composting Facility	Sprague	Lincoln
3	Brown to Green Composting	Winthrop	Okanogan
4	Cedar Grove Composting Co. Maple Valley	Maple Valley	King
5	Cedar Grove Composting, Inc.	Everett	Snohomish
6	Centralia Wastewater Treatment Plant	Centralia	Lewis
7	Cheney Wastewater Treatment Plant	Cheney	Spokane
8	City of Richland Horn Rapids Composting Operation	Richland	Benton
9	Cowlitz Valley Compost	Longview	Cowlitz
10	Dirt Hugger LLC	Dallesport	Klickitat
11	Green Earth Technology (Compost)	Lynden	Whatcom
12	Kittitas County Compost Facility	Ellensburg	Kittitas

#	Facility	City	County
13	La Conner Wastewater Treatment Plant	La Conner	Skagit
14	Lenz Enterprises Inc	Stanwood	Snohomish
15	LRI Compost Factory (Hidden Valley Compost Factory)	Puyallup	Pierce
16	Natural Selection Farms Composting Facility	Sunnyside	Yakima
17	North Mason Fiber Co	Belfair	Mason
18	Olympic Organics LLC	Kingston	Kitsap
19	Pacific Topsoils - Maltby	Woodinville	Snohomish
20	Pierce County (Purdy) Composting Facility	Gig Harbor	Pierce
21	Port Townsend Biosolids Compost Facility	Port Townsend	Jefferson
22	Quincy Compost	Quincy	Grant
23	Silver Springs Organics Composting LLC	Rainier	Thurston
24	Skagit Soils Inc	Mount Vernon	Skagit
25	Stemilt World Famous Compost Facility	Wenatchee	Chelan
26	Sudbury Landfill Compost Facility	Walla Walla	Walla Walla
27	Winton Compost Facility	Leavenworth	Chelan