Food Waste and Compostable Packaging: U.S. Landscape

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2019 AMERIPEN Annual Meeting
May 30, 2019
U.S. Landscape

• BioCycle, founded in 1960, has been covering compostable packaging for almost 30 years
• Definitely been an evolution, influenced by increase in food waste recycling, explosive growth in carry out foods, many more offerings in the compostable packaging space, and changes in composting practices
• In 2019, the conversation around compostable packaging, especially foodservice ware, becomes one about contamination from look alike products
U.S. Landscape (cont.)

• Seeing significant increase in use of compostable food service packaging — e.g., cups, cutlery, clamshells — by foodservice establishments and corporate and institutional cafeterias, as well as some grocery chains. One challenge is consistency in labeling that makes certified compostable packaging readily and easily identifiable for the consumer (so it goes in the right bin) and for the composter.

• However, in many locations where these products are used, there isn’t a food waste composting facility located nearby, or the nearby composting facility may not accept the products.

• Leads to the following conversation about access
National Residential Access
Growth in Curbside Programs Since Last Study

<table>
<thead>
<tr>
<th>Year</th>
<th>2013/14</th>
<th>2016/17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Programs</td>
<td>79</td>
<td>149</td>
</tr>
<tr>
<td>Number of Communities</td>
<td>198</td>
<td>327</td>
</tr>
<tr>
<td>Number of States</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>Number of Households</td>
<td>2,740,000</td>
<td>5,133,000</td>
</tr>
</tbody>
</table>

Source: BioCycle Residential Food Waste Collection Access, Dec. 2017
National Residential Access

- Fruit and vegetable scraps (all programs)
- Meat, fish, and dairy (91%)
- Green waste/yard trimmings (71%)
- Paper bags (69%)
- Food soiled paper - Uncoated (71%)
- Food soiled paper - Coated with compostable plastics (35%)
- Molded fiber containers, such as bagasse (22%)
- Compostable plastic foodservice items and packaging (42%)
- Compostable plastic bags (42%)

Source: BioCycle
U.S. curbside programs co-collecting food and yard waste

148 Programs reporting

- Collects food scraps without yard waste: 29%
- Collects food scraps with yard waste: 71%

Source: BioCycle
U.S. communities with curbside food waste collection

148 Programs reporting

Source: BioCycle
U.S. communities with access to curbside food waste collection by state

148 Programs reporting

Source: BioCycle
Drop-off Programs, 2016/17
First time data!

<table>
<thead>
<tr>
<th>Number of Programs</th>
<th>67</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Communities</td>
<td>318</td>
</tr>
<tr>
<td>Number of States</td>
<td>15</td>
</tr>
<tr>
<td>Number of Households</td>
<td>6,701,927</td>
</tr>
</tbody>
</table>

*Source: BioCycle*
Materials Collected at Drop-Off

- Fruit and vegetable scraps (all programs)
- Meat, fish, and dairy (88%)
- Green waste/yard trimmings (45%)
- Paper bags (57%)
- Food soiled paper - Uncoated (81%)
- Food soiled paper - Coated with compostable plastics (36%)
- Molded fiber containers, such as bagasse (27%)
- Compostable plastic foodservice items and packaging (39%)
- Compostable plastic bags (54%)

Source: BioCycle
Quantifying Existing Food Waste Composting Infrastructure in The U.S.

11/15/18

BioCycle Magazine, 2018
95 Full-Scale Food Waste Composting Facilities reporting allowed feedstocks

Source: BioCycle, 2018 data.
103 Full-Scale Food Waste Composting Facilities reporting accepted feedstocks

Source: BioCycle, 2018 data.
Figure 1. Number of facilities/state

103 total survey responses, 82 confirmed via alternative methods

Source: BioCycle
Figure 7. Annual tonnage of all organic waste streams composted by quantity range

94 facilities responding, Conversion factor: 2 cubic yards/ton

- Less than 5,000 tons/year: 15
- 5,000 to 9,999 tons/year: 20
- 10,000 to 24,999 tons/year: 20
- 25,000 to 49,999 tons/year: 10
- 50,000 to 99,999 tons/year: 15
- More than 100,000 tons/year: 5

Source: BioCycle
Figure 8. Annual tonnage of all food waste composted by quantity range

102 facilities responding, Conversion factor: 2 cubic yards/ton

Source: BioCycle
Standard Practice for Industrial Composting of Source Separated Organics + Compostable FSP

• Establish Critical Protocols:
  – For packagers, be sure any compostable product accepting is BPI-certified FSP and is properly labeled. Compostable FSP needs to be EASILY DIFFERENTIATED from noncompostable packaging!
  – Source Control in commercial, institutional setting to eliminate look alikes
  – Extensive training — and retraining — of food waste generators, starting with sourcing FSP
  – Test compostable products for disintegration at the composting facility. Utilize CCREF Open Source Field Testing Protocol
Standard Practice for Industrial Composting of Source Separated Organics + Compostable FSP

- Follow Scientifically Proven Composting Practices
  - Active composting characterized by a high temperature phase FOLLOWED by a lower temperature phase that allows product to stabilize and beneficially diverse microorganisms to develop and flourish
  - Helps ensure full biodegradability and disintegration of compostable FSP and more importantly, a high quality compost product
Thank you!

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