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## **Comparative Analysis of the Regulatory Barriers to Small-Scale Composting in Delaware**

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### **I. Introduction**

Effective composting reduces the volume of organic material sent to landfills, mitigating greenhouse gas emissions and extending landfill capacity.<sup>1</sup> According to the Delaware Department of Natural Resources and Environmental Control (DNREC), food waste constitutes over 25% of the materials entering Delaware's landfills.<sup>2</sup> Diverting this waste to composting would significantly alleviate pressure on the state's disposal infrastructure.

Composting also supports local economic development by creating opportunities in compost production, sales, and land remediation.<sup>3</sup> Small-scale sites can supply nutrient-rich compost to community gardens, farms, and landscaping projects. When made more accessible, these efforts can form a circular economy that empowers residents and reduces reliance on centralized waste processing systems.<sup>4</sup>

Delaware is facing growing challenges regarding solutions to food waste and landfill overcapacity.<sup>5</sup> Prevailing solid waste disposal practices result in unnecessary environmental damage, degradation of surface and groundwater, and waste of valuable land and resources, constituting a continuing hazard to public health and welfare.<sup>6</sup> Despite the environmental and economic benefits of composting, the current regulatory framework for small-scale and community composting initiatives in Delaware is complex and outdated.<sup>7</sup> In Delaware's current composting landscape, there are systemic barriers hindering small-scale and community-based composting.

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<sup>1</sup> See Environmental Protection Agency, *Composting*, (Feb. 27, 2025) <https://www.epa.gov/sustainable-management-food/composting#:~:text=Composting%20can%20take%20place%20at,materials%20from%20around%20the%20region>.

<sup>2</sup> DSM Engineering Inc., *Analysis of Organic Diversion Alternatives, Report to the Delaware Solid Waste Authority*, 9 (Sep. 2017) <https://dswa.com/wp-content/uploads/2015/02/Final-Report-to-DSWA-Organics-Analysis-September-8-2017.pdf>.

<sup>3</sup> Kimberly Martinez, Seaside Sustainability, *Composting to Reduce Food Waste: A Sustainable Path Forward*, (March 14, 2025) <https://keepmassbeautiful.org/news-events/the-kmb-blog/overview.html/article/2025/03/14/composting-to-reduce-food-waste-a-sustainable-path-forward#:~:text=Composting%20has%20significant%20social%20and,fosters%20stronger%2C%20more%20connected%20communities>.

<sup>4</sup> See Environmental Protection Agency, *Composting*, (Feb. 27, 2025) <https://www.epa.gov/sustainable-management-food/composting#:~:text=Composting%20can%20take%20place%20at,materials%20from%20around%20the%20region>.

<sup>5</sup> See 7 Del. C. § 6401 (2025).

<sup>6</sup> 7 Del. C. § 6401(a)(2) (2025).

<sup>7</sup> 7 Del. Admin. Code 1301 (2025).

## **II. Delaware’s Current Composting Landscape: An Overview**

Delaware’s composting regulatory framework is a one-size-fits-all approach that imposes unnecessary burdens on small-scale composting.

### **A. Current Framework of Delaware Code**

In Delaware, composting is defined as “the biological decomposition and stabilization of organic material, under conditions that allow development of thermophilic temperatures as a result of biologically produced heat, to produce a final product that is stable, free of pathogens and viable plant seeds, and can be beneficially applied to the land.”<sup>8</sup> Additionally, a composting facility is “where organic material is processed using composting technology which may include, but is not limited to, physical turning, windrowing, in-vessel composting, or other mechanical handling of organic material.”<sup>9</sup> In Delaware, the only type of composting exempted from needing a permit from the Delaware Department of Natural Resources and Environmental Control (DNREC) is individual household composting.<sup>10</sup> All other composting facilities, regardless of size or purpose, are subject to the same regulatory standards. Delaware law requires composting facilities to obtain a permit, the review of which is a time-intensive process.<sup>11</sup> The permit application requires a written plan of operation demonstrating that “the composting facility will be operated in a manner that will not pose a threat to human health and the environment” and a statement explaining how the applicant intends to use the compost.<sup>12</sup> Although not included in the law, DNREC also requires a \$750 permit fee, escrow account requirements and liability insurance mandates.

### **B. Delaware Zoning for Composting**

Zoning regulations in Delaware are another barrier for small-scale composting. One of the three counties in Delaware, New Castle County, has defined standards for commercial composting.<sup>13</sup> New Castle County characterizes commercial composting as an industrial use.<sup>14</sup> Additionally, New Castle requires commercial composting operations to have defined frontage<sup>15</sup>,

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<sup>8</sup> 7 Del. Admin. Code 1301 §3.0 (2025).

<sup>9</sup> *Id.*

<sup>10</sup> 7 Del. Admin. Code 1301 §2.5.1 (2025).

<sup>11</sup> *Id.*

<sup>12</sup> 7 Del. Admin. Code 1301 §2.5.1.1-2 (2025).

<sup>13</sup> New Castle County Zoning Code, Sec. 40.03.336 .

<sup>14</sup> New Castle County Zoning Code, Sec. 40.33.270 (A).

<sup>15</sup> New Castle County Zoning Code, Sec. 40.03.336 (A) “The site shall have at least two hundred (200) feet of frontage on a public road, or other adequate means of access compatible with sound land use principles.”

setbacks<sup>16</sup>, screening<sup>17</sup>, and access and safety measures.<sup>18</sup> Commercial composting is permitted by limited review in the Industrial, Heavy Industrial and Extraction zoning districts and by special review in the Suburban Reserve district.<sup>19</sup>

Neither Kent nor Sussex Counties have definitions of or use requirements for composting.

### **III. Comparative Models and Lessons from Other States**

To support small-scale composting, composting regulation requirements should vary based on the size of the facility, type of material composted, and composting process used. The U.S. Composting Council (USSC) maintains a webpage with information on how states regulate compost and a Model Compost Rule Template (MCRT).<sup>20</sup>

#### **A. The USSC model rule**

The MCRT includes a three-tiered permit structure with requirements based on the materials composted and the composting processes employed.<sup>21</sup> According to the USSC, the three types of feedstock categories in the model rule are “based on the materials’ potential risks to human health and the environment.”<sup>22</sup> Tier 1 presents the least amount of risk and includes vegetative materials, Tier 2 presents a higher risk and includes materials from agriculture, food processing, and industry, and Tier 3 presents the highest risk and includes sludge, biosolids, etc.<sup>23</sup> The regulatory compliance obligations for composting facilities increase with each subsequent tier.<sup>24</sup> According to the MCRT, exemptions from the permitting requirements are primarily dependent on the feedstock composted and the size of the facility. For example, small-scale operations are exempt based on a defined amount of feedstock and compost as measured in cubic yards and

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<sup>16</sup> New Castle County Zoning Code, Sec. 40.03.336 (B) “No area of compost or mulch shall be permitted within two hundred (200) feet of any residential use, office, and DPUD district; or, within fifty (50) feet of any commercial, BP, I and HI Districts, except along public or private road frontage, where the setback plus right-of-way must total at least two hundred (200) feet, with a minimum setback of fifty (50) feet.

<sup>17</sup> New Castle County Zoning Code, Sec. 40.03.336 (C) “No grading, removal or disturbance of plant material shall be permitted within thirty (30) feet of any lot line or road frontage provided, however, that existing vegetation and/or grading shall be supplemented as required with additional plant material and/or berming so as to provide a one (1.0) opacity, except at the approved point of access. All of the requirements of this subsection must be in place prior to commencement of compost or mulch operations.”

<sup>18</sup> New Castle County Zoning Code, Sec. 40.03.336 (D) “The compost or mulch operation shall have in place artificial barriers (fences, walls, guardrails, buildings, etc.) or natural barriers (rocks, berms, trees, streams, etc.) at least twenty-five (25) feet outside the operation that will effectively control access to the site.”

<sup>19</sup> New Castle County Zoning Code, Table 40.03.110A. General Use Table.

<sup>20</sup> U.S. Compost Council, State Regulations, <https://www.compostingcouncil.org/page/StateRegulations#:~:text=STATE:%20DELAWARE&text=Permit%20Requirements:%20Section%202.5:%20To,intended%20use%20of%20the%20compost.&text=Delaware%20offers%20a%20competitive%20recycling,banned%20or%20separate%20collection%20mandatory?>

<sup>21</sup> U.S. Compost Council, Model Rule 2.0, page i, (May 2002) <https://www.compostingcouncil.org/page/ModelRuleTemplate>. Georgia, Missouri, Mississippi, North Carolina, South Carolina, and Tennessee have used or are using this template to update their compost permitting regulations.

<sup>22</sup> *Id.*

<sup>23</sup> *Id.* at Section 2, page 6.

<sup>24</sup> *Id.* at ii.

square feet.<sup>25</sup> Examples of small-scale composters include community composting or composting located on-site at an academic institution.<sup>26</sup> Small-scale composting is limited to only Type 1 and 2 feedstocks and limitations based on the methodology used to produce the compost.<sup>27</sup> The MCRT also contains exemptions for backyard, agricultural, and yard trimming composting.<sup>28</sup>

## **B. Maryland**

In Maryland, the Maryland Department of the Environment (MDE) administers a compost permitting program based on the MCRT and centered around feedstock types and tiers of facilities.<sup>29</sup> Maryland defines the following types of feedstock and facilities:

**Table 2: Feedstock Types**

NWW	Type 1	Type 2	Type 3
<ul style="list-style-type: none"> <li>• Tree and other natural vegetative refuse</li> <li>• (Not covered under the CF Permit or composting facility regulations)</li> </ul>	<ul style="list-style-type: none"> <li>• Yard waste</li> </ul>	<ul style="list-style-type: none"> <li>• Food scraps</li> <li>• Non-recyclable paper</li> <li>• Department approved animal manure and bedding</li> <li>• Department approved industrial food processing materials</li> <li>• Animal mortalities</li> <li>• Compostable products</li> </ul>	<ul style="list-style-type: none"> <li>• Sewage Sludge or Biosolids</li> <li>• Used diapers</li> <li>• Mixed municipal solid waste (MSW)</li> <li>• (Not covered under the CF Permit or composting facility regulations)</li> </ul>

**Table 3: Facility Tiers**

NWW Recycling Facility	Tier 1	Tier 2 - Small	Tier 2 - Large	Tier 3
<ul style="list-style-type: none"> <li>• Composts <i>only</i> natural wood waste.</li> <li>• (Not covered under the CF Permit or composting facility regulations)</li> </ul>	<ul style="list-style-type: none"> <li>• Composts only Type 1 feedstocks.</li> </ul>	<ul style="list-style-type: none"> <li>• Composts only Type 1 and Type 2 feedstocks.</li> <li>• Produces ≤ 10,000 cubic yards of compost per year.</li> </ul>	<ul style="list-style-type: none"> <li>• Composts only Type 1 and Type 2 feedstocks</li> <li>• Produces &gt; 10,000 cubic yards of compost per year.</li> </ul>	<ul style="list-style-type: none"> <li>• Composts Type 3 feedstocks (regardless of whether other feedstock types are also composted)</li> <li>• (Not covered under the CF Permit or composting facility regulations)</li> </ul>

<sup>25</sup> *Id.* at Section 3, page 7.

<sup>26</sup> *Id.*

<sup>27</sup> *Id.*

<sup>28</sup> *Id.*

<sup>29</sup> Maryland Dept. of the Environment, *Composting Facility (CF) Permitting Requirements by Facility Type*, (July 7, 2021) <https://mde.maryland.gov/programs/land/RecyclingandOperationsprogram/Documents/Regulatory%20Comparison%20Tables.xlsx%2011-1.pdf>.

Maryland exempts from permitting small-scale facilities, those that use no more than 5,000 sq. ft. of area in support of composting and are a Tier 1 or 2 facility.<sup>30</sup> Composting facilities exempt from the permitting requirements are still subject to the general State performance standards for composting facilities.<sup>31</sup> Maryland also has exemptions for backyard and agricultural composting.<sup>32</sup> Maryland's approach lowers the barrier to entry for small-scale composting of low-risk materials while still protecting public health and the environment.

### **C. New Jersey**

New Jersey currently requires regulation of most types of composting operations, and it only exempts certain composting operations based on the size of the operation, the type of feedstock, and whether the composting is on-farm. Composting operations that receive no more than 10,000 cubic yards of yard trimmings a year are exempt.<sup>33</sup> An on-farm composting that produces less than 5,000 cubic yards of compost per year from on-site generated approved feedstocks and has a composting area that is less than 3 acres is also exempt from New Jersey Department of Environmental Protection Regulations.<sup>34</sup> Additionally, an on-farm composter is exempt from needing a permit if the material composted is limited to 10,000 cubic yards per year and the composting area is less than 5 acres.<sup>35</sup>

On January 29, 2024, Senate Bill 2426 was introduced in New Jersey to require the creation of a tiered system for composting based on the MCRT.<sup>36</sup> Specifically, the Bill proposes that small scale composting facilities (including composting facilities that operate on school grounds and community gardens) shall be exempt from solid waste permitting requirements, demonstrating the need for a tiered system that allows small scale operations to avoid confusing permitting requirements that are better suited for larger scale commercial facilities.<sup>37</sup> In 2025, New Jersey has been considering Senate 1040, first introduced on January 9, 2024, to exempt community gardens with on-site composting from permitting requirements.<sup>38</sup>

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<sup>30</sup> Md. Code Regs. 26.04.11.05C(3).

<sup>31</sup> Md. Code Regs. 26.04.11.04.

<sup>32</sup> Maryland Dept. of the Environment, *Composting Exemptions and Basic Definitions*, (March 10, 2016) <https://mde.maryland.gov/programs/land/RecyclingandOperationsprogram/Documents/Composting%20Regulatory%20Comparison%20Exemptions%20and%20Definition.xlsx%2011-1.pdf>

<sup>33</sup> N.J.C.A. § 7:26A-1.4(13)(i) (2025).

<sup>34</sup> N.J.C.A. § 7:26A-1.1(6)(e) (2025).

<sup>35</sup> N.J.C.A. § 7:26A-1.4(23)(iii) (2025).

<sup>36</sup> New Jersey Senate Bill 2426, 2024, <https://legiscan.com/NJ/text/S2426/2024>.

<sup>37</sup> *Id.*

<sup>38</sup> New Jersey Senate Bill 1040, 2025, <https://legiscan.com/NJ/text/S1040/2024>.

#### **IV. Conclusion**

The most significant barrier to composting in Delaware is the application of industrial-scale regulation to small, community-based efforts. There is no statutory definition of small-scale composting, nor any feedstock or size-based exemptions in DNREC regulations. As a result, all composting other than backyard composting, regardless of size, must undergo the same intensive permitting process. Delaware would greatly benefit from adopting a regulatory approach similar to that outlined in the MCRT. By adopting a tiered approach based on relative threat to human health and the environment presented by the type and composting operation, the State can improve efficiency while still protecting the public. The MCRT, which has been adopted by states such as Maryland, encourages exempting low-risk composting from the burdens of an extensive regulatory system and maximizes efficiency by allowing regulators to focus on larger composting operations using higher-risk feedstock. If Delaware maintains the status quo, it will be in a similar posture to New Jersey and will most likely need to consider adopting piecemeal reforms and exemptions to the regulation of composting. By embracing systemwide reform to the regulation of compost, Delaware will demonstrate a commitment to reducing food waste and will unlock the full potential of small-scale composting to benefit communities across the State.