

# SUPPORTIVE RULES FOR SMALL-SCALE COMPOSTING

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*Eleven states are surveyed for their noteworthy efforts and differing approaches to encourage more farms and other small-scale operators to compost, especially food scraps.*

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**C**OMPOSTING is inherently local; it supports local green jobs, farmers and other businesses. Indeed, farmers have a vital role to play in producing and utilizing compost to restore depleted soils. They also have land, a necessary factor for developing the capacity to compost. State permitting rules can facilitate on-farm and other small-scale operators, thus helping to expand and diversify the composting infrastructure.

Eleven states — Iowa, Maine, Massachusetts, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Washington, West Virginia and Wisconsin — are surveyed here for their noteworthy efforts and differing approaches in get-



**Farmers have a vital role to play in producing and utilizing compost to grow crops and restore depleted soils.**

ting more farms and other small-scale operators to compost, especially food scraps. (See Table 1 for a list of the state laws and date of passage.) It is still unclear which state policies are the most effective in boosting composting of food residuals. In addition, this is not a comprehensive analysis but focuses on the most salient composting regulations. Local policies such as those dealing with zoning can also facilitate or hamper on-farm composting.

Several states have permit exemptions for farms composting certain types of materials under a specified amount. Most states have high volume limits, or none at all when it comes to on-site generated feedstocks. New York has a 3,000 cubic yard/year (cy/yr) limit for yard debris. Pennsylvania allows farmers the option of a general permit, as an alternative to a full permit, provided they adhere to certain standards. To qualify for a general permit, the composting facility is not allowed to exceed 5 acres in size, accept more than 500 tons or 1,000 cy/yr of source separated food waste and or accept more than 3,000 cy/yr of total material (further provisions are included).

Wisconsin, among others, has no vol-

ume constraint for farm crop residue and manure when it comes to on-site farm composting. However, as the quantities of materials rise, so do the standards that facilities have to meet. Currently, Wisconsin allows up to 20,000 cy of on-site yard material and chipped wood at any one time before the requirements become more stringent.

A wide range of laws exist on acceptance of off-site (externally) generated food discards at permit-exempt composting facilities in terms of what exactly can be taken in and how much. Iowa allows no more than 2 tons/week of food residuals. For registered facilities, Rhode Island allows 1 ton/day of presorted food material but 10 tons/day of presorted vegetative material. In Ohio, operators of registered facilities are responsible for determining their own capacities and abiding by them. Table 2 includes more state examples involving food scrap thresholds.

## **THRESHOLD DETERMINATION: SCIENCE OR POLITICS?**

Thresholds are a crucial component to state policies that involve exemptions for small-scale composters. High

**Table 1. State laws describing exemptions for small-scale composters (11 states surveyed)**

State	Title of Composting Regulation	Year Passed/ Most Recent Amendment
Iowa	IAC Environmental Protection 567, Chapter 105.2- 105.5(455B, 455D)	2008
Maine	06-096 Department of Environmental Protection Maine Solid Waste Management Rules: Chapter 410	2011
Massachusetts	MassDEP Site Assignment Regulations for Solid Waste Facilities 310 CMR 16.05: Applicability	2001
New York	DEC Regulations and Enforcement Chapter IV – Quality Services, Subpart 360-5.3: Composting Facilities	2003
Ohio	OAC Chapter 3745-560 Composting Facilities	2012
Oregon	Oregon Administrative Rules Chapter 340, Divisions 093-0080 (Variances and Permit Exemptions), 096-0060 (Special Rules Pertaining to Composting: Applicability), and 097 (Solid Waste Permit Fees)	2010
Pennsylvania	The Pennsylvania Code, Title 25 Environmental Protection, Chapter 281 and 287.101	2010
Rhode Island	Rules and Regulations for Agricultural Composting Solid Waste Regulation No.8 Solid Waste Composting Facilities	2005 1998
Washington	WAC Title 173, Section 350-220 Composting facilities	2003
West Virginia	33CSR3 Title 33 Legislative Rule Department of Environmental Protection. Division of Waste Management Series 3: Yard Waste Composting Rule 3.5.b. Exemptions	2001
Wisconsin	Wisconsin Administrative Code Chapter NR 502.12 Yard, farm, food residuals and source-separated compostable material composting facilities	2012

Source: Institute for Local Self-Reliance, 2012.

thresholds for the permit-exempt seem to increase participation in organics recycling, as it takes down the intimidating barrier of the permit process — even though some regulators argue it is not an onerous one.

Thresholds are determined in various ways. In Wisconsin, the amount “believed to be manageable at the time the composting rule was drafted” is written into the law, says Jennifer Huffman, a waste management specialist for Wisconsin’s Department of Natural Resources. Oregon uses a similar rationale: expert best guesses based on feedstock material and its potential threat to the environment. Environmental specialist Matt McDonald from Iowa’s Department of Natural Resources (IDNR) says the threshold was determined by a “rule-making process with stakeholders” and that the amount in the administrative code was the one proposed. Small-scale composting in Iowa is governed by permit-by-rule, as IDNR “wants to remove hurdles” to composting food scraps. Permit-by-rule, available to operations that pose minimal or no threat to the environment, is an alternative to the full permitting process and is often a much easier regulatory path. Currently Iowa is revising its composting regulations and may eliminate permitting based on the quantity of discarded food a facility handles.

Ohio has avoided using thresholds, but its new rules, effective April 1, 2012,

allow exemptions for any type of facility under 300 square feet. This is largely “to accommodate community gardens and urban farms,” explains Angel Arroyo-Rodriguez, a composting specialist for the Ohio EPA. They can bring off-site material in and use the finished product anywhere “as long as there are no odors and air or water pollution.” Facilities over 300 square feet must register and obtain a license, which requires an annual fee based on the daily amount of tonnage handled, a plan of financial assurance and a maximum amount of materials to be indicated by the operator. Arroyo-Rodriguez likes this approach because the amount “is not an arbitrary number; they designed the facility to handle an amount of material, so we’ll hold them to that,” he says. “At any time they can make the necessary changes to accept more material. They just need to update their registration and license.”

Regardless of thresholds, states do not cite substantial problems with permit-exempt facilities abiding by the rules. In the past 13 years, Arroyo-Rodriguez cannot recall receiving complaints specific to exempted farm composting operations in Ohio. Since the exempt operations are smaller, the rare problems that do arise are containable. However, regulators unfortunately do not have hard data tracking the impact of their policies. Not all states require registration or notification of facilities qualified as exempt; thus, an accurate

number of these operations and how much material is diverted from landfills because of their composting are largely unknown. States report that it would require too much staff and time to record this, as the exempt facilities are deemed low-risk. Based on the lack of recorded complaints though, it seems that all these state policies generally promote functioning small-scale composting facilities. However, it does not mean that regulators are content to keep regulations the same.

#### RAISING THE BAR

States have recognized the impacts of thresholds set too low for facilities that are wisely managed and have the ability to absorb more materials. New York is currently discussing raising their numbers from 1,000 to 5,000 cy/yr of source separated organics. According to Sally Rowland of New York State’s Division of Materials Management, there was no research to support the registration limit at the time it was decided, but “after implementing the food scrap composting registration for a number of years,” the division is “comfortable in proposing a regulatory revision to increase the registration amount.”

In Wisconsin, farms can have up to 10,000 cy of off-site generated material at one time, while small-scale composting operations can now have up to 5,000 cy of “source separated compostable material” (SSCM) at any one time under a partial exemption. According to Brad Wolbert from Wisconsin’s Department of Natural Resources, operations are partially exempt — not fully — because mandatory plans of operation must be submitted to and approved by the state.

Iowa and Oregon acknowledge that rule changes should be made in the future. While both recently passed significant revisions (in 2007 and 2009 respectively), they have identified increasing food residuals composting as a next step. In short, allowing exempt facilities to compost food scraps is on the rise.

Performance-based standards describe the environmental standards every composting facility must meet but give operators the responsibility and flexibility to design, construct and manage their operations to meet the performance standards. The three-tier system Oregon utilizes categorizes facilities by feedstock; however, the bottom-line is performance. Oregon Administrative Rule 340-096-0070(4) for example states that “All composting facilities must be designed, constructed, and operated in a manner that, to the greatest extent practicable, consistent with proper facility design and operation, controls and minimizes odors that are likely to cause adverse impacts outside the boundaries of the facility.” Such a law emphasizes

the importance of performance as opposed to a more constrictive “one size fits all” method of achieving results.

Six years prior to Oregon’s revisions, Washington State adopted detailed performance-based standards in 2003. According to Chery Sullivan, Organics Specialist for the Washington State Department of Ecology, performance-based standards foster innovation and will continue to be supported through state programs like Waste 2 Resources. Ohio has followed suit; its regulation includes standards to be met without mandating how to do so. These rules foster innovation and take into account different site qualities, such as climate and soil type. Performance-based standards thereby acknowledge no one model is the best option for every facility.

### HELPING FARMERS

States can also support small-scale farmers in their composting endeavors through two other approaches: technical assistance and rules that allow for the sale of finished compost. Technical assistance is available through compost schools that provide certification (Maine Compost School), on-site help from inspectors (Iowa’s Department of Natural Resources), and grants for innovative projects (funded by Oregon Department of Environmental Quality’s fee on every ton of waste disposed in landfills). These types of programs encourage newcomers to begin composting and give them the necessary tools to compost successfully.

In the Mid-Atlantic region, technical composting support for farmers has been offered through an outreach program coordinated by the Institute for Local Self-Reliance (ILSR) and funded by the U.S. Environmental Protection Agency/Region III since 2008. Based on consultations with farmers interested in food residuals composting but concerned about its feasibility on their land and associated financial demands, ILSR created a network of technical support. The team is comprised of individuals

**Table 2. Thresholds for off-site generated food discards at permit-exempt composting facilities (11 states surveyed)**

State	Feedstock	Threshold Limit
Maine	Food residuals	5 tons at a time with C:N ratio of between 25:1 to 15:1
	Fish residuals	5 tons at a time with C:N ratio of less than 15:1
Massachusetts	Food material	10 cubic yards (cy) or 5 tons/day <sup>1</sup>
	Preconsumer vegetative material	20 cy or 10 tons/day <sup>1</sup>
New York	SS food waste	1,000 cy/year (yr)
	Yard waste	3,000 cy/yr
Ohio	Food scraps	No amount-based limit for 300 sq ft maximum facility. 300 sq ft and above facilities must provide a daily maximum amount <sup>1</sup>
Oregon	SS nonvegetative food and meat scraps	20 tons/yr
	SS nonvegetative food and meat scraps	40 tons/yr if in-vessel
	SS vegetative food scraps (including industrially produced and DEQ approved)	100 tons/yr
Pennsylvania	SS food scraps	1,000 cy or 500 tons/yr, 5 acre maximum facility <sup>2</sup>
Rhode Island	Presorted vegetative residues	10 tons/day
	Presorted food by-products	1 ton/day
	Unprocessed meat and fish wastes	1 ton/day
Washington	SS preconsumer vegetative food wastes	40 cy on-site at any one time (if distributing finished compost off-site, max. of 250 cy at any one time allowed, with annual analysis and report required)
	SS preconsumer vegetative food wastes	1,000 cy on-site at any one time, when material is generated off-site and if vermicomposting
	All SS food wastes generated on-site	10 cy on-site at any one time if in-vessel
West Virginia	All SS food wastes generated on-site	No limit on-site if vermicomposting
	Kitchen scraps, coffee grounds, fish and poultry carcasses	12,000 tons annually (includes all organic material), 5 acre maximum farm
Wisconsin	SS compostable material	5,000 cubic yards on-site at any one time. 10,000 cubic yards for farms. License required for all non-farm facilities with volume larger than 50 cubic yards <sup>1</sup>

SS = source separated. All threshold limits assume compliance with applicable environmental standards.

<sup>1</sup>Requires registration and/or license, <sup>2</sup>Requires general permit but not full permit. Source: Institute for Local Self-Reliance, 2012.

who are up-to-date about issues within their communities and their state permitting regulations, and are also known and respected by their peers. The service is in high demand and currently exceeds ILSR’s funding capacity to meet all requests. A similar design, which

takes into account specific state needs, could be adopted by other states.

The opportunity to sell compost provides farmers with additional revenue, as compost is a value-added farm product. Many states have detailed guidelines. Massachusetts devised three categories of compost based on quality, for instance the concentration of heavy metals. The type of compost dictates where the compost can be used and sold. Penn-

sylvania allows substantial flexibility. Operators with the general permit can sell compost without restriction, provided that specific standards that ensure a safe product are met. Licensed facilities in Wisconsin are also free to sell all of their compost.

### THE WEST VIRGINIA CASE

West Virginia addresses on-farm composting in a novel way: it categorizes acceptable feedstock types more broadly than most states. Passed in 2001, Title 33, Series 3 of the Department of Environmental Protection’s Division of Waste Management describes the state’s composting procedure. The rule exempts on-farm composting facilities that are less than five acres in area and handle less than 12,000 tons annually as long as they adhere to location and operational standards outlined in the Yard Trimmings Composting Regulations. The rule specifically addresses yard trimmings, however in-



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cludes "other acceptable compostable materials which have been approved in writing [...] to produce a safe product for use as soil amendment/soil conditioner." Permitted materials include off-site generated preconsumer and postconsumer food scraps as well as fish and poultry carcasses, poultry litter and animal manures, according to Steve Miller, Assistant Commissioner of the West Virginia Department of Agriculture. He states that the department is working on specifying livestock and wildlife carcasses as acceptable materials. West Virginia's code also lets farmers sell their compost without restriction, but if they charge customers to accept food residuals then they must obtain permitting as commercial yard trimmings composting facilities. This does not apply if farmers ask for a "composting fee" to cover operational costs such as collecting materials and turning rows.

#### **FUTURE STEPS**

Compost regulations regarding small-scale operators are fortunately far from being stagnant. State regulators recognize the importance of evaluating the impacts of their codes and taking note of points to improve. The current rise of food discards, pre and

postconsumer, handled by exempt facilities is one result of regulation revisions. Ohio's performance-based approach will facilitate composting at the small-scale, local level where it can bring benefits to the community by allowing materials to be collected and used without requiring cost-prohibitive financial assurance. Wisconsin's rules are being revised to include food scraps and West Virginia is expanding the reach of exempted materials allowed as well.

States like Washington are also exploring new technologies. "It's about matching infrastructure with opportunity," says Chery Sullivan, adding that "some feedstocks are better suited for certain technologies." This is why Washington has invested in developing anaerobic digestion as a key element of the organic management infrastructure. Washington's revised solid waste rule is on schedule to be effective at the end of this year. It includes exemptions that reflect the state's commitment to more efficient composting options, and a new section addressing solid waste permitting for anaerobic digesters.

When it comes to composting, it is essential to minimize environmental impacts to land, air and water while di-

verting valuable feedstocks from landfills and incinerators. However, in order to grow composting capacity, prescriptive measures may be too narrow and restricting. This is further complicated by factors such as physiological variation, localized environmental concerns and the size of individual operations. "Maybe the approach should be to require larger buffer zones (i.e., 500 feet setbacks from any residence not owned by landowner) and to use permit conditions to limit nuisance conditions (noise, odor, vectors, hours, of operation, etc.)," says Craig Coker of Coker Composting and Consulting. His recommended strategy emphasizes prevention of risks via performance rather than limiting materials handled. This method aligns with what some states are already doing in terms of shifting more attention to performance standards rather than strict thresholds. ■

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