

# Hearing Summary

Rule Package: Composting Rules and Associated Multi-Program Rules

Original filing date: November 14, 2017; Refiled July 16, 2018

Public comment start date: November 14, 2017

Public comment end date: December 19, 2017

Public hearing date: December 19, 2017

List of Rules: 3745-500-01, 3745-500-02, 3745-500-03, 3745-500-35, 3745-500-50, 3745-500-120, 3745-500-130, 3745-500-150, 3745-500-210, 3745-500-220, 3745-500-330, 3745-500-350, 3745-500-360, 3745-501-01, 3745-501-02, 3745-501-05, 3745-501-10, 3745-501-15, 3745-501-20, 3745-501-35, 3745-501-40, 3745-503-01, 3745-503-02, 3745-503-05, 3745-503-20, 3745-560-01, 3745-560-02, 3745-560-03, 3745-560-04, 3745-560-05, 3745-560-07, 3745-560-15, 3745-560-100, 3745-560-101, 3745-560-102, 3745-560-105, 3745-560-110, 3745-560-115, 3745-560-120, 3745-560-125, 3745-560-130, 3745-560-135, 3745-560-200, 3745-560-201, 3745-560-202, 3745-560-205, 3745-560-210, 3745-560-215, 3745-560-220, 3745-560-225, 3745-560-230, 3745-560-235, 3745-560-300, 3745-560-301, 3745-560-302, 3745-560-305, 3745-560-310, 3745-560-315, 3745-560-320, 3745-560-325, 3745-560-330, 3745-560-335, 3745-560-400, 3745-560-401, 3745-560-402, 3745-560-405, 3745-560-410, 3745-560-415, 3745-560-420, 3745-560-435

Were there any participants in this public hearing beyond Ohio EPA staff or JCARR staff?

☒ Yes

☐ No

Were there comments received during the public comment period outside of those presented at this hearing?

☒ Yes

☐ No

---

This hearing summary has been compiled to meet the requirements of Section 119.03 of the Revised Code.

This hearing summary includes this cover sheet and the following attachments:

1. **Attachment A** - A copy of the public notice for this hearing.
2. **Attachment B** - A copy of the sign-in sheet for this hearing.
3. **Attachment C** - A copy of the script read into the record to begin and end the hearing.
4. **Attachment D** - A copy of the response to comments.

Ohio EPA's response to comments document includes the comments received, who commented, the agency response to comments, and a statement of whether or not the rule was changed due to the comments.

---

Ohio EPA digitally records all public hearings for rules. The digital recordings are available upon request in a WAVE (.wav) file format. These recordings may be sent out for transcription if necessary.

**BEFORE THE**  
**OHIO ENVIRONMENTAL PROTECTION AGENCY**  
**Public Notice**  
**Proposed Rulemaking Governing**  
**Solid Waste Rules**

Notice is hereby given that the Director of Environmental Protection, under the authority of Sections 106.03 of the Ohio Revised Code and in accordance with Chapter 119, proposes to original file the following rules of the Ohio Administrative Code:

<b>Rule Number</b>	<b>Rule Title</b>	<b>Action</b>
3745-500-02	General Administration – definitions.	Amend
3745-500-03	Incorporation by Reference.	Amend
3745-500-35	Relationships Among Authorizing Documents, Rules and the Authority of the Director and Board of Health.	Amend
3745-500-210	Variances for solid waste facilities.	Amend
3745-503-05	Financial assurance for closure.	Amend
3745-560-01	Composting facilities - applicability.	Amend
3745-560-02	Composting facilities - definitions.	Amend
3745-560-03	Plan view drawing update for class IV composting facilities.	Amend
3745-560-04	Composting - log of operations and annual report forms.	Amend
3745-560-05	Composting - closure cost estimate.	Amend
3745-560-07	Director's general authorization of alternative materials and testing methods.	New
3745-560-15	Composting of dead animals and raw rendering material.	New
3745-560-100	Class I composting facility establishment.	Amend
3745-560-101	Criteria and procedures for approval, termination, revocation, and administrative change of a class I composting facility permit to install.	Amend

3745-560-102	Procedures for commencement of operations at class I composting facilities.	Amend
3745-560-105	Alternative materials request for class I composting facilities.	Rescind
3745-560-105	Alternative materials request for class I composting facilities.	New
3745-560-110	Operational requirements for class I composting facilities.	Amend
3745-560-115	Record keeping requirements for class I composting facilities.	Amend
3745-560-120	Compost distribution requirements for class I composting facilities.	Amend
3745-560-125	Compost sampling and testing requirements for class I composting facilities.	Amend
3745-560-130	Compost quality standards for class I composting facilities.	Amend
3745-560-135	Closure requirements for class I composting facilities.	Rescind
3745-560-135	Closure and termination requirements for class I composting facilities.	New
3745-560-200	Class II composting facility establishment.	Amend
3745-560-201	Criteria for approval and termination of a class II composting facility registration.	Amend
3745-560-202	Procedures for commencements of operations at class II composting facilities.	Rescind
3745-560-202	Construction and commencement of operations at class II composting facilities.	New
3745-560-205	Alternative materials request for class II composting facilities.	Rescind
3745-560-205	Alternative materials request for class II composting facilities.	New
3745-560-210	Operational requirements for class II composting facilities.	Amend
3745-560-215	Record keeping requirements for class II composting facilities.	Amend
3745-560-220	Compost distribution requirements for class II composting facilities.	Amend
3745-560-225	Compost sampling and testing requirements for class II composting facilities.	Amend
3745-560-230	Compost quality standards for class II composting facilities.	Amend
3745-560-235	Closure requirements for class II composting facilities.	Rescind

3745-560-235	Closure and termination requirements for class II composting facilities.	New
3745-560-300	Class II composting facility establishment.	Amend
3745-560-301	Criteria for approval and termination of a class III composting facility registration.	Amend
3745-560-302	Procedures for commencements of operations at class III composting facilities.	Rescind
3745-560-302	Construction and commencement of operations at class III composting facilities.	Rescind
3745-560-305	Alternative materials request for class III composting facilities.	New
3745-560-310	Operational requirements for class III composting facilities.	Amend
3745-560-315	Record keeping requirements for class III composting facilities.	Amend
3745-560-320	Compost distribution requirements for class III composting facilities.	Amend
3745-560-325	Compost sampling and testing requirements for class III composting facilities.	Amend
3745-560-330	Compost quality standards for class III composting facilities.	Amend
3745-560-335	Closure requirements for class III composting facilities.	Rescind
3745-560-335	Closure and termination requirements for class III composting facilities.	New
3745-560-400	Class IV composting facility establishment.	Amend
3745-560-401	Criteria for approval and termination of a class IV composting facility registration.	Amend
3745-560-402	Procedures for commencements of operations at class IV composting facilities.	Rescind
3745-560-402	Construction and commencement of operations at class IV composting facilities.	New
3745-560-405	Alternative materials request for class IV composting facilities.	New
3745-560-410	Operational requirements for class IV composting facilities.	Amend
3745-560-415	Record keeping requirements for class IV composting facilities.	Amend
3745-560-420	Compost distribution requirements for class IV composting facilities.	New

3745-560-435	Closure requirements for class II composting facilities.	Rescind
3745-560-435	Closure and termination requirements for class II composting facilities.	New

These rules address composting regulations.

The purpose of this rule making is to review the composting rules in Ohio Administrative Code Chapter 3745-560 pursuant to Section 106.03 of the Ohio Revised Code. The multi-program chapters Ohio Administrative Code Chapters 3745-500, 3745-501, and 3745-503 also have five-year review dates in 2017, and have been reviewed in this rules package.

The public comment period will run until December 19, 2017. A public hearing on this proposed rule making will be held to consider public comments in accordance with Section 119.03 of the Ohio Revised Code. This hearing will be held on December 19, 2017 at 10:30 a.m. at Ohio EPA, Lazarus Government Center, 50 W. Town Street, Suite 700, Columbus, Ohio.

To facilitate the scheduling of oral presentations, persons intending to give testimony at the hearing should notify the Ohio EPA Public Interest Center, P.O. Box 1049, Columbus, Ohio 43216-1049, (614) 644-2160. Prior registration will ensure that registrants are heard ahead of those individuals who register at the hearing. Oral testimony may be limited to five minutes, depending on the number of persons testifying. All interested persons are entitled to attend or be represented and to present oral and/or written comments concerning the proposed rule making.

Written testimony should be sent to the attention of Michelle Mountjoy at the Division of Materials and Waste Management P.O. Box 1049, Columbus Ohio 43216-1049. Written comments may also be submitted to the Hearing Officer at the public hearing. Written testimony will receive the same consideration as oral testimony. All testimony received at the hearing or by close of business on December 19, 2017 will be considered by Ohio EPA prior to final action on this rulemaking proposal. Written comments submitted after this date may be considered as time and circumstances permit.

Questions regarding this rule package should be directed to Michelle Mountjoy, at the Division of Materials and Waste Management at (614) 728-5372.

To receive a copy of the proposed rules, please contact the DMWM receptionist at (614) 644-2621. In addition, full copies of all proposed rules are available for review at any Ohio EPA district office and at the Ohio EPA central office. The proposed rules are also accessible on DMWM web page at <http://epa.ohio.gov/dmwm/dmwmnonhazrules.aspx>.



## SIGN-IN SHEET

**Subject: Composting Rules**

**County: Statewide**

**Date: Dec. 19, 2017**

**PLEASE PRINT   PLEASE PRINT   PLEASE PRINT   PLEASE PRINT**

NAME: Nate Andrie E-MAIL: nate & andrie farms.com  
MAILING ADDRESS: 13529 Rd L  
CITY: Wauson STATE: OH ZIP: 43567  
TELEPHONE: 419345 4554 FAX: \_\_\_\_\_

NAME: Bruce Bailey E-MAIL: bruce@envi-environmental.com  
MAILING ADDRESS: 615 Corvair Pl  
CITY: Cleveland STATE: OH ZIP: 44131  
TELEPHONE: (330) 224-0415 FAX: \_\_\_\_\_

NAME: Heather Curtis E-MAIL: hmcurtis@columbus.gov  
MAILING ADDRESS: 7000 Jackson Pike  
CITY: Lockbourne STATE: OH ZIP: 43137  
TELEPHONE: 614-848-3153 FAX: \_\_\_\_\_

NAME: Daniel Brown E-MAIL: DBB1188@gmail.com  
MAILING ADDRESS: 2679 E. 126th  
CITY: Cleveland STATE: OH ZIP: 44120  
TELEPHONE: 440-785-1052 FAX: \_\_\_\_\_

NAME: \_\_\_\_\_ E-MAIL: \_\_\_\_\_  
MAILING ADDRESS: \_\_\_\_\_  
CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_  
TELEPHONE: \_\_\_\_\_ FAX: \_\_\_\_\_

## Attachment C: Hearing Script

My name is Kristopher Weiss. I am a Public Involvement Coordinator at Ohio EPA's Public Interest Center and I will preside over today's public hearing. On behalf of the Agency, thank you for taking the time to attend this hearing before Ohio EPA. The purpose of the hearing today is to obtain comments from any interested person regarding Ohio EPA's proposed rules. Ohio EPA's Division of Materials and Waste Management is proposing to file various rules in Chapters 3745-500, 3745-501, 3745-503, and 3745-560 of the Ohio Administrative Code. These rules address composting regulations. The rules have been filed with the Joint Committee on Agency Rule Review and copies of the rules are available for public review at Ohio EPA's Columbus Office and on our website.

Interested persons are entitled to attend or be represented, and to present oral and/or written comments on the proposed rules. All written and oral comments received as part of the official record will be considered by the director of Ohio EPA.

To be included in the official record, written comments must be received at Ohio EPA by the close of business, today, it is Tuesday December 19, 2017. These comments may be filed with me today. All written comments submitted for the record will receive the same consideration as the oral testimony given today and should be sent to [michelle.mountjoy@epa.ohio.gov](mailto:michelle.mountjoy@epa.ohio.gov). Written statements submitted after today may be considered as time and circumstances allow, but they will not be part of the official record of this hearing.

If you wish to present oral testimony at the hearing today and have not already signed the registration sheet, please do so. This sheet is available at the registration table and people will be called to testify in the order in which they have registered.

There is no cross-examination of speakers or representatives of Ohio EPA in public hearings. These hearings afford citizens the opportunity to provide comments on the official record and we are unable to answer questions during the hearing. That said, members of the panel may ask clarifying questions of the person testifying to ensure the record is as complete and accurate as possible.

I will now read the names of those who have registered for the hearing and give each person an opportunity to testify.

Would anyone else like to testify?

With that, we will go off the record until 11:00 a.m. and if anyone else comes in we will let them testify.

Seeing no further request for testimony, I will remind you that written comments can be submitted through the close of business today, December 19. Thank you for attending, the time is now 11:00 a.m. and this hearing is adjourned.



**Division of Materials and Waste Management  
Response to Comments**

**Rule:** Composting Rules, Ohio Administrative Code (OAC) 3745-560

**Agency Contact for this Package**

Division Contact: Michelle Mountjoy, Division of Materials and Waste Management (DMWM), (614) 728-5372, [michelle.mountjoy@epa.ohio.gov](mailto:michelle.mountjoy@epa.ohio.gov)

Ohio EPA held a public hearing on December 19, 2017 regarding the solid waste composting rules. This document summarizes the comments and questions received at the public hearing and during the associated comment period, which ended on December 19, 2017.

Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. The name of the commenter follows the comment in parentheses.

**General/Overall Concerns**

**Comment 1:** I am thrilled to see that vermicomposting and acidic anaerobic fermentation will be accepted as forms of composting under the new rules. (Erin Sykes, Rural Action)

**Response 1:** No changes are necessary in response to this comment.

**3745-500-02 Definitions**

**Comment 2:** Ohio EPA should consider including coffee grounds and tea grounds in the definition of food scraps, as these materials are post-consumer food scraps and not additives. (Paul Braasch, Clermont County Office of Environmental Quality)

**Response 2:** Source-separated spent coffee and tea grounds have been included in the definition of food scraps in past versions of the composting regulations, requiring the materials to be sent to Class II composting facilities. In conjunction with the five-year review of these rules, Ohio EPA consulted with food scraps composting operators about their experiences with spent coffee and tea grounds. Feedback indicated that the waste stream is typically source-separated, free of non-compostable materials, decomposes rapidly, and can help reduce or mask bad odors in compost piles. Ohio EPA has



concluded that spent coffee and tea grounds meet the criteria of the term “additive,” and have included the materials in the definition. No changes have been made in response to this comment.

**Comment 3:** **Paragraph (F)(2). Ohio EPA should consider removing compostable packaging containers and compostable service-ware from the definition of food scraps, as these materials are not intended for human consumption and are not food scraps. Packaging containers and service-ware are defined later in OAC and could be a standalone, authorized material that class II composting can accept. (Paul Braasch, Clermont County Office of Environmental Quality)**

**Response 3:** Compostable packaging containers and compostable service-ware are often commingled with other food scraps and were included in the definition to reflect the way they are typically collected at generation points such as grocery stores and zero waste events. No changes have been made in response to this comment.

**Comment 4:** **Paragraph (Y). Ohio EPA should also consider the potential impact that the proposed yard waste definition will have on yard waste only transfer facilities as the proposed definition will increase the types of materials that yard waste only transfer facilities are authorized to manage. (Paul Braasch, Clermont County Office of Environmental Quality)**

**Response 4:** OAC Rule 3745-555-690 (B) states that a yard waste only transfer facility shall “not cause or allow the transfer facility to create a nuisance or health hazard due to dust, odors, or the attraction or breeding of birds, insects, rodents, or other vectors.” Ohio EPA will rely on operational requirements contained in OAC Chapter 3745-555 when addressing issues arising at yard waste only transfer facilities. No changes have been made in response to this comment.

#### 3745-560-01 Composting facilities – applicability.

**Comment 5:** **Paragraph (D)(1) Ohio EPA should clarify whether “disposed of” is intended to mean burial of solid waste and whether the composting process has to occur on the same property where the solid waste was generated and disposed of or utilized.**

**Ohio EPA should consider expanding this exemption to multi-family properties that have community gardens. (Paul Braasch, Clermont County Office of Environmental Quality)**

**Response 5:** The definition of “disposal” in OAC rule 3745-500-02 references Ohio Revised Code (ORC) section 3734.01 which states that disposal means “...the placing of any solid wastes into or on any land or ground...” OAC rule 3745-560-01(D)(1) states that the composting must on the premises of the single-family residence where the waste was generated.

ORC 3734.02(D) limits the exclusion from Chapter 3734. and rules adopted thereunder to single-family premises. OAC 3745-560-01(D)(2) grants an exemption from OAC Chapter 3745-560 to multi-family properties with community gardens so long as the aggregate composting area is no larger than 500 square feet.

No changes have been made in response to this comment.

**Comment 6:** **Paragraph (D)(2). By providing an overall 500 square foot exemption, the proposed definition implies that composting food scraps poses the same risks to human health and the environment as composting yard waste, which is scientifically unfounded. Ohio EPA should consider revising this proposed rule to expand exemptions based on material types, volume of materials and composting area. Exemptions should be based on the risks posed to human health and the environment based on the type and volume of materials being composted. This approach would reduce unnecessary regulatory oversight of many more facilities that pose a low risk to human health and the environment. (Paul Braasch, Clermont County Office of Environmental Quality)**

**Response 6:** OAC Chapter 3745-560 establishes composting facility classifications based on the type of materials being composted, the maximum material management areas utilized, and the risk each poses towards human health and the environment. The intent of the exemption is not to imply that the composting of food scraps presents the same level of risk as yard waste, rather that the risk is minimal when appropriately composted within a 500-square foot area. In April of 2012, a 300-square foot exemption was introduced in OAC Chapter 3745-560. Ohio EPA is unaware of any complaints resulting from a composting site operating under this exemption. The increase to 500-square foot was a result of discussions with stakeholders and zoning officials from the City of Toledo, Franklin County, Greene County, and the City of Cincinnati. These municipalities indicated that 500-square feet is a size for which zoning codes typically allow ancillary structures without the need of additional zoning or construction permits.

The rules do not specify a maximum volume because it is variable, site-specific, and dependent on the composting set-up or equipment utilized. Basing exemptions on volume limits will also require reconsideration of the existing facility classification system to maintain programmatic consistency. Such change is a major reconfiguration of the implementation of the program that must be extensively considered to determine if it provides a greater value to the industry than the current system.

No changes have been made in response to this comment.

**Comment 7:** **We support the changes in the composting rules packages, especially the increase of the registration and licensing exemption in OAC Rule 3745-560-01(D)(2) from 300 sq. ft. to 500 sq. ft. (Daniel Brown, Rust Belt Riders)**

**Response 7:** No changes are necessary in response to this comment.

**Comment 8:** Paragraph (D)(5). Ohio EPA should consider expanding the number of facilities that would benefit from providing a volume-based exemption that is protective of human health and the environment. Landscape businesses should also be able to utilize the compost on customers' properties, rather than restrict it to their own property. By allowing compost in potting media you are in practical application already allowing compost to be transported to customers property. You are allowing it as a soil amendment to pots but not to a flower bed where the same amendment would be used. Seems like the only difference is a container. Reduce, reuse, recycle...

Revising OAC 3745-560-01 (D)(2) to include volume and material type would remove the need for this definition and provide exemptions for any persons, not just landscaping businesses, based on risk posed to human health and the environment. A person looking to compost yard waste in the community should be provided with equal opportunities and exemptions as a business composting the same materials. (Paul Braasch, Clermont County Office of Environmental Quality)

**Response 8:** The exemption in paragraph (D)(5) was introduced in the 2003 version of the composting rules and is not limited to landscaping businesses. Since its adoption, Ohio EPA has deregistered composting operations at hospitals, cemeteries, golf courses, mobile home parks, and universities that provide their own grounds keeping. The requirement for in-house use of compost produced under this exemption was intended to provide a level playing field for registered composting facilities that produce a compost product for profit and are subject to the siting, operational, testing, and distribution requirements of OAC Chapter 3745-560. Removing this criterion may result in lost revenue for registered composting facilities. No changes are necessary in response to this comment.

**Comment 9:** Paragraph (E). Ohio EPA is restricting the type of materials and defining the activities that wood processing facilities can utilize to produce wood products for customers, regardless of whether these materials or activities produce compost. This has potential to significantly impact mulching operations, as many may be required to register as a class IV composting facility. Mulching operations frequently grind, shred and chip various feedstocks such as tree bark, brush, leaves (attached or detached), etc. The proposed definition also excludes common activities at wood processing facilities such as blending various wood materials to produce a wood product and piling its blended wood products to conserve space at its facility. Can Ohio EPA clarify whether it intends to regulate facilities such as mulching operations if the facility blends and piles its products? Could Ohio EPA explain the difference between affixed leaves versus leaves that are not affixed regarding the potential risks posed to human health and the environment? The activities listed in the proposed definition overlap with the activities in the proposed definition of composting, which further reduces the distinction Ohio EPA is making between composting and wood processing facilities.

**Wood mulching operations are composting operations just by having the volume of organic material in a pile which then naturally begins a composting process. Many of these facilities create leachate runoff. Regulations regarding runoff that apply to compost facilities should also apply mulching operations where pile size or mulch management results in composting taking place. An alternative may be to develop regulations that apply only to mulch operations. (Paul Braasch, Clermont County Office of Environmental Quality)**

**Response 9:**

Ohio EPA considers the processing of wood into mulch as wood recycling and not as composting. Since compost can also be used in mulch, a definition of mulch will not necessarily add clarity. Instead, a description of what Ohio EPA considers to be wood recycling facilities has been added to OAC rule 3745-560-01 along with clarification that wood recycling is not subject to the composting rules if only wood materials are accepted, and no compost product is produced.

Composting facilities that utilize woody materials and wood recycling facilities often share the initial steps of reducing the wood size through grinding, shredding or chipping, though the biodegradation rate of the woody materials is slower due to its high carbon and low nitrogen content. Wood recyclers also typically sell their product before it becomes compost. Composting facilities on the other hand will further process the shredded woody materials through the addition of nitrogen rich materials or moisture, and further mix the material to accelerate the biodegradation.

Ohio EPA recognizes that some tree trunks and branches will still have leaves attached and it would be onerous to expect a wood recycling facility to manually remove the leaves to prevent composting. The intent in the wood recycling facility exclusion is to differentiate between the facility's acceptance of woody material with incidental affixed leaves and accepting loads of leaves that would be considered composting.

ORC Chapter 6111. applies to all industrial activities and contains requirements regarding the management of runoff and leachate. Ohio EPA Division of Surface Water has the authority to enforce those requirements for all wood recycling facilities that are not registered as composting facilities.

**Comment 10:**

**Paragraph (E). The proposed definition for vermiculture in OAC 3745-560-02(V)(3) states that vermiculture media can be used for vermicomposting and provides no mention of vermiculture producing vermicompost. Furthermore, the proposed definition for vermicompost in OAC 3745-560-02(V)(1) states that vermicompost is compost produced from vermicomposting. How can vermiculture operations produce and use vermicompost when vermiculture does not produce vermicompost?**

According to the proposed definition of composting, facilities that produce compost are regulated as composting facilities. There is no mention of composting resulting in vermicompost, which Ohio EPA is proposing as an approved composting method. If vermicomposting can produce compost and is a composting method, then vermicompost should be added to the composting definition. Or, because it is such a

distinct organic matter management practice, Annelids may need their own ORC reference.

Vermiculture requires feedstocks to be composted prior to the introduction of worms so that pathogen reduction and killing weed seeds can occur. Therefore, vermiculture operations are not composting methods and should not be allowed to accept any feedstock unless it is in conjunction with a licensed or registered composting facility. This is essential information to include in this proposed definition of vermiculture. (Paul Braasch, Clermont County Office of Environmental Quality)

**Response 10:**

Ohio EPA recognizes that there is a narrow distinction between vermicomposting and vermiculture. At the biological level, both activities describe the feeding of worms with organic materials that would otherwise be sent to a disposal facility. Both activities entail the worms fragmenting, turning and aerating the material, producing castings (worm manure), increasing the microbial activity, and producing some amount of vermicompost. The difference between both activities is based on intent. Harvesting worms for sale utilizing waste as a food source is the intent of vermiculture, whereas vermicomposting facilities are designed for processing larger amounts of organic waste to maximize the production of vermicompost.

In consideration of the comment, Ohio EPA has amended the definition of vermicomposting and vermiculture as follows:

"Vermicomposting" means the ~~biological treatment of~~ mesophilic process of bio-oxidation and stabilization of organic solid wastes by epigeic earthworm species which turn, fragment, aerate and increase microbial activity in the solid waste substrate, and results in vermicompost.

"Vermiculture" means the breeding of any species of earthworms in organic waste media, which produces incidental amounts of vermicompost ~~for the purpose of subsequent use as bait, feed or in vermicomposting.~~

**Comment 11:**

**Paragraph (A)(4). Coffee grounds and tea grounds are post-consumer food scraps, which increases the likelihood of unintended contamination at the source of generation. This poses a challenge for class IV composting facilities that are now able to accept post-consumer food scraps and may not be prepared to address contamination. How will Ohio EPA ensure that operators are aware that coffee and tea grounds are post-consumer food scraps and prepare operators for the increased potential for contamination? (Paul Braasch, Clermont County Office of Environmental Quality)**

**Response 11:**

The definition of "additive" specifies that the spent coffee and tea grounds must be source-separated. No changes were made in response to this comment.

**Comment 12:** Paragraph (C)(11). Ohio EPA defines what it considers controlled conditions are, but it does not define what a managed process is. Typically, the managed process for controlled biological decomposition of feedstock materials is considered composting. Ohio EPA should consider revising this proposed definition to include controlled biological decomposition; making it consistent and cohesive with OAC Rule 210 (D)(1-4). (Paul Braasch, Clermont County Office of Environmental Quality)

**Response 12:** In response to this comment, Ohio EPA has removed the word “managed” from the definition of composting.

**Comment 13:** Paragraph (D)(2). The design capacity should include the entire facility operations and not just the materials placement area. What components of the operational practices will Ohio EPA require be part of the design capacity calculation? Will Ohio EPA require owners/operators to create their own pile height restrictions to determine the volume of materials so that capacity can be calculated? (Paul Braasch, Clermont County Office of Environmental Quality)

**Response 13:** Class I and Class II composting facilities are currently required to calculate the maximum capacity of compostable waste materials that the facility can have onsite. The calculation enables the determination of the maximum pile/windrow height that can be appropriately managed given the facility’s equipment and design. The maximum capacity is also the basis for estimating the amount of necessary financial assurance. In the proposed draft of OAC Chapter 3745-560, Ohio EPA has defined this calculation as the “design capacity.” This amendment was made in response to requests received by the agency to allow facilities to maintain financial assurance based on the estimated amount of material that will be present during the facility’s current operations as specified in the registration. If an owner or operator determines that the facility can handle more material, they must submit an amendment updating the design capacity. Facility operations such as soil blending operations are included on the registration and are therefore not subject to the design capacity calculation.

Class III and IV composting facilities will also be required to calculate a design capacity. While these facilities are not required to have financial assurance, Ohio EPA anticipates the calculation will improve awareness of the maximum capacity that can be appropriately managed at the facility.

The identification of an operational capacity is optional. Unless specified in the registration or amended by the owner or operator, the assumption is that operational capacity matches the design capacity.

No changes were made in response to this comment.

**Comment 14:** Paragraph (I)(1) Does Ohio EPA regulate compost product management? Is a composting facility that makes the business decision to stop actively composting but has produced a compost product for future use or sale not able to store the compost product? (Paul Braasch, Clermont County Office of Environmental Quality)

- Response 14:** Any material within the composting facility boundaries, including compost product, are under the purview of OAC Chapter 3745-560. OAC Rules 3745-560-120(A)(3), 220(A)(2), 320(A)(2) and 420(A) states, in part, that “compost that meets the applicable quality standards may be distributed as compost product for use in accordance with accepted agricultural, silvicultural, or horticultural practices.” This means that as long as the compost product meets the definition in OAC 3745-560-02(C)(10), the operator does not have to track where the compost product was ultimately used. A composting facility can choose to stop accepting wastes, finish the composting process, and store the compost product for future sale. However, such facility will still be considered an active facility.
- Comment 15:** **Paragraph (I)(2). The materials listed in this proposed definition are prohibited materials and are not authorized to be accepted at composting facilities and must be removed from the compostable materials and managed as solid waste. Therefore, while some of these may be inert they should not be composted. Not all treated, painted or laminated wood is chemically inactive, or inert. (Paul Braasch, Clermont County Office of Environmental Quality)**
- Response 15:** The definition of inert matter is intended to address the contamination that can occur within some waste material loads. For example, a plastic water bottle or other small amounts of plastic may be commingled with residential yard waste and go unnoticed until the final shredding and screening stage. Ohio EPA concurs that acceptance of these materials at composting facilities is prohibited. This definition prevents operators from marketing materials with excessive contamination with inert matter.
- Comment 16:** **Paragraph (O)(2). How is operational capacity determined? Do operators and owners have to consider the same factors in their calculations that are required for design capacity? What benefit is there for allowing two separate capacity calculations? How will Ohio EPA determine if operational capacity is less than design capacity while conducting compliance inspections? (Paul Braasch, Clermont County Office of Environmental Quality)**
- Response 16:** The addition of the capacity calculations was intended to benefit mainly class I and class II composting facilities through a reduction in the closure cost estimate and subsequent amount of required financial assurance. The definition of operational capacity in OAC rule 3745-560-02 states that “The operational capacity...shall never exceed the design capacity.” Ohio EPA will utilize the plan view drawing and materials placement areas shown on the registration to ensure compliance with the rule. The agency will also develop guidance on how to calculate design and operational capacities and will continue to be a resource that composting facilities may utilize to assist with their site-specific calculations.
- Comment 17:** **Paragraph (V)(1). Does manure refer to worm manure or any manure? Since vermicompost is defined separately from compost and only compost is subjected to compost quality standards, is Ohio EPA going to require vermicompost quality standards to distribute vermicompost? Vermicompost should be held to the same**

**quality standards as compost. The vermicomposting process referred to in this definition is not clear in any subsequent rule; could Ohio EPA clarify what the vermicomposting process entails? (Paul Braasch, Clermont County Office of Environmental Quality)**

**Response 17:**

Vermicompost is a type of compost produced through the utilization of worms. Vermicomposting is a versatile biotechnological process that operators can use as needed to match their feedstocks and/or desired compost product. It can occur in conjunction with yard waste as a sole feedstock and has also been successfully implemented in the leather industry to biodegrade tannery waste. The North Carolina State University Extension's [vermicomposting page](#) is a good resource for more information.

The use of the word "manure" in OAC 3745-560-02(V)(1) refers to worm manure. In response to this comment, the definition has been revised as follows: "*Vermicompost*" means compost produced through the vermicomposting process and that may contain worm castings ~~or manure~~.

The definition of "vermicompost" classifies the end product as compost. If a vermicomposting operation is larger than 500 square feet, a registration is required and the facility is subject to the applicable compost quality standards.

**Comment 18:**

**Will additional composting methods be needed to decompose the vermicompost into compost? Are other species of earthworms not allowed or considered under these regulations? Moreover, other authorized composting method definitions in OAC include management practices such as constructing piles, turning frequencies and ensuring aerobic conditions. Are management methods not required if someone chooses to place worms in a static pile and classify it as vermicomposting? Can Ohio EPA clarify whether vermicomposting requires management practices from facility operators or if worms will be responsible for management methods to ensure optimal conditions for composting and pathogen reduction? (Paul Braasch, Clermont County Office of Environmental Quality)**

**Response 18:**

OAC rule 3745-560-02(V)(2) specifies that vermicomposting can only be conducted using worm species that fall under the "epigeic" category. The need for use of combined composting methods to ensure degradation will be site specific and determined by the operator, depending on the feedstocks utilized and intended product. All compost product must meet the compost quality standards specified in OAC Chapter 3745-560 prior to distribution. Additionally, the owner or operator is expected to maintain the vermicomposting system to ensure reproduction and survival of the worms, just as they are responsible for ensuring reproduction and survival of the microbes when utilizing aerobic composting piles. No changes were made in response to this comment.



3745-560-04 Composting facilities – log of operations and annual report forms.

**Comment 19:** Ohio EPA should consider making the log of operations cohesive with the operational standards established in 210. For instance, temperature, moisture content and the carbon: nitrogen ratio are critical parameters of composting process and, if acceptable or optimal ranges are achieved, reduce odor potential, kill pathogens and produce a quality compost product. Due the importance of these parameters, they should be recorded. Small class IV facilities should not have to log operations unless there is shown some value or added protection to the environment. Many Class IV operations are frequently small community sites where brush and leaves are stored with little management and no impact to the environment with the exception of producing organic matter, which is good. Requiring record keeping, logs etc. has resulted in reduced class IV facilities, less organic matter returning to the soil and more organic matter going to landfills. (Paul Braasch, Clermont County Office of Environmental Quality)

**Response 19:** The 2003 version of the composting rules introduced both the annual reporting and log of operations requirement for all facilities. The annual report requirement was based on the need for organic waste diversion data expressed by solid waste management districts. A complete and accurate log of operations helps ensure that facilities collect the data needed for the annual report. Ohio EPA perceives the cost of compliance associated with these requirements to be small, as most already track the information. Furthermore, the proposed amendments to OAC 3745-560 allow the owner or operator to request authorization of an alternative record keeping frequency customized to meet the needs of the facility.

The current log of operations provides an area to record the temperature of composting piles, but does not require a determination of moisture content or the carbon:nitrogen ratio. Ohio EPA feels that tracking temperature is an accessible measurement with a low cost of compliance. Determining the moisture content and C:N ratio would require on or off-site laboratory testing and pose an unnecessary financial burden on facilities. Ohio EPA considers the “hand squeeze method” to be an appropriate method to monitor moisture in compost piles.

No changes were made in response to this comment.

3745-560-15 Composting of dead animals and raw rendering material.

**Comment 20:** Class III composting facilities should be required to carry financial assurance due to the material’s potential exposure to prions that can cause bovine spongiform encephalitis. (Paul Braasch, Clermont County Office of Environmental Quality)

**Response 20:** According to the United States Food and Drug Administration (USFDA), “...in the late 1980’s and early 1990s, Bovine Spongiform Encephalopathy (BSE) spread within the United Kingdom and then to other countries through the practice of using rendered bovine origin proteins as an ingredient in cattle feed. Since then, feed restrictions have

been put in place by countries that may have imported infected cattle or contaminated feed ingredients. These have been highly effective in reducing the number of BSE cases worldwide. To date, four cases of BSE have been detected in the United States. The first case was detected in 2003 in a cow imported from Canada. Three cases have since been detected in U.S. born cattle, but laboratory evidence suggests that these cases had atypical strains of BSE, that is not the same strain that caused the large outbreak in the United Kingdom.”

(<https://www.fda.gov/AnimalVeterinary/GuidanceComplianceEnforcement/ComplianceEnforcement/BovineSpongiformEncephalopathy/default.htm>). The USDA requires animals to be screened for BSE prior to butchering. All raw rendering material sent to a composting facility will be generated by USDA licensed butchering facilities from animals declared suitable for human consumption.

The composting of bovines and other farm animals is regulated by the Ohio Department of Agriculture. Ohio EPA has jurisdiction over the composting of non-farm composting animals, which tend to be mostly deer and other road-kill. These animals are not affected by BSE.

No changes were made in response to this comment.

**Comment 21:**                   **The rule specifies minimum thickness of bulking agent layers that must be used when assembling a composting pile. Our concern is that the prescribed thickness might be excessive depending on the species of animals and number of carcasses. We suggest the rules do not specify the thickness of layers and instead reference the training on animal mortalities composting offered by The Ohio State University Extension. (Nathan Andre, Andre Farms and the Organics Recycling Association of Ohio)**

**Response 21:**               Ohio EPA agrees that the minimum thickness of bulking agent layers can vary depending on the species of animals and number of carcasses being composted. OAC 3745-560-15(A)(5) allows for the owner or operator to request an alternate minimum bulking agent layer thickness prior to utilization. The rule also requires persons intending to compost dead animals or raw rendering material to take the OSU-Extension training. No changes were made in response to this comment.

3745-560-200 Class II composting facility establishment.

**Comment 22:**               **Paragraph (A). How will Ohio EPA evaluate risks posed to human health and the environment without a facility registration that includes the following information: composting method, type and volume of feedstocks and bulking agents, prevailing wind direction, odor management plan, vector management plan, pathogen reduction strategies, facility access roads, compost distribution plans, storm water management plans, and leachate management plans. This proactive approach of facility management planning provides regulatory agencies with the information essential for evaluating risks posed to human health and the environment prior to approving a registration and the regulated industry with the information critical for success and compliance.**

Ohio EPA could essentially require that information in registrations include the operational standards required in 3745-560-210 and the design standards required in OAC 3745-560-202, making the proposed rules more cohesive. Approval of a registration that includes this information will provide facility owners/operators with clear performance standards (and expectations) to achieve/maintain compliance. The proposed OAC 560-210(R) does not fulfill this need or address the concerns with the lack of facility management planning requirements, as it is only required on a case by case basis.

In situations where a composting facility is proposing to establish a facility on leased property, Ohio EPA should require applicants to obtain and submit written permission from the property owner and require the property owner to sign the registration application. Otherwise, Ohio EPA may approve a registration to establish a composting facility without the property owner's knowledge. Although a class II composting facility in this situation is required to obtain property owner permission through the subsequent facility license, requiring property owner permission in the registration is a commonsense approach that reduces time and resources exhausted on approving an eligible facility registration. (Paul Braasch, Clermont County Office of Environmental Quality)

**Response 22:**

The composting rules were developed with a classification system that allows specific acceptable materials, size limitations, licensing and financial assurance requirements based on potential risks to human health and the environment. This regulatory concept, commonly referred to as permit-by-rule, establishes construction and operational performance standards to minimize specific risks, and affords a facility with options for compliance. Ohio EPA must evaluate the site for proper design prior to approval of the registration, making the design standards in rule part of the registration process. A composting facility registration also requires that the registrant provides information about the property owner.

There have been few documented enforcement actions against composting facilities in the 26 years since implementation of the program. Ohio EPA considers the current regulatory approach effective and prefers to address compliance issues on a case-by-case basis. In addition, Ohio EPA is working to establish a composting facility operator certification program to increase programmatic knowledge and improve compliance.

No changes were made in response to this comment.

**Comment 23:**

**Paragraph (D).** Ohio EPA should consider revising the siting criteria established in rule by removing the distance restrictions and use the proposed facility's location, volume and type of materials, topography, wind direction, leachate and surface water management infrastructure, composting method and facility management plan to evaluate the risks posed to human health and the environment on a case by case basis. (Paul Braasch, Clermont County Office of Environmental Quality)

- Response 23:** Ohio EPA can approve variances to siting criteria in rule when requested by the owner or operator. No changes were made in response to this comment.
- Comment 24:** **Paragraph (D). Ohio EPA should require the owner or operator to utilize the composting method identified on the registration. Ohio EPA should be evaluating facility registrations based on risk to human health and the environment, which should consider the composting method. If the owner or operator modifies its composting method that could impact the risk the facility operations pose to human health and the environment. (Paul Braasch, Clermont County Office of Environmental Quality)**
- Response 24:** Ohio EPA has evaluated the approved composting methods available for use under OAC Chapter 3745-560 and has determined, when implemented in accordance with the rules, each pose a minimal risk to human health, safety, and the environment. Limiting a facility only to the method identified on the registration would force an owner or operator to amend the registration each time they chose to utilize a new method. This would create more paperwork, require the director's authorization of the amended registration, and pose an unnecessary adverse impact on the industry. No changes were made in response to this comment.
- Comment 25:** **Paragraph (D)(1). Allowing placement of material within a 100-year floodplain is irresponsible. There is a 99% chance the area will be flooded in a two-year period, but we are to be assured there will no washout. Organic material (compost) is light and easily erodible (the reason much of our top soil is in the Mississippi delta). The likelihood of flooding is great and not an appropriate location to compost.**
- The Clermont Soil & Water Conservation District recommends that composting owners or operators not be allowed to site facilities within the 100-year flood plain. The proposed rules state that such facilities can be sited within the flood plain if it can be demonstrated that the facility will be constructed and operated to prevent washout of any waste material by a 100-year flood. In our experience, despite the best efforts of design and construction professionals, it is exceptionally difficult to guarantee that a structure within the flood plain will not be damaged during a 100-year flood event. The proposed rule also does not seem to take into account future meandering of the stream, which could also damage a facility. The consequences of a failure and subsequent release of a large amount of material rich in organic matter and nutrients into a waterbody would be substantial.**
- Additionally, this rule directly conflicts with stream management guidelines given by Ohio EPA's Division of Surface Water. Chapter 1 of the Rainwater and Land Development Manual states "developments that build too close to watercourses may cause significant problems after the property is occupied since:**
- structures on active floodplain areas may be damaged by flooding ... and property or infrastructure may be damaged by natural stream migration or movement (meandering)," among other listed reasons.**

Such a rule also harms local efforts to protect stream integrity and quality. Many local governments, including Clermont County, have considered establishing stream setbacks to comply with Ohio EPA's

**MS4 regulations. When elected officials learn that Ohio EPA itself is allowing facilities to be constructed in the flood plain, local efforts to protect the riparian corridor can be greatly hindered. (Paul Braasch, Clermont County Office of Environmental Quality; John McManus, Clermont Soil & Water Conservation District)**

**Response 25:**

The definition of a 100-year flood in OAC Chapter 3745-560 is similar to the FEMA definition of "base flood" in CFR 44 Section 59.1, which is utilized by the National Flood Insurance Program (NFIP) for the preparation of flood maps.

The siting criteria is intended to permit composting in vacant buildings already existing in the 100-year floodplain. Preventing washout is required, which can be achieved by conducting operations in the building and through a washout prevention plan that has received concurrence from the Division of Surface Water. Paragraph (D)(1) does not override local zoning ordinances or land use plans. A facility still must meet all local requirements even if Ohio EPA determines that the facility meets the specifications of our rules.

**Comment 26:**

**Paragraph (D)(5). Could Ohio EPA clarify whether owners/operators will be required to complete the composting process prior to the introduction of worms and how owner/operators and regulators will ensure/verify pathogen reduction is achieved prior to the introduction of worms? Ohio EPA should consider excluding vermicomposting as an approved composting method and include it as a treatment method.**

**Worms require a moisture content significantly higher than traditional composting, a sufficient amount of oxygen at all times, small pile sizes, continuous introduction of fresh feedstocks for feeding, shade from direct sunlight and low temperatures. In other words, management processes for vermicomposting are focused on providing optimal conditions for worm populations, not optimal conditions for decomposition and pathogen reduction. Worms also have a high potential to attract vectors (birds like worms) and special precautions must be taken in advanced to avoid this challenge. To address the differences in management processes and to help ensure the success of vermicomposting, Ohio EPA should consider providing science based operational standards.**

**Vermiculture and vermicomposting are the same thing. Composting and vermiculture are two very different things. One uses bacteria and fungi to decay organic material; the other uses annelids to digest organic material. Each has a distinctive different management system. If you want to develop regulations for worms do it separately. Bacteria can tolerate heat and heat kills worms. (Paul, Braasch Clermont County Office of Environmental Quality)**

**Response 26:** Vermicomposting is an optional method of composting available for use at class I through class IV composting facilities. An owner or operator who chooses to utilize vermicomposting must determine the necessary treatment(s) needed to achieve pathogen reduction, while still enabling an optimal living environment for the worms. Waste material could for example be briefly composted to achieve thermophilic temperatures for pathogen reduction or could be conditioned through acidic anaerobic fermentation. Ohio EPA considers the current regulatory scope regarding vermicomposting to be appropriate for the use and management of worms in compost piles. No changes were made in response to this comment.

3745-560-210 Operational requirements for class II composting facilities.

**Comment 27:** **Paragraph (H). Ohio EPA should consider requiring this information be provided in the facility establishment criteria for registrations in OAC 560-200. This is a proactive, planning approach that demonstrates a facility's ability to avoid and address potential challenges. (Paul Braasch, Clermont County Office of Environmental Quality)**

**Response 27:** Ohio EPA considers the most practical application of the requirements contained in paragraph (H) to be during the operational life of the composting facility. OAC rule 3745-560-201 requires Class II composting facilities be designed and established in a manner that will not violate ORC Chapters 3704., 3734., and 6111. OAC 3745-560-202 further specifies design and site preparation standards that will equip owners and operators with the criteria necessary to ensure minimal operational violations.

3745-560-235 Closure and termination of registration requirements for class II composting facilities.

**Comment 28:** **Paragraph (A). This rule conflicts with the proposed definition of inactive composting facility: if the facility ceases to be an active facility it must perform closure activities and close; therefore, it cannot be labeled as inactive and is required to perform closure activities and close. (Paul Braasch, Clermont County Office of Environmental Quality)**

**Response 28:** A facility ceases waste acceptance, finishes composting the materials and stores the compost product for future sale does not meet the definition of "inactive" and will still be considered an active composting facility under OAC Chapter 3745-560. No changes were made in response to this comment.

3745-560-400 Class IV composting facility establishment.

**Comment 29:** **In the current 3745-560-400 (1)(b) there is a 200' setback from surface waters of the state for yardwaste materials placement and leachate management practices unless the activity is located in a building. A well-constructed berm directing yardwaste compost leachate, which is primarily rainfall contacting yardwaste, into a well-made retention basin or berm set-back from surface waters of the state of 50' is protective of the environment and lends to controlled leachate discharges through individual site NPDES permits. This is the direction OEPA DSW is going and should be reflected in a rule update. (Bruce Bailey, ENVi Environmental)**

**Response 29:** The two hundred feet setback distance was established to accommodate facilities managing leachate and surface water with standard engineered components. An owner or operator that has installed or intends to implement more robust components in accordance with applicable permits and best management practices, consistent with ORC 6111, can request a variance from the requirement. Ohio EPA evaluates variances on a case-by-case basis to ensure adequate protection of human health, safety, and the environment.

3745-560-402 Class IV composting facility establishment.

**Comment 30:** Construction and commencement of operations at class IV composting facilities references are made to Chapter 6111 of the Revised Code in (A)(5) and (B)(2). Chapter 6111 is managed through the OEPA Division of Surface Water for surface and stormwater and through OEPA Division of Drinking and Ground Waters for groundwater issues. Having been involved in composting in Ohio for decades it is clear that the OEPA Divisions permitting and enforcement efforts are Division rule specific and EPA direction provided for activities for allowing leachate management and discharge are dramatically different in the District offices. CDO has approved leachate discharge individual discharge permits for a number of compost facilities and CO OEPA is funding a research project for leachate treatment and discharge in CDO as well. (Bruce Bailey, ENVi Environmental)

**Response 30:** Ohio EPA agrees that it is necessary for the agency to ensure the law is applied consistently throughout the state. In June 2016, the Division of Surface Water issued a revised industrial storm water general permit which includes testing requirements specifically for composting facilities. The agency will continue to review wastewater regulations to determine how their implementation can be improved specifically for composting facilities.

**End of Response to Comments**