

## RESIDENTIAL COMPOSTING

### Frequently Asked Questions (FAQ)

The following information is intended to help Michigan residents and companies properly handle yard clippings and to more easily divert material and compost in compliance with environmental regulations.

#### CONTENTS

<b>GENERAL QUESTIONS</b> .....	<b>3</b>
1. Where can I find the composting and other regulations? .....	3
2. What are yard clippings?.....	3
3. What is a composting facility? .....	3
4. Do all composting facilities have to be registered?.....	3
5. What are examples of other “organic materials”? .....	5
6. What is considered to be a nuisance? .....	6
7. Can yard clippings be taken to a processing plant? .....	6
8. Can yard clippings be disposed in a landfill or incinerator?.....	6
9. What is meant by an eradication or control program? .....	6
10. Are there resources to help with on land and aquatic (plant and fish) invasive species?.....	6
11. Is Rule R 299.4120 (Rule 120) still applicable since PA 212 was passed? .....	6
12. Does the state offer training or compost operator certification programs?.....	7
13. Does the state offer business startup or expansion assistance or help market compost products? .....	7
14. If there is a complaint about a composting operation, who should be contacted? .....	7
<b>EGLE REGISTERED COMPOSTING FACILITY QUESTIONS</b> .....	<b>8</b>
15. When does a composting operation have to register with EGLE?.....	8
16. What is a registered agent that is mentioned in the registration form instructions?.....	8
17. What has to be included in calculating the volume on-site (e.g., calculating the amount of yard clippings to determine if the site has 200 cubic yards)? Are there any conversion formulas available? .....	8
18. Are there different requirements depending on when an EGLE registered composting facility began operating? .....	9
19. What are the location restrictions regarding where an EGLE registered composting facility can be located if it was operating on or before December 1, 2007? .....	9
20. What are the location restrictions regarding where an EGLE registered composting facility can be located, if it began operating after December 1, 2007?.....	10
21. How can I determine if an EGLE registered facility meets the appropriate isolation distances? .....	10
22. What isolation distances does an existing EGLE registered compost facility need to meet when it is expanding? .....	10
23. Are there other water well restrictions not specified in these composting regulations? .....	10
24. What are the operating requirements for EGLE registered composting facilities? .....	11

25. How much material would it take to meet the 5000 cubic yards on any acre limit? ..... 12

26. Under what circumstances would EGLE consider approving a volume greater than 5,000 cubic yards of material per acre?..... 12

27. Are there any size or shape limits on how high or big a compost pile can be? ..... 13

28. What are the reporting requirements to EGLE? ..... 13

29. What composting records are required to be kept on-site? ..... 13

30. How do I calculate C:N ratios?..... 14

31. Does EGLE recommend any other records be kept? ..... 14

32. Are there special emergency planning requirements for an EGLE registered composting facility?..... 15

33. Does composting fish waste have different requirements?..... 15

34. Are there other management options for handling wood waste besides composting? ..... 15

35. Can food waste be added to the yard clippings compost piles? ..... 15

36. Can compostable utensils be composted without a permit or license? ..... 15

37. Other than yard clippings, what wastes can be composted in Michigan without a permit from EGLE?..... 15

38. How do I obtain approval to compost a compostable material not listed as a site or source separated material? ..... 16

39. What approval is necessary to compost food processing residuals, ashes from wood that is untreated and inert, lime from kraft pulping processes, or aquatic plants? ..... 17

40. Does a retail establishment that only sells finished compost need to register? ..... 17

41. If a composting facility is operating at several locations, do they have to register each site? ..... 17

42. How do I measure the volume of a compost pile? ..... 17

**MDARD REGISTERED AGRICULTURAL COMPOSTING FACILITIES ..... 18**

43. What is meant by a “farm”? ..... 18

44. Does a farm have to register with MDARD or EGLE if they are only composting their own yard clippings? 18

45. When does a farm have to register its composting operation with the MDARD? ..... 19

46. How does a farm register with MDARD? ..... 19

47. Can a farm receive any type of payment for taking yard clippings from another source? ..... 19

48. Can a farm accept other materials besides yard clippings for composting? ..... 19

49. What is the phone number for MDARD to get more information about composting on farms? ..... 19

50. Is a MDARD registered composting facility eligible for Right to Farm protection? ..... 19

51. Is an EGLE registered composting facility eligible for Right to Farm protection? ..... 20

52. If there is a complaint about a farm composting operation, who should be contacted?..... 20

**OTHER RESOURCES ..... 20**

EGLE Materials Management ..... 20

Nonhazardous and hazardous wastes..... 21

Other solid wastes and scrap tires ..... 21

Storage tanks ..... 21

Water Resources Division (WRD) ..... 21

Remediation and Redevelopment Division (RRD)..... 22

Air Quality Division (AQD) ..... 22

**CONTACT INFORMATION ..... 23**

## GENERAL QUESTIONS

### 1. Where can I find the composting and other regulations?

Links to the composting regulations and other composting information is available on the [EGLE Composting Web site](#). [Act 212 of 2007](#) (PA 212) amends Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). The statute and administrative rules are available at the [EGLE Solid Waste Statutes and Rules Web site](#). All of the Parts of the NREPA can be found at the [Michigan Legislature Web site](#) and state administrative rules can be found at the [State Office of Administrative Hearings Web page](#).

### 2. What are yard clippings?

“Yard clippings” means leaves, grass clippings, vegetable or other garden debris, shrubbery, or brush or tree trimmings, less than 4 feet in length and 2 inches in diameter, that can be converted to compost humus. Yard clippings do not include stumps, agricultural wastes, animal waste, roots, sewage sludge, or garbage. Yard clippings are defined in Section 324.11506(14) of Part 115.

Garbage means rejected food wastes including waste accumulation of animal, fruit, or vegetable matter used or intended for food or that attends the preparation, use, cooking, dealing in, or storing of meat, fish, fowl, fruit, or vegetable matter. Garbage is defined in Section 324.11503(17) of Part 115.

Sewage sludge means any solid or semisolid waste that is generated from a municipal, commercial, or industrial wastewater treatment plant. Sludge is defined in R 299.4105(e) of the Part 115 Administrative Rules promulgated pursuant to Part 115.

### 3. What is a composting facility?

Composting facilities are locations where composting of yard clippings or other organic materials occurs using mechanical handling techniques such as physical turning, windrowing, or aeration or using other management techniques approved by the EGLE Director. Both private and governmental entities may operate composting facilities. Composting facility is defined in Section 324.11502(17) of Part 115.

Some composting facilities may be required to register with [EGLE](#) or [Michigan Department of Agriculture and Rural Development \(MDARD\)](#).

### 4. Do all composting facilities have to be registered?

No, facilities composting organic materials other than yard clippings do not need to register. Also, not all composting facilities managing yard clippings must register per Section 324.11521(1) of Part 115. See the [flowchart](#) for help determining if a composting facility needs to register with EGLE or MDARD and see the following [EGLE](#) or [MDARD](#) registration sections for some common questions and answers.

Registration is not required when yard clippings are:

- Composted on the property where the yard clippings are generated. This would include homeowners operating their own composting piles and other entities that maintain their own grounds such as cemeteries, hospitals, parks, apartment complexes, and industrial complexes that have their own composting operations that do not create a nuisance or violate the NREPA.
- Temporarily accumulated at a site not designed for composting if it meets the following limitations:
  - Does not create a nuisance or violate the NREPA.
  - Not mixed with other compostable materials. This would be other organic materials that can decay that are not yard clippings.
  - Is 1,000 cubic yards or less unless a greater volume is approved by EGLE before the larger amounts are brought onto the site.
  - Moved to another location within the following timeframes in any given year where it is managed under one of the listed options in Section 11521(1) of Part 115:
    - If yard clippings were placed on the site on or after April 1 but before December 1, it must be moved within 30 days after being placed on site
    - If yard clippings were placed on the site on or after December 1 but before April 1, they must be moved by April 10.
    - If a longer time period is needed, the facility needs to demonstrate why that is necessary and obtain approval from EGLE.
  - The site owner or operator must maintain records that demonstrates these requirements are being met and make the records available to EGLE upon request
- Composted at a facility that has less than 200 cubic yards of yard clippings and is not creating nuisance conditions. This limitation on the amount includes all materials at all stages of the composting process, except the finished compost.
- Decomposed in a controlled manner in a closed container that is used to create and maintain anaerobic conditions, and operated in accordance with Air Quality Division regulations, or otherwise approved by EGLE.

This management option is for anaerobic digesters. It does not apply to a bioreactor landfill (one that collects and uses methane gas for energy production) because a landfill cell is not a “closed container.”

- Composted and used by a municipal solid waste (MSW) landfill under specific conditions. An MSW landfill is defined in Section 299.4104 (d) of Part 115 and may also be called a Type II landfill. An MSW landfill may be publicly or privately owned and receives household waste or municipal solid waste incinerator ash. It may also receive construction and demolition waste, sewage sludge, commercial waste, nonhazardous sludge, industrial waste, and hazardous waste from [conditionally exempt small quantity generators](#). The conditions for an MSW landfill to not register with EGLE include:

- Composting takes place on property described in the landfill construction permit.
- Composting operations of any amount must be described in and are consistent with the landfill operation plans. (For clarification, this includes landfills composting less than 200 cubic yards on property described in the landfill construction permit.).
- Landfill is in compliance with NREPA.

MSW landfills accepting yard clippings under the provisions of Section 11521(1)(g) of Part 115 must ensure that the composting and use is described in the landfill's operation plans. At a minimum, the operation plans must include the following information:

- Procedures to ensure that nuisance odors are minimized by addressing anaerobic degradation.
- Procedures to prevent the pooling of water by maintaining proper slopes and grades.
- Procedures to properly manage storm water runoff.
- Procedures to ensure that the compost will not attract or harbor rodents or other vectors.
- Compost pile management techniques and the equipment that will be used.
- The testing procedures, frequencies and lab analysis of finished products to ensure that the compost is finished (e.g., Dewar self-heating method).
- Description of the use of the finished compost and any screening rejects.

[EGLE Material Management Division's Policy Guidance 115-10, "Sanitary Landfill Alternate Daily Cover Approval Requirements and Procedures"](#) and [Policy Guidance GEN 13, "Use of Yard Clippings Compost as Landfill Cover"](#) provides additional information on acceptable use of yard clippings at landfills. This information is available on the [EGLE Solid Waste Operation Memos Web site](#).

If you compost and use yard clippings at your landfill and your operation plans do not include the information described in this letter, please submit revised operation plans that have the necessary information to the appropriate Material Management Division (MMD) District Office. EGLE will review the revised operation plans and either approve them or work with you to gain compliance with these new provisions.

## 5. What are examples of other "organic materials"?

Organic materials are those capable of decaying into humus. Common examples besides yard clippings include fruit and vegetable scraps, eggshells, nutshells, paper, wood wastes including sawdust and wood chips, coffee grounds, hair clippings, feathers, bone meal, blood meal, and waste generated in the production of livestock and poultry, including manure and used bedding materials. See the U.S. Environmental Protection Agency (USEPA) [Web site on organic materials](#) for more information. Polymers and plastics, unless designed to be a compostable material, are not usually considered organic material due to their poor ability to decompose.

**6. What is considered a nuisance?**

Nuisance means there are conditions that unreasonably interfere with the enjoyment of life and property, such as noise, blowing debris, odors, vectors, or pest animals. Nuisance is defined in R 299.4104(h) of the Part 115 administrative rules.

**7. Can yard clippings be taken to a processing plant?**

Yard clippings may be taken to processing plants, subject to any limitations or conditions in the facility's Part 115 operating license.

**8. Can yard clippings be disposed in a landfill or incinerator?**

Only yard clippings that are diseased or infested or are from invasive plants that were collected through an eradication or control program that are inappropriate to compost can be landfilled or incinerated per Section 324.11521(1)(i) of Part 115. Examples of invasive plants include, but are not limited to, garlic mustard, purple loosestrife, and spotted knapweed. De minimus (or small) amounts of yard clippings may also be landfilled or incinerated with other solid wastes. That means a small amount of material that was put in with other solid waste for disposal. De minimus is defined in Section 324.11503(1) of Part 115.

**9. What is meant by an eradication or control program?**

Eradication or control programs are formal efforts by an organization or agency to eliminate or limit the spread of unwanted land or water plant species. Several organizations and agencies such as [The Stewardship Network](#) (the Network), have programs in Michigan that target the control of invasive species, a member of the Network who signs a memorandum of understanding (MOU) with the Network to remove invasive species that are being specifically addressed by the Network may dispose of these yard clippings in a landfill or incinerator, as the yard clippings are part of an eradication or control program. Landfills or incinerators should keep records of disposal of these invasive species. If you have questions about participating in an eradication or control program, contact Aaron Hiday, EGLE, at [HidayA@Michigan.gov](mailto:HidayA@Michigan.gov) or 517-282-7546.

**10. Are there resources to help government officials with land and aquatic (plant and fish) invasive species?**

Contact the various organizations and agencies listed in the previous question regarding the resources they have to offer. Also, see the [Aquatic Invasive Species Handbook](#) for Government Officials.

**11. Is Rule R 299.4120 (Rule 120) still applicable since PA 212 was passed?**

No. PA 212 removed yard clippings from the definition of a site or source separated material and as such, the conditions listed in Rule 120 are no longer applicable. PA 212 now provides the requirements for the management of yard clippings.



**12. Does the state offer training or compost operator certification programs?**

EGLE does not offer training or certification to composting facilities operators. Contact the Michigan Recycling Coalition Composting Committee or other organizations that promote composting and finished products, as they may have training and certification programs. You can find information on the [Michigan Recycling Coalition](#) Web site or contact the Michigan Recycling Coalition at 517-371-7073. For more information about training programs, go to the [US Composting Council](#) Web site.

Other groups also have composting information posted on the Internet, such as the [North Carolina Department of Environment Quality](#) that provides information about other composting topics like building food waste diversion programs, vermicomposting (worm composting), etc.

For composting operations on a farm, see the MDARD Web page for Generally Accepted Agricultural and Management Practices ([GAAMPS](#)) or contact the Michigan Right to Farm department at 517-284-5619.

**13. Does the state offer business startup or expansion assistance or help market compost products?**

For help starting or expanding a business, see the information at the [Michigan Economic Development Corporation](#), or call 888-522-0103.

There are ways to market the composting facility's services through state Web sites:

- To advertise composting, yard clippings, and wood collection services, list the company in the [EGLE Recycled Materials Market Directory](#).
- To offer services to state-owned facilities, register with the [Michigan Department of Technology, Management, and Budget](#) (DTMB) as a state vendor. Visit [Michigan.gov/DTMB](#) and click on "Register as a Vendor" under the "Businesses" category. For assistance, call their Vendor Registration Help Desk at 888-734-9749.

Currently, EGLE does offer any grants or loans to start or operate a composting facility.

**14. If there is a complaint about a composting operation, who should be contacted?**

The agency that responds to an initial complaint will depend on which agency is overseeing the composting operation. If a farm is composting, or should be registered with the MDARD, then the MDARD would do the initial follow-up, and when necessary, coordinate with EGLE. See the [farm complaint FAQ](#). If the composting operation is overseen by EGLE, or you are unsure whom you should talk to, contact the MMD district office to file a complaint. Be as specific as you can about your concerns and what you know about the operations, including where the composting is occurring. When necessary, the MMD staff will coordinate with the other EGLE divisions and MDARD, depending on the circumstances.

## EGLE REGISTERED COMPOSTING FACILITY QUESTIONS

### 15. When does a composting operation have to register with EGLE?

See the [flowchart](#) on the [EGLE Compost Web site](#) to help identify when a facility needs to register. Composting facilities are required to register with EGLE's MMD once they have more than 200 cubic yards of material, if they are not operating under the MDARD management method. Facilities must meet the requirements in Section 11521(4) of Part 115.

New facilities need to register before beginning operations. There are no exemptions for state-owned or other governmental facilities, and they also need to register when they meet the conditions identified in the flowchart.

### 16. What is a registered agent that is mentioned in the registration form instructions?

A "registered agent" is an entity authorized by a company in their filings with the Department of Labor and Economic Growth to act on their behalf in a named state (i.e., Michigan). It is a legal term. It allows that entity to accept legal service, sign documents, make legal commitments, etc., on behalf of the company. If that is who signed the registration form for the company, submit a copy of the authorization with the registration.

### 17. What must be included in calculating the volume on-site (e.g., calculating the amount of yard clippings to determine if the site has 200 cubic yards)? Are there any conversion formulas?

Any compostable material and finished compost that is on-site is to be included when calculating the volume. Finished compost that has been screened and blended with sand or topsoil does not count in the 200 cubic yard limit. There are different resources available for converting volumes of yard clippings to cubic yards. The general average conversion for yard clippings is: three cubic yards of yard clippings equals one ton of yard clippings. Specific conversion factors can be found below. Usually there is a 1/2 to 1/3 reduction in yard clippings to compost; therefore, one formula that can be used is:

*(Amount of yard clippings) multiplied by (0.41) = approximate amount of finished compost.*

The actual amount of finished compost may be different because yard clippings consist of different materials in different amounts and may include grass clippings, leaves, twigs, and small branches.



The following conversions are based on an excerpt from the USEPA document, *Business Guide for Reducing Solid Waste*; EPA/530-K-92-004; November 1993; found in the USEPA Volume-to-Weight Conversion Table.

Material	Volume	Weight in pounds (lbs)	Weight in short tons (1 short ton = 2,000 lbs)
Leaves (uncompacted)	1 cubic (cu.) yard (yd.)	200-250	0.05-0.125
Leaves (compacted)	1 cu. yd.	300-450	0.15-0.225
Leaves, vacuumed	1 cu. yd.	350	0.175
Grass clippings (uncompacted)	1 cu. yd.	350-450	0.175-0.225
Grass clippings (compacted)	1 cu. yd.	550-1,500	0.275-.75
Finished compost	1 cu. yd.	600	0.3
Pallets	--	30-100 each (40 average)	0.015-0.05 (0.02 average)
Wood chips	1 cu. yd.	500	0.25
Solid/liquid fats food waste	55-gallon drum	400-410	0.2-0.205

A table of bulk density of additional compostable materials that lists pounds per cubic yard is available in the [On-Farm Composting Handbook](#) by Cornell University.

**18. Are there different requirements depending on when an EGLE registered composting facility began operating?**

Yes, there are differences regarding where an EGLE registered composting facility can be located depending on when it began operating. However, all EGLE registered facilities have to meet the same operating requirements. See the following questions for more information.

**19. What are the location restrictions regarding where an EGLE registered composting facility can be located if it was operating on or before December 1, 2007?**

EGLE registered facilities that began operating on or before December 1, 2007, have three isolation distances that must be met. Section 11521(4)(b)(i) of Part 115 requires the facilities to be located:

- 50 feet from a property line.
- 200 feet from a residence.
- 100 feet from a body of surface water, including a lake, stream or wetland.

**20. What are the location restrictions regarding where an EGLE registered composting facility can be located, if it began operating after December 1, 2007?**

EGLE registered facilities that began operating after December 1, 2007, have 7 isolation distances that must be met. Section 11521(4)(b)(ii) of Part 115 includes the following restrictions:

- 50 feet or more from a property line.
- 200 feet or more from a residence.
- 100 feet or more from a body of surface water, including a lake, stream or wetland.
- 2,000 feet or more from a Type I or Type IIA water supply well.
- 800 feet or more from a Type IIB or Type III water supply well.
- 500 feet or more from a church or other house of worship, hospital, nursing home, licensed day care center, or school other than a home school.
- 4 feet or more above groundwater.
- not in the 100-year floodplain.

**21. How can I determine if an EGLE registered facility meets the appropriate isolation distances?**

See the Yard Clippings Composting Isolation Distance summary on the [EGLE Composting Web site](#).

**22. What isolation distances does an existing EGLE registered compost facility need to meet when it is expanding?**

The more stringent requirements in Section 11521(4)(b)(ii) of Part 115 apply to the expansion area. For example, if the compost pile was in existence on December 1, 2007, and was located within 200 feet of a residence, and it was not placed within the 200-foot threshold after that date, the pile could remain. EGLE registered facilities that were in operation on December 1, 2007, may continue to use the locations where those piles existed, if there are no negative impacts from those pile locations. However, EGLE would encourage new piles meet the stricter isolation distances, if possible. Any new locations for piles would need to meet the isolation distances.

**23. Are there other water well restrictions not specified in these composting regulations?**

See the isolation distances information on the [EGLE Composting Web site](#) for what is required under the composting regulations. In addition, some communities have a designated source water and wellhead protection programs and have the [protected area delineated](#). If you do not know if your facility is in the designated area, EGLE's Water Resources Division can help you. Include the location of the wells and protected area on your map. If you do not know your local contact, contact EGLE Water Resources Division at 989-705-3420 for Wellhead Protection Program information.

## 24. What are the operating requirements for EGLE registered composting facilities?

The operating requirements in in Section 324.11521(4)(c) of Part 115 are:

- Create finished compost that does not contain more than one percent, by weight, of foreign matter if it has been put through a 4-millimeter screen. This section does not require the compost to be screened, but the finished compost would need to meet the quality standards, as if it has been screened. Foreign matter would include non-biodegradable material such as metal, plastic, and glass.
- Do not attract or harbor rodents or other vectors. See the [MDARD information on rodent and vector identification and control methods](#).
- If yard clippings were collected in type of bag other than a paper bag, remove yard clippings from bags by the end of each business day. The yard clippings have to be removed from the bags if they are not paper because the bags are not permeable to air and create odors. However, biodegradable bags can be put in the compost piles after the yard clippings have been removed from the bag.
- Prevent the pooling of water by maintaining proper slopes and grades of the compost piles and site. Standing water can cause the underlying soils to become anaerobic, which may lead to the leaching of contaminants and nutrients to the groundwater.
- Properly manage storm water runoff. Composting facilities are not subject to the industrial storm water program overseen by EGLE's Water Resources Division, but the precipitation that comes into contact with the compost piles and any leachate from the compost would be considered process wastewater, and the disposal of that is regulated by the Water Resources Division. It may contain pollutants in concentrations that violate water quality standards and require treatment.

The facility has four management options:

- Collect and reuse all of the runoff on-site to maintain proper moisture levels of the compost piles. This is the preferred method and the most cost effective.
- If the facility is connected to a municipal wastewater treatment plant, get approval from the sewer authority before discharging it into the sewer system.
- Obtain either a surface water or groundwater discharge permit from the Water Resources Division. See Chapter 3 of the [Michigan Guide to Environmental Regulations for more information](#).
- Characterize the waste to determine if it is hazardous waste or nonhazardous liquid waste and manage it accordingly. See [Chapter 2](#) of the [Michigan Guide to Environmental Regulations](#) for more information.

Contact your district office if you need assistance or call the Environmental Assistance Center at 800-662-9278 for referral.

- Do not have more than 5,000 cubic yards of yard clippings and other compostable material, compost, and residuals present on any acre of the property, unless prior approval has been obtained from EGLE.

- Do not accumulate yard clippings over three years, unless the owner or operator has received prior approval by EGLE. Unless EGLE approved a longer time period, they will need to be able to demonstrate yearly that they meet the following:
  - Have the capacity to compost the yard clippings.
  - The amount of the yard clippings and compost transferred off-site in a calendar year is 75 percent or more by weight or volume of the amount of yard clippings and compost that was on-site the beginning of the calendar year.

The three years accumulation period begins when the yard clippings or compostable material was first brought on-site.

- Do not create a “facility” as defined in [Section 20101](#) of [Part 201](#), Environmental Remediation, of the NREPA. A “facility” means any area, place, or property where a hazardous substance in excess of the concentrations which satisfy the requirements of [Section 20120a\(1\)\(a\)](#) or (17) or the cleanup criteria for unrestricted residential use under [Part 213](#), Leaking Underground Storage Tanks, of the NREPA has been released, deposited, disposed of, or otherwise comes to be located. Facility does not include any area, place, or property at which response activities have been completed which satisfy the cleanup criteria for the residential category provided for in [Section 20120a\(1\)\(a\)](#) and (17) or at which corrective action has been completed under [Part 213](#) which satisfies the cleanup criteria for unrestricted residential use. Contact the Remediation and Redevelopment Division in your county’s District Office if you have questions about contamination or cleanup requirements.
- Meet all of the NREPA requirements that apply to the site.
  - Because there are different composting facility requirements and materials that may be processed besides yard clippings, the facility will need to determine what regulations apply to them. A good starting point is to review the [EGLE permit information and related permit information](#). Another good resource is the [Michigan Guide to Environmental Regulations](#), which includes explanations about regulations that may not require a permit or license. Facilities should also contact their local authorities to obtain any necessary local permits and comply with local ordinances and zoning regulations.

## **25. How much material would it take to meet the 5000 cubic yards on any acre limit?**

According to [Section 11521\(4\)\(c\)\(ii\)](#) of [Part 115](#), an EGLE registered composting facility is limited to having 5,000 or less cubic yards of material on any acre. As a visual aid, it is estimated 5,000 cubic yards would completely cover one acre three feet deep.

## **26. Under what circumstances would EGLE consider approving a volume greater than 5,000 cubic yards of material per acre?**

The applicant would need to demonstrate to EGLE that the operator of the facility has sufficient knowledge, training, appropriate site design, and equipment to be able to handle a larger volume. If you want to exceed this limit, discuss the proposed operation with Aaron Hiday, Program Coordinator, Solid Waste Section, MMD, at 517-282-7546.

**27. Are there any size or shape limits on how high or big a compost pile can be?**

The state waste regulations do not limit the size or shape of compost piles, but the best management practices and equipment capability will have an impact on the compost pile size and shape at an operation. There may be local ordinance restrictions.

**28. What are the reporting requirements to EGLE?**

EGLE registered composting facilities must submit annual reports to the MMD by October 30 of each year. The required report form, EQP 5229, will be posted on the EGLE composting Web site or contact Aaron Hiday, Program Coordinator, Solid Waste Section, MMD, at 517-282-7546. The EGLE registered composting facility will need to report on how much yard clippings and other compostable material was composted during the previous year.

**29. What composting records are required to be kept on-site?**

An EGLE registered composting facility must have the following records and make them available to EGLE upon request, per Section 324.11521(4)(d) of Part 115.

- Documentation that shows the amount of materials received and transferred off-site:
  - volume of yard clippings accepted by the facility each month.
  - volume of other compostable material accepted by the facility each month.
  - volume of yard clippings transferred off-site each month.
  - volume of other compostable material transferred off-site each month.
- Documentation that confirms the composting operation prevents nuisances and minimizes anaerobic conditions. Anaerobic conditions lead to problems with odors. The most common factors that result in anaerobic odors are excess moisture, inadequate porosity, rapidly degrading substrate, and excessive pile size. See information in the [Compost Operator's Guidebook](#).

The following records must be available, or the facility must obtain prior approval from EGLE to maintain different records:

- Carbon-to-nitrogen (C:N) ratios.
- Amount of leaves and grass in tons or cubic yards.
- Temperature readings.
- Moisture content readings.
- Laboratory analysis of finished products.

Sample record templates will be available on the EGLE composting Web page.

### 30. How do I calculate C:N ratios?

There are several ways you can calculate the carbon to nitrogen ratios. See information in the compost operator training materials. Some online compost mix calculators, like the one on [Klickitat County's Web site](#), are also available.

Another good reference for C:N ratio, moisture content, and bulk density of various materials is from [Cornell University](#).

### 31. Does EGLE recommend any other records be kept?

In addition to the required records, facilities are encouraged to create a Compost Facility Site Management Plan. The following are suggested components of a Compost Facility Site Management Plan. They are adapted from a United States Composting Council, 1994 draft document titled, "Organic Waste Composting Model State Regulation."

- Topographic map (United States Geological Survey 7.5-minute series) of the area. Topographic maps can be obtained from the US Geological Survey <https://store.usgs.gov/map-locator> or 888-ASK-USGS (275-8747).
- Site plan showing dimensions and details of the proposed receiving, processing, production, curing, and storage areas, and locations of all roads, buildings, fences and gates, other permanent structures, number of acres used for composting, storage, and stockpiling, and isolation distances required by the statute.
- Description and drawings of the facility's storm water management system showing compliance with all federal, state, and local storm water regulations and codes.
- Description of methods employed to prevent environmental impacts to surface and groundwater.
- Detailed methods for achieving odor control.
- Detailed methods for achieving noise control.
- Detailed methods for achieving vector, dust, and litter control.
- Description of fire prevention and control methods.
- Flow diagram of the processing steps, including the period of time in each step and estimates of maximum handling capacity.
- Capacity for proper handling, storage, and removal of non-permitted wastes delivered to or generated by the facility.
- Detailed description of weather monitoring equipment or methods.
- Written provision for operations during wind, heavy rain, snow, freezing, or other inclement weather conditions.
- Management plan should address employee safety issues according to state and federal requirements.
- Description of methods employed to monitor and prevent anaerobic conditions within the piles.

**32. Are there special emergency planning requirements for an EGLE registered composting facility?**

The composting regulations do not require an emergency plan, but EGLE suggests that a detailed fire plan be coordinated with the local fire department. If a facility has other regulated materials or has regulated storage tanks on site there may be requirements under other federal and state regulations if the facility meets those conditions. There may also be requirements under local ordinances. See EGLE's [Emergency Planning Web site](#).

**33. Does composting fish waste have different requirements?**

Options regarding how to handle fish waste are discussed in the [Fish Waste Exemption](#) and the related [Site Identification Form](#).

**34. Are there other management options for handling wood waste besides composting?**

Options would depend on whether the waste was contaminated and regulated as hazardous waste. Options to chip it or to use it as a fuel source is covered in the [Scrap Wood Exemption](#). Wood waste that is not contaminated can be landfilled or incinerated at disposal sites that accept that waste.

**35. Can food waste be added to the yard clippings compost piles?**

Yes, food waste can be added to yard clippings. A processing permit is not required when the food waste is a source separated material.

**36. Can compostable utensils be composted without a permit or license?**

Plastic is listed as a source separated material. If the compostable serving ware is "plastic" as defined by [ASTM D 6400](#), *Standard Specification for Labeling of Plastics Designed to be Aerobically Composted in Municipal or Industrial Facilities*, it is therefore not solid waste if composted, and the compost is used for beneficial purposes.

ASTM D 6400 defines plastic to be "a material that contains as an essential ingredient one or more organic polymeric substances of large molecular weight, is solid in its finished state, and, at some stage in its manufacture or processing into finished articles, can be shaped by flow."

Therefore, if the serving ware fits that definition and is able to be converted into compost as defined in Part 115, then the material is not solid waste, and a solid waste processing permit or license is not required.

**37. Other than yard clippings, what wastes can be composted in Michigan without a permit from EGLE?**

Current regulations do not require any permits or approval from the MMD for the composting of site or source separated compostable material. Source separated material includes wood, paper products, garbage, yard clippings, or any other material approved by EGLE that is separated at the source of generation for the purpose of conversion into raw materials or new products. The same material is considered "site separated" if it is separated from solid waste for the purpose of conversion into raw materials or new products at a location other than the point of generation.



Site separated material does not include the residue remaining after wood, paper products or any other material approved by the department is separated from solid waste. Compost is considered a “new product” for purposes of source and site separated material determinations.

Compostable site or source-separated materials include garbage, wood, and paper. Garbage is defined as “rejected food wastes including waste accumulation of animal, fruit, or vegetable matter used or intended for food or that attends the preparation, use, cooking, dealing in, or storing of meat, fish, fowl, fruit, or vegetable matter.” Wood is defined as “trees, branches, bark, wood pallets, lumber, or other wood product which has not been treated, painted, mixed with glues and fillers, or otherwise contaminated during manufacture or use, and wood chips or sawdust from the materials listed.” Paper includes cardboard and paper products that have not been contaminated during manufacture or use.

No MMD permits are required for composting garbage, wood, and paper, although local authorizations may be necessary. Compostable site or source-separated material can be composted, as long as it is done in compliance with Part 55, Air Pollution Control, Part 115, and Part 31, Water Resources Protection, of the NREPA, and any pursuant promulgated administrative rules.

The composting of solid wastes like research animal bedding, street cleanings, or animal waste other than organic waste generated in the production of livestock and poultry must be approved by EGLE. The composting of garbage, wood, paper, and yard clippings mixed with a material defined as solid waste must also be approved.

### **38. How do I obtain approval to compost a compostable material not listed as a site or source separated material?**

In order to compost a solid waste material not defined as a site or source separated material, one must receive approval per R 299.4121 of the administrative rules promulgated pursuant to Part 115. Including the provisions outlined in R 299.4117 and R 299.4118 of the Part 115 administrative rules, the following information must be included in the petition:

- The type of waste and its potential for creating a nuisance or environmental contamination;
- Compost maturity, as determined by a reduction of organic matter during composting;
- Foreign matter content; and
- Particle size.

The material will be approved for use as compost if:

- The material has or will be converted to compost under controlled conditions at a composting facility;
- The material will not be a source of environmental contamination or cause a nuisance; and
- Use of the compost material will be done at agronomic rates.

In order to gain approval from EGLE to compost the material and demonstrate that the solid waste can be converted into a compost product or resource, R 299.4117 of the Part 115 administrative rules allows a person to conduct a pilot project with up to 100 tons of solid waste. For additional information, please contact EGLE MMD's Solid Waste Section at 517-284-6588.

**39. What approval is necessary to compost food processing residuals, ashes from wood that is untreated and inert, lime from kraft pulping processes, or aquatic plants?**

Food processing residuals, wood ashes, lime, or aquatic plants are not solid waste if applied on, or composted and applied on, farmland or forestland for an agricultural or silvicultural purpose, or used as animal feed. Such an application or use does not require a plan or a permit or license.

Land application of these materials or compost generated from these materials for an agricultural or silvicultural (cultivation of trees) purpose must occur in a manner that prevents losses from runoff and leaching and must be done at an agronomic rate consistent with generally accepted agricultural and management practices (GAAMPs) under the Michigan Right to Farm Act, 1981 PA 93, MCL 286.471 to 286.474.

The MDARD has developed GAAMPs for certain food processing residuals (primarily fruit and vegetable residuals) and lime from kraft pulping process. Because there are currently no GAAMPs for agricultural use of aquatic plants, wood ashes, and other food processing residuals, composting of these materials require EGLE approval.

**40. Does a retail establishment that only sells finished compost need to register?**

No, if a retail establishment is not doing any composting at the site, it does not need to register.

**41. If a composting facility is operating at several locations, do they have to register each site?**

If the sites are not on contiguous property, they need to register each site.

**42. How do I measure the volume of a compost pile?**

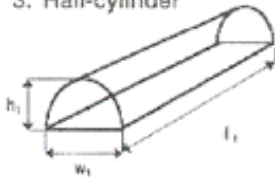
Compost pile volumes are measured using calculations that incorporate the length, width, and height of the pile. The shape of a pile will determine the best formula to use to calculate the pile's volume.

Pyramid: If the pile is a long pyramid then multiply the length by the width by the height and divide by 2.



Half-ellipsoid: If the pile is more the shape of a half-ellipsoid, like the one shown here, then multiply Pi (3.14) by the length by the width by the height and divide by 6.

## 3. Half-cylinder



Half-cylinder: If the pile is a half-cylinder, then multiply Pi (3.14) by the length by the width by the height and divide by 4.

The pile in the photo to the right is about 10 yards wide, 10 yards long, and 4 yards tall. It is a half-ellipsoid. Therefore  $3.14 \times 10 \times 10 \times 4$  divided by 6 equals about 200 cubic yards. The pile below has a volume of 200 cubic yards.



Remember that if you take your measurements in feet, and you are calculating a volume in cubic yards, either:

- Divide the measurements by three to get yards prior to calculating a volume; or
- Divide the result by 27 to convert to cubic yards (there are 27 cubic feet in a cubic yard).

Examples:

- A pile that is 120 feet x 120 feet by 18 feet tall is 5,000 cubic yards.
- A pile that is 72 feet x 72 feet x 10 feet tall is 1,000 cubic yards.
- A pile that is 172 feet x 30 feet by 10 feet tall is 1,000 cubic yards.
- A pile that is 32 feet x 32 feet by 10 feet tall is 200 cubic yards.

## MDARD REGISTERED AGRICULTURAL COMPOSTING FACILITIES

### 43. What is meant by a “farm”?

As defined in the Michigan Right to Farm Act (PA 93 of 1981, as amended), a farm means the land plant, animals, buildings, structures, including ponds used for agricultural or aquacultural activities, machinery, equipment, and other appurtenances used in the commercial production of farm products.

### 44. Does a farm have to register with MDARD or EGLE if they are only composting their own yard clippings?

Registration with MDARD or EGLE is not required if the farm:

- Is composting only yard clippings that came from the farm operations, which can include yard clippings produced at multiple farm operations under the same ownership and taken to one location for composting.

- Is composting 5,000 cubic yards or less of yard clippings, which includes all stages of the compost including the finished compost.
- Is following MDARD's generally accepted agricultural and management practices (GAAMPs). GAAMPs have been developed by the MDARD under the Right to Farm Act. They are available on the [MDARD Web site](#) or by calling the Michigan Right to Farm Program at 517-284-5619.

**45. When does a farm have to register its composting operation with the MDARD?**

A farm needs to register with MDARD if it:

- Has more than 5,000 cubic yards of yard clippings on site, which includes all stages of the compost including the finished compost; AND
- Accepts yard clippings from other sources, and it is needed to assist with managing wastes generated from the farm operations, i.e., the yard clippings are added to manure for proper composting.

**46. How does a farm register with MDARD?**

Use the MDARD composting registration form located under the "Nutrient Utilization Section" at [Michigan.gov/gaamps](http://Michigan.gov/gaamps).

**47. Can a farm receive any type of payment for taking yard clippings from another source?**

A farm can receive up to 5,000 cubic yards and receive "a valuable consideration," i.e., compensation, but they cannot charge a tipping fee or receive any valuable consideration for taking more than 5000 cubic yards of yard clippings. Section 11521(3)(c) of Part 115 restricts a farmer from receiving monetary or other valuable consideration for taking yard clippings if they accept over 5,000 cubic yards, unless they have registered with EGLE as a composting facility. This section does not limit a farm from selling finished compost.

**48. Can a farm accept other materials besides yard clippings for composting?**

A farm may accept other compostable materials that do not meet the definition of solid waste for composting without a solid waste processing license. Farms composting material defined as solid waste must have a solid waste processing license. Farms composting material that meets the definition of source-separated material as defined in Part 115 do not need to register with EGLE if they do not accept yard clippings. For additional information on composting material other than yard clippings see question 23, 24, and 25 in Section II of in the [EGLE Registered Composting Facilities section](#). Similar to other activities on a farm, in order for MDARD to determine that a farm conforms to GAAMPs under the Right to Farm Act, the farm must manage and compost all materials according to GAAMPs.

**49. What is the phone number for MDARD to get more information about composting on farms?**

The MDARD Michigan Right to Farm Program contact number is 517-284-5619.

**50. Is a MDARD registered composting facility eligible for Right to Farm protection?**

Yes. MDARD registered composting facilities are eligible for Right to Farm protection by meeting certain criteria, such as the development of a compost operations plan, site plan, and a compost utilization plan. An on-site inspection of the facility will also be required. Contact the MDARD Michigan Right to Farm Program at 517-284-5619 for further information.

**51. Is an EGLE registered composting facility eligible for Right to Farm protection?**

No.

**52. If there is a complaint about a farm composting operation, who should be contacted?**

Contact the MDARD Michigan Right to Farm Program at 517-284-5619.

## **OTHER RESOURCES**

The following are some of the more common regulations that may apply to composting facilities, depending on the operation of the facility. Additional information can be found on the EGLE Composting Web site by going to the EGLE, [MMD Web site](#), then clicking “Solid Waste”, and then “Composting” under the Information heading.

### **53. EGLE Materials Management**

**Requirements for composting of other materials** vary depending upon how the material being composted is classified under Part 115.

First, one must determine if any of the materials (other than yard clippings) are classified as solid waste. If any of the materials (other than yard clippings) are defined as solid waste per Part 115 statute and the pursuant promulgated rules, then approval to compost the material is necessary. A person proposing to compost material (other than yard clippings) defined as solid waste must seek approval by submitting a petition to EGLE. Before petitioning EGLE, discuss your proposal with the MMD District Office Solid Waste Program staff.

The first test to determine if EGLE will approve composting of a material (other than yard clippings) defined as solid waste is whether or not the material is compostable under R 299.4121 of the Part 115 administrative rules; however, only 500 cubic yards of material may be composted without a solid waste processing license per R 299.4104(q)(ix) of the Part 115 administrative rules.

If any of the following questions about the solid waste can be answered affirmatively then EGLE will approve composting of the material:

- Is the material to be composted, or the finished compost, inert under R 299.4117 of the Part 115 administrative rules?
- Does the material meet agricultural use requirements of R 299.4111 of the Part 115 administrative rules?

If the answer is no to all above options, then the compostable material remains categorized as a solid waste, and the facility must obtain a solid waste processing plant permit and license in order to compost the material. The compost produced will be permitted for use in limited circumstances based on its characteristics.

If the materials to be composted are not defined as solid waste because they are exempted from the definition of solid waste under Section 11506 of Part 115, then EGLE approval to compost the material is not required. However, if the material is defined as site or source separated, then composting of it cannot:

- create nuisance conditions;
- cause a discharge to, or otherwise impact surface water or ground water; or
- result in speculative accumulation of the material.

See related FAQs for composting specific materials.

### Nonhazardous and hazardous wastes

If an operation is not able to discharge their wastewater to a wastewater treatment plant or does not have a permitted discharge from the Water Resources Division or is generating liquid wastes from doing equipment maintenance, the operation is subject to the liquid industrial waste, and hazardous waste regulations for managing the wastewater and wastes generated from maintaining the equipment. The specific hazardous waste requirements would depend on how much is generated in a calendar month. Most composting operations would be a Very Small Quantity Generator, if they have hazardous waste. See that guidance, and the Nonhazardous Liquid Waste Generator Requirements, Waste Characterization, Used Oil, Antifreeze, Electric Lamps and Small Ballasts, Electronic Equipment, Universal Waste, and other waste guidance documents in the [EGLE publication center](#) for more information.

### Other solid wastes and scrap tires

Discuss with your waste disposal company what they will accept. See what [wastes are banned from landfill disposal](#). To find recyclers for materials, see the [Recycled Materials Market Directory](#), or see the [Michigan Recycling Directory](#) to find options in your area. Visit [Michigan.gov/MMD](http://Michigan.gov/MMD) to find information about other solid wastes and scrap tire disposal.

### Storage tanks

Operations that have fuel storage tanks need to meet the applicable requirements depending on the type of stored product and if it is stored in aboveground or underground storage tanks, or if LPG tanks are used for heating office space, etc. Visit the Michigan Department of Licensing and Regulatory Affairs' (LARA) storage tank web site at [Michigan.gov/StorageTanks](http://Michigan.gov/StorageTanks) or call the Storage Tank Division at 517-241-8847.

### Water Resources Division (WRD)

Depending on where the facility is located, a permit may be required under [Part 303, Wetlands Protection](#); [Part 301, Inland Lakes and Streams](#); [Part 31, Water Resources Protection for Floodplain Protection](#), and [other similar land and water resource protection provisions](#). Discuss requirements with the WRD [District Office](#), or call the Environmental Assistance Program at 800-662-9278 for information.

The WRD would also oversee any [wastewater discharges](#) from the site.



In addition, the construction of a composting facility may require a soil erosion and sedimentation control permit. A permit is generally required for any earth change activity which disturbs one or more acres of land, or which is within 500 feet of a lake or stream. See the [information on permits](#) for an explanation if you need to obtain a local or state issued permit. Discuss requirements with the WRD District Office or call the Environmental Assistance Program at 800-662-9278 for information

### Remediation and Redevelopment Division (RRD)

A [Baseline Environmental Assessment \(BEA\)](#) allows people to purchase or begin operating at a facility without being held liable for existing contamination. All facilities are required to cleanup contamination and may have release reporting requirements under Part 201, Environmental Remediation. Visit [Michigan.gov/BEA](http://Michigan.gov/BEA) for more information.

### Air Quality Division (AQD)

Rule 336.1285 (bb) of the Michigan Air Pollution Control (MAPC) Rules specially exempts residential, municipal, commercial, or agricultural composting processes or process equipment from the state's air permit requirement. However, even though a Permit to Install is not required, the owner and/or operator of such activities still must comply with all other applicable MAPC rules and Part 55, Air Pollution Control, of the NREPA.

There are two types of pollutants emitted from composting operations:

1. Odors
2. Particulate matter

Most of the negative yard clippings composting impacts have been related to the emission of odors. Noxious odors have generally come from composting operations that were not utilizing good operational practices, such as keeping the pad dry and well drained, maintaining the proper mixture of carbon (leaves/wood chips) to nitrogen (grass clippings/foilage trimmings), and properly turning windrows to maintain aerobic conditions. If a facility is unable to adequately minimize the production of odors, it can be cited in violation of R 336.1901, which prohibits the emissions of air pollutants that can cause unreasonable interference with the comfortable enjoyment of life and property.

Fugitive dust, as defined in R 336.1106 (k), means particulate matter that is emitted into the outer air, except through stacks. If the particulate matter could pass through a stack or vent, the emissions would not be considered fugitive. For example, a vehicle traveling over a dry unpaved road can generate fugitive dust. It is not practical or feasible to collect this dust and exhaust it through a vent or stack.

Fugitive emissions from composting operations may be regulated under Section 324.5524 of Part 55 of NREPA or MAPC Rules 336.1371 and 336.1372. The location of the operation, the type of entity performing the composting, and complaints are factors that determine the applicability of the statute or the rules.

Composting of yard clippings is regulated under Section 324.5524 if it is performed by an entity with a standard industrial classification (SIC) of 10-14, 20-39, 40, 42, 491, 495, or 496; and it is located in an area listed in Table 36 of R 336.1371. Table 36 lists areas in the state that were previously classified



as not being in federal attainment status for Total Suspended Particulate (TSP). Section 324.5524 requires compliance with opacity standards and the submittal of a fugitive dust program.

Based upon air emission measurement or citizen complaints, R 336.1371 allows the AQD to require a [fugitive dust program](#) from a composting operation not located in a Table 36 area. R 2336.372 lists the required actions and control methods. For example, water sprays may be needed to control the fugitive dust generated from the tub grinding of dry, woody material.

## CONTACT INFORMATION

EGLE Composting Program Coordinator: Aaron Hiday, [HidayA@Michigan.gov](mailto:HidayA@Michigan.gov) | 517-282-7546

MDARD Michigan Right to Farm Program: [Michigan.gov/RightToFarm](https://Michigan.gov/RightToFarm)

LARA's Storage Tank Division: [Michigan.gov/StorageTanks](https://Michigan.gov/StorageTanks)

---

This publication is intended for guidance only and may be impacted by changes in legislation, rules, policies, and procedures adopted after the date of publication. Although this publication makes every effort to teach users how to meet applicable compliance obligations, use of this publication does not constitute the rendering of legal advice.

EGLE does not discriminate on the basis of race, sex, religion, age, national origin, color, marital status, disability, political beliefs, height, weight, genetic information, or sexual orientation in the administration of any of its programs or activities, and prohibits intimidation and retaliation, as required by applicable laws and regulations.

To request this material in an alternate format, contact [EGLE-Accessibility@Michigan.gov](mailto:EGLE-Accessibility@Michigan.gov) or call 800-662-9278.