

# Summary of Compost & Compost-Related Fertilizer Regulations

## MAINE

Updated January 2011

### Introduction

Nationally, organics, such as food and yard waste, constitute more than 25% of the municipal solid waste stream. And, this doesn't even include animal waste, such as manure. There is a renewed interest in diverting organics to compost and in producing value added products.

This document provides an overview of the existing laws as they pertain to the production of compost and fertilizer from compost. It is critical information for any compost processor or producer of fertilizer from compost. In addition to an overview of the laws, where they are available, hyperlinks to the full text are provided, as well as contact information for the regulatory agencies.

### Compost

**Contact:** [Mark King](#), Maine Department of Environmental Protection, 207-592-0455

**Regulation:** <http://www.state.me.us/dep/rwm/rules/index.htm> (chapters 400 and 410)

### Classifications of Residual

For the purpose of determining composting requirements, residuals shall be classified as Type IA, Type IB, or Type IC.

- **Type IA residual.** "Type IA residual" means a residual from a known source that does not contain hazardous substances above risk based standards in Appendix 418.A and that has a carbon to nitrogen ratio greater than or equal to 25:1, such as leaf and yard waste, wood chips and some vegetative wastes.
- **Type IB residual.** "Type IB residual" means a residual from a known source that does not contain hazardous substances above risk based standards in Appendix 418.A and that has a carbon to nitrogen ratio greater than 15:1 but less than 25:1, such as animal manure and most produce and vegetable wastes.
- **Type IC residual.** "Type IC residual" means a residual from a known source that does not contain hazardous substances above risk based standards in Appendix 418.A and that has a carbon to nitrogen ratio of 15:1 or less, such as fish wastes.

## **1. The Regulation of Composting and Utilization Facilities**

**A. Exemptions.** The following composting and utilization facilities are exempt from the requirement to obtain a solid waste license:

1. Facilities that, each month, compost less than:
  1. Ten (10) cubic yards of type IA residuals;
  2. Five (5) cubic yards of type IB residuals;
  3. (Three (3) cubic yards of type IC residuals; or
  4. Twenty (20) cubic yards of animal carcasses from routine animal mortalities at the site of generation pursuant to the Department of Agriculture Rules Chapter 211, Rules and Regulations relating to Disease Control of Domestic Animals and Poultry.
2. Facilities that compost 10,000 cubic yards or less of animal manure per year.

## **B. Permit-By-Rule Composting Of Wood, Leaf And Yard Wastes**

### **Applicability**

1. New Facilities: The permit-by-rule licensing provisions of this section shall apply to owners or operators of facilities that compost type IA residuals and grass clippings and that meet all of the standards of this section. Failure to meet any of these standards will require formal application to the Department for a license to develop and operate the solid waste processing facility under sections 2-4 or section 9. The Department assumes that the processing of type IA residuals and grass clippings in strict conformity with these permit-by-rule provisions will meet the standards of Chapter 400, section 4. Facilities licensed under this section are exempt from the requirements of Chapter 400, section 9. No variances to the requirements of this section may be granted.
2. Existing Licensed Facilities. Paragraphs (1), (2) and (7)-(15) of section 8.B are operating requirements for the following facilities that had licenses effective on November 2, 1998:
  - a. Wood, leaf, and yard waste composting facilities licensed under the permit-by-rule provisions of former Chapter 408, section 1.B (effective May 24, 1989); and
  - b. Type IA composting facilities licensed under the permit-by rule provisions of former Chapter 567, Section C-2.a (effective December 23, 1989).

### **Standards and Operating Requirements**

3. The composting facility may only receive type IA residuals and grass clippings. It may not accept painted wood, treated wood, plywood, chipboard, plastic, wood with fasteners, nails, glue, adhesives, resins, paint, or coatings, or wood that is otherwise contaminated.
4. The total waste handling area may not exceed three (3) acres and on-site storage areas may not exceed one (1) acre. Individual storage piles may not exceed 10,000 square feet.
5. Setback Distances: At the time a complete permit-by-rule notification is submitted to the Department, proposed storage, processing, composting, or curing of any regulated residual may not lie within:
  - . 500 feet of any water supply spring;

- a. 500 feet of any water supply well and any residence, unless owned by the site operator or owner;
  - b. (100 feet of any protected natural resource;
  - c. In, on or over a protected natural resource, or on land adjacent to the following areas, without first obtaining a permit pursuant to 38 M.R.S.A. Section 480-A et seq.;
    - i. a coastal wetland, great pond, river, stream or brook, or significant wildlife habitat contained within a freshwater wetland; or
    - ii. freshwater wetlands consisting of or containing:
      - a. under normal circumstances, at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, except for artificial ponds or impoundments; or
      - b. peatlands dominated by shrubs, sedges and sphagnum moss;
  - d. 100 feet of any property boundary;
  - e. 100 feet of the solid waste boundary of an active, inactive, or closed solid waste landfill; and
  - f. A 100-year flood plain.
6. Soils: The applicant may only compost, cure and store residuals on:
- . Soils that a Maine certified soil scientist has determined are moderately well drained to well drained, as classified by the Natural Resources Conservation Service, and that is at least 24 inches above the seasonal high water table, bedrock, and sand or gravel lenses;
  - a. A pad constructed with the top at least 2 feet above the seasonal high water mark and is either composed of:
    - i. 2 feet of glacial till (having between 15 and 35% fines) covered with a 6 inch drainage layer of gravel; or
    - ii. Soil covered with asphalt or concrete.
  - b. A surface determined by a Maine certified soil scientist, soil engineer or other qualified individual as being suitable for the proposed activity, taking into account the other aspects of the facility design; or
  - c. On a land area under a permanent, roofed structure.
7. Drainage: Surface water drainage must be diverted away from processing, composting curing, and storage areas.
8. Slopes: Compost windrows must be constructed on a pad or surface with a maximum slope of 6%. Where necessary, the working surface for windrows must be constructed to prevent ponding.
9. The facility must be operated so that it does not contaminate water, land or air from the handling, storage or composting of wood, leaf, and yard wastes.
10. Inspection and access control: The operator must control unauthorized access to the site and visually inspect incoming residual so that only type IA residuals and grass clippings are deposited at the facility.
11. Windrow: Incoming type IA residuals must, within one week, be formed into windrow piles 10 feet high by 15 to 20 feet wide at the base, or which otherwise provide for the proper conditions under which aerobic composting may occur.

Windrows must run with the slope of the pad such that runoff is not trapped by the windrows.

12. Grass: Grass clippings must immediately be incorporated, and thoroughly mixed into established windrows at a ratio of no more than one part grass to three parts type IA residuals (1 grass: 3 carbonaceous-material) by volume. The composting facility must not accept grass clippings unless there is a sufficient volume of type IA residuals on hand to meet this ratio. Unamended grass may not be stockpiled for any length of time at the site.
13. Windrow turning: The windrow must be turned at least four times per year. There must be no more than 6 months between any two turnings.
14. Distribution: Compost must be distributed for use within one year of completion of the compost process, and within three (3) years of receipt of the raw materials for composting.
15. Fire control: The operator must develop and implement a plan to prevent spontaneous combustion in residual and compost piles at the site.
16. Annual Report: By February 28th of each year, the operator must submit an annual report covering the previous calendar year. The annual report must contain;
  - . The estimated weight or volume of residuals received at the facility;
  - a. The estimated volume or weight of compost distributed from the facility;
  - b. The estimated volume or weight of compost stored on site as of December 31st; and
  - c. A description of any problems in operations encountered during the year, and steps taken to correct those problems.
17. Closure: The facility must be closed in a manner that minimizes the need for further maintenance; and so that the closed facility will not pollute any waters of the state, contaminate the ambient air, constitute a hazard to health or welfare, or create a nuisance. At a minimum, the applicant must remove all wastes and compost from the facility; and broom-clean the facility structures and equipment.

### **Notification Requirements**

At least 18 working days prior to acceptance of type IA residual or grass clippings at the facility for composting, the applicant shall submit to the Department a permit-by-rule notification on a form developed by the Department. This notification must include:

1. The applicant's name, address, telephone number and contact person.
2. The appropriate application fee.
3. Description: A brief description of the proposed project including a description of the residual to be processed.
4. Title, Right, or Interest: A demonstration of sufficient title, right or interest to property proposed for development, as specified in Chapter 2, section 7.
5. Topographic Map. The most recent full size U.S. Geological Survey topographic map (7 1/2 minute series, if available) of the area, showing the location of the proposed facility, and the property boundary.
6. Flood Plain Map. When the site is within 1/4 mile of a 100 year flood plain, the application must include the most recent Federal Emergency Management

- Agency flood insurance rate map of the area with the location of the facility clearly marked.
7. Tax Map: A copy of the local tax map marked with the facility location and the names and addresses of abutters marked on it. The map must indicate all residences within 500 feet of the waste handling area.
  8. Soil and Pad Design: One of the following:
    - a. A certification from a Maine certified soil scientist that the soils where residuals will be composted and cured are moderately well drained to well drained, as classified by the Natural Resources Conservation Service, and that are at least 24 inches above the seasonal high water table, bedrock, and sand or gravel lenses;
    - b. A description of the pad or other surface that the residual will be composted and cured on, and which of the standards in section 8.4.B that surface meets; or
    - c. A certification from a Maine certified soil scientist, soil engineer or other qualified individual that the surface is suitable for the proposed activity, taking into account the other aspects of the facility design; or
    - d. A certification that all composting and curing will be conducted under a permanent, roofed structure.
  9. A fire control plan to prevent spontaneous combustion in residual and compost piles.
  10. Public Notice. A copy of the public notice and other information to demonstrate that the applicant is fulfilling the requirements of Chapter 400, section 3.
  11. Certification. A statement signed by the facility landowner and the person responsible for the facility stating that all standards and requirements of this section will be met throughout operation and closure of the facility.

### **C. Reduced Procedure for Select Compost Facilities**

#### **Applicability**

This section applies to compost facilities that choose to follow the siting, design and operational standards in this section and compost the following residuals:

1. Any amount of type IA residuals; and/or
2. Up to 400 yds<sup>3</sup> monthly of type IB residuals; and/or
3. Up to 200 yds<sup>3</sup> monthly of type IC residuals; or up to 200 yds<sup>3</sup> monthly of type II residuals.

If these conditions are not met, or if the applicant chooses to site, design or operate the facility in a manner that would not meet the standards of this section, then the applicant must submit a formal application to the Department for a license to develop and operate the compost facility under sections 2-3. Facilities licensed under this section are subject to the operating standards in section 4.

### **Reduced Procedure Siting and Design Standards**

In addition to the general siting and design standards contained in section 2, all compost facilities licensed under this section must comply with the following standards:

1. Working surface: mixing, composting, curing, storing or otherwise handling residuals, and compost at the facility must be on surfaces meeting one of the following standards:
  - a. On soils that a Maine certified soil scientist has determined are moderately well drained to well drained, as classified by the Natural Resources Conservation Service, and that are at least 24 inches above the water table, bedrock, and sand or gravel deposits.
  - b. On a pad that is constructed a minimum of 2 feet above the seasonal high water table and is either composed of:
    - i. a minimum of 18 inches of soil material having between 15 and 35% fines, covered with a minimal 6 inch drainage layer of compacted gravel; or
    - ii. Soil covered with asphalt or concrete.
  - c. Alternative surface: on a surface determined by a soil scientist, soil engineer or other qualified individual as being suitable for the proposed activity, taking into account the other aspects of the facility design, such as a roofed structure or in-vessel system. An applicant must arrange a pre-application meeting with the Department if proposing an alternative surface under this section.
2. Pad: At facilities handling type IC residuals, the applicant must construct a receiving and mixing pad covered with asphalt, concrete, or other impervious material. For facilities processing type II residuals, or more than 750 cubic yards of type IC residuals annually, the applicant must construct a pad covered with asphalt, concrete, or other impervious material for the entire waste handling area, excluding the storage area for compost having a Dewars stability class of 4 or greater.
3. Storm Water and Leachate Control: Surface water drainage must be diverted away from receiving, processing, composting, curing, and storage areas. The facility must also be designed to manage run-off and leachate to prevent contamination of groundwater or surface water. Water falling on the facility during a storm of intensity up to a 25-year, 24-hour storm event must infiltrate or be detained such that the storm water rate of flow from the facility after construction does not exceed the rate prior to construction. The facility design must include provisions to contain, collect and treat any leachate generated at the facility.
4. Slopes: Surfaces on which composting takes place must slope between 2% and 6%, and where necessary, be graded to prevent ponding of water.

## **Operating Requirements**

In addition to the operating requirements of section 4, all compost facilities licensed under this section are subject to the following additional operating requirements. Except for facilities subject to section 8.A(2)(b), facilities licensed under the permit-by-rule provisions of former Chapter 567, section C-2.a (effective December 23, 1989) and whose licenses were in effect on November 2, 1998 are also subject to the operating requirements of section 4, and the following additional operating requirements:

1. Pad Inspection: All soil surfaces that are used for residuals mixing and composting must annually be graded clean and re-compacted. All concrete and asphalt pads must annually be scraped clean and inspected for cracks or other deformities, and repaired as needed. The operator must maintain the minimum 2-foot separation to bedrock, groundwater and sand or gravel deposits.
2. Odor Control: The facility must be operated to prevent nuisance odors at occupied buildings. The facility must:
  - a. Operate and maintain the odor control system approved by the Department;
  - b. Receive incoming putrescible residuals on a pile of sawdust or other sorbent, high carbon compost amendment;
  - c. Contain and treat process air or cover odorous piles with a layer of finished compost or other suitable compost amendment;
  - d. Properly aerate piles such that composting is aerobic throughout the pile;
  - e. Blend materials to achieve a homogenous mix throughout the pile; and
  - f. Alter the compost recipe as needed to alleviate odorous emissions.
3. Pathogen treatment and vector attraction reduction: Type IC and Type II residuals must be composted to achieve a Class A Pathogen Reduction and Class A Vector Attraction Reduction in accordance with Chapter 419 , Part B-1.d, unless otherwise approved in the facility's utilization license issued under Chapter 419 or Chapter 567. To attain these standards by composting, all of the following standards must be met:
  - a. Pathogen Reduction: Through the process of composting, each particle of residual is maintained at 55 degrees Celsius or higher for three consecutive days. For windrow systems, this standard is presumed to be met if the residual is maintained at operating conditions of 55 degrees Celsius or higher for 15 days or longer, and during the period when the compost is maintained at 55 degrees or higher, there is a minimum of five turnings of the compost pile.
  - b. Vector Attraction Reduction: Residual must be treated by an aerobic composting process for 14 days or longer. During that time, the temperature of the residual must be higher than 40 degrees Celsius and the average temperature of the residual must be higher than 45 degrees Celsius.
  - c. Analytical Standard: The density of Salmonella sp. bacteria in the finished compost must be less than three Most Probable Number per four grams of total solids (dry weight basis). In the absence of analytical data on Salmonella sp. this standard is presumed to have been met when the density of fecal coliform in the finished compost is shown to be less than

1000 Most Probable Number per gram of total solids (dry weight basis).

This analytical standard must be met at the time the compost is utilized.

4. Static Pile composting: The following additional standards apply to composting type IC or type II residuals using the static pile method:
  - a. the static piles must be aerated during the active composting stage;
  - b. detention time in the static aerated pile must be at least 21 days;
  - c. unless an auger, tub grinder hammer mill, or other Departmentally approved mixer is used to mix the initial ingredients for the pile, the pile must be broken down half way through the active compost process and reformed.
  - d. the pile must be maintained with an insulating blanket of at least 12 inches of finished compost, sawdust, or other material as approved by the Department during the active compost phase to maintain temperatures throughout the pile and control odors.
5. Stability: Residuals that have completed the active composting phase must also be cured until the equivalent of a dewar's stability class of IV or greater is achieved, unless otherwise approved in the facility's utilization license issued under Chapter 419.
6. An operations log must be kept at the facility and made available for Department review during normal business hours containing the following:
  - a. source and volume of residual received on a daily basis;
  - b. date of individual pile construction and breakdown;
  - c. pile composition (mixture recipe);
  - d. date and time of turning or otherwise aerating;
  - e. process monitoring data;
  - f. date the pile is put into curing and the date it is taken out of curing; and
  - g. date, time and type of samples obtained from the facility
7. The facility may not receive more than the volumes in section 9.A.
8. Residuals must be handled on approved surfaces. Type IC and type II residuals must be offloaded and mixed on a receiving pad meeting the standards in section 9.B(2).



## Fertilizer

**Title 7, Subchapters V and V-A, [Maine Commercial Fertilizer Law](http://www.mainelegislature.org/legis/statutes/7/title7ch103sec0.html)**  
<http://www.mainelegislature.org/legis/statutes/7/title7ch103sec0.html>

**Title 7, Chapter 103, [Subchapter 5-B: Maine Plant and Soil Amendment Act](http://janus.state.me.us/legis/statutes/7/title7ch103sec0.html)**  
<http://janus.state.me.us/legis/statutes/7/title7ch103sec0.html>

### Pertinent Definitions

*A fertilizer material* means any substance containing nitrogen, phosphorus, potassium or any recognized plant nutrient element or compound which is used primarily for its plant nutrient content or for compounding mixed fertilizers except unmanipulated animal and vegetable manures.

*Agricultural liming materials* mean any products whose calcium and magnesium compounds are capable of neutralizing soil acidity.

*A Soil amendment* is any product distributed consisting of a soil-amending ingredient and other ingredients. *Soil-amending ingredients* are any substances that are intended to improve the chemical, biological, or physical characteristics of the soil, except commercial fertilizers, plant-amending ingredients, agricultural liming materials, unmanipulated animal and vegetable manures, pesticides and other like material, exempted by rule.

<b>Registration Requirements Per Product</b>	Submitted annually
<b>Registration Fee Per Product</b>	Paid annually
<b>Labeling Requirements</b>	Yes
<b>Inspection Fee</b>	Paid annually for liming materials
<b>Tonnage Reports</b>	Submitted annually for liming materials and soil amendments
<b>Inspection Responsibility</b>	Commissioner of Agriculture, Food and Rural Resources or his authorized agent
<b>Contact</b>	<a href="mailto:Hal.Prince@maine.gov">Hal Prince</a> , (207) 287-7522
<b>Website</b>	<a href="http://www.maine.gov/agriculture/index.shtml">http://www.maine.gov/agriculture/index.shtml</a>