



North Carolina Department of Environmental Quality
Division of Waste Management
Solid Waste Section

6-26-2024

**COMPOST FACILITY
PERMIT EXEMPTION GUIDANCE
RULE .1402 (g)(2)**

The North Carolina Compost Rules include a permitting exemption for small compost facilities accepting certain Type 1, 2, and 3 feedstocks, provided that specific conditions are met. The permitting exemption will primarily apply to small food waste compost facilities, and is described in the Compost Rules in [15A NCAC 13B .1402 \(g\)\(2\)](#)

Compost facility operators that meet the conditions of the exemption are not required by the Solid Waste Section (Section) to obtain a permit and are not required to notify the Section or obtain any approval from the Section for the compost operation. If a compost site meets the conditions and operates according to the conditions of the exemption, then the site is in compliance with the Section rules.

Other compost permit exemptions, including backyard composting and farming operations, are not included in this guidance. Some small Type 1 notified sites may qualify for the new exemption, based on size. See Rules .1402 (f) and (g) (1) for reference.

Conditions of the Exemption

1. Feedstocks that can be received are limited to food waste, compostable dinnerware, manure, vegetative agricultural waste, yard and garden waste, land-clearing debris, untreated and unpainted wood waste, and/or source separated paper.
2. Volume of material onsite, not including finished compost, cannot exceed **100 cubic yards** at any given time. This amount includes feedstock storage, active composting and curing composting. The volume onsite does not include finished compost. As a rough estimate:
 - The size of 100 cubic yards of compost, in the shape of one long windrow, would be approximately 8 feet wide, 5 feet high, and 100 feet long (windrow shape can vary).
 - The weight of 100 cubic yards of compost would be approximately 55 tons.
3. Size of the operations area must be less than **one acre**. The operations area is the sum of the areas for feedstock storage, unloading, grinding, mixing, composting and curing. The operations area does not include finished compost storage, roads, or buffer areas.
4. Location and setback requirements:
 - Cannot be located within the 100-year floodplain (see Rule [.1404 \(a\)\(1\)](#)).
 - Cannot be located in a wetland.
 - Cannot be located on top of a closed disposal area, without approval of the Section.
 - Minimum setbacks are required between the compost operations areas and the following:

- Property line, 50 feet
 - Residences not owned by the owner/operator, 200 feet
 - Wells, except monitoring wells, 100 feet
 - Streams and water bodies, 50 feet
 - Ditches and berms, 25 feet
5. Other local, state, and federal rules and requirements continue to apply to the compost operation, including local zoning.
6. Soil pad under the operations area:
- The operations areas must have either a soil pad with a soil texture finer than loamy sand or an impermeable pad, such as concrete or asphalt. A soil pad finer than loamy sand generally means that the soil pad contains enough clays and silt size particles to prevent quick infiltration of liquids to groundwater. Natural soil conditions in some areas in the coastal regions are highly permeable sands with little to no fines.
 - The depth to groundwater for the operations area must be at least 24 inches.
7. Surface water and liquids management:
- Liquids, compost process water, and contaminants cannot enter surface water in violation of the Clean Water Act and water quality standards 15A NCAC 02B.
 - The site must be operated to minimize surface water run-on to the site, run-off of liquids from the site, and ponding of liquids around the compost windrows.
 - Soil erosion control measures must be practiced to prevent discharge of soil and feedstocks into surface waters or wetlands.
8. Pathogen reduction and vector attraction reduction is required, and is documented by time and temperature measurements. Written records of temperature monitoring must be kept for each batch during the time and temperature requirement period.

Windrow Method

- Aerobic conditions must be maintained during the composting process.
- A temperature of 131° F or greater must be maintained for at least 15 consecutive days.
- During the high temperature period, the windrow must be turned at least 5 times.

Aerated Static Pile Method

- Aerobic conditions must be maintained during the composting process.
- The temperature of the compost must be maintained at 131° F or higher for at least 3 consecutive days, to meet PFRP (Process to Further Reduce Pathogens).
- The temperature of the compost must also be maintained for 14 days at an average temperature of at least 113° F, with a minimum temperature of 104° F during that time, to meet VAR (Vector Attraction Reduction).
- The two temperature requirements can be combined or overlap. The following are examples:
 - 14 consecutive days at minimum 131 degrees F.

- 3 consecutive days at minimum 131 degrees F, followed by 11 consecutive days at minimum 113 degrees F.

In-Vessel Method

- The temperature of the compost must be maintained at 131° F or higher for at least 3 consecutive days, to meet PFRP (Process to Further Reduce Pathogens).
- The temperature of the compost must also be maintained for 14 days at an average temperature of at least 113° F, with a minimum temperature of 104° F during that time, to meet VAR (Vector Attraction Reduction).
- The two temperature requirements can be combined or overlap. The following are examples:
 - 14 consecutive days at minimum 131 degrees F.
 - 3 consecutive days at minimum 131 degrees F, followed by 11 consecutive days at minimum 113 degrees F.

9. Operation requirements:

- The temperature of the compost must be monitored with a compost thermometer, which should be calibrated annually. Onsite calibration using ice water is an acceptable method, with mostly ice and a small amount of water to fill voids.
- Odorous waste arriving at the site must be promptly mixed into the compost process with carbon bulking material to prevent offsite odors.
- The site must be operated to minimize odors at the property boundary. Methods include covering the windrows with finished compost and turning windrows during favorable weather conditions.
- Adequate design process indicator parameters, such as C:N ratios, moisture content, porosity, oxygen, etc., must be maintained to prevent odors and to meet pathogen reduction.
- The site must be operated in a manner to prevent dust or other airborne particles from leaving the property, and to prevent the attraction of insects and rodents.

10. Analytical testing

- If the finished compost will be distributed to the public or used in public places (such as the entrance to an office building), then analytical testing is required. A sample of the compost is required to be sent to a lab every 6 months for analysis of pathogens (either fecal coliform or salmonella), in accordance with Rule [.1407\(b\)](#). Records of testing must be kept for 5 years. A list of labs is linked on the Section's [website](#).
- If only Type 1 waste is composted (yard and garden waste, tree clearing waste, and untreated/ unpainted wood waste), analytical testing is not required.

If a compost operation cannot meet all the requirements of the exemption, then a compost permit will likely be required. The operator may contact the Section or refer to the compost application guidance on the Section's [website](#).

Enforcement and Compliance

If the Section receives a complaint about a compost facility subject to this exemption, an inspection will be made to determine compliance with State Rules.

If a compost site subject to this exemption fails to meet the requirements, then the Section may initiate enforcement action. A permit will be required for a site that cannot maintain the requirements of the exemption, such as failure to minimize odors, failure to maintain size requirements, inadequate buffers, liquids entering surface water, or presence of unacceptable feedstocks.

Compost Rules

The N.C. Compost Rules, 15A NCAC 13B .1400 et seq., can be viewed on our compost webpage: <http://deq.nc.gov/about/divisions/waste-management/solid-waste-section/composting>.

Contact the Solid Waste Section

If you have questions, please contact the Solid Waste Section at phone 919-707-8200.