

COMMONWEALTH OF VIRGINIA
Department of Environmental Quality

Subject: Division of Land Protection and Revitalization Guidance Memo No. 03-2011
CHANGES TO THE COMPOSTING PROVISIONS

To: Regional Land Protection Managers

From: Jeffery Steers 
Director, Division of Land Protection and Revitalization

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Copies: Regional Directors, Deputy Regional Directors

Summary:

This guidance provides an implementation document to assist the regulated community and internal staff during the transition to the standards contained in Amendment 7 to the Virginia Solid Waste Management Regulations (9VAC20-81-10 *et al*), effective March 16, 2011.

Electronic Copy:

An electronic copy of this guidance is available on DEQ's website at <http://www.deq.virginia.gov/waste/guidance.html>.

Contact Information:

Please contact Lyn Richardson at Linda.Richardson@deq.virginia.gov with any questions regarding the application of this guidance.

Disclaimer:

This document is provided as guidance and, as such, sets forth standard operating procedures for the agency. However, it does not mandate any particular method nor does it prohibit any alternative method. If alternative proposals are made, such proposals should be reviewed and accepted or denied based on their technical adequacy and compliance with appropriate laws and regulations.

I. Introduction

This guidance has been created in response to inquiries from DEQ staff and the regulated community concerning how the new requirements of Amendment 7 will be applied as they pertain to composting operations. This guidance provides a summary of changes to the composting provisions. Amendment 7 to the Virginia Solid Waste Management Regulations (9VAC20-81) includes new exemptions for composting, incorporates the vegetative waste composting provisions of 9VAC20-101, repeals 9VAC20-101, and streamlines operational and permitting requirements.

II. Background

Amendment 7 to the VSWMR (9VAC20-81) includes new provisions intended to lessen the regulatory burden on composting operations, while continuing to provide the same environmental protection afforded by previous regulations.

III. Authority

§ 10.1-1402 of the Virginia Waste Management Act, Chapter 14 (§ 10.1-1400 *et seq.*) of Title 10.1 of the Code of Virginia, authorizes the Virginia Waste Management Board to promulgate regulations necessary to carry out its powers and duties and the intent of the Act. §10.1-1408.1.K authorizes the Board to provide for reasonable exemptions from the permitting requirements, both procedural and substantive, in order to encourage the development of yard waste composting facilities.

IV. Definitions

The definitions in § [10.1-1400](#) of the Code of Virginia and § 9VAC20-81-10 of the VSWMR apply to this guidance document. In addition, this guidance document explains some terms not listed in §10.1-1400 or §9VAC20-81-10.

Feedstock means the different materials that make up a compost pile. The regulations classify feedstock based on the type of waste used in the composting process (refer to 9VAC20-81-310.A.3 for further description of feedstock categories) :

- Category I: Plant or plant-derived preconsumer materials.
- Category II: Animal-derived waste, such as dairy processing or fish processing waste.
- Category III: Animal and post-consumer waste with pathogen potential.
- Category IV: Other wastes, including nonrendered animal meat waste and industrial sludge.

Kitchen cull means plant-derived food waste generated in a kitchen that is removed, picked out, or otherwise set apart prior to food being served.

Rendering is a process that converts waste animal tissue or byproducts into a stable, value-added material, such as fat commodities or protein meal.

Silviculture is related to the development and care of forests.

V. Guidance

The intent of this guidance document is to summarize the changes pertaining to composting facilities as a result of Amendment 7 to the VSWMR. The following are topics discussed in this section:

1. New and revised composting exemptions
2. Changes to Vegetative Waste Management and Yard Waste Composting Regulations
3. Compost facility siting and design changes
4. Sampling and analysis revisions
5. Compost facility permitting

Topics not presented in this guidance will be evaluated on a case-by-case basis by the DEQ.

V.1. General Composting Exemptions – New and Revised

V.1.a – New Exemptions

- Composting of animal carcasses onsite at the farm of generation. This new exemption provides greater flexibility for the agricultural operations to manage mortalities in response to the recent changes in rendering facility requirements. (9VAC20-81-95.D.4)
- Composting of preconsumer food waste and kitchen culls generated onsite and composted in containers designed to prohibit vector attraction and prevent nuisance odor generation. This new exemption allows restaurants and businesses to operate in-vessel composting units at the site of generation to encourage food waste recycling. (9VAC20-81-95.D.7)
- Vermicomposting, when used to process Category I, Category II, or Category III feedstocks in containers designed to prohibit vector attraction and prevent nuisance odor generation. If offsite feedstocks are received, no more than 100 cubic yards of materials may be onsite at any one time, without approval from the department. (9VAC20-81-95.D.8)

V.1.b – Revised exemptions.

- Increases the educational composting exemption from 5 tons to 100 cubic yards. This increases the quantity allowed for educational operations, and also establishes a volume rather than weight limit. These facilities rarely have scales to track the weight of compost, therefore cubic yards is a more appropriate unit of measurement. (9VAC20-81-95.D.3)

- Expands the general exemption for operations permitted by the state water control board to specifically address composting operations permitted under Virginia Pollution Abatement (VPA) or Virginia Pollution Discharge Elimination System (VPDES) requirements. Facilities that accept biosolids with the intent to compost and land apply must obtain a VPA or VPDES permit prior to operation. The standards for composting operations included in the VSWMR are very similar to those required by the VPA or VPDES programs. Therefore, requiring a solid waste permit would be duplicative to the standards of the VPA or VPDES programs. (9VAC20-81-95.D.9)
- Expands the exemption for clean wood combustion residues (i.e., wood ash) to include when they are used for pH adjustment in compost and as a liquid absorbent in compost. (9VAC20-81-95.C.7.b)

V.2. Vegetative Waste Composting Operations

Amendment 7 incorporates the Vegetative Waste Management and Yard Waste Composting Regulations (9VAC20-101). Additionally, Amendment 7 expanded the feedstocks and simplified the certification and annual report requirements for some facilities. Below is a summary of the changes applicable to vegetative waste composting facilities.

V.2.a – Feedstocks

9VAC20-81 incorporates all the exemptions previously included in the Vegetative Waste Management and Yard Waste Composting Regulations. (9VAC20-101). In addition, for agricultural facilities the allowable feedstocks have been expanded to also include the use of manures from herbivorous animals and Category I feedstocks provided a carbon to nitrogen ratio ranging from 25:1 to 40:1 is maintained. (9VAC20-81-397.B.2) This provision will allow agricultural operations to utilize additional, readily available waste streams.

V.2.b. – Certification and Annual Reports.

Certification / Notice of Intent. Facilities eligible for the exemptions included in 9VAC20-81-397 are required to submit a certification that their facility meets the regulatory standards necessary to operate an exempt vegetative waste composting facility. Previously the regulations included specific text and required the owner to draft a letter meeting the requirements (9VAC20-101-90). Amendment 7 simplifies this process by creating forms YW-3 (9VAC20-81-397.B.1.f, for yard waste only) and YW-4 (9VAC20-81-397.B.2.g, for other agricultural operations). The owner may now simply print and complete the certification form then submit to the DEQ Regional Office.

Annual Report. The annual report required for some facilities (9VAC20-81-397.B.2.d) has also been included as Form YW-2. The reporting period is a calendar year, January 1 to December 31, and the Annual Report is due by April 1 of the following year.

Under the repealed regulation 9VAC20-101 the reporting period was July to June, with an annual report due date of July 15. The following reporting periods and report due dates will be used to transition to the Amendment 7 reporting schedule:

Jul 1, 2010 to Jun 30, 2011	12-month report due Jul 15, 2011	(per 9VAC20-101)
Jul 1, 2011 to Dec 31, 2011	6-month report due Apr 1, 2012	(interim report)
Jan 1, 2012 to Dec 31, 2012	12-month report due Apr 1, 2013	(per Amendment 7)

Yard Waste reporting forms can be found at
<http://www.deq.virginia.gov/waste/wasteforms.html>.

V.3. Compost facility siting and design

V.3.a – Compost facility siting.

Amendment 7 removes the prohibition for composting facilities to be located in an area within 2 feet of the seasonal high water table. However, composting and handling areas where the seasonal high water table lies within 2 feet of the ground surface shall be

- hard-surfaced,
- diked or bermed in order to prevent run-on, and
- provided with a drainage system to collect runoff.

Options for managing the collected runoff include:

- (1) routing to a treatment, disposal or holding facility; or
- (2) discharge under a VPDES permit, or
- (3) recirculation within the composting process. (9VAC20-81-330.A)

V.3.b – Compost facility design

Amendment 7 includes a new design option in response to requests submitted by the regulated community. The regulation continues to allow the previously approved pad material options of asphalt, concrete, and lime stabilized fill, but has been expanded to include the following alternate:

- A 12” compacted gravel pad underlain by a continuous high density polyethylene (HDPE) liner of a minimum 60-mil thickness and equipped with leachate collection above the liner and leak detection below the liner. (9VAC20-81-330.A.2.d)

V.4 Sampling and Analysis

In response to feedback received from the regulated community the sampling and analysis requirements for composting operations have been revised in an effort to reduce operating expense and align the solid waste composting program with 40 CFR 503 and the Virginia Pollution Abatement (VPA) program. Below is a summary of the significant changes. (9VAC20-81-340.A.2.)

- The minimum frequency of analysis table has been revised to match the table included in 40 CFR 503 and the VPA program. Tonnage thresholds are now based on “tons of finished compost per 365-day period”, rather than “average compost in dry tons produced per day”. The revised table is included below.

Minimum Frequency of Analysis

Amount of finished compost ¹ (tons per 365-day period)	Frequency ²
Less than 320	Once per year.
Equal to or greater than 320 but less than 1,653	Once per quarter (four times per year).
Equal to or greater than 1,653 but less than 16,535	Once per 60 days (six times per year).
Equal to or greater than 16,535	Once per month (12 times per year).

¹Either the amount of finished compost applied to the land or prepared for sale or give-away for application to the land (dry weight basis).

²After the finished compost has been monitored for two years at the frequency in the above table, the facility may request that the department reduce the frequency of monitoring.

- The maximum temperature rise for the Dewar Compost Self-Heating Flask has been changed from 10° to 20° Celsius above ambient.
- The analysis requirements to demonstrate parasite destruction has been significantly revised removing *ascaris* ova as the indicator in favor of the density of viable *helminth* ova. In addition Amendment 7 requires testing of the finished compost once per quarter for a period of one year to demonstrate viable *helminth* ova reduction. Once the viable *helminth* ova reduction has been demonstrated for the composting process additional *helminth* ova testing will not be required provided the composting operating parameters and incoming waste streams are consistent with the values or range of values documented during the initial *helminth* ova reduction demonstration.
- The analysis requirement for bacteria pathogens was revised. Amendment 7 provides two options for demonstrating bacteria pathogen densities at the time the finished compost is prepared for sale or given away in a container for application to the land.

The options are:

- The density of fecal *coliform* in the finished compost shall be less than 1000 Most Probable Number (MPN) per gram of total solids , or
- The density of *Salmonella sp.* bacteria in the finished compost shall be less than three (3) MPN per four (4) grams of total solids.

V.5 Compost facility permitting

Amendment 7 removes the requirement for composting operations that accept more than 700 tons per quarter of compostable materials to apply for a full solid waste permit. All composting operations subject to permitting requirements may apply for permit-by-rule coverage. A facility may choose to apply for a full solid waste permit, but is no longer required to do so.

VI. Collaboration Process

No project team was formed to develop this guidance.

VII. Other Applicable Information

DEQ Form YW-2:Yard Waste Composting Annual Report

DEQ Form YW-3:Exempt Yard Waste Compost Facility

DEQ Form YW-4:Exempt Yard Waste & Herbivorous Manures Compost Facility