

Agricultural Food Residuals Mgmt. Insight on On-Farm Composting

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Agricultural Food Residuals Mgmt. Insights on On-Farm Compost

Overview

- Quick Survey
- Update
- Scope
- Siting & Design
- Best Management Practices
- Registration of Products

Agricultural Food Residuals Mgmt. Quick Survey

Quick Survey

Raise hand if:

- you are currently a farm and accepting food residuals for composting

Agricultural Food Residuals Mgmt. Quick Survey

Quick Survey

Raise hand if:

- you raise or manage poultry

Agricultural Food Residuals Mgmt. Quick Survey

Quick Survey

Raise hand if:

- you sell compost

Agricultural Food Residuals Mgmt. Update

Rules to be adopted under the Required Agricultural Practices Rule

Agricultural Food Residuals Mgmt. Scope



Agricultural Food Residuals Mgmt. Insight on On-Farm Compost



The Agency regulates “farming” and the “agricultural practices” outlined in the required agricultural practices rule (RAPs)



Some practices regulated by the RAPs include

- Importation of 1,000 cubic yards of food processing residuals
- Storage of agricultural waste



RAPs encourage management practices to build soil health including use of compost application to increase organic matter

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On-Farm Compost: Scope

Farming means

Importation of 2,000 cubic yards per year or less of food residuals or food processing residuals onto a farm for the production of compost and either:

- (a) the compost is principally used on the farm where it is produced; or
- (b) the compost is produced on a small farm that raises or manages poultry

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On-Farm Compost: Scope

Importation of 2,000 cubic yards per year or less of **food residuals** or **food processing residuals** onto a farm for the production of compost

- **Food residual** - meaning: source separated and uncontaminated material that is derived from processing or discarding of food and that is recyclable or compostable. “Food residual” may include preconsumer and postconsumer food scraps....
- **Food processing residual** - meaning: the remaining organic material from a food processing plant and may include whey and other dairy, cheese making, and ice cream residuals or residuals from any food manufacturing process *excluding livestock or poultry slaughtering and rendering operations*. It does not include food residuals from markets, groceries, or restaurants.

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On-Farm Compost: Scope

Importation of 2,000 cubic yards per year or less of food residuals or food processing residuals onto a **farm** for the **production of compost**

- **Farm** means a parcel or parcels of land owned, leased, or managed by a person, **devoted primarily to farming**, that **meets the threshold criteria in the RAPs** for being regulated by VAAFMM.
- **Compost** means a stable, humus-like material produced by the controlled biological decomposition of organic matter through active management, but shall not mean sewage, septage, or materials derived from sewage or septage.

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On-Farm Compost: Scope

the compost is **principally used** on the farm where it is produced;

- Meaning: more than 50 percent, either by volume or weight, of the compost produced on the farm is physically and permanently incorporated into the native soils on the farm as a soil enhancement and is not removed or sold at any time thereafter

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On-Farm Compost: Scope

the compost is produced on a **small farm that raises or manages poultry**

- Meaning: the farm raises/manages at least the number of poultry provided for in the RAPs

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- Siting.** An on-farm compost operation should not be sited within
- a downtown, village center, new town center, neighborhood development area, or growth center designated, unless the municipality has expressly allowed composting in the designated area under the municipal zoning or subdivision bylaws or in an approved municipal plan
 - a flood Hazard Area or River Corridor Protection Area

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Design.

An On-Farm Compost Operation should be designed to

- prevent discharges off the site and into surface or ground waters through (e.g. use of runoff or leachate collection systems, diversion, or other management strategies).
- accommodate the volume of food residuals and additional inputs to achieve composting

Agricultural Food Residuals Mgmt. Best Management Practices



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Compost Inputs & Recipe

Compost Inputs

- Materials imported onto a farm for composting may contain unexpected and unwanted contaminants and operators should inspect the materials and remove any such contaminants.
- ❖ Understand where your inputs come from. Educating haulers and generators about contamination and maintaining a dialogue with both can be essential for reducing contamination.
- Permissible inputs may include:
 - Food & Food Processing Residuals
 - Clean High Carbon Bulking Agents
 - Waste Silage
 - Leaf & Yard Waste
 - Livestock Feed

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Compost Inputs & Recipe

Compost Recipe

Operators should have a recipe with the following parameters:

- C:N ratio of 20:1 – 40:1 (ideal range 25:1 – 30:1);
- moisture content of 50 – 60% (ideal range 55 – 60%);
- bulk density up to 1,200 lbs/cubic yard (ideal 700 – 1,000 lbs/cubic yard);
- pH in the range of 6-8 S.U.

Operators are encouraged to utilize a compost recipe calculator in developing their recipes

Due to contamination concerns, it is VAAFAM's recommendation that food or food processing residuals **not exceed 20% of a recipe calculation**

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Incorporation

Upon delivery of food or food processing residuals, operators should perform one of the following

- Incorporate the materials into the compost mix within 24 hours of arrival
- Immediately put the materials in a sealed container and secure it to prevent unauthorized access by persons or wildlife, and incorporate into the compost mix within 72 hours of arrival at the operation
- Immediately cover the food or food processing residuals with two to 12 inches of odor absorbent material such as finished compost, untreated wood chips or shavings, and incorporate into the compost mix within 72 hours of arrival at the operation.

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Process to Further Reduce Pathogens

Operators must ensure PFRP

Meaning: the compost pile is mixed or managed to ensure that all of the compost inputs heat to the minimum of 131 degrees Fahrenheit for the minimum time (3 days)

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Agricultural Food Residuals Mgmt. Mitigating Risks

Certification

Operators are encouraged to acquire certification from a compost operator training program

Management Plan.

Use of a management plan can help operators and employees ensure consistent practices and standards are met and better prevent and manage risks. Management plans should be regularly updated.

Recordkeeping

Establishing a system for recording activities and metrics

- Temperature logs
- Materials imported (sources, dates, quantities)

Agricultural Food Residuals Mgmt. Understanding & Mitigating Risks

Contamination Response

Operators should have response actions for any reception of contaminated loads of food or food processing residuals including:

- disposing the material at a solid waste facility;
- communicating the contamination issue to the generator/hauler;
- refusing a reception due to excessive contamination; and
- referring chronic contamination issues to ANR.

Agricultural Food Residuals Mgmt. Understanding & Mitigating Risks

Weed Seeds and other contaminants.

Finished compost may become contaminated with weed seeds or other invasive species (e.g. jumping worms, *Amyntas spp.*) during curing and storage. Preventative actions may include:

- Following standard compost treatment methodology
- Maintaining a reasonable distance between compost inputs and finished compost
- Using separate equipment for handling pre and post active composting materials or, alternatively, thoroughly cleaning the equipment

Agricultural Food Residuals Mgmt. Understanding & Mitigating Risks

Wild and Domestic Bird Populations.

On-farm poultry management risks include:

- poultry kept outside;
- ponds or other waterfowl attractions on the farm;
- piles of debris located close to poultry areas;
- introduction of poultry from other farms without a quarantine period;
- lack of personal protective equipment, such as dedicated coveralls and boots for working among poultry; and
- sharing of equipment between farms.

Agricultural Food Residuals Mgmt. Understanding & Mitigating Risks

Swine

An on-farm compost operation that manages swine on the property should design their operation in a manner which excludes any swine from consuming any imported food or food processing residuals that have come in contact with meat or meat related products.

Spontaneous Combustion Fires

Certain conditions may result in spontaneous combustion fires. Such events can be prevented, by

- increasing moisture content and reducing the amount of energy rich inputs in the compost recipe
- creating smaller piles at the outset
- routine temperature monitoring.

Agricultural Food Residuals Mgmt. Understanding & Mitigating Risks

Testing

Testing finished compost can provide essential data that operators can use to better assess processes and manage risks.

- If applying principally on site – testing can enable the farmer to better assess appropriate agronomic rates of application
- If distributing – testing is required to establish a guaranteed analysis.

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Registering Soil Amendments

Registration Requirement

- All finished compost prior to marketing and distribution for sale must meet the requirements of 6 V.S.A., Chapter 28 and the Vermont Fertilizer and Lime regulations including registration, labeling, testing, and prohibitions against adulteration.
- For more information on registering compost products contact:
 - Agr.feedseedfert@vermont.gov

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Questions?