

Tip Sheet

Anaerobic Digesters

How to Send Food Processing Residuals to On-Farm, Anaerobic Digesters

The Process for Generators of Food Processing Residuals and for Farmers

1. **Specify the material.** The residual generator provides the farmer an analysis of the specific, proposed material (“substrate”) in a format that can be used to fill out the Substrate Import Form required by the Agency of Agriculture, Food & Markets (VAAFM – see contact listing, below). The generator also contacts the Vermont Agency of Natural Resources – Indirect Discharge Program (ANR – see contact listing below) to discuss permit requirements for the material. The ANR will review the same Substrate Import Form.
2. **Calculate the available volume of storage capacity.** The farmer provides the VAAFM a calculation showing the maximum volume of available storage capacity, and the annual volume of waste to be stored. If the available storage capacity is greater than the amount of waste to be stored, the farmer must state the difference (i.e. the volume available to accept the proposed material).
3. **Calculate the land base for addition of N, P, and K.** The farmer provides VAAFM a calculation of the maximum pounds of N, P, and K that can potentially be applied annually to the land the farmer owns or controls. The farmer also provides a calculation of the actual pounds of N, P, and K in the on-farm agricultural wastes from the waste storage structure that are to be applied to the land, in addition to any other soil amendments to be applied to the land, such as commercial fertilizer or dairy processing wastes. If the to-be-applied pounds of N, P, and K are less than the maximum allowable pounds, the farmer provides the number of additional pounds of N, P, and K that can be applied to each field.
4. The farmer requests, in writing, from VAAFM permission to add a specific volume of the proposed material (substrate) into the farm’s digester. If VAAFM grants permission, it notifies both the Vermont Agency of Natural Resources – Indirect Discharge Program (ANR) and the farmer.
5. The generator applies to ANR for an indirect discharge permit to bring a specific amount of an identified material to a specific farm.
6. The farmer updates their nutrient management plan to reflect the additional substrate coming onto the farm.

Please Note:

- Generally, food processing residuals are remaining food material from a food processing plant, excluding slaughtering and rendering operations, whereas food residuals include pre- and post-consumer food scraps from food establishments such as markets, groceries, or restaurants. Food scraps are solid waste, and using them in an amount greater than one percent (1%) of a digester’s capacity, requires the digester operator to obtain a permit from the DEC Solid Waste Program.

¹ This calculation of maximum nutrients that can be applied is done field-by-field, and considers crops grown, slope, type of soils, and other factors, per the NRCS 590 standard.

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- The farmer submits their request to VAAFM. The residual generator submits their application to ANR.
- VAAFM and ANR grant permission for a specific volume of a specific material at a specific farm.
- An indirect discharge permit from ANR includes a public comment period:
 - 30 days for a new substrate material to any Vermont digester, as part of the original permit.
 - 10 days for amendments, for example adding a new disposal location (farm).
- A disposal agreement between the residual generator and farmer is required as part of an application for an indirect discharge permit. A signed copy of this agreement is submitted to both VAAFM and ANR.
- As a condition of the permission granted, an MFO will be required to update their nutrient management plan prior to accepting off-farm substrates. Similarly, an LFO will be required to amend their nutrient management plan and amend their permit prior to accepting off-farm substrates. VAAFM recommends that both MFOs and LFOs work with a technical service provider to update their nutrient management plan.
- Because two agencies are reviewing the documents, the farmer and the residual generator may be well served to make their requests at the same time, if:
 - the potential substrate material is well-documented in terms of volume and nutrient content, and
 - the farmer is reasonably certain that they have capacity in their waste storage facility, sufficient land base, and that their nutrient management plan can be readily updated.

Contact Information

VAAFM:

Alex DePillis, (802) 224-6850; alex.depillis@Vermont.GOV

<http://agriculture.vermont.gov/water-quality>

VT ANR DEC:

Bryan Harrington, (802) 505-0972; Bryan.Harrington@Vermont.GOV

<http://wastewater.vt.gov/landbasedindirectnonsewage.htm>

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