

Composting Commercial Food and Waxed Corrugated Cardboard Waste on Farms in Massachusetts - Operational Checklist

Introduction

The Massachusetts Departments of Environmental Protection (DEP) and Food and Agriculture (DFA) encourage and support agricultural composting as a beneficial practice for commercial agriculture and the public. This checklist is designed to serve as a guide to agricultural composting operators, state and local regulators, consultants/technical assistance providers, organic waste generators, commercial haulers and interested citizens.

This checklist provides a quick reference to DEP and DFA expectations for successful agricultural composting operations and does not replace or supercede any existing regulation, policy or guideline. For more detailed information on regulations and best practices, please refer to DFA's [Guide to Agricultural Composting](#) (Publication No. 17163-38-500) or 330 CMR 25.00 and 310 CMR 16.05. A more detailed discussion of the particular issues related to composting commercial waste on farms is included in [Composting Commercial Food and Waxed Corrugated Cardboard Waste on Massachusetts Farms - General Guidelines and Case Studies](#), available from DEP. Contact Sumner Martinson, DEP, at 617-292-5969 for more information.

Agricultural composting as a successful business enterprise

Before beginning and periodically thereafter, compost operators should identify their objectives for composting, which may include improving nutrient management or soil quality and generating revenues through tip fees and/or product sales. Expenses and revenues and available resources in time, equipment and money should be identified. A brief business plan is recommended to ensure that the operation has the resources needed to be successfully managed and provides a benefit to the agricultural operation and the community. This checklist and the DFA registration process can help compost operators identify the important elements of the operation as part of that planning process.

General Guidelines

Agricultural composting operations are exempt from DEP site assignment regulations provided the operation incorporates good management practice, is carried out in a manner that prevents an unpermitted discharge of pollutants to air, water or other natural resources and results in no public nuisance. Operations accepting materials from off the farm are required to register with DFA and comply with limits on the type and amount of materials accepted and relevant DFA policies.

Accountability

Technical support is available from a variety of public and private sources to assist agricultural composters. Agricultural composting operations that fail to abide by required conditions lose their exempt status from DFA and are subject to DEP regulatory action. Local boards of health and zoning, conservation commissions, etc. have the regulatory authority to maintain compliance with local ordinances if they find some aspect of the operations unacceptable. Finally, the neighboring community will need to support (or at least accept) the operation in order for it to be successful. Good communication with neighbors and careful attention to potential impacts on them are essential in gaining neighbor acceptance.

Individuals can use this checklist as one tool in planning and/or evaluating agricultural composting operations. The questions are worded to apply to existing operations but can also be easily used by those planning or starting operations. Operators are advised to seek technical assistance and/or rework their operations should there be a "no" answer to any of the questions below.

Planning for a successful operation

These questions can help operators determine if they are adequately prepared to run a successful compost operation.

- Does the operator have a plan for operations including the issues in this checklist?..... **yes no**
- Is the operation registered with DFA (if required)?.....**yes no**
- Have neighbors and local authorities been contacted about the operation?.....**yes no**
- Does the operator have training or experience in composting the materials processed? **yes no**
- Does the operator have adequate time to devote to the operation?.....**yes no**

Assessing an operation's suitability for agricultural exemption

These questions can help operators determine if they will qualify for an exemption through DFA.

- Is this an agricultural operation as defined by law (M.G.L. c.128 s1A)? **yes no**

Integrating with current farm operations

Does the composting operation fit well with existing agricultural activities as far as supply of feedstock, use of end product and available time, space, equipment and resources? ... **yes no**

Does the operation provide enough value in the use of finished product and/or income to supply and justify the resources needed to properly manage the operation? **yes no**

Does 50% of the feedstock come from activities on the farm or is 50% of the finished product used in the agricultural operation? **yes no**

Compostable material quality

Are materials composted allowable under current regulations (leaf/yard waste, wood (not C&D or treated/painted wood), clean newspaper and cardboard, clean shells and bones, manures, bedding, pre-sorted produce or vegetative residues, restaurant/institutional waste)? **yes no**

Are the materials accepted useful and appropriate for the agricultural operation? **yes no**

Are contaminants minimal and acceptable in both types and quantities?..... **yes no**

Scale of operation

Is the amount of materials processed allowable under regulations (no more than 10 tons/day pre-sorted produce or vegetative residues and 1 ton/day restaurant/institutional waste)?.... **yes no**

Is the amount of materials processed suitable to the site? (a rough rule of thumb is 3000 yards/year per acre for tractor or loader formed windrows)..... **yes no**

Are the materials well-managed? (there should no problems as identified in the "Controls" section below) **yes no**

Design and Siting

These questions can help operators determine if their site is located and designed for success.

Protection of water resources

Does the site meet all requirements/recommendations for proximity water resources (400' to public wells, 250' to private wells, 100' to wetlands/surface waters and 4' depth to groundwater)? .
..... **yes no**

Buffer to neighbors

Does the site meet requirements for distance to neighbors (250' recommended)?..... **yes no**

Is the site hidden from neighbors by distance and or screening (berms, fences, treelines) from others?..... **yes no**

Site design

Is the site open and gently sloping (1-3%)? **yes no**

Does the site have good drainage and a firm working surface (no rutting or ponding) year-round? **yes no**

Are there designated and appropriate areas for receiving, stockpiling, mixing feedstocks and curing and storing compost?..... **yes no**

Pile location and design

Do windrows go with the slope, and are they spaced adequately for equipment access, and on a prepared surface when needed for water protection or ease of equipment use? **yes no**

Is there an ability to provide water at the site for watering composting materials or fire control? **yes no**

Site access

Are roads accessible in four seasons to make drop-off and pick up as easy as possible? **yes no**

Is access restricted through fencing or natural barriers to prevent illegal dumping and vandalism and/or to facilitate proper tracking of incoming materials? **yes no**

Are there signs to identify the operation and proper drop-off procedures (for highly visible operations or those with extensive drop-off activity)? **yes no**

Facility Operation and Maintenance

These questions can help operators determine if improvements in the management of the operation are needed.

Is the recipe, frequency of turning, etc. producing quality finished compost in a reasonable amount of time (based on space and other requirements)? **yes no**

Record keeping

Does the operator keep a log of incoming materials weights and/or volumes and sources to help with planning and billing? **yes no**

Does the operator keep a log of windrow temperatures, turning schedule, recipes, any odors and accompanying wind directions, etc. to help evaluate and optimize results? **yes no**

Quality control

Is the purity and type of materials to be accepted clearly stated or specified in a contract when needed?..... **yes no**

Are there agreements on procedures and responsibilities for rejection of contaminated materials? **yes no**

Is there vigilant monitoring and enforcement of these agreements? **yes no**

If composting wastes that may contain physical contaminants (especially plastic), are there methods of regularly isolating and removing contaminants (e.g. picking as loads arrive and after

windrows are turned, covering windrows that contain paper, screening of finished product) to ensure that sites do not have visible or blowing trash? **yes no**

Equipment

Is equipment adequately powered and appropriately sized to manage the type and quantity of materials handled in the time available? **yes no**

Is the equipment available when needed to meet the demands of the operation? **yes no**

Composting methodology

Is there reliable access to the appropriate types and sufficient quantities of ingredients for composting? (a minimum ratio of 3:1 yard wastes or bedding to food and cardboard is suggested and windrows should be mixed and covered to allow for little visible cardboard)

..... **yes no**

Is the recipe and turning regimen used working to cause successful breakdown of the materials? (pile temperatures should reach 140 degrees F, material should reduce in size and change appearance to a soil-like material, odors should not be present) **yes no**

End-use of compost

Do the materials accepted and processing methods used reflect the intended end-use of the compost? **yes no**

Is finished compost tested as appropriate (due to the nature of feedstocks and its intended end-use) and are test results satisfactory? **yes no**

Contingency plan

Is there a plan to divert materials and take corrective action if the facility is at full capacity or temporarily unable to manage new materials due to odor, equipment, labor or site problems?

..... **yes no**

Controls

Is runoff being properly managed to prevent erosion and/or nutrient pollution of water resources? **yes no**

Is the operation managed adequately to avoid the following nuisances:

odors?..... **yes no**

rutting or ponding?..... **yes no**

windblown paper products or trash? **yes no**

dust?..... **yes no**

flies? **yes no**

rodents?..... **yes no**

excessive equipment noise? **yes no**

trashy appearance? **yes no**

Is the operation well regarded by neighbors and local officials, with few or no complaints? **yes no**