FACT SHEET
Poultry Slaughter Waste Disposal Methods

INTRODUCTION

Farms that raise poultry in Massachusetts may slaughter and process their birds for sale to the public under a State-approved license from the Massachusetts Department of Public Health, Food Protection Program (FPP). Typically, the license allows the farmer to operate either a "mobile" poultry processing unit (MPPU) that moves from farm to farm, or a stationary unit that remains on one farm.

Part of the requirement for obtaining a license for either of these processing units is to adhere to the best management practices (BMPs) for handling the solid waste and wastewater associated with processing. When the processing waste will be disposed of on the farm, the BMPs aim to safeguard human and animal health, protect nearby water resources, and prevent nuisance issues associated with odors. This fact sheet describes these requirements for on-farm disposal of poultry slaughter waste.

The on-farm poultry processing application form, instructions, and poultry processing management guide can be found on the MA Health and Services, Food Safety website:
http://www.mass.gov/eohhs/provider/guidance-business/food-safety/application-forms.html

TYPES OF WASTE

Processing poultry requires a fair amount of water, which is used to scald, rinse, and chill the bird carcasses, and to clean equipment. This is referred to here as "wastewater." Naturally, there is a certain amount of organic "solid waste" as well – e.g., feathers, offal, and discarded poultry parts. The characteristic of the waste will determine which method of disposal to use.

Solid Waste

The only on-farm disposal option for solid poultry waste is to compost it on the farm. There are many different composting methods, but the simplest and most common method is to create a pile or windrow of carbonaceous material into which the solid poultry waste is added. Nature, by way of microorganisms, then performs its part by breaking down the meat, fat, and feathers until it is completely decomposed, at which time the compost can be spread onto a field.

Windrow composting

Solids-Containing Wastewater

On-farm disposal options for the wastewater will depend on whether the water contains any solids (solids-containing wastewater) or is solids-free. Any wastewater containing fat, offal, feathers, or any chicken parts must be collected during processing and disposed of in a compost pile. This can be the same compost pile into which the solid waste is added. Water used to scald and rinse the carcasses is likely to contain solids and would, therefore, need to be added to the compost pile.

Solids-Free Wastewater

There are two options for disposing of wastewater that contains no solids; for example, the water used to chill the carcasses after they have been cleaned. This solids-free water can either be sprayed onto an actively growing vegetated field OR added to the compost pile. If the first option is chosen, the field must be of a certain size and distance from sensitive resources to ensure that pathogens and nutrients are sufficiently treated. The criteria for the Actively-Growing Field are as follows:

1. An area of 30-35 ft^2 is needed for every 10 gal of wastewater. A maximum of 400 gal of wastewater per processing session is allowed to be disposed of on-farm.
2. The field must be covered with growing vegetation (i.e., bare or sparsely vegetated land is not suitable).

3. The field must be located 100 feet or more from a drinking water supply source (well or surface water supply).
4. The field must be located 50 feet or more from surface water and wetlands, with a vegetated buffer area in between.
5. The field must be located 25 feet or more from any field growing food crops, with a vegetated buffer in between.
6. If the field is used for grazing, animals must be kept out of the field for a minimum of 2 weeks after wastewater application.
7. Wastewater must be evenly distributed onto the field by spraying it through a hose or dispersing it through a perforated pipe.

Pre- and Post-Processing Rinse Water

The contact surfaces of the poultry processing unit will be disinfected before and after each use. Any water that is used to rinse down the surfaces after initial wiping and disinfection may be allowed to run onto the ground, provided the ground is vegetated and the runoff causes no erosion or downslope impacts. This final rinse water will only contain a small amount of disinfection chemicals.

COMPOSTING

Select an Appropriate Site

It is very important to choose a compost site that will not negatively impact the environment or cause the spread of disease to humans and animals. Below are some minimum criteria for siting a poultry slaughter waste compost pile. It must be:

1. At least 100 feet from water supply wells.
2. At least 100 feet from surface water and wetlands.
3. On level or slightly sloping ground (2%-4% slope is best). Do not locate pile in a depression or on steep slopes.

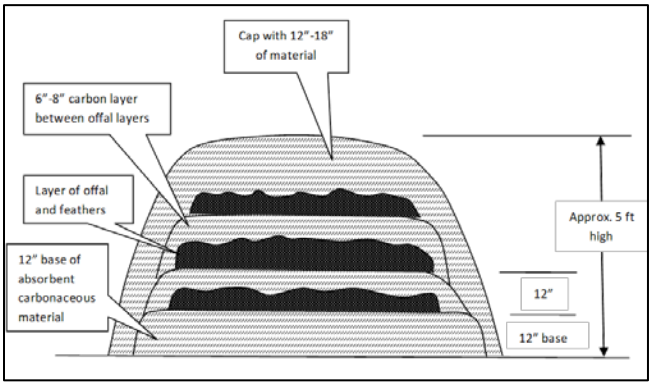
Building a Compost Pile or Windrow

Compost Materials: The choice of materials used to compost with the slaughter waste is critical to the success of the process. Use materials that provide a carbon source, such as chopped straw, dry hay, sawdust, wood chips, wood shavings, or horse manure with bedding. You may also use animal manure or active compost combined with any of the above. In any case, the material, or mixture of materials, must be porous enough to allow air flow into the pile, yet not so porous as to allow odors to escape and excessive heat loss. Ideally, the material should contain a mixture of small and large particles, averaging ¼ - ½ inch in diameter.

The amount of material needed will depend on the number of birds to be processed. At a minimum, the pile should be 5' W x 5' L x 5' H in order to retain heat and absorb liquids. Below are recommended windrow dimensions that will accommodate the solid waste as well as all the wastewater produced for the given number of birds:

100 birds: Windrow 5' H x 6' W x 6' L
200 birds: Windrow 5' H x 6' W x 12' L
300 birds: Windrow 5' H x 6' W x 18' L

Build the Base: Lay a base of carbonaceous material at least 12 inches deep. Remember the material must be able to absorb the liquids.



Layering method

Add the Slaughter Waste: Lay some of the solid slaughter waste on top of the base, pour some wastewater evenly over the pile then add a layer of carbonaceous material. Repeat this layering method until all the solid waste and wastewater has been added. Then cap the entire pile with a layer of the carbonaceous material.

Alternatively, a pile of carbonaceous material can be formed ahead of time with dimensions based on the number of birds to be processed. When the slaughter waste is ready for disposal, a trough may be formed in the windrow and the solid waste and wastewater added evenly within the trough. Fill in and cap the trough with carbonaceous material.

Monitoring the Pile

Once the pile is formed, it should be checked daily for the next two weeks. If you have a long-stemmed thermometer, you can monitor the internal temperature of the pile to make sure that it is getting hot, but temperature monitoring is not required. The important thing is to make sure that (1) the pile does not smell, (2) there is no liquid seeping from the base of the pile, and (3) the pile has not been opened up – by animals, wind, or slumping – so as to expose the slaughter waste.

Keep extra compost materials on hand in case any of these problems occur. If the pile smells or if scavenging animals break into the pile, it may help to cap the pile with denser materials, like old compost from a previous pile, to keep odors from escaping. A compost blanket can also be placed over the pile to reduce odors and discourage animals. If the pile has slumped, you'll need to push the material back into place, adding more carbonaceous material as needed. If liquid is seeping from the pile, then sop it up with extra carbonaceous material and incorporate it back into the pile.

Let the pile or windrow sit undisturbed for at least 4 weeks, at which point you may choose to turn the pile in order to hasten the composting process, or just let it sit, without turning, until you are sure the slaughter waste is fully decomposed. Additional slaughter waste may be added onto the existing windrow by extending the length of the windrow.

Bin System

Bins are often used on larger poultry farms to compost bird carcasses where mortalities occur on a frequent basis. The system is also ideal for poultry slaughter waste where, instead of intact carcasses, poultry parts, feathers, and wastewater will be composted.

The bins may be constructed out of wood, poured concrete, or concrete blocks. Designs can range from two to several bays, and they may be roofed or open. The bins usually sit on a pad of concrete.

Building and monitoring compost within bins is similar to static piles and windrows, except that slightly less carbonaceous material is needed because the sides of the bins contain the material. Uncontained piles require extra material to allow for the domed shape.

Need Further Assistance?

There are many resources on the web describing butcher waste composting, animal mortality composting, and composting in general. State Extension services, Universities, and animal trade groups provide much information online.

For individual assistance, the USDA Natural Resources Conservation Service (NRCS) (http://www.nrcs.usda.gov), with field offices throughout Massachusetts, provides conservation planning assistance to those looking to improve conditions on the farm. Additionally, both NRCS and the MA Department of Agricultural Resources (MDAR) (www.mass.gov/agr) run targeted programs that provide technical assistance, designs, (e.g., for impervious compost pads or bin systems), and funding to qualifying farms.