

Safe Disposal of Backyard Poultry Mortalities

Many people in Maine keep backyard poultry flocks. If you are among them, you know that even with the best of care, mortalities occasionally occur. Proper disposal of carcasses will minimize risks to you and your family, the remaining flock, and the environment. No mortality should be used for human consumption.

Composting offers a solution

Proper composting is an effective method of carcass disposal. Composting is the natural breakdown of organic material by microbes. A well-constructed compost pile will

- ▶ reach temperatures of 130°F/54°C to 150°F/65°C and maintain these temperatures for at least three consecutive days (check temperatures with compost thermometer);
- ▶ inactivate many viruses, including the avian influenza (AI) virus (the AI virus becomes inactive within 10 minutes at 140°F/60°C, or with 15 to 20 minutes at 133°F/56°C);¹
- ▶ produce a usable end product.

Steps to successful composting of poultry mortalities

1. Select a suitable site

- ▶ Identify an area at least 10 feet by 10 feet with the following characteristics, if possible:
 - Away from neighbors' sight line or screened from view
 - Downwind from neighbors
 - Near the barn or manure pile
 - Gentle slope (ideal is two to four percent)
 - Away from drinking water supplies, including domestic wells (preferably at least 100 feet)
 - Soil/drainage:
 - ◆ Medium-textured soils (loamy sand to sandy loam) are best.
 - ◆ Soils with high seasonal water tables may have to be modified.
 - ◆ Shallow to bedrock sites need to be modified. Contact one of the resource people from the Maine Compost Team

(see "Resources" on page 2) if any site modification is needed.

- ◆ Consider access to feedstocks (raw material for composting) and nearness to carcasses to be composted.
- ◆ Avoid sites where excess water will enter the pile, such as near roof gutters or perimeter drains.

You are unlikely to find a site that meets all of these criteria. Consider all of the factors and decide what location will have the least amount of impact. For additional information on site selection, consult *Guidelines for Siting Compost Operations* (see "References" on page 2).

2. Gather compost material (feedstocks)

- ▶ Minimum 5 cubic yards
- ▶ Feedstock sources:
 - Poultry litter (nitrogen source)
 - Wood shavings (carbon source)
 - Horse bedding (carbon source)

3. Mix feedstocks in correct ratios

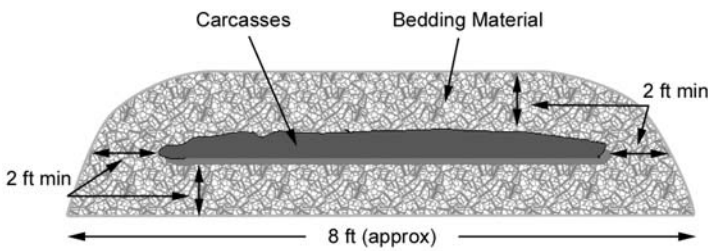
- ▶ 1.5 parts sawdust/shavings to 1 part poultry litter, or
- ▶ 7 parts horse bedding to 1 part poultry litter

Mix feedstocks in the above ratios before adding mortalities. You will need at least 5 cubic yards of mixed feedstock material to construct a pile large enough to generate and maintain sufficient pile temperatures.

4. Construct pile

- ▶ The pile will form a cone shape: pile size should be at least 5 feet high with a base diameter of 8 feet (this size is necessary to create and maintain required heat). A pile this size will hold approximately 200 adult birds.

Poultry Carcass Compost Diagram (side view)



- ▶ Lay 2 feet of mixed material as a base.
- ▶ Place a single layer of birds on the base.
- ▶ Cover carcasses with an additional 2 feet of mixed material.
- ▶ A second layer of birds may be added if necessary. This will increase the height of the pile.
- ▶ Cover second layer with 2 feet of mixed material.
- ▶ Make sure all soft tissue is well covered.



5. Monitor and manage pile

- ▶ Check pile for activity by scavenging animals or birds.
 - Add more carbon cover material, such as wood shavings, dry horse bedding, or mature compost, if there is evidence of animal activity.
- ▶ Monitor pile temperature.
 - Maintain a temperature of 130°F/54°C to 150°F/65°C for at least three consecutive days.
 - Turn pile with a fork or shovel (or a bucket tractor if available) when temperatures decrease below 100°F or after approximately three weeks.
 - After turning, make sure all soft tissue is covered with absorbent carbon material. This will act as a biofilter.
 - After turning, allow the pile to cure for at least three months before applying to soil.

6. Use the finished product

- ▶ Apply finished compost at these recommended rates:
 - Top-dress lawns with a half-inch layer.
 - Amend garden soils with 1 cubic yard per 1,000 square feet.
 - Amend crop soils with 25 tons per acre.

Resources:

Maine Compost Team

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References:

- Rocque, David. *Guidelines for Siting Compost Operations* (Draft). Augusta, ME: Maine Department of Agriculture Food and Rural Resources, 2005.
- Rynk, Robert, ed. *On-Farm Composting Handbook*. Ithaca, NY: Natural Resource, Agriculture and Engineering Service, 1992. (Available from UMaine Cooperative Extension's publications distribution center, (207) 581-3792 or puborders@umext.maine.edu.)
- Biosecurity for the Birds*. USDA Animal and Plant Health Inspection Service, www.aphis.usda.gov/vs/birdbiosecurity/.
- Maine Compost School, www.composting.org.

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¹ H. Lu et al. "Survival of Avian Influenza Virus H7N2 in SPF Chickens and Their Environments." *Avian Diseases* 47 (2003): 1015-1021.