

## Avian Flu Events

Large quantities of bird and poultry carcasses that result from Avian Flu-related mass deaths or de-population events must be managed in a manner that prevents the spread of infection and contamination of soil and ground water. During Avian Flu outbreaks, the Colorado Department of Agriculture is the lead agency and will direct all activities related to management and disposal of carcass wastes.

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## Avian Flu-related Bird and Poultry Carcass Disposal

In general, the following best management practices may be used for the safe disposal of carcasses resulting from Avian Flu outbreaks.

### Disposal at a Permitted Landfill

There currently are no landfills willing or approved to accept carcasses from a mass casualty event. However, at least one site has expressed interest in receiving an emergency waiver to allow acceptance of this waste. If that option were to materialize, the site name and location would be disseminated to affected producers via the Colorado Department of Agriculture.

### Composting at Commercial Facilities

Carcasses may be sent to an off-site commercial composting facility that is permitted to accept such wastes. The composting facility will need to be contacted directly to determine their waste acceptance policies prior to shipping the carcasses. Commercial composting facilities in northern Colorado approved to accept large numbers of bird and poultry carcasses include:

1. Rattler Ridge Composting Facility in Weld County, Colorado
2. Renewable Fiber Composting Facility in Weld County, Colorado
3. CBI Industries Composting Facility in Delta County, Colorado

### Composting On-site

During an Avian Flu outbreak, composting of carcasses will be allowed on the poultry facility property or nearby property. It is strongly suggested that each poultry facility have an Emergency Composting Plan, approved by the Colorado Department of Public Health and Environment or Colorado Department of Agriculture, in place before mass mortality occurs. For preparation of an Emergency Composting Plan, please refer to the requirements listed in Colorado's solid waste regulations (6 CCR 1007-2, Part 1, Section 14, Composting) and incorporate the requirements that are appropriate.

Besides meeting the requirements in Section 14, the approved plan should define several additional items, including:

1. Pre-definition, and if possible, pre-determining the location of adequate ingredients in adequate amounts for effective composting. This would include an adequate nitrogen source, such as biosolids or paunch, and adequate carbon sources, such as wood chips.<sup>1</sup>

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<sup>1</sup> In the recent Avian Flu outbreak in Iowa and Minnesota, much of the compost generated from bird and poultry carcasses has been found to be very low in nutrient value. This resulted from poor choices of composting ingredients. As such, much of the compost is not being used and may need to be landfilled.

2. Pre-definition of appropriate land for composting activities. This would include adequate area for composting the maximum number of expected carcasses, an area with adequate depth to ground water such that ground water quality will not be compromised, and adequate distances to nearby residences, work places and water supplies.<sup>2</sup>
3. Pre-definition, and if possible, pre-acquisition of all equipment needed to start an adequate composting operation quickly, and sustain it for as long as necessary.

### On-Site Burial

Poultry carcasses may be buried on-site after the poultry facility has obtained concurrence from the Colorado Department of Public Health and Environment's Solid Waste and Materials Management Program and the appropriate local agencies. On-site burial of bird carcasses should, at a minimum, follow these best management practices:

1. Layers of lime or quicklime should be placed below and above the carcasses to help accelerate decomposition. Care should be used in applying lime as it is caustic and can cause severe burns to the skin and eyes.
2. Burial pits must be covered with a minimum of two feet of soil.
3. Carcasses cannot be placed in any body of water, seasonal creek or pond, or in areas that may carry or hold water such as gullies, ditches, blowouts or natural depressions.
4. To minimize potential impacts to ground water, large numbers of bigger carcasses (e.g., more than ten thousand birds) should not be limed and buried together.
5. Surface water must be diverted from the burial site through the use of berms or other structures.
6. All carcasses must be buried at least 150 feet away from any water supply source.
7. All carcasses must be buried downgradient from any ground water supply sources.
8. The bottom of the burial pit must be at least five feet above the high point of the uppermost ground water table to ensure that carcasses do not come into contact with ground water.
9. Burial sites must be located at least one mile away from any residence of any person.
10. Burial sites should not be located in areas with high seasonal water tables or highly permeable soils.

Other disposal practices, including alkaline hydrolysis and mobile incineration, may be used with prior approval.

If you have a large number of animal mortalities due to disease, contact the Colorado Department of Agriculture or State Veterinarian's Office for further guidance on controlling livestock and poultry disease.

### For more information, contact:

Colorado Department of Public Health and Environment  
Hazardous Materials and Waste Management Division  
4300 Cherry Creek Drive South  
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<sup>2</sup> In the recent Avian Flu outbreak in Iowa and Minnesota, for every 1 million birds that required composting, about 2 miles of composting wind-rows were necessary.