

Proper Disposal of Dead Poultry

A practical and sanitary system for disposing of dead poultry will help you prevent the spread of disease, prevent odors and fly breeding, and meet state and local regulations for water and air pollution.

North Carolina General Statute 106-403 requires that dead poultry be disposed of within 24 hours in a manner approved of by the state veterinarian (an officer of the Animal Health Division, North Carolina Department of Agriculture). General Statute 106-549 requires every person, firm, or corporation having a flock of more than 200 birds to provide and maintain a disposal pit or incinerator of a size and design approved by the Department of Agriculture. The purpose of these requirements is to prevent the spread of disease organisms from dead poultry to healthy birds.

The disposal of dead birds is also regulated by the Division of Environmental Management, an agency of the North Carolina Department of Natural Resources and Community Development, whose objective is to protect air and water quality.

Within the limits set by these agencies, you may select the disposal method that best fits your management system and farm setup. The information presented here is intended to help you decide which method is best for your farm.

Five disposal methods are available :

- Burial on the farm
- Disposal in a pit
- Incineration
- Delivery to a rendering plant
- Burial in a sanitary landfill.

The disposal requirements, procedures, cost, and convenience of these systems will determine which one is best suited to your poultry unit.

Burial

Burial of dead birds in trenches has worked well at times. If a disease outbreak occurs and a large number of birds must be disposed of, burial is more economical than incineration or use of a disposal pit. Under normal mortality conditions, however, shallow burial may not be economical because personnel and equipment must be on hand to dig the trenches

periodically and to cover the dead birds each day. State statutes require daily covering for health reasons as well as to prevent burrowing by dogs, rodents, and other animals.

During warm weather it may be necessary to control flies to minimize breeding and reduce the likelihood that they will transmit diseases. Slaked lime may be added to the burial pit to break down the tissue of the carcasses and, in effect, chemically sterilize the remains.

State statutes require that all buried poultry be placed at least three feet below the surface within 24 hours of the time when the animal's death becomes known. The burial site must be no closer than 300 feet to any flowing stream or public body of water. Burial should also be at least 5 feet above the water table, making it impossible to use this burial method in certain areas of North Carolina. The four criteria listed on page 3 for the location and depth of the disposal pits also apply to burial sites.

Disposal Pit

Depositing dead birds in a specially constructed airtight pit is a popular method of disposal. In the disposal pit, bacterial action continually degrades the carcasses through the process of anaerobic digestion. This method is rapid, inexpensive, and requires a minimum of labor and supervision.

A disposal pit can be used for a long time if it is properly sized, constructed, and managed. The life of the pit will depend on the flock's mortality rate as well as the user's ability to keep the pit airtight and to optimize its temperature and moisture levels. The pit must be constructed so as not to collapse and must be fitted with an airtight cover. Construction details for pits with concrete and wooden covers are shown in Figures 1 through 3.

Because bacterial action is important, the pit must be operated in a way that will protect the bacterial population. High acidity can slow the decomposition of dead birds. Decomposition will be fastest at a pH of 7.5 to 8.5. Some individuals have suggested adding hydrated lime occasionally at a rate of ½ to 1 pound per square foot of pit surface. Adding excessive amounts of hydrated lime, however, may increase the

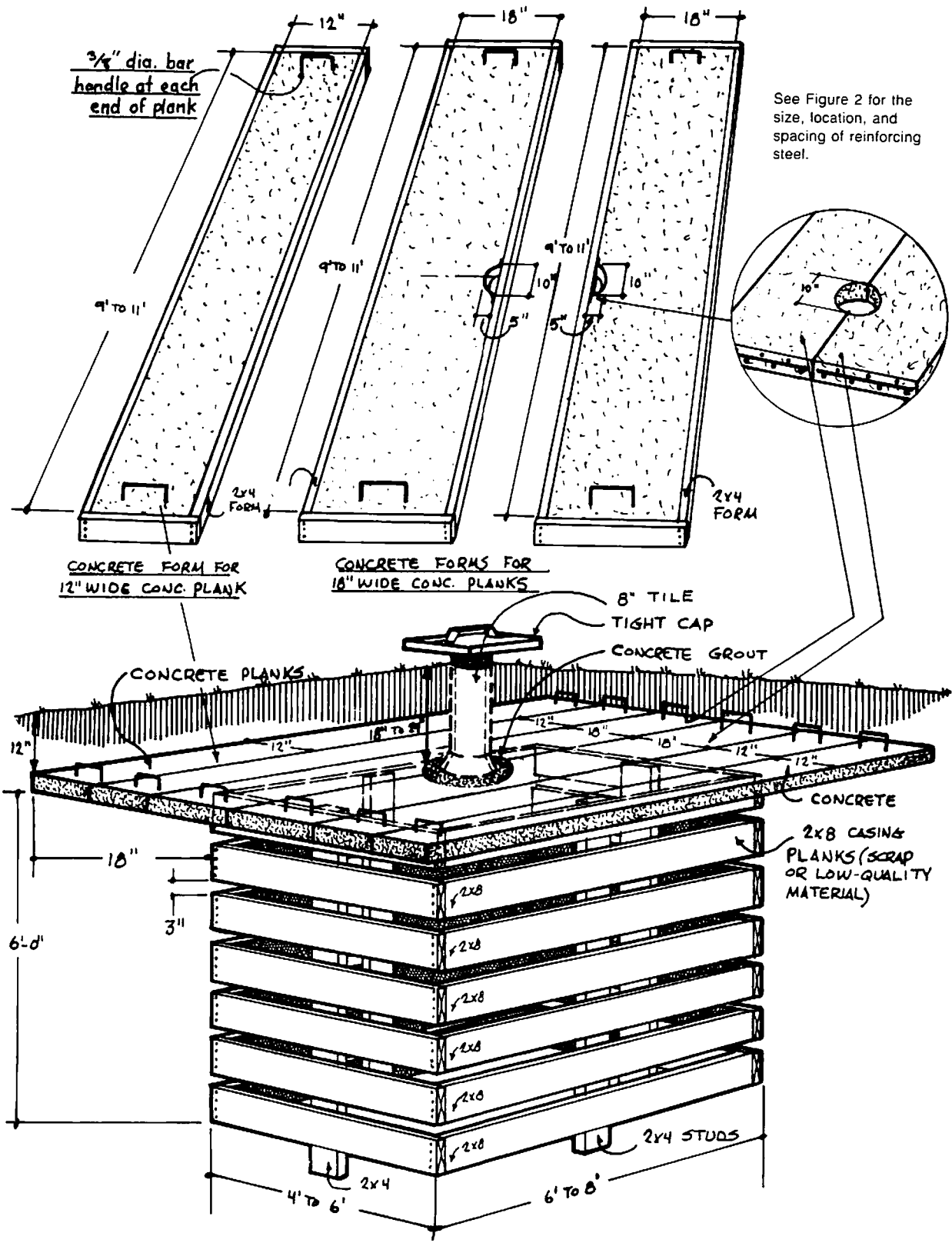


Figure 1. Construction of a poultry disposal pit with a concrete top.

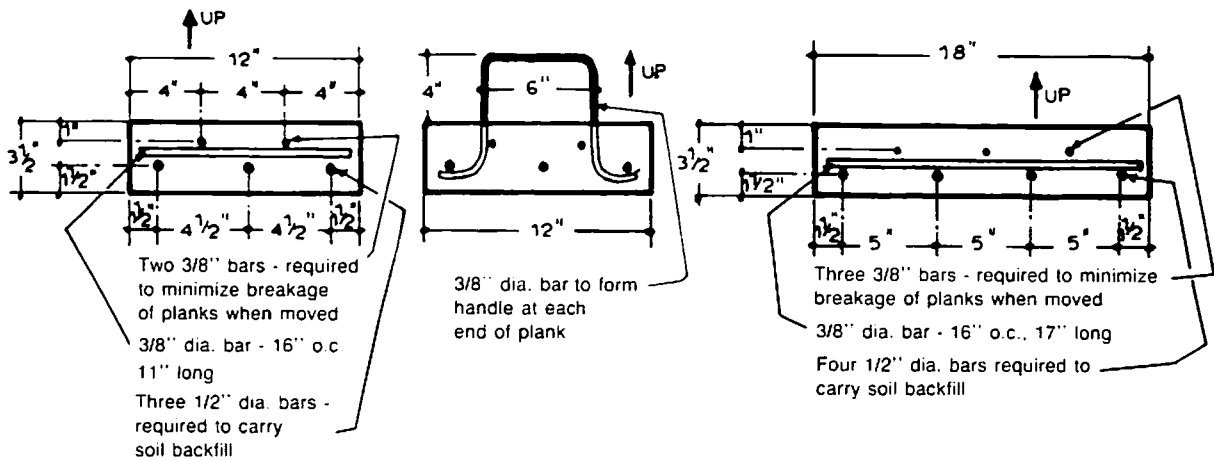


Figure 2. Detailed views of concrete planks used to form disposal pit cover.

pH so much that bacteria flora are destroyed and decomposition stops.

Disposal pits are most efficient during the warmer months when bacterial action is greatest. Decomposition is slowed by winter temperatures and by accumulation of water in the pit. Grinding the carcasses or splitting open the dead birds will increase the efficiency of the disposal pit and extend its life. Dead bird grinders are commercially available.

The size of the disposal pit will depend upon many factors. The suggested size for various types of poultry operations under normal conditions is as follows:

Type of product	Size of disposal pit in cubic feet per thousand birds
Broilers	50
Turkeys (to 18 weeks)	100
Commercial layers	55

If the mortality rate exceeds the optimum loading rate for the disposal pit, then one or more additional pits should be constructed. Even so, pit disposal will usually be more convenient and less expensive than daily burial.

Improper construction or location of a disposal pit can create problems. It is important to select a well-drained site to minimize seepage of water into the pit and to protect groundwater supplies. The pit must be designed and constructed to prevent cave-ins, seepage, collection of water, escape of odors, and invasion by insects and predatory animals.

Certain requirements of the North Carolina Department of Natural Resources and Community Development relate to the location, construction, and operation of a disposal pit. Fewer regulations will apply if the pit is constructed so that the longest dimension of its surface opening is greater than its depth. On the other hand, if the depth is greater than the longest

surface dimension, then the pit is classified as a well, a permit is required, and more stringent regulations must be met. A typical disposal pit must meet these requirements:

1. It must be located at least 100 feet from the nearest water-supply well.
2. Its maximum depth must not be more than 20 feet below the land surface. Greater depths would place the lower portion of the pit below the recycling zone, making the pit subject to additional regulations.
3. Its lowest point must be at least 5 feet above the zone of saturation (water table) to prevent groundwater contamination.
4. Its lowest point must be at least 5 feet above bedrock to keep contamination from traveling along a rock fissure.

A pit can be dug easily with a backhoe. It is best to shore up the walls with posts and lumber to prevent the sides from caving in. The pit cover can be constructed of heavy sheet steel, reinforced concrete, or cross ties and planks. A covering of 6-mil plastic sheeting extending 2 feet beyond the cover will help prevent saturation of the surrounding soil and thus prevent cave-ins and seepage of water into the pit. Soil should be mounded up approximately 1 foot high over the cover and extended laterally for a few feet beyond the edges of the pit opening to promote runoff of surface water and to keep the pit airtight.

Incorporating multiple drop chutes into the cover will permit maximum use of the pit. The chutes should be spaced every 4 to 6 feet along the cover. The openings should be at least 8 inches in diameter for chickens and 12 inches for turkeys. To minimize the danger of polluting groundwater in areas of sandy soil, 6 to 12 inches of compacted bentonite clay can be placed in the bottom of the pit.

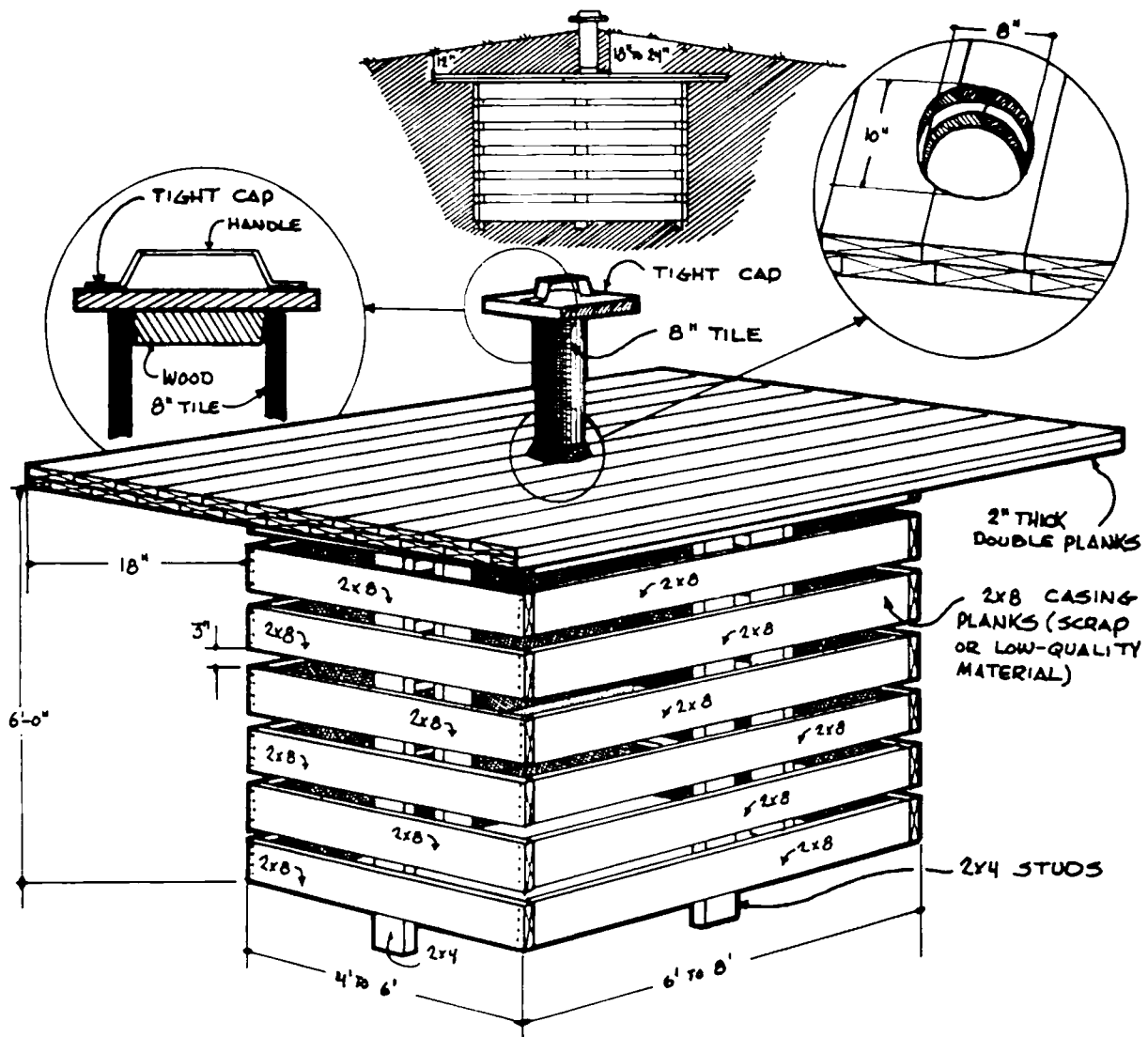


Figure 3. Construction of a poultry disposal pit with a wooden top.

Incineration

Incineration was a very popular disposal method until the energy crisis brought increased fuel costs. It is simple and very sanitary. The residue of properly incinerated poultry will not attract insects or rodents. An incinerator is costly to buy and operate, however. The cost of running an incinerator depends on its operating efficiency and the number and size of the birds to be disposed of. According to one report, an incinerator uses 0.083 gallon of propane per pound of dead bird.

Incinerator use is governed by the Division of Environmental Management, Department of Natural Resources and Community Development. Proper use

of an incinerator includes operating the burners properly. Failure to properly use both of the incinerator's burners can violate state regulations.

Before purchasing an incinerator, be sure it is approved for use in North Carolina. The design of home-built incinerators must be approved before installation, and the completed installation must be inspected for compliance with regulations before a permit will be issued.

Rendering

Rendering is a disposal method approved by the state veterinarian and may be useful if suitable facilities

are available. Dead poultry that are to be taken to a rendering plant must:

1. Be held in a leak-proof, fly-proof container that will protect the contents from pets and wild animals;
2. Be picked up by a rendering company truck within 24 hours of death or be held at temperatures below 40°F until collected.

A major disadvantage is the ever-present risk that diseases will be carried back to the poultry farm by vehicles used to convey dead birds to the rendering plant.

Burial in a Landfill

Burial in a landfill is an alternative disposal method. If losses occur that exceed the capacity of the farm's

disposal system, taking the dead birds to a landfill may offer a practical alternative. Whether it is feasible will depend on the cost of transporting the birds to the site and on whether the landfill operator will agree to accept dead birds. The North Carolina Department of Human Resources requires that dead birds and hatchery waste disposed of in a landfill be covered immediately.

Choosing a System

In selecting a dead bird disposal system, remember that the method you choose must comply with the state statutes, regulations, and standards, and it may need to be licensed or approved by the appropriate state agencies. The system should be economical to operate and able to handle your farm's normal volume of dead birds.

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