



**House  
Legislative  
Analysis  
Section**

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## COMPOSTING "FARM DEAD" POULTRY

House Bill 4755 as enrolled  
Second Analysis (4-15-94)

**Sponsor: Rep. Robert Bender**  
**House Committee: Agriculture &  
Forestry**  
**Senate Committee: Agriculture &  
Forestry**

### ***THE APPARENT PROBLEM:***

Commercial poultry and egg producers are facing increasingly difficult problems managing waste products (dead birds and manure) from their farms as the industry has undergone increasing size and concentration. Current disposal practices, such as incineration or burying dead poultry carcasses in pits, have become more costly and ineffective both because flock size and body weights have increased and because disposal of these larger numbers of (larger) dead birds poses serious environmental problems at a time when the public is increasingly concerned about water and air pollution.

Because of increasing burial and incineration costs and stricter water- and air-quality regulations, poultry producers have been interested in finding other, economical and environmentally safe disposal methods. Legislation has been introduced that would add another dead bird disposal option for egg and poultry producers.

### ***THE CONTENT OF THE BILL:***

The bill would amend Public Act 239 of 1982, the act regulating the disposal of dead animals not intended for human consumption, to allow for the composting of commercial poultry, to change the criminal penalties for violations of the act, and to make a number of other amendments.

Disposal methods for dead animals. Currently, with the exception of dead animals contained in drums and transferred from one vehicle to another at a licensed facility, dead animals must be disposed of within 24 hours of death in one of two ways: by burial not less than four feet below the surface of the ground, or by burning "in a location which will not annoy or constitute a nuisance to the public."

The bill would exempt certain dead animals from the act's disposal requirements and would change, and add to, the existing disposal requirements. Dead animals would have to be buried at least two, not four, feet underground, and could be burned in a location in compliance with the Air Pollution Act (Public Act 348 of 1965). The bill also would add four new ways to dispose of dead animals: by processing at a poultry composting structure or by procuring the services of a licensed dead animal dealer, a licensed rendering plant, or a licensed animal food manufacturing plant.

Disposal exemptions. The following dead animals would be exempted from the act's disposal requirements:

- \* carcasses of small mammals, deer, and birds taken under Department of Natural Resources damage and nuisance animal control permits;
- \* small mammals, "cervidae" (deer-like animals, including deer and elk), and birds that were "road kill"; and
- \* dead animals kept temporarily in cold storage (for up to seven days) or frozen (for up to 30 days) at or below certain temperatures.

Restaurant grease (that is, cooking grease wastes from a restaurant) also would be exempted from the act's disposal requirements.

Definitions. The bill would redefine "animal" (which currently means "any livestock, including but not limited to, cattle, horses, swine, sheep, goats, poultry, and rabbits") to instead mean "mollusks, crustaceans, and vertebrates other than human beings."

The bill also would add definitions of "poultry" ("chickens, guinea fowl, turkeys, water fowl, pigeons,

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doves, and human-raised game birds) and "poultry composting structure" (a structure designed and built for the sole purpose of composting organic material and dead poultry).

**Licenses and fees.** Currently, licenses are issued or renewed on or before October 1 of each calendar year, and licenses are required for rendering plants, animal food manufacturing plants, dead animal dealers, transfer stations, fur bearing animal farms, and vehicles used to transport dead animals.

The bill would set the renewal date for licenses on or before September 30 for the next fiscal year, and would add a \$25 delinquency fee for vehicle or facility renewals submitted 31 days after the due date. The bill also would exempt fur bearing animal farms from the act's licensing requirements and would delete the requirement that applicants be "of good moral character" (as well as deleting the denial of licenses for those found, upon investigation by the department, not to be of good moral character).

**Poultry composting structures and other licensed facilities.** Currently, the act lists specifications to which licensed facilities must conform. The bill would keep the existing requirements until the Department of Agriculture promulgated rules regarding the construction and operation of facilities licensed under the act, poultry composting structures, and vehicles used for transporting dead animals.

Until these rules were promulgated, poultry composting structures could operate if:

- (1) they were participants in the department's poultry composting pilot research project, which is being conducted at Michigan State University, in the College of Agriculture and Natural Resources, by the Animal Science Department, and
- (2) only with the approval of the director of the department and of the head of the poultry composting pilot research project.

**Inspections of licensed facilities and vehicles.** Currently, the act requires the director of the Department of Agriculture to inspect each licensed facility and vehicle at least once a year or as often as necessary to maintain the standards required by the act or rules promulgated under the act. The bill would make inspections permissible rather than mandatory, and would delete the requirement that inspections be done at least once a year. It would

keep the provision that inspections could be done as often as necessary to maintain the standards set by the act.

**Violations and penalties.** Currently, violations of the act are felonies. A first violation is punishable by imprisonment for not more than one year and a fine of not more than \$2,000. Second violations are punishable by imprisonment for up to two years and fines of up to \$5,000. Third and subsequent offenses are punishable by imprisonment for up to three years and fines of up to \$10,000.

The bill would delete the existing penalties and instead say that someone who violated the act or rules promulgated under the act would be guilty of a misdemeanor punishable by a fine of at least \$300 and imprisonment for at least 30 days. Someone convicted for violating the act three or more times would be guilty of a felony punishable by imprisonment for up to a year and a fine of up to \$2,000.

In addition, the bill would allow anyone authorized by the director of the Department of Agriculture to enforce state animal health laws to issue appearance tickets for violations. However, in addition, the department could bring actions to obtain declaratory judgments that a "method, act, or practice" was a violation and/or obtain an injunction against anyone who violated or was about to violate the act.

**Effective date.** The bill would take effect 90 days after it was enacted.

**Repealer.** The bill would repeal section 17 (which gives specifications for vehicles used to transport dead animals) and section 25 (which requires licensees to report the existence of abnormalities or irregularities in animal health) of the act.

### ***BACKGROUND INFORMATION:***

Since 1988, researchers at Michigan State University from the Departments of Animal Science, Agricultural Engineering, Veterinary Science, and Crops and Soils have been working with the Michigan Department of Agriculture and the Department of Natural Resources to investigate the feasibility of using composting as an alternative technique for the biologically safe and economical disposal of normal mortality from turkey and egg production operations located in Michigan under local climatological conditions. Field trials of a two-

stage batch composter, with modifications for local conditions, were conducted at two egg production operations (one with 750,000 laying hens, the other with 500,000 laying hens) and a turkey grower farm with about 80,000 turkeys. At each site, all of the dead birds ("total mortality") were to be placed in the batch composter during one entire calendar year. The composting of daily mortality from commercial poultry farms consisted of a primary composting phase that was four weeks long, followed by a secondary composting phase (storage) lasting a minimum of five weeks before field spreading. The composting system was designed to use the natural process of composting: a rapid, aerobic, low-odor process.

In addition, to determine the biological safety of the dead bird composting system, a small scale laboratory composting system (two forced-air composters made from two 55-gallon steel drums, one for turkeys and one for poults) was developed and used to test pathogen growth and survival. One of the small scale compost batches was inoculated with a pathogenic organism (a virus, Hemorrhagic Enteritis) to determine whether the virus would be killed during the composting (it wasn't).

The results of the field trials and laboratory testing were summarized in a final report which indicated the following:

- (1) Compost temperatures varied with the season (about 120 degrees Fahrenheit in winter and 140 degrees in summer);
- (2) Analysis of the finished compost from the field trials indicated no pathological bacteria present, while virus survival studies (the viral test results from the small scale laboratory composting system notwithstanding) were reported as supporting other research that showed no pathological virus survival;
- (3) Concrete floors were recommended to facilitate turning and handling in the composting area, and both the composter area and the secondary holding (storage) area must be covered to prevent run-off contamination;
- (4) When properly capped with an appropriate bulking agent (a minimum of six inches of straw or litter cake was recommended), flies and other predators (such as mice and rats) weren't a problem (however, the small-scale laboratory composters had a "great population of captive flies which flourished in the composters" despite the screen placed over the tops of the composters, as well as a large population of fleas inhabiting the straw blanket

which was on top of the compost as thermal insulation);

(5) Long bones and feather shafts from mature laying hens and turkeys over eight weeks old didn't disappear during the composting process, though grinding "appeared to alleviate this unsightly residue and speed up the decomposition";

(6) Odor from the compost wasn't a problem in the production-scale composters (that is, the large-scale composters on the farms), except during turning the compost piles (even then, the smell reportedly was not that of decomposing carcasses but more like that of ensilage), and covering with a cap of litter cake immediately reduced the odor of the newly turned compost pile to an acceptable level;

(7) It took about 15-20 minutes a day (about 30 minutes on the day when the compost piles were turned) to operate the compost system;

(8) Materials for the large-scale composting facilities (which accommodated about 500,000 laying hens or 80,000 growing turkeys) cost from \$200 to \$3,500;

(9) The compost resulted in a product that could be used as a soil amendment such as fertilizer, thus reducing the cost of farming (though, "for aesthetic reasons," the report recommended that the finished compost be applied to cultivated land).

The report recommended that additional trials be done, one of which could consist of composting carcasses of birds whose intestines were known to contain the HE virus. Reportedly, one of the laying hen operations that participated in the initial research has dropped out of the project, having bought an incinerator, and other poultry operations apparently have expressed interest in composting their dead birds. Draft rules reportedly have been drawn up and will soon go to public comment.

#### **FISCAL IMPLICATIONS:**

Fiscal information is not currently available. (4-15-94)

#### **ARGUMENTS:**

##### **For:**

The traditional methods used to dispose of dead poultry are increasingly expensive and their adverse biological and environmental effects can be substantial. Open-bottom burial pits are currently the most common method of disposing of dead poultry. However, groundwater quality can be

adversely affected when open-bottom pits are located in certain soil types where there is a high water table. Residue can remain in these pits after years of use, and is an important reason for considering other methods of disposal for poultry carcasses. Incineration is one of the biologically safest methods of disposal, but it tends to be slow and expensive. It also can generate nuisance complaints (about the odor), even when highly efficient incinerators are used, and incinerators also generate particulate air pollution. Rendering (melting down so as to convert into industrial fats and oils or fertilizer) is one of the best means for the conversion of dead poultry into a valued, biologically safe, protein by-product meal. However, producers using this method run the risk of transmitting disease because disease organisms can be picked up on the trucks used to pick up the dead birds and be spread from farm to farm.

The problems with the existing methods of disposal of dead poultry from large poultry and egg production facilities have reawakened interest in an old organic farming practice known as composting - in this case the composting of dead poultry. Composting is a controlled natural process in which beneficial microorganisms reduce and transform organic wastes (in this case, dead birds mixed with caked or used poultry litter -- such as pine shavings, sawdust, peanut or rice hulls -- and manure) into a useful end product, compost, which can then be used as fertilizer. Composting, properly done, is biologically safe, environmentally sound, and usually cheaper than the other, existing methods of disposing of poultry carcasses. (For example, compared to incineration, composting has been shown to be a practical, economical alternative). Composting is a fairly odorless and biologically sound practice. The typical temperatures generated (around 150 degrees Fahrenheit) in composted matter destroy pathogenic bacteria and viruses and exceed the human waste treatment requirements of the federal Environmental Protection Agency (EPA). It produces a useful and inoffensive product which may be used as a specialty soil amendment and fertilizer. Composting is simple and inexpensive, with the needed materials -- manure, dead birds, and straw or an alternative carbon source, and water -- readily available to commercial egg and poultry producers. Composting works well in moderate winter conditions (for example, not only in the southern states but in Michigan as well, where researchers report winter operating temperatures of about 15 degrees cooler

than summer but still high enough to process carcasses). If composters are working properly they don't stink or breed flies (fly larvae are killed at temperatures of about 115 degrees, while properly operating composters generate temperatures well above 130 degrees). When turning "started" or primary batches of compost (in the recommended two-cycle process), there is a transient odor, but it doesn't smell like dead or decomposing flesh (it's reported to smell like silage), and within minutes of turning the compost, the smell dissipates. (If compost fails to heat up or smells, it is usually because the piles are too wet. Saturated piles quickly become anaerobic, excluding the oxygen needed by the beneficial compost microorganisms. Wet compost can easily be corrected, however, by turning it over and by adding more manure.)