

Appendix N

Poultry Best Management Practices Document

WISCONSIN POULTRY PRODUCERS' ODOR/AIR EMISSIONS REDUCTION BEST MANAGEMENT PRACTICES (BMPs)

PURPOSE

The primary types of poultry raised in Wisconsin include layer hens, chickens, pheasants, turkeys and ducks. Odors and air emissions unavoidably result from raising poultry. These odors and air emissions can emanate from a variety of sources and differ depending upon the type of poultry raised and the production system used. The following document has been prepared in recognition that the best way to address odors and air emissions is to properly manage animal feeding operations and to take proactive measures that address or mitigate the conditions or factors that cause or exacerbate an odor or air emissions condition. The purpose of this document is to describe acceptable best management practices ("BMPs") designed to address odors and air emissions that may be implemented by owners or operators of poultry animal feeding operations in Wisconsin. The following BMPs are based upon consideration of the technical, operational and economic feasibility of technology in existence as of the date of the drafting of this document. Acceptable BMPs may change in the future as science and technology evolve to better address odor and air emission issues consistent with the needs of poultry producers.

SCOPE

I. DEFINITIONS

- A. "Animal Feeding Operation" ("AEO") shall mean "a feedlot or facility, other than a pasture, where animals have been, are or will be fed, confined, maintained or stabled for a total of 45 consecutive days or more in any 12-month period," as defined in Wis. Admin. Code NR8243.04(2) (1997) (as may hereafter be amended from time to time).
- B. "Building" shall mean any structure located on an animal feeding operation and designed to be used for the housing, rearing, or production of poultry or the production of eggs.
- C. "Litter" shall mean any mixture of poultry manure and poultry bedding.
- D. "Manure Handling and Storage" shall mean any process by which poultry manure or litter is removed from poultry buildings and transported, processed, composted, treated, stockpiled or stored by the AFO.
- E. "Manure Application" shall mean any process by which poultry manure or litter is applied to land in any form by the AFO.

II. APPLICABILITY

- A. The following BMPs apply to AFOs in Wisconsin raising either layer hens, chickens, pheasants, turkeys or ducks so as to address odors and air emissions assumed to be emanating from those AFOs and/or minimize the potential for odors and air emissions to develop.
- (1) AFOs have the discretion to use their own judgment in implementing those BMPs described below in circumstances where the word "may" is used to describe the obligatory nature of the BMP. AFOs are required to implement those BMPs described below in circumstances where the word "shall" is used to describe the obligatory nature of the BMP.
- B. The implementation of the following BMPs by AFOs will vary depending upon:
- (1) *The species of poultry raised.*
The rearing of different species of poultry to produce meat and eggs requires different types of buildings, animal husbandry practices, and manure handling systems and, therefore, has the potential to create differing odor and air emission sources. The following BMPs are categorized by poultry species to reflect the different odor and air emission sources among the different poultry species.
 - (2) *The sources of potential odor and air emissions including:*
 - (a) Buildings
 - (b) Manure Handling and Storage
 - (c) Manure Application
 - (d) Poultry Mortality and Egg Disposal

III. BEST MANAGEMENT PRACTICES for AFOs

The following BMPs apply to all AFOs regardless of the species of poultry raised.

- A. Buildings
- (1) In selecting a site to construct or expand a building, the AFO shall implement the following practices:
 - (a) avoid sites that are zoned non-agricultural or agriculturally zoned areas that are adjacent to recreational destinations;
 - (b) avoid sites adjacent to natural resources such as lakes, ponds, rivers or streams or other recreational destinations;
 - (c) select sites with consideration for prevailing winds to minimize the impact of windblown odor and air emissions on nearby residents.

- (2) In selecting a site to construct or expand a building, the AFO may implement any of the following practices:
 - (a) establish vegetative or wooded buffers around site buildings;
 - (b) select sites or landscape around buildings to provide adequate drainage so as to avoid water pooling around buildings.

- (3) When constructing new buildings, the ATO may implement any of the following practices:
 - (a) use construction materials for the interior of the building that have a physical texture that is smooth rather than rough;
 - (b) incorporate a manure/litter drying system into the building plans;
 - (c) incorporate a conveyor/belt system into the building plans to transport dried manure/litter.

- (4) To address the concentration of potential odor and air emissions from side/end wall exhaust fans the AFO may implement any of the following practices:
 - (a) maintain fans to provide efficient air movement in buildings;
 - (b) clean fans of build up on a weekly basis;
 - (c) establish windbreak walls or vegetative or wooded buffers at fan exhaust locations;
 - (d) install fan hoods to divert exhaust airflow.

- (5) To maintain clean indoor surfaces the AFO shall perform the following practices during times when flocks are not present in the building:
 - (a) remove manure or unusable litter from the building;
 - (b) clean dust off indoor surfaces by either vacuuming, sweeping, washing or blowing down the inside of the building.

- (6) To prevent spilled feed from becoming a potential odor and air emissions issue the AFO shall implement any of the following practices:
 - (a) maintain feed tanks;
 - (b) remove and clean up spilled feed promptly;
 - (c) maintain feed lines.

- (7) To prevent manure/litter in buildings from becoming excessively wet, the AFO may implement any of the following practices:
 - (a) maintain proper building ventilation;
 - (b) maintain and properly operate misters;
 - (c) check watering systems daily and repair leaks from water lines and drinkers;
 - (d) remove wet litter and/or add dry bedding as required to maintain a dry environment.

B. Manure Handling and Storage

- (1) When cleaning buildings to remove manure or unusable litter the AFO may implement any of the following practices:
 - (a) inform neighboring residents of building cleaning activities in advance;
 - (b) clean buildings with consideration for prevailing winds to minimize the impact of windblown odor and air emissions on nearby residents;
 - (c) remove manure or unusable litter from buildings as quickly and efficiently as possible.
- (2) When transporting manure/litter by vehicle the AFO shall implement the following practices:
 - (a) clean and maintain vehicles so as to reduce spillage;
 - (b) install sideboards on vehicles transporting manure/litter on public roads or highways to reduce spillage;
 - (c) transport manure/litter by routes that avoid villages, towns or cities to the extent economically or operationally practicable.
- (3) When transporting manure/litter by vehicle the AFO may install tarps or other covers on vehicles to reduce spillage.
- (4) When storing manure/litter on temporary or permanent storage pads the AFO shall implement any of the following practices:
 - (a) establish vegetative or wooded buffers around permanent storage pad sites, to the extent economically or operationally practicable;
 - (b) select temporary and permanent storage pad sites out of public view, to the extent economically or operationally practicable;
 - (c) select temporary and permanent storage pad sites with consideration for prevailing winds to minimize the impact of windblown odor and air emissions on nearby residents;
 - (d) avoid temporary or permanent storage pad sites adjacent to natural resources such as lakes, ponds, rivers or streams or other recreational destinations;
 - (e) minimize the use of temporary and permanent storage pads as much as possible.

C. Manure Application

- (1) To address potential odor and air emissions from manure/litter applied to fields the AFO shall implement the following practices:
 - (a) to the extent economically or operationally practicable, apply manure/litter with consideration for prevailing winds to minimize the impact of windblown odor and air emissions on nearby residents and recreational areas;

- (b) to the extent economically or operationally practicable, avoid spreading manure/litter on fields located in villages, towns, or cities;
 - (c) avoid spreading manure/litter when there is a greater likelihood of public exposure such as on weekends or holidays to the extent economically or operationally practicable;
 - (d) incorporate manure/litter as soon as possible after application;
- (2) To address potential odor and air emissions from manure/litter applied to fields the AFO may implement the following practices:
- (a) treat manure/litter with additives shown to be effective in treating odor or air emissions immediately prior to application.

D. Poultry Mortality and Egg Disposal

- (1) To address potential odor and air emissions from poultry mortality the AFO shall implement one of the following carcass disposal practices and dispose of the carcass pursuant to that practice within 24 hours of mortality, to the extent economically or operationally practicable:
- (a) incineration of carcasses, in compliance with Wisconsin Statute _ 285.51 and Wis. Admin. Code NR _ 502.09;
 - (b) burial of carcasses, in compliance with Wisconsin Statute _ 289.43(9), _ 95.35 and _ 95.50;
 - (c) rendering of carcasses;
 - (d) composting of carcasses, in compliance with Wisconsin Statute _ 95.50 and Wis. Admin. Code NR _ 502.12(5);
 - (e) acid preservation.
- (2) To address potential odor and air emissions from the decomposition of culled or broken eggs the AFO shall implement one of the following egg disposal practices within 24 hours of culling or breaking, to the extent economically or operationally practicable:
- (a) rendering or processing of culled or broken eggs;
 - (b) composting of culled or broken eggs, in compliance with Wis. Admin. Code NR _ 502.12(5);
 - (c) application of culled or broken eggs to fields;
- (3) To address potential odor and air emissions from incineration the AFO shall implement any of the following practices:
- (a) install an incineration unit capable of incinerating one days' accumulation of normal mortality;
 - (b) incinerate 100% of daily mortality loss, to the extent economically or operationally practicable;
 - (c) maintain and clean incineration units weekly;
 - (d) use after burners to eliminate smoke and odor and air emissions;
 - (e) site incineration units out of public view or enclose in a shelter.

- (4) To address potential odor and air emissions from burial the AFO shall implement any of the following practices:
 - (a) bury promptly;
 - (b) cover each daily deposit of carcasses with a layer of dirt.

- (5) To address potential odor and air emissions from the temporary storage and transportation of carcasses or culled or broken eggs prior to rendering the AFO shall implement any of the following practices:
 - (a) site storage containers out of public view or enclose in a shelter;
 - (b) site storage containers with consideration for prevailing winds to minimize the impact of windblown odor and air emissions on nearby residents and recreation areas;
 - (c) clean and maintain transport vehicles so as to reduce leaking;
 - (d) transport carcasses or culled or broken eggs to rendering facility on roads that avoid villages, towns or cities, to the extent economically or operationally practicable;
 - (e) cover each deposit of carcasses or culled or broken eggs in the storage containers with a layer of lime, as necessary, during warm weather periods;
 - (f) maintain and clean storage containers after each use.

- (6) To address potential odor and air emissions from composting poultry mortality or culled or broken eggs the AFO shall implement any of the following practices:
 - (a) follow accepted industry practices in structuring and managing the c compost pile;
 - (b) site compost pile out of public view;
 - (c) site compost pile with consideration for prevailing winds to minimize the impact of windblown odor and air emissions on nearby residents.

IV. BEST MANAGEMENT PRACTICES for LAYER HENS

In addition to the BMPs that apply to all AFOs, the following additional BMI's apply to AFOs raising layer hens.

A. Buildings

- (1) To keep floor surfaces dry and clean the AFO shall implement the following practices:
 - (a) scrape manure, dust, and feathers into the manure alley on a routine basis;
 - (b) maintain proper building ventilation.

- (2) To keep cage battery dropping boards clean the AFO shall scrape manure into the manure alley or collection pit on a weekly basis.
- (3) To keep the manure alley or collection pit clean the AFO shall scrape or flush the manure alley or collection pit on a routine basis.

B. Manure Handling and Storage

- (1) To keep manure conveyors clean the AFO shall implement any of the following practices:
 - (a) maintain and clean mechanical equipment on a weekly basis;
 - (b) remove manure accumulations daily.

V. **BEST MANAGEMENT PRACTICES for DUCKS**

In addition to the I3MPs that apply to all AFOs, the following additional BMPS apply to AFOs raising ducks.

A. Buildings

- (1) To keep floor surfaces dry and clean the AFO shall implement the following practices:
 - (a) scrape manure/litter, dust, and feathers into the manure alley on a weekly basis;
 - (b) maintain proper building ventilation.
- (2) To keep the manure alley or collection pit clean the AFO shall scrape or flush the manure alley or collection pit on a routine basis.
- (3) To address potential odor and air emissions caused by deep pit exhaust fans the AFO may implement any of the following practices:
 - (a) pump the manure out of the pit on a weekly basis;
 - (b) treat the manure in the pit with additives shown to be effective in treating odor or air emissions.

B. Manure Handling and Storage

- (1) To address the potential odor and air emissions emanating from the storage basin surface the AFO may implement any of the following practices:
 - (a) load manure into the storage basin through bottom or midlevel loading;
 - (b) install a cover, tarp or mat to storage basin surface;
 - (c) treat basin with additives shown to be effective in treating odor or air emissions.

- (2) To address potential odor and air emissions caused by collection or junction boxes the AFO may install box covers.
- (3) To address potential odor and air emissions caused by lift stations during sump tank filling and drawdown the AFO may install sump tank covers.
- (4) To address potential odor and air emissions caused by the end of a drainpipe at a lagoon the AFO may extend the end of the drainpipe beneath the level of the liquid manure in the lagoon.
- (5) To address potential odor and air emissions emanating from the lagoon surface the AFO may implement any of the following practices:
 - (a) maintain proper lagoon storage capacity by maintaining adequate freeboard to avoid overtopping;
 - (b) maintain the minimum reasonable surface area-to-volume ratio specific to each lagoon;
 - (c) maintain the minimum reasonable lagoon agitation while pumping;
 - (d) utilize mechanical aeration;
 - (e) treat lagoon with additives shown to be effective in treating odor or air emissions.

C. Manure Application

- (1) To address potential odor and air emissions from manure applied to fields through an irrigation sprinkler nozzle the AFO may implement any of the following practices:
 - (a) prior to manure application, treat manure with additives shown to be effective in treating odor or air emissions;
 - (b) pump manure through the irrigation system using the minimum recommended operating pressure;
 - (c) place the irrigation pump intake near the lagoon liquid surface;
 - (d) pump manure from a second stage lagoon if possible;
 - (e) apply manure with consideration for prevailing winds to minimize the impact of windblown odor and air emissions on nearby residents;
 - (f) avoid spreading manure on fields located in villages, towns, or cities.