

Poultry Mortality Composting: The new common method



- **Routine or Operational Composting**
 - Bins: common; often integrated with manure storage structures
 - Rotary or in-vessel: uncommon; more equipment is being offered/manufactured; adoption is slow, \$\$\$?
- **Catastrophic Mortality Management**
 - Operational on-farm methods and facilities will be **overwhelmed!**
 - Biosecurity and pathogen inactivation become #1 goal!
 - Details to come in presentations



MO Extension & Farmprogress.com

Catastrophic Mortality Options Overview

- Burial – fast and onsite; but with immediate and persistent risks:
 - **NOT a pathogen inactivation method**
 - Geologic/soils site assessments necessary – NOT perfect!
 - Depth to groundwater limitations
 - H7N1 can survive in manure, soil, and water for weeks (Elving et al., 2012, & Brown et al., 2009)
 - Carcass may not fully degrade
 - Nutrient and additional pathogen leaching and persistence risk



Catastrophic Mortality Options Overview

- Landfilling – fast, but with immediate and persistent risks
 - **NOT a pathogen inactivation method**
 - Transportation risk, vector controls and exposure
 - Additional BMPs required
 - Facility acceptance and tonnage/tipping fees
- Incineration – fast, but with limitations
 - Proper management **DOES inactivate pathogens**
 - Requires specialized larger incinerators; air quality concerns and permits
 - Extensive fuel needs; delicate O&M



Catastrophic Mortality Options Overview

- Rendering – could be useful for on-site limitations
 - **Pathogen inactivation** via “cooking”
 - Limited availability; private businesses may not want risk
 - Special transportation BMPs
 - Transportation risk, vector controls and exposure
 - Though viable byproducts from rendering, fees likely



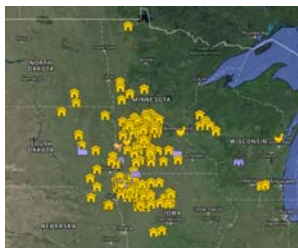
Catastrophic Mortality Options Overview

- Composting Basics:
 - Carcass is buried in a carbon source (indoors or out)
 - Converts carcass into stable, humus-like product
 - Proper construction is key for effectiveness!
- Pros:
 - **Pathogen inactivation process**
 - Produces valuable soil amendment
- Cons:
 - Requires more time (28 days, to be discussed)
 - Space for windrows (1000s of feet to miles)
 - Proper construction, maintenance and monitoring is **fundamental**.



2015 HPAI Outbreak – Quick Numbers

- December to June (positives)
- 232 premises nationwide
- 50 million birds impacted
- Centered on Midwest; Iowa and Minnesota epicenter
- Iowa Example:
 - 35 turkey farms:
 - 1.1 million turkeys depopulated
 - 36 layer farms:
 - 31.5 million layers depopulated



2015 HPAI Outbreak – Quick Facts

- State disaster declarations
- Coordinated by USDA-APHIS with state agencies, additional USDA expertise, industry, and Land-Grant, and private sector contractors
- Incident Command System Implemented
 - Safety and security
 - Command and response structure
 - Defined roles and scope of responsibility
 - Subject matter experts (SMEs)
 - Composting SMEs – USDA, state agencies, Extension, private sector consultants



2015 HPAI Outbreak – Quick Facts

- Depopulation of premises
- Euthanasia
 - Approved humane methods
 - Foaming – fast asphyxiation in fire retardant foam
 - Gassing – CO2 gas in carts/crates
- Natural mortalities
 - From disease
- Disposal: primary method = composting
- Facilities decontamination at proper interval before repopulation



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