Litter and Mortality Management Update

Bud Malone
University of Delaware

Accomplishments & “Opportunities” in Litter Stockpiling Management

Major Improvements in Management to Reduce Cake
- Litter and drinker management
- Better housing, heating and ventilation
- Improved bird uniformity
- Site drainage??

Build Houses on Proper Pads & Provide Site Drainage

Improve Drainage to Reduce Wet Litter Inside Houses

Greater Use of Crusters for More Efficient Cake Removal
More Use of Conveyors to Reduced Spillage Losses

Difficult to Clean Up Spills, Pads Great Asset

Encourage Growers to Get On-Farm Litter Storage

Temporary Stockpiling in Production Area (DE)

Transporting Litter Off Farms

Temporary Field Storage

Covered Load
- DOT law
- Biosecurity concern with spillage
- Image issue for public following untarped load

Covered Piles
- If >14 days (VA)
- If not piled >8 ft or in a manner not protected from runoff, rainfall or leaching (MD)
- If >150 days storage or cake (DE)

Length of Storage
- If >180 days (VA)
- Future federal regs??
Improper Shaped Piles Causes Nutrient Leaching

BMP for Proper Size and Shape Stockpile
- >6 ft and conical shape if <90 days; >10 ft if >90 days (DE)
- 8-10 ft peak (MD)

Stockpile Setback Requirements
- 200 ft from neighbors (DE, MD)
- 150 ft (MD) and 200 ft (DE) from wells
- 300 ft from public water supply (DE)

100 Foot Setback from Surface Water, Ditches, Streams, etc. (DE, MD)

100 Feet from Public Road (DE, MD)

Proper Stockpile Site Conditions
- Above floodplain of 25-yr/24-hr storm
- 1.5 ft above high water table or use liner, carbon base or sealant (DE); 2 ft above water table in VA or use liner
- Site not used more than once/2 years
Accomplishments
&
“Opportunities”
in Mortality Management

Burial Stopped

Increasing Challenges Getting Permits for Cremator

Widespread Adoption of Bin Composters

Many of Delmarva poultry farms are NOT getting proper temperatures and tissue degradation when composting their mortality

Issues and Corrective Measures
**Not Heating to +140 F**

**Issue/Correction:**
- Too dry/add water
- Too wet/add dry carbon material
- Inactive litter source/add fresh litter or compost
- Lack of oxygen/add less dense bulking agent or turn

**Black Liquid Seepage**

- Carcasses layered too depth
- Birds placed too close to sides
- Too much water added or rain onto compost
- Litter too wet

**INADEQUATE LITTER!!**

**Labor Needed for Material Handling is a Major Issue**

**Flies, Odor and Nuisance Complaints**

- Improper mix (too wet)
- Improper loading
- Cover with litter daily!
- Add lime

**Rotten, Decomposed Carcasses**

- Failure to follow recipe or procedures!
Improper Composting is a Major Biosecurity Risk!

- Improper composting leading cause of LT spread several years ago.
- Personal opinion it was leading cause of AI spread in 2004.
- Scavengers a concern!

Carcasses found on avian influenza farms in 2004

Issue: Exceeding the Design Capacity of Bin System

- Designed for 1.25 market birds/1000/d
- Need another option if mortality exceeds 2 birds/1000/d

If lack bin capacity due to added capacity or larger birds, consider: 
Channel Composter !!!

Recommend Channel Composters

- If you have a loader and operator
- If you have >50 k and large birds
- If you have or plan to expand
Advantages

- Less labor intensive!
- Easier material handling
- Flexible loading and turning options
- Can “age” compost for complete carcass degradation.
- Less cost
- Rapid adoption in DE in past few years

Every Farm Should Have a Composting Plan to Deal with a Catastrophic Mortality Event!!!

For infrequent events, layer, NOT bury excess dead in manure shed (short term fix).

Layering Procedure for Sheds (limited # dead)

- Scoop up dead
- Transfer to loader
- Transport to shed
- Form a base layer
- Layer dead 1 bird deep
- Cover all carcasses with litter
- #Layers/height limited by loader type

Partially decomposed carcasses is a disease risk and image/neighbor issue
Layering Procedure:
- Incomplete tissue degradation
- Recommend turning and capping

Outside Windrow Composting for Extensive Losses: Need an all weather roadway and pre-approved site for every farm!!!