Daily Mortality Composting
Poultry Farm Daily Disposal Methods

- Composting: 42%
- Burial: 24%
- Incineration: 24%
- Freezing: 13%
- Other: 2%
• Delmarva was of the first daily composting
• 120,000 broiler farm
• 120 k broiler farm
• 20 min./day
• 100 m tons over 2 years
• Success lead to rapid adoption in USA over next 10 years
• **Mixture**
  – 1 ½ to 2 parts litter
  – 1 part birds
  – 1 part straw
  – 1 part water

• **Result**
  – C:N (20-35:1)
  – Moisture (50%)
  – Oxygen (>5%)
• 20 - 25 cm litter base
• Add straw as required
• Layer of birds no more than 15 - 25 cm deep
  – No birds within 15 cm of sidewalls
• Add water till feathers are saturated
• Cover with 8 - 10 cm litter
• Spread lime for added odor control
• Turn when temperature drops (>10 days)
• Cover after moving to secondary bin (95% tissue degradation)
• 20-25 cm litter base
• Add straw (?)
• Layer of birds no more than 15-25 cm deep, none within 15 cm of sidewalls
• Add water till feathers are saturated?
• Cover with 8-10 cm litter
• Spread lime for added odor control
• Turn when temperature drops (>10 days)
• Cover after moving to secondary bin (95% tissue degradation)
Procedures: Add Base Layer

20-25 cm manure, carbon, compost
Disposal: Science and Theory

Procedures: Add straw?

8-12 cm bulking agent
Disposal: Science and Theory

Procedures: Layer Mortality (<25 cm deep)

15cm space!
Procedures: Add Water to Mortality
(wet feathers?)
Procedure: Cover Mortality (8 cm minimum)
Procedures: Repeat Layering Process Each Day
Procedures: Consider a Screen Cover

Screen

OR
Procedures: Monitor Temperature (57-63 C)
Procedures: Transfer to Secondary Bin when Temperature Drops (~10 days)?

(95% carcass degradation)
Daily Mortality Composting Methods
• Suitable for small flocks and/or small birds
• <270 kg/flock
• 90 cm (h) x 100 cm (w)
• Most common method in United States

• Multiple bins
  – Primary
  – Secondary
  – Carbon source
  – Equipment

• Bin sized based on expected daily mortality
• Bin volume
  – $V = 0.16 \text{ m}^3$
    space/kg of daily mortality
• Height: <1.5m
  – Allow bucket to dump
• Width: loader size
  – Sized to size of equipment
• Larger capacity
• Longer bin area
  – Bucket loader required for labor savings
  – <15 m long and width matches loader bucket