



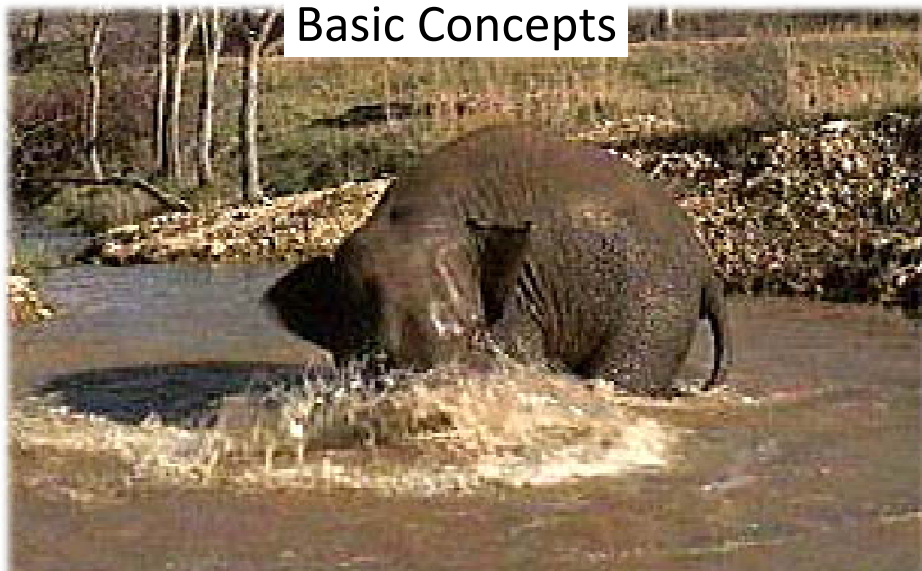
On Farm Mortality Management Options Or “She’s Dead, ... Now What Do I Do?”

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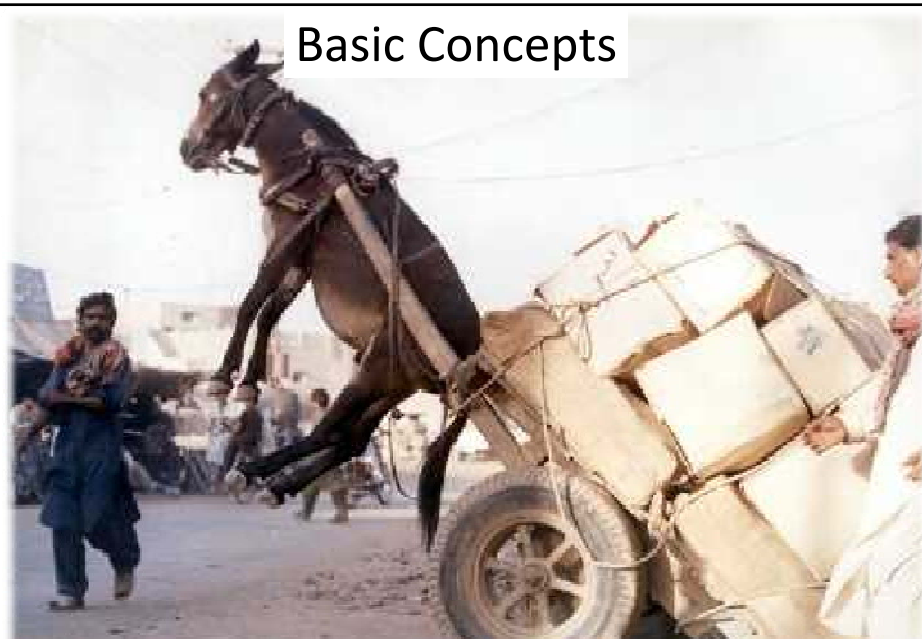
Basic Concepts

Use Available Resources



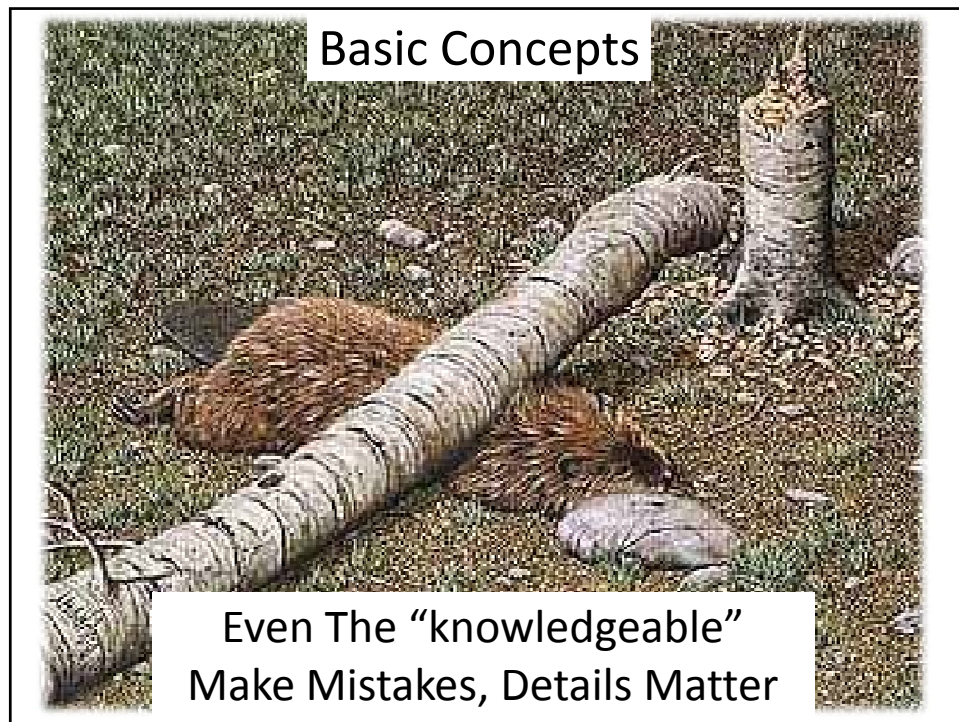
Basic Concepts

User/Neighbor Perceptions
May Be Important



Basic Concepts

Poor Practices/Management Fail



Management Plans

- Maximize benefits - minimize risks
- Addresses:
 - Handling, storage, and application of litter
 - Disposal of dead livestock and poultry
- Tailored to needs of each farm

Regulatory Authorities

- Primary
 - *The Arkansas Livestock and Poultry Commission*
 - Control and Spread of Disease
- Secondary
 - *The Arkansas Department of Environmental Quality*
 - Environmental Pollution
 - *The Arkansas Department of Health*
 - Public Water Supply Issues

Direct Questions To:

Livestock and Poultry Commission
#1 Natural Resources Drive
Little Rock, AR 72205
phone: (501) 907-2400
email: info@alpc.ar.gov
web: <http://alpc.arkansas.gov>

Approved Poultry Disposal Methods

Possible

- Incineration
- Composting
- Extrusion
- Rendering
- Cooking for Swine Feed
- On-Farm Freezing

Typical

- Incineration
- Composting

Incineration



- New technology incinerators give cleaner burn with less odors
- Computer controls to cycle gas on and off
- Incinerators have higher initial costs
- Fuel cost commonly cited as a concern
- Ash usually blended with litter and land applied
- Maintenance required

Incinerator Attention Items*



*Photos provided by EPA Region Six

Composting Poultry Carcasses

- Natural way to convert mortality into soil amendment
- Many producers have composters
- U of A Verification Unit has operated one since 1990
- Conceptually composting is a simple, practical way to dispose of carcasses
- Not a “Silver Bullet”
Management and Labor Required!!!

The Composting Process


- Aerobic
- Produces Humus Like Material
- Thermophilic (105 -160 F)
- Self Inoculating (Special “Bugs” Not Needed)
- Optimum Conditions
 - C:N Ratio 25:1 to 30:1
 - Moisture 50 to 60%
 - pH 6.5 to 8.0
 - Temperature 130 to 140+ F

General Observations

- Works year round
- Can fit everyday management chores
- With proper management
 - No offensive odors with proper management
 - No documented danger of diseases
- Normally compost is turned at least once to achieve acceptable decomposition
- End product is valuable and safe soil amendment.

Essential Construction Features

- **Roof** - must be covered to exclude excess moisture
- **Floor** - must have a concrete floor to prevent contamination of the surrounding area
- **Bins** - needs rot-resistant construction that is sturdy enough to support the compost and can withstand the stresses applied by a tractor loader



**DIVISION OF AGRICULTURE
RESEARCH & EXTENSION**
University of Arkansas System

Agriculture and Natural Resources

FSA1045

Two-Stage Poultry Mortality Composting – Daily Management Is Essential

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Poultry Specialist

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Live Poultry
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Type:

Background Information

Improper composting can lead to potential water quality concerns, increased pest populations, odor complaints, and potential human and animal health issues. Avoiding these problems requires attention to detail and proper management.

The composting process involves the decomposition of organic matter into a stable, nutrient-rich material. This process can be managed in two stages: a primary stage followed by a secondary stage.

Proper management is essential to ensure the composting process is effective and safe. This includes monitoring temperature, moisture, and oxygen levels, as well as turning the compost regularly.

Composting Procedures

Following the management procedures listed below should ensure that suitable ratios of ingredients are maintained throughout the process. It is important to add too much carbon to the pile, as this can result in a pile that is too dry and will not compost properly. Also, if the pile is too wet, it can become anaerobic and produce a strong odor. Finally, all mortality, litter, and manure should be placed in the bin. The bin should be covered to prevent contact with equipment and to contain odors.

Loading and Monitoring

The bin should be filled with litter or manure to a depth of 1 to 2 feet. The bin should be covered with a concrete or metal lid. This layer provides a source of bacteria for the composting process. It also ensures that any liquids are absorbed, preventing seepage from the bin.

Available at
www.uaex.edu and
your county
Extension office

*Arkansas Is
Our Campus*

Visit our website at:
<http://www.uaex.edu>

University of Arkansas, United States Department of Agriculture, and County Governments Cooperating

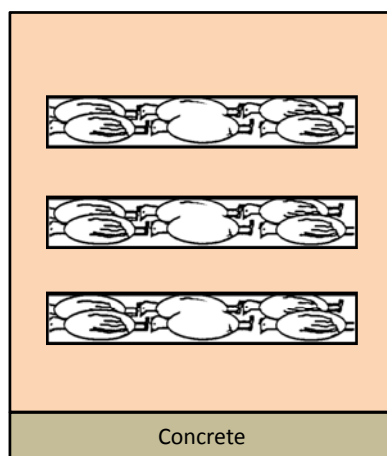
Recipe Compost Mixture

Materials	Parts by Weight
Dead chickens	1.0 lbs.
Litter or Cake	2 to 4 lbs.
Additional Carbon	0 to 0.4 lb.
Water (only as needed)	0.0 to 1 lb.
(litter should be "damp" about 50% MC)	



Loading Primary Bin

1. 1 ft litter base
2. ½ ft carbon
3. Layer birds
4. Water as needed
5. ½ ft carbon
6. Repeat 3,4,5
7. ½ to 1 ft carbon cap



Temperature Is Your Best Gauge

Primary Bin
Target: 130 °F for
at least 5 days.

More Days
Better!



Loading Secondary Bin

- Turn Primary into Secondary
 - After 5+ days 130 °F
- Cap with ½ ft Carbon
- 30+ days ready for land application



Management Check Points

- Land applied compost should have small bone fragments at most
- Bins should never leak moisture
- Should be minimal odors, and flies
- Should not attract animals
- Routine inspection and records needed

Potential Problem

Black liquid seeping from side and bottom

- Poor carcass placement
- Need to be at least 6 inches from the side
- Need to place them in a layer not a pile
- Need litter base before adding first layer of birds

Potential Problem

Bin overheats

- Temperatures greater than 170°F should be turned immediately into other primary bins and stack depth lowered

Potential Problem

Bin heats but does not attain at least 130°F

- Stack too dry
- Mix should feel damp and spongy (about 50% moisture)
- Turn and add water or leave in bin longer

Potential Problem

Compost pile is obviously wet, fly larvae are present, the pile does not heat properly and has a rotten odor

- Too much water added
- Blowing rain may be a problem
- Bin may be overloaded
- Turn and add more litter

Potential Problem

Bones, feathers, and bird parts are left exposed

- Inadequate litter cover provided
- Turning bin too soon after last layer added

New/Alternative Composting Options

- Alley Composting
 - Long parallel bins/alleys used
- In-vessel Composting
 - Typically Rotating Drum Concept
 - Serves as primary bin
 - Secondary bin/storage still needed



For Individualized Assistance Contact
Your Local

County Extension Office
or
NRCS Office



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Mortality Management Options
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