

Livestock Composting In Kansas

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Bureau of Waste Management

Presented At Works! Annual Conference

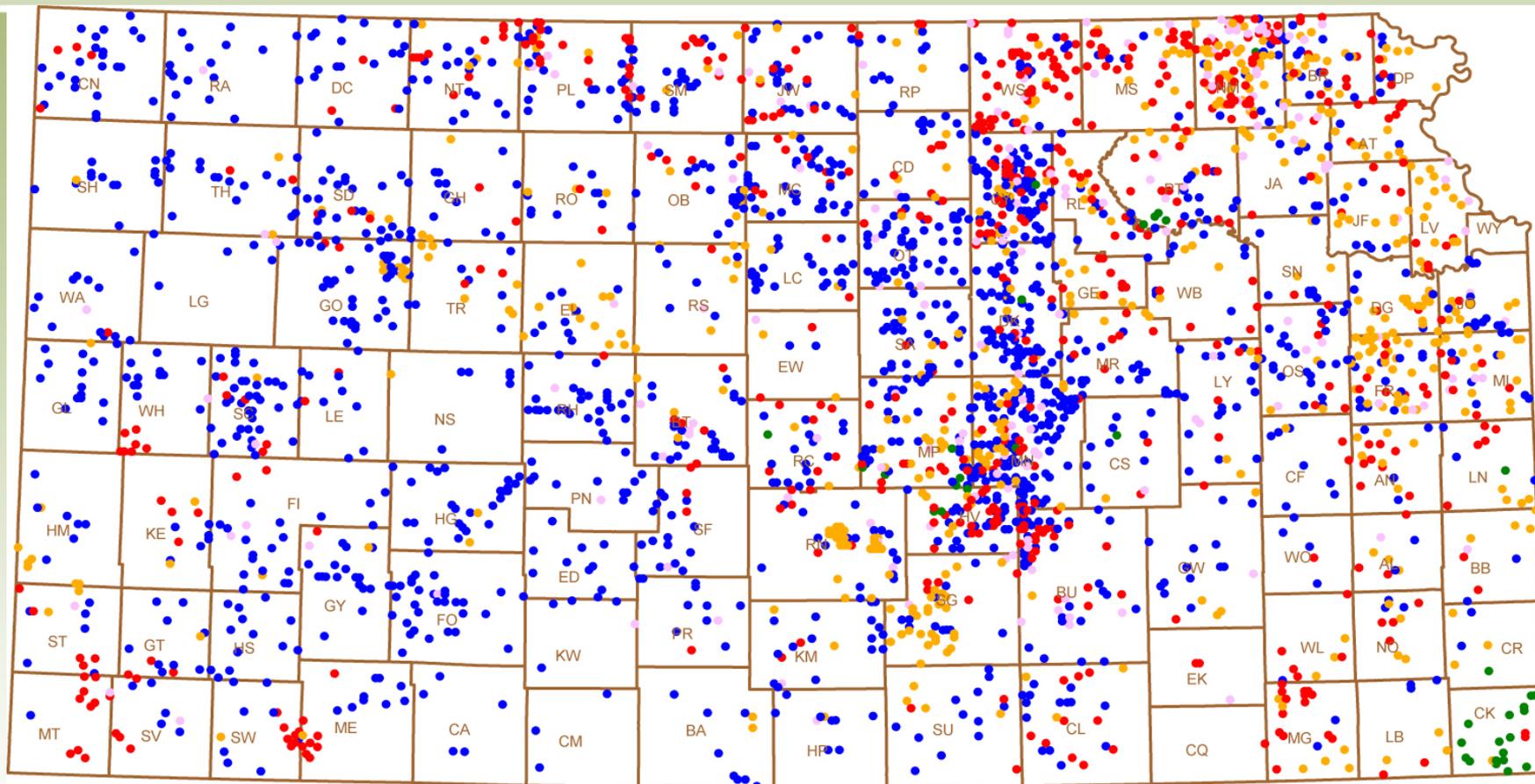
Junction City, Kansas

March 23, 2010



Mission: As the state's environmental protection and public health agency, KDHE promotes responsible choices to protect the health and environment for all Kansans.

Where Kansas Livestock Facilities Are Located



- Active Livestock Facilities**
- Beef
 - Dairy
 - Poultry
 - Swine
 - Other
 - County Boundary

Cattle – 3 to 5 million on feed Swine – 1 to 2 million on feed

Largest feedlots – over 100,000 cattle

Total Facilities Regulated by KDHE - 3,025



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Definitions

- K.S.A. 65-3424(y) "Composting facility" means any facility that composts wastes and has a composting area larger than one-half acre.
- K.A.R. 28-29-3
 - (i) "Composting" means a controlled process of microbial degradation of organic material into a stable, nuisance-free, humus-like product. This term shall not include the following:
 - (1) Manure storage piles, whether turned to stabilize or not turned; and
 - (2) yard waste directly applied to agricultural land.



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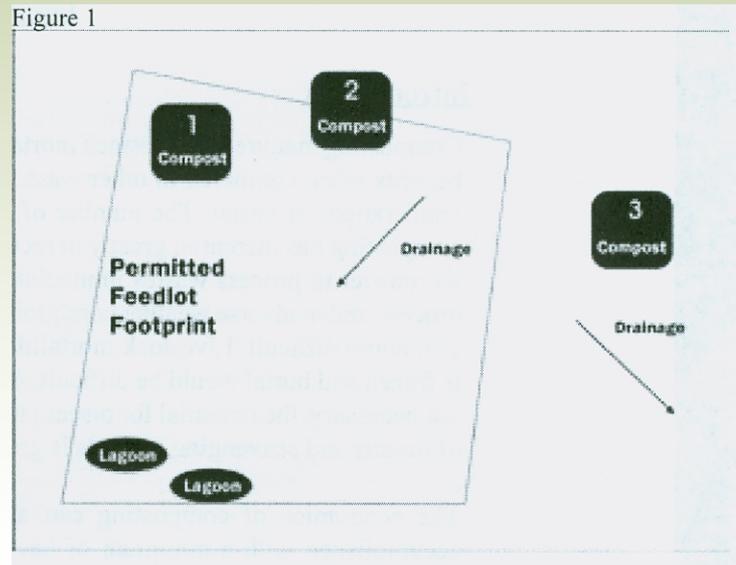
Definitions (cont.)

- (j) "Composting area" means the area used for receiving, processing, curing, and storing compostable materials and compost.
- Regulations
 - K.A.R. 28-29-25c Manure Composting
 - K.A.R. 28-29-25d Livestock Composting
- Permit applications. The owner or operator of each facility that composts manure and has a composting area larger than one-half acre shall submit a permit application to the department on a form provided by the department, unless the composting operation is located at a confined feeding facility that has a valid permit issued by the department.



How BWM & BOW Interact

- Composting at Livestock Facilities Pamphlet
- <http://www.kdheks.gov/waste/compost/compostingatlivestockfacilitiesinfosheet.pdf>



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What We Are Trying To Prevent

- Disease Spread
- Odors
- Runoff
- Visual Impairments
- Scavengers
- Overcharging by Rendering Companies



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Problems We Can Help Solve

- Emergency Disposal
 - FAD
 - Mass Deaths
- 30+ Month Old Cattle
- SRM From Meat Processing Industry



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Materials We Start With

- Manure
- Stover
 - Corn
 - Grain Sorghum
- Bedding
 - Straw
 - Sawdust
 - Woodchips



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The Process

- Building Windrow of Manure
- Marking Dates
- Opening Hot Windrow
- Placing Animals
 - Post Mortem on Cattle if Required
 - Cut Off Legs
- Covering With Additional Hot Material
- Check Temperature and Moisture
- 90 Days Start Turning Once A Week For 4 Weeks
- Screen



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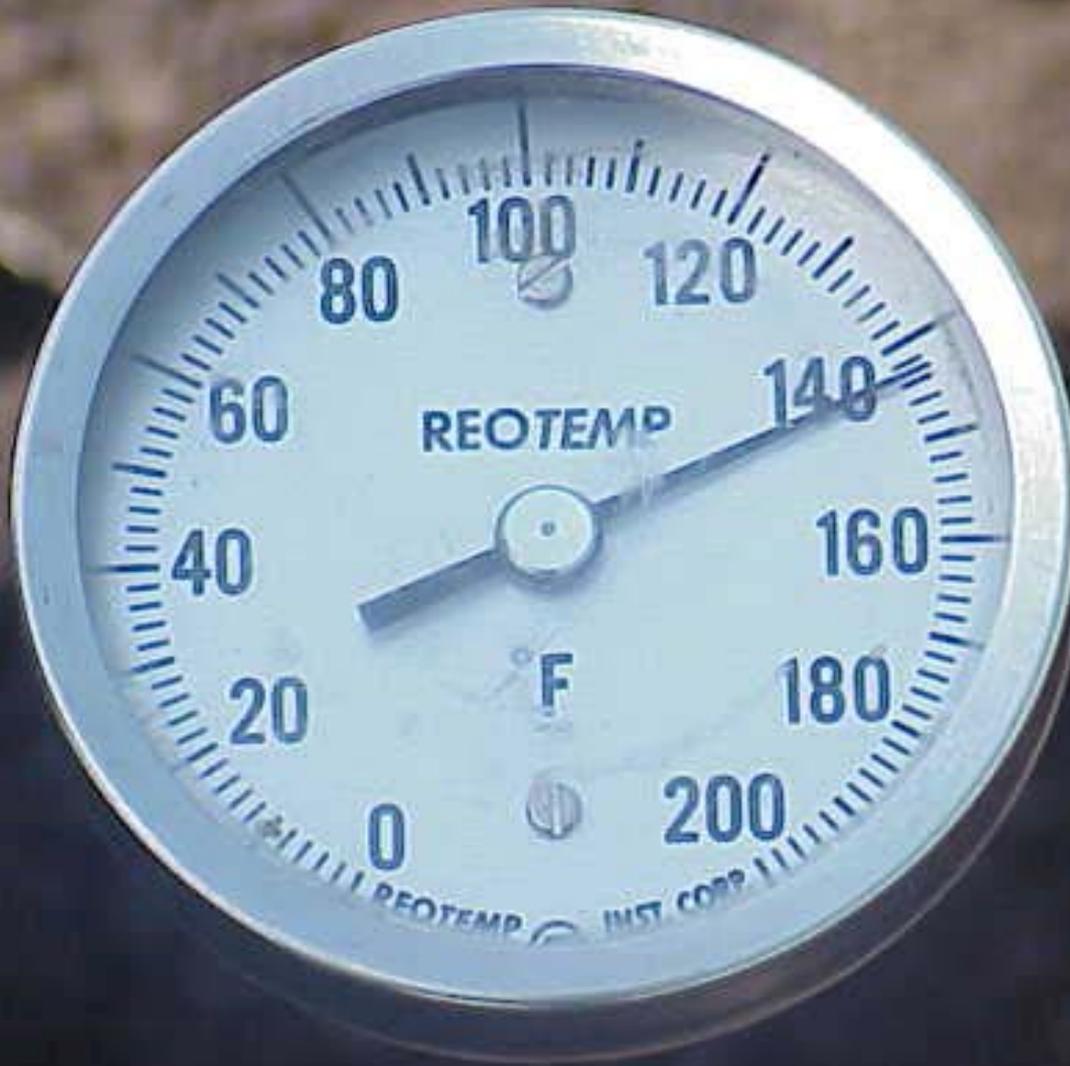
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Equipment

- Loaders
- Turners
- Screens
- Water Wagons
- Water Pumps
- Thermometer
- Personnel



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Murphy's Law

- Ice Storm
- Unusual Rainfall
- Drought
- Fire
- Poor Operation
- Spreading Before Composting Process is Complete
- Inspector



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Composting in Emergency Situations

- Swine Facilities
 - Electrical Malfunction
 - Manure Pump Malfunction
 - Ventilation Fan Malfunction
- Cattle
 - Heat Stress
 - Cold Stress
- FAD (Foreign Animal Disease)



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Composting in Emergency Situations

- Need A Plan
 - Training of Employees
 - Location of Compost Area
 - Location of Materials
 - Location of Equipment



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20 Dead Horses



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Food Waste Composting

- More interest from generators
- Two Major Grocery Store Chains
 - Wal-Mart
 - Unnamed Grocery Chain
- Hospitals in Wichita Area
- Cafeterias at manufacturing plants
 - Topeka
 - Lawrence
 - Manhattan



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Food Waste Composting

- Kansas State University
- University of Kansas



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Food Waste Composting

- **Many resources available**
 - **US EPA**
 - Green Waste Dark Gold
 - Beyond Recycling – Composting
 - **State of Massachusetts**
 - Grocery store composting guide



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GREEN WASTE, DARK GOLD...

COMMERCIAL OPPORTUNITIES IN ORGANIC WASTES & SOIL BUILDING (A TOOLKIT)

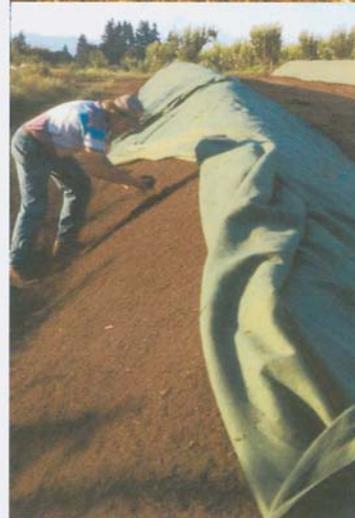
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By the
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ECONOMIC DEVELOPMENT**
www.ceedweb.org

August 2005



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by the
Center for a Competitive Waste Industry
with Gary Liss & Associates and
Steven Sherman (formerly with ESA)

Beyond Recycling Composting

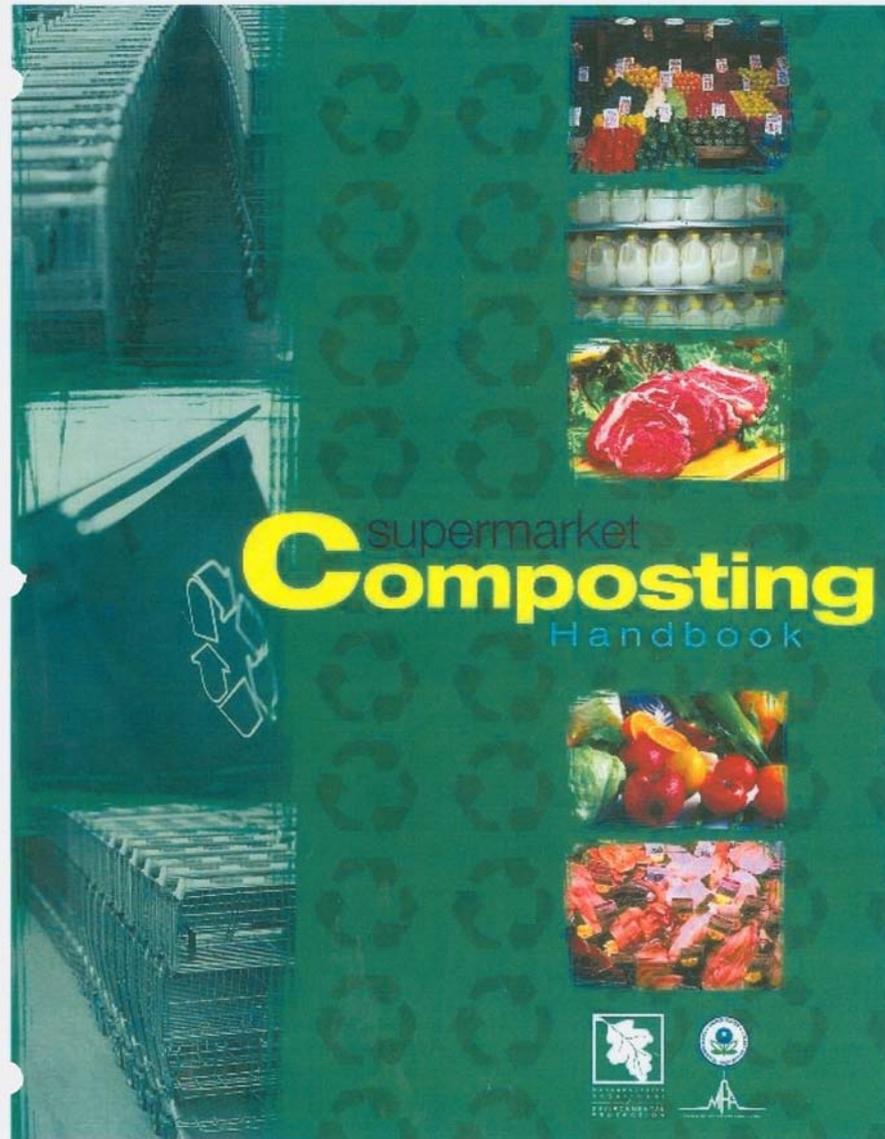
Food scraps and soiled paper



January 2010



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Food Waste Composting

- Permit Modification Necessary
 - Start with 6 to 12 trial
 - Write new operation plan to discuss food waste
 - New drawings stamped by engineer
 - New contingency plan
 - Updated closure cost estimate



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Questions



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