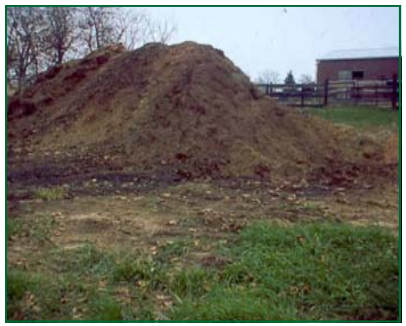
Composting Facts

- Static pile composting should not be confused with stock pile storage of horse bedding/manure. Horse manure will decompose upon prolonged storage (this decomposition could be considered anaerobic composting but it really is just slow rotting).
- The Illinois Livestock Management Facilities Act (ILMFA) limits the length of time horse manure can be stored to 6 months without an additional containment structure.
- Regardless of the number of horses housed, the ILMFA requires every horse facility to have a minimum of 2 months manure storage or a documented explanation of how the manure will be handled (composted, land applied, disposed in a landfill, etc.).
- Horse stables housing 300 animal units (150 horses) or more must develop and maintain a nutrient management plan (NMP).

Illegal manure pile



Undesirable compost stack

Examples of desirable composting operations

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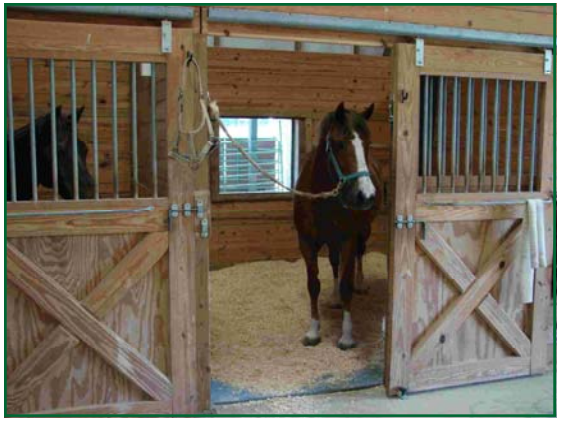
Composting Horse Bedding

Composting can be an easy, efficient and environmentally safe technology for the disposal of horse manure if conducted correctly. Horse bedding/ manure can be successfully composted using either the aerobic windrow method or static pile method. Windrow composting generally is more practical for larger stables containing 50 or more horses that generate more waste. Static pile composting can be a viable manure management option for facilities with 1 to 20 horses.



Key Factors to Composting

- Moisture content, optimum 40-60 %
- Temperature, 125-150 ° F
- Carbon to Nitrogen ratio, 25:1 to 30:1
- Aeration, turn each pile/windrow completely once each week

Ideal Turning Frequency

First 3-5 days	Turn Daily
Next 3-4 weeks	Turn twice weekly
Week 5 to completion	Turn once a week

Aerobic Composting

- Is free from objectionable odor
- Inactivates pathogens and weed seeds
- Is relatively inexpensive
- Requires little technological input

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Horse Bedding vs. Horse Manure

- According to the Illinois Environmental Protection Agency (IEPA)and the ILMFA horse bedding and horse manure are synonymous terms. However, horse bedding and horse manure are not equal. Horse manure refers to urine-soaked bedding and separated fecal pellets. Horse bedding refers to complete clean out of all bedding material within each stall.
- Horse manure will compost satisfactorily without the addition of additives or other raw materials.
- Horse bedding will not compost. Horse bedding, when stockpiled, will partially decompose, produce odor and slowly decompose, but will not completely decompose without a nitrogen additive.

Composition Comparison of Horse Bedding vs. Horse Manure

Horse Bedding		Horse Manure
0.79	% Nitrogen	2.0
52.0	% Carbon	50.0-60.0
70.3:1	C:N	20:1 to 25:1
40	% Moisture	70-80

Nitrogen Additives for Composting Horse Bedding

- The amount of nitrogen additive required depends on percent nitrogen, percent carbon and percent dry matter of the horse bedding. For example, horse bedding containing 70% dry matter and a 25:1 C:N ratio requires either 65 pounds of urea:ton of horse bedding costing $22.75 or 104 pounds of liquid 28:ton of horse bedding costing $20.80.
- To add the nitrogen additive, stockpile or windrow the horse bedding, top dress (sprinkle or spray) the additive as evenly as possible and thoroughly mix the additive and horse bedding. Horse bedding may require the addition of water by sprinkling to ensure proper composting.

Comparison of Nitrogen Additives

Additive	Nitrogen %	Cost*
Liquid 28	28%	20¢:lb
Urea (solid)	45%	35¢:lb
Ammonia Nitrate (solid)	33%	25¢:lb

* as of February 2008