Iowa Odor Control Demonstration Project: Composting

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Composting began growing in popularity about 10 years ago as a method of managing solid waste, especially yard waste. As an aerobic process, it’s been used for years to control odors, including those from livestock operations. Seven cooperators are demonstrating composting with swine, beef, dairy and poultry operations as part of the Odor Control Demonstration Project.

Composting systems typically use mechanical devices to provide oxygen to a compost pile, keeping it aerobic. Fans can provide forced air or the piles can be mixed and turned periodically by specially made turners or by tractors and loaders.

EVALUATIONS AT ODOUR CONTROL DEMONSTRATION PROJECT SITES SHOW WELL MANAGED COMPOSTING TO BE ESSENTIALLY ODOR-FREE. WINDROWS WITH FORCED AERATION AND TURNED PILES EACH YIELDED FAVORABLE RESULTS. THE KEY TO EFFECTIVE COMPOSTING IS PROVIDING ADEQUATE OXYGEN THROUGH GOOD MANAGEMENT.
Composting costs can vary considerably, depending on the system and how the surface below the pile is prepared. For example, mechanical turners can cost more than $100,000.

In addition, a concrete surface below the compost pile can be expensive. While concrete is not mandatory, it is a good option because it provides a firm surface with adequate drainage, allowing the piles to be turned in any weather. Mixing fly ash with the soil where the compost pile will be is another option. In large systems, a leachate/runoff control system may be needed.

Costs will rise further if composting is done in dedicated buildings. Based on costs approved for the Odor Control Demonstration Project composting costs using tractors and loaders range from 20 cents to 40 cents per head of swine marketed.