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Iowa Odor Control Demonstration Project: Landscaping

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IOWA odor CONTROL

DEMONSTRATION PROJECT

Landscaping

TECHNOLOGY DESCRIPTION

Landscaping—trees, shrubs, and other vegetation used to create a barrier around livestock facilities—is a technology thought to help reduce odor emissions from livestock operations. The barrier provides visual isolation and/or aesthetic enhancement, and affects airflow near the site. Eleven cooperators are demonstrating landscaping as part of the Odor Control Demonstration Project.

Windbreaks are thought to reduce odor emissions in two ways. If they are upwind, they help deflect the air currents up and over the odor source so less odor is collected and carried offsite. If they are downwind, they promote mixing and cause the air currents to rise, resulting in increased odor dilution. However, producers should be careful not to reduce the natural ventilation potential of the buildings, or to plant trees or shrubs so close to earthen storages that roots reach the sidewalls. Trees should be a minimum of 50 feet from naturally ventilated buildings to avoid interference with the building ventilation.

Visual protection and enhancement are added benefits of landscaping. A well-landscaped livestock operation that is pleasing to see, or even hidden from view, is more acceptable than one which is not.

Most landscaping treatments for the odor control demonstration project include some fast-growing trees such as Austrees, as well as some slower-growing, more permanent trees such as evergreens or hardwoods.

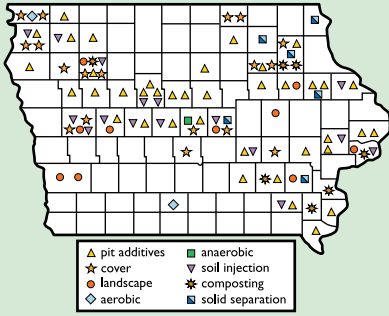


Evergreens and shrubs near an outdoor concrete pit.



Row of mature evergreens protecting swine building and steel manure tank.

ODOR CONTROL
DEMONSTRATION PROJECT



In 1997, 80 Iowa livestock producers began demonstrating technologies to control odor from animal production. The Odor Control Demonstration Project is administered by Iowa State University and funded by the Iowa Legislature. Participants received up to half of their expenses for the odor-control technologies used on their operations.

Producers with all sizes of operations and all species of livestock were eligible to participate. They could demonstrate one or a combination of the following technologies: aeration, biocovers, composting, landscaping, pit additives, anaerobic digestion, synthetic covers, soil injection, and solids separation.

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FOR MORE INFORMATION

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EFFECTIVENESS

Landscaping is considered somewhat effective as an odor control technology. Evaluations are not possible for the odor control demonstration project, since several years must elapse before the recently planted trees will be large enough to be effective.

COST

The costs of landscaping can be quite variable, depending on the species of trees and shrubs selected, and how many rows of each are planted. Based on the costs submitted by demonstration cooperators, costs per head of finishing swine capacity start at 20 cents.