Air Quality and Odor Management

Why Is Odor Management Important?

As rural populations increasingly include non-farmers, complaints about animal odor may also increase. Odor management is something people want to consider to be courteous and avoid conflicts with your neighbors. All animals produce an odor, some more than others and it should be addressed in a management plan.

What Are The Processes In Odor Management?

There are three different types of odor control technologies:

Reduce Odor Generation

- Use anaerobic digesters and aeration systems.
- Diet manipulation (to reduce the amount of manure produced and the amount of nutrients in manure).

Reduce Odor Emissions

- Use biofilters (treat odorous gases as they are emitted from the source, these are put in enclosed facilities).

Increase Odor Dispersion

- Use natural technologies such as: shelterbelts, windbreaks, and setback distances.

These three technologies work best when used together to strengthen the amount of odor reduction.

How Do I Make A Plan?

There are four main steps in a plan:

- List of all the potential odor sources.
- Determine which of the sources on the list will generate the most complaints.
- List one or two odor reducing strategies for each of the significant odor sources.
- Develop a protocol to handle and respond to odor complaints.

Inventory Odor Sources

Nuisance odors can be the result of a single odor source, a single odor event, or the combination of several sources and events. It is important to conduct a thorough inventory of all odor sources on the farm. This inventory should be conducted on-site to ensure that all odor sources are included. Odors from an animal production site originate from three primary sources: manure storage structures, animal housing (including open lots), and land application of manure. Other sources such as dead animal disposal sites, silage piles, feed centers, other areas where organic matter is present may also contribute to odor emissions. Intermittent odor events (e.g., manure agitation) should also be considered. Often these events, though infrequent, can be the source of significant odor emissions and thus generate odor complaints.

Sources and for more information:

U of M Extension, Preparing an Odor Management Plan publication
http://www.extension.umn.edu/distribution/livestocksystems/DI7637.html

Manure and Odor Management
http://www.extension.umn.edu/swine/components/manure.htm

USDA National Center for Animal Waste Management
http://www.cals.ncsu.edu/waste_mgt/natlcenter/center.htm

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