



# Small Scale Solutions for your Farm

## Odor Control



### Do You Have Problems with:

- The neighbors being able to tell when you are spreading manure
- Manure stored where everyone can see and smell it
- Complaints about smells from your operation

### What You Can Do About Livestock Odors

Livestock production can produce odors. Causes vary greatly. It is not possible to eliminate all odors from livestock operations, but it is possible to manage odor.

You can manage odor by reducing the original source of the smells or by limiting the amount of odor that is released into the air and carried away from your operation.



Clean dry animals do not smell as bad.

### Consider Your Facility Location

The further an animal operation is from its neighbors, the better. Odors from a livestock operation move with light winds, so be aware of your primary wind direction and where odors may go. Other consideration include:

#### Keep Animals Clean, Dry and Healthy

Dust from animals carries odor. Clean, dry, and healthy animals are less likely to cause odors. As a bonus, clean animals are usually healthier than dirty, manure-covered ones.

#### Minimize Dust

Dust particles adsorb and concentrate odors. As the dust particles are carried by the wind, so is the smell. Most farm dust comes from feed, manure and, in the case of poultry, from feathers and litter. Keeping your animals, buildings, and pen surfaces clean will help reduce dust emissions that can carry odors. Keeping pen surfaces from getting too dry or too wet will reduce dust and odors.

#### Dispose of Dead Animals Properly

Dead animals stink. Normal mortality from livestock operations must be properly handled for both odor control and to prevent the spread of diseases.



Dirty, manure-covered animals can help accelerate bacterial growth.





### Use Trees

Barriers made of plants (trees, shrubs or grasses) can reduce odors – both by adsorbing gases and by disturbing the flow of air, which disperses the smells. While trees should not grow too close to buildings, wind-breaks or other vegetative barriers correctly positioned near a facility create a visual barrier and also provide a large filtration surface for dust and odor control.

### Manage Feed

Feeding animals too much nitrogen and sulfur can increase odors. Improve feed conversion and reduce the amount of nitrogen and sulfur that are overfed to your animals. These feed management techniques can reduce odors by limiting the overall amount of manure produced, as well as reducing the amount of nitrogen and sulfur available in the manure to form ammonia and sulfurous gases.

### Filter Air

For enclosed animal housing and manure storage facilities, air filtration and scrubbing devices can reduce odors. These devices are usually installed on or outside of the exhaust air fans or ducting from a building. Some examples are biofilters and wet scrubbers. While they can effectively manage odors, there is a large range in cost and required maintenance. Generally, devices that treat smaller volumes of air or that use natural materials are less expensive.

### Manage Lagoons

When properly sized and managed, a lagoon can be operated with a minimum of disagreeable odor. Keep the exposed surface area as small as possible and check the pH. Lagoons with a pH of 6.5 or less have more odors. Maintain steady conditions. The manure entering the lagoon should be as continuous and frequent as possible. Don't "shock load" the lagoon and minimize surface disturbance.

Manure contains volatile compounds that are released and cause odor as the solids within a manure slurry break down. Proper compost and land application techniques can minimize the release of these volatile compounds. Separating the solids from a manure stream and treating them separately from a lagoon can reduce odors.

### Use Covers

Manure storage ponds and tanks can be a source of strong odors. Covers over a manure storage can reduce odors. Various types of covers are available.



Properly composted material is not a source of odor.



Working with your local specialist will be critical to manage odor issues on your farm.





Natural covers, like chopped straw, make use of materials that may already be available on a farm. These covers work best for storages with a small surface area. Synthetic covers, like clay balls, concrete, or geotextile fabric, are expensive, but have wider applicability, less maintenance, and may offer other benefits. Some of these options allow the methane gas released from manure to be captured and used as a source of energy or fuel, which can offset other costs at the operation. When choosing a cover, consider the size of the storage, available materials, and the frequency that the storage is accessed for activities like pumping.

### Properly Apply Land Manure

Apply manure only to crops at the recommended rates. Avoid application during windy periods. Inject or incorporate manure into the soil quickly to reduce odors. Using lower pressure on sprinklers applying wastewater can help reduce odors if uniform distribution patterns are maintained.

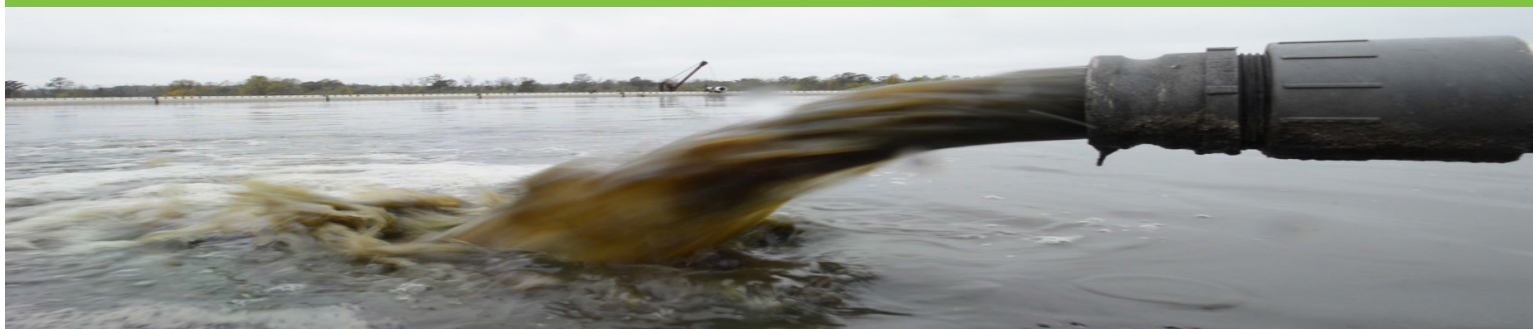
## Associated Costs

Costs can vary depending on the extent of the odor issues and where the odors are coming from.

Generally, it is cheaper to reduce the original source of the smell than to try to keep odors in the air from traveling as far. Changing the way you handle manure can be relatively cheap unless you need to buy new equipment.

If you are starting a new livestock operation, making the right decisions up front can save money in the long run. Managing odors takes effort, but if you get fewer complaints it will save you time and money in the end.





## Technical and Financial Help Is Available

Whether you measure your farm in terms of feet or acres, your local Natural Resources Conservation Service (NRCS) office has experienced conservationists that can help you develop a Conservation Plan to conserve, maintain, and restore the natural resources on your land and improve the long-term health of your operation.

There is no charge for our assistance. Simply contact your local office to set up an appointment. You may also be eligible to receive financial assistance. Your NRCS office will explain any programs that are available so you can make the best decision for your operation. All NRCS programs and services are voluntary.

## For More Information

Visit the [Natural Resources Conservation Service](#) or visit [farmers.gov/service-locator](https://farmers.gov/service-locator) to find your local NRCS office. You can also check with your local USDA Service Center, then make an appointment to determine next steps for your conservation goals.

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NRCS conservationist assisting small scale farmer with developing a customized conservation plan.

