

## **Odor and Pathogen Management**

It may not be practical or feasible to eliminate all odor emissions from the operation, but it is possible to manage or mitigate the odor. Some variables that affect odor are:

- Type of operation
- Ventilation method
- Animal diets
- Season
- Management skill or effort
- Building design
- Animal numbers
- Manure treatment system
- Topography

### **1. Animal Cleanliness**

- a. Clean, dry, and healthy animals are less odorous. Dirty, manure-covered animals promote accelerated bacterial growth and the production of odorous gases.
- b. Animal stress can also be correlated to an increase in odor production. Ventilation and environmental controls for the buildings must be properly designed and maintained to keep the animals healthy.

### **2. Minimize Dust**

- a. It has been established that there is a correlation between dust and odor emission. Dust particles adsorb and concentrate odorous compounds. As the dust particles are carried by the wind, so is the odor.
- b. Therefore, minimizing dust will reduce odor. Most farm dust comes from feed, fecal matter and, in the case of poultry, from feathers and litter. Dust also comes from animal skin, insects, and other sources.
- c. Buildings should be cleaned of all dust between batches of animals (including fans, shutters, and screens).

### **3. Waste Storage Facility**

To reduce emissions of greenhouse gases, ammonia, volatile organic compounds, and odor:

- If odors from the facility become a concern, consideration can be given to alternatives and additional practices including but not limited to covered anaerobic digesters, and composting facilities.
- Adjusting pH below 7 may reduce ammonia emissions from the waste storage facility but may increase odor when waste is surface applied.
- Consideration should also be given to the separation of the solids from the waste mixture. This will dilute the liquid waste product being treated in the lagoon and cause less odor. The solid separated material can be composted and sold or land applied.

### **4. Animal diets**

Diets can also be manipulated to produce less manure production and odors from the manure. Much of the odors from manure are from nitrogen, sulfur and carbohydrate containing volatile compounds. Balancing the diet with the proper amounts and forms of protein and reducing excess protein in the diet will reduce nitrogen excretion and odor emissions from the manure.

### **5. Proper Disposal of Mortality**

Normal mortality for the animal feeding operation must be properly handled for both odor control and biological security of the operation. Composting, incineration, and rendering are acceptable methods for mortality disposal.

### **6. Good Fly and Rodent Control Programs**

These programs must be a continuous process on the farm. When feed and waste products are properly handled, these problems are minimized. Fly and rodent bait stations and/or boxes should also be utilized to control populations. Check all bait stations regularly and replace when necessary.