

# Odorgon: Overhead Spray System to Neutralize Odors

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**Species:** Swine, Poultry, Beef & Dairy  
**Use Area:** Animal Housing  
**Technology Category:** Chemical Amendment  
**Air Mitigated Pollutants:** Ammonia, Hydrogen Sulfide, Odor

## Description:

Odorgon is a water based formulation that is applied in CAFO's through a high pressure mist system. Odorgon is sprayed on an automated timer basis from the ceilings of facilities to **neutralize** malodors. Results include overall better animal performance, improved conditions for employees and workers, and better neighbor relations.

## Mitigation Mechanism:

Odorgon is referred to as an "odor neutralizer", not a masking agent or perfume. Odorgon is a proprietary formulation whose major ingredient belongs to unique class of cationic surfactants. In addition to enhancing the solubility of specific amines such as ammonia, and sulfur containing compounds like hydrogen sulfide in the aqueous spray, Odorgon acts as a buffer reacting with these gases and resulting in the formation of weak non-volatile organic salts. Other organic compounds formed during the buffering process are subject to oxidation or reduction reactions while in solution.

Water is the universal scrubber of malodors. The efficiency of gaseous removal from the immediate atmosphere is related to the size and speed of the droplets creating a surface area exposure as well as temperature and length of time the gases are held in solution. The method of application is a sprayed or atomized solution at 600 psi, containing 50 parts water to 1 part Odorgon concentrate. The compound dispersal is generally for 10 seconds on, every 20 minutes but usage may vary on a seasonal basis.

## Applicability:

Odorgon is currently used primarily in Swine confined animal feeding operations but also may be used for poultry, beef and dairy. Current facilities include

- Finishing
- Nursery
- Breeding/Gestation
- Farrowing

Facilities installed are in Iowa, Minnesota, South Dakota, Nebraska, Illinois, Missouri, North Carolina and Canada.

## Limitations:

Since Odorgon is a water based product, installation and application must be in environments not subject to freezing conditions. Some producers choose not to run the system on days when the building curtains are down with high wind conditions. Other producers choose to run the system year round.

## Cost:

Capital equipment cost for a typical 42 x 200 foot finishing barn with installation labor is \$4900. Annual operation cost is .73 (cents) per animal produced for a finish barn and .19 (cents) per head for a nursery barn. Equipment costs will fluctuate based on building layout, square footage, number of pens and desired results.

## Implementation:

The Odorgon system should be located in the area of the barn near the controls and adjacent to water and electrical sources. The system consists of the following components:

- Direct drive electrical motor
- High pressure pump
- Hydrominder (injects water 50 parts to product 1 part)
- Mix tank

- Timer
- High pressure nylon line
- Stainless steel compression fittings
- Brass nozzles with stainless steel tips
- Concentrate tank (15 gallons)
- Angle iron mounting bracket

Two lines are installed the length of the barn from the ceilings with a nozzle spaced every 10 feet usually over the center of pens. A 42 x 200 barn with would require 40 nozzles.

## Technology Summary:

The Odorgon system utilizes a high pressure mist system to neutralize malodors inside the buildings primarily for the benefit of the animal. Other benefits include improved working conditions and improved neighbor relations. Components of the equipment are of high caliber with low maintenance for lasting durability in a harsh environment.

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