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Fact sheet

Feedlot Cattle odor Compost

Introduction

Odor complaints are more common when the humidity is high and the air is still or when the prevailing breezes carry odors toward populated areas. When the air is still, odors may flow down slopes much as water does. Surface application of relatively fresh solid manure, or a manure slurry, without immediate incorporation can cause high odor levels. Odors emanating from feedlots, manure storage ponds and undersized lagoons may lead to complaints. In the early planning stages for such facilities, operators should check local and state regulations for separation distances required for various sizes of new or expanded confinement facilities

Most objectionable odors from livestock operations are the result of volatile compounds generated during the decomposition of manure. More than 200 of these odor-generating compounds have been identified. The wide range of odorous compounds from manure adds to the complexity of odor control solutions. Commonly reported odorous compounds associated with manure and waste water are those containing sulfur (e.g., hydrogen sulfide and mercaptans), those containing nitrogen (e.g., ammonia and amines), volatile organic acids, phenols, and alcohols . Ammonia and hydrogen sulfide are easily measured but do not necessarily correlate well with odor complaints from neighbors, although hydrogen sulfide levels from feedlots are regulated .

Solution

Valens Company is a pioneer in the field of treating Odor **Compost**. In implementing its solutions, it relies on advanced, promising, fast, and well-established technology. It does not limit itself to mask odor but it completely eliminates it from its source. It builds in its solutions on emphasizing data, the human mind, the modernity of the machine, and alternatives to materials, and through the integration of processes, magnificent results and brilliant outputs are achieved.

Characteristics of gases produced in decomposing manure.

Gas	Odor	Characteristic	Exposure limits	Effects
Ammonia (NH_3)	Sharp, pungent	Lighter than air. Results from anaerobic and aerobic activity.	10 ppm	Irritation to eyes and nose. Asphyxiating at high levels.
Hydrogen sulfide (H_2S)	Rotten egg smell	Heavier than air. Low odor threshold. Soluble in water	10 ppm	Toxic: causes headache, dizziness, nausea, unconsciousness, death.
Methane (CH_4)	Odorless	Lighter than air. Product of anaerobic activity.	1,000 ppm	Headache, asphyxiant, explosive in 5 percent-15 percent mixture of methane with air.
Carbon dioxide	Odorless	Heavier than air	5,000 ppm	Drowsiness, headache. Can be asphyxiating.
Volatile organic acids	Strong	High odor potential under anaerobic conditions. Low odor potential under aerobic conditions.		
Phenolic	Strong	P-cresol has a lower odor threshold than hydrogen sulfide. Present in raw manure and concentrations increase under anaerobic conditions.		

Important data before treatment

- Pen Location, Moisture Condition, And Temperature.
- Volatile Sulfur Compounds Contributed
- Volatile Organic Compounds (Voc)
- Diet Content
- Volatile Fatty Acids (Vfas)
- Odour activity value (OAV)
- Manure storage
- Animal housing
- C:N Ratio
- pH (alkalinity or acidity) of feedlot manure

Benefits

- Removes rather than masks odors
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- Reduces Ammonia by up to 80%
- Cuts VOCs by up to 90%
- Reduces fly numbers by removing organic attractants
- Accelerates the decomposition of organic waste

Contact

VALENS
Building No32-El Oboor Building -Salah Salem Street-Nasr City-Cairo
Post Office No. 34- 44, Dubai City - Bur Dubai - Al Fahidi
Phone No: 0583037024 mobile no :971527107797
E-Mail: info@uvalens.com

VALENS
www.uvalens.com